Current Best Evidence and Performance Measures for Improving Quality of Care and Delivery System Reform

Expert Reviews by Health Management Associates and PricewaterhouseCoopers

COVERED CALIFORNIA™

July 2019

Current Best Evidence and Performance Measures for Improving Quality of Care and Delivery System Reform

Table of Contents

Introduction

The Patient Protection and Affordable Care Act helped millions of people get the health insurance they needed — through guaranteed-issue coverage and financial assistance to help bring it within reach — and it also built on and expands ways to lower costs, improve quality and promote better health.

All of the nation's individual marketplaces, both state-based and federally facilitated, are required under the Affordable Care Act to do a minimum set of activities related to improving quality by implementing a quality-improvement strategy. Covered California goes beyond those requirements through the standards and requirements it has set in its *Quality, Network Management, Delivery System Standards and Improvement Strategy*, which is Attachment 7 of its Qualified Health Plan (QHP) Issuer Model Contract. [1]

Covered California has specific requirements related to improving quality, lowering costs, promoting better health and reducing health care disparities, benefiting the over 2 million Californians served by these plans in the individual market and likely having spillover effects in the broader health care system. Covered California's focus has been on prices, benefits, networks, quality, and other factors that would assure those with coverage through Covered California and enrolled directly with its plans "off-exchange" get the right care at the right time. At the same, Covered California believes it is important to promote policies and practices of contracted health plans that, when aligned with actions of other payers and purchasers, promote delivery system reforms to improve health care for all Californians.

As Covered California assesses the performance of its QHPs under current contract terms and plans for updating its standards and requirements, it wants to be sure its efforts are informed by a clear picture of evidence about potential impacts, measures, data, and benchmarks for evaluating performance and alignment with the strategies of major national and California purchasers.

To this end, Covered California selected Health Management Associates (HMA) and PricewaterhouseCoopers (PwC) to provide expert consulting services to support three related and complementary, but independent, efforts:

1. **Evidence Review:** HMA was engaged to review relevant published literature, health services literature, large employer published case studies, insurer or actuarial research and other well-formulated theories articulated by industry experts or purchasers to compile evidence for the specified strategies. Given that evidence, HMA was charged with evaluating the potential effectiveness of each strategy in terms of cost, quality of care, improved health, and provider burden. For each strategy, HMA assessed the relative importance of the specified key drivers and enabling tactics. In addition, HMA identified value-enhancing strategies not included in contract requirements that Covered California could consider adopting based on evidence or value of potential impact.

---

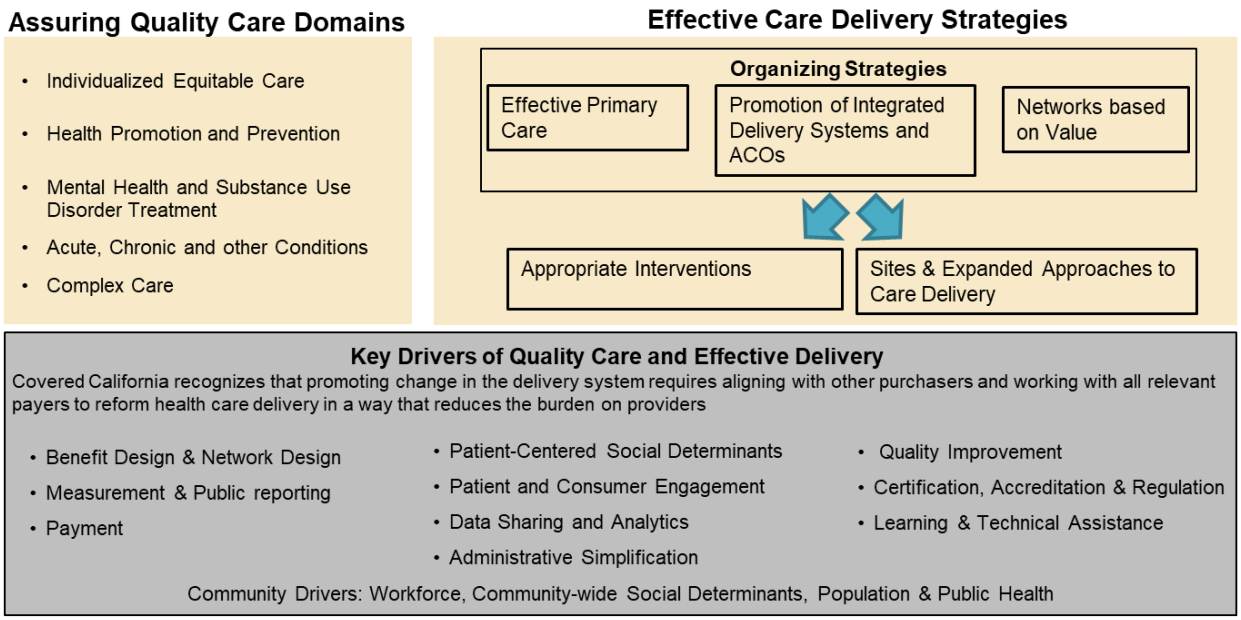
[1] The current requirements for plan years 2017-20 are located in Attachment 7, Quality, Network Management, Delivery System Standards and Improvement Strategy, to the Covered California Individual Market Qualified Health Plan Issuer Contract: https://hbex.coveredca.com/insurance-companies/PDFs/Attachment-7-Amended-for-2019.pdf.

2. **Measures and Benchmarks:** PwC was engaged to identify measures and benchmarks at the 50th, 75th, and 90th percentile (whenever available), relevant state and national comparison points, and data sources for current expectations and performance standards for Covered California QHPs and its populations.

3. **Review of Purchaser Strategies:** PwC was also engaged to review activities and initiatives of other large health purchasers to identify key areas of focus, strategies and performance measures that Covered California could consider for potential adoption or alignment.

To guide the contract updates for plan years 2021-2023, Covered California has developed a revised framework for its efforts to assure consumers get the best care possible and that contracted plans promote improvements in how care is delivered. With the *Covered California Quality Care and Delivery Reform Framework*, Covered California has reorganized major areas of focus under a two-pronged approach: Assuring Quality Care and Effective Care Delivery (see Figure 1, Covered California Quality Care and Delivery Reform Framework).

Figure 1. Covered California Quality Care and Delivery Reform Framework



The Assuring Quality Care domains focus on the overall population and various subpopulations to ensure they are receiving quality care. These domains range from Individualized Equitable Care for every individual that is rooted in the Institute of Medicine's six aims of health care quality (safe, timely, effective, efficient, equitable and patient-centered)[2] to Complex Care for

[2] Committee on Quality Health Care in America, Institute of Medicine. (2001). Crossing the quality chasm: a new health system for the 21st century. Washington, D.C.: National Academy Press.

patients with very complex conditions that require high cost treatments and specialized management.

Effective Care Delivery focuses on five value-enhancing strategies that are aimed at promoting near- and long-term delivery system reform anchored on three organizing strategies: Effective Primary Care, Integrated Delivery Systems and Accountable Care Organizations, and Networks Based on Value. Beyond the organizing strategies, the contract seeks to hold health plans accountable for ensuring the interventions that patients receive are both appropriate and delivered through sites and services that meet their needs.

Beyond looking at specific domains of care and delivery strategies, Covered California continues to anchor its overall approach in its understanding that there are critical "drivers" that contribute to promoting better care and improvements in that care. When considering the key drivers that enable quality care and effective care delivery, Covered California looked to the standards set by the National Quality Strategy[3] and mirrored many of the same levers initially noted in 2011. Many drivers are specifically addressed in current contract requirements (e.g., quality improvements for hospital acquired infections) while some are outside of the scope of an individual health plan's responsibility or this contract (e.g., workforce). These drivers are a part of the context and are essential considerations to improving how health care is delivered and the quality of care that consumers experience.

The chapters of this report are organized by these domains and strategies and discuss relevant key drivers. A separate complementary report, Purchaser Strategies for Improving Quality of Care and Delivery System Reform, reflects PwC's review of purchaser strategies that will guide Covered California's efforts to align its contractual requirements with other purchasers.[4] In the report's summary recommendations and individual subject chapters, the findings from HMA and PwC provide Covered California the current best evidence and performance measures for improving quality and delivery system reform. Covered California will use this material as it continues its stakeholder engagement with QHPs, providers, consumer advocates, and the broader public to help inform which efforts Covered California should continue, discontinue or revise for plan years 2021-23.

---

[3] Agency for Healthcare Research and Quality, 2011 Report to Congress: National Strategy for Quality Improvement in Health Care, March 2011 - https://www.ahrq.gov/workingforquality/reports/2011-annual-report.html

[4] PwC's separate, companion report entitled, *Health Purchaser Strategies for Improving Quality of Care and Delivery System Reform*, describes strategies of employers, employer coalitions, health plans, Medicaid and Medicare plans to ensure quality care and effective care delivery. Please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage for this report.

Summary Recommendations on Current Best Evidence

HMA identified seven overarching recommendations informed by its detailed evidence review that cut across the domains reviewed in this report, and that the review team determined to have the most potential to further Covered California's mission. These recommendations were developed based on relevance within and across the strategies, as well as feasibility of achieving the recommended activity or program.

In response to Covered California feedback, the team also identified and included considerations for Covered California for implementing findings within each domain. These considerations are provided to help Covered California take the next steps in use of the evidence findings for its issuer oversight and quality program. Detailed discussion of evidence is provided in the Strategies sections across the report.

Recommendation 1: Ensure issuers' network strategies deliver both cost effective and high-quality care.

The evidence supports maintaining Covered California's current strategy of networks based on value. Premium reductions associated with narrow networks range from 5 and 20 percent or more compared to broad network plans. However, across the nation most plans consider price or premium targets as the primary goal in designing a narrow network, with few plans nationally clearly articulating how or if quality is incorporated. Covered California should continue to require its contracted plans to report how they include quality and other factors in their network design and review the metrics and methodologies to ensure they are meaningful. In addition to collecting and assessing plans' descriptions of their network design criteria, Covered California should place particular emphasis on continuing to monitor the range of quality factors that are part of its oversight of contracted plans.

Recommendation 2: Issuers and providers should be required to identify and effectively manage care for high-risk or high-cost individuals.

HMA's review found substantial evidence for models and strategies that successfully improve outcomes for high-risk or high-cost individuals. The studies identified two core elements of effective programs: first, the identification of individuals in need of or potentially at-risk for becoming high risk/cost individuals, and, second, the intervention applied to support the identified individual. Studies related to interventions fall into two broad categories: complex case management and support for care transitions. Covered California could consider adopting standard reporting requirements for its issuers and/or their contracted providers on who receives these two types of services and their assessment of the cost, quality, and patient experience of those receiving the services. In particular, consideration could be given to adopting standard reporting requirements relative to how issuers are identifying and serving the needs of the "top 5 percent" of patients based on cost or care severity.

Recommendation 3: Require or encourage issuers to contract with Accountable Care Organizations (ACOs) or comparable vehicles for care integration that meet criteria for delivering higher value.

ACOs are a delivery system innovation that has shown significant promise in improving health outcomes and lowering overall health care costs. In 2018, 1,011 ACOs were recorded nationally, covering 32.7 million patients. In California, an estimated 7 to 10 percent of the population is in an ACO, although enrollment varies by region.

By general definition, ACOs hold a group of providers across a continuum of care accountable for the cost and quality of care for a defined group of patients, which gives providers an incentive to work together to better manage patient health needs and provide efficient, high-quality care. Studies have identified several key factors that are correlated to ACO success, including:

- Experience with risk-based contracting;
- Double-sided risk arrangements (both shared savings and shared risk); and
- Physician-led ACOs.

In addition, more limited evidence suggests the following factors have an important role in ACO success:

- Greater share of advanced primary care practice models, such as Patient-Centered Medical Homes (PCMHs);
- Effective care management;
- Strategic and strong partnerships beyond physician groups and hospitals, such as post-acute care facilities, behavioral health, and social service organizations;
- Organizational leadership commitment and involvement of physicians;
- Patient-centered culture; and
- Market characteristics and ACO organizational factors such as higher levels of patient enrollment.

Given the promising results of ACOs identified through this review, HMA recommends that Covered California require or strongly encourage issuers to leverage value-based payment contracting opportunities with ACOs and promote enrollment in ACOs. To advance the savings and quality of care potential, Covered California could promote issuers' adoption of two-sided risk contracts (both shared savings and shared risk) with providers, prioritize ACOs with experience in risk-based contracting, and encourage physician-led models. It will be critical that issuers' ACO payments exceed provider investments to develop necessary infrastructure, and that issuers support providers with data that allows providers to track performance and quality of care at population and individual patient levels. Issuers could monitor contracted ACOs to gauge their level of support for advanced primary care models, behavioral health integration, sophisticated care management, partnerships with post-acute facilities and other entities that address social determinants of health, and patient engagement initiatives as there is some evidence that these features contribute to ACO success.

Given that the level of ACO enrollment is important to an ACO's ability to produce savings and implement quality initiatives, Covered California could encourage issuers to implement strategies to promote enrollment in ACOs both for consumers enrolled through Covered California and the individual market, as well as all lines of business. If allowable, issuers could use benefit designs to create cost-sharing incentives for consumers to seek care from the ACO. The new Medicare Shared Savings Program ACO rule allows ACOs to offer incentive payments to beneficiaries for taking steps to achieve good health, which could be a model for the commercial market as well.

Recommendation 4: Require issuers to invest in and promote enrollment in primary care practices that reflect best evidence in delivery and promotion of high-value care.

Research has demonstrated the value of primary care in improving patient outcomes and reducing total health care expenditures. Greater use of primary care has been associated with lower costs, higher patient satisfaction, reduced low birthweight, fewer hospitalizations, emergency department visits, and lower mortality.

Over the last decade, payers have focused on efforts to strengthen the primary care delivery system through strategies such as required primary care spending levels (Oregon, Rhode Island) and advanced primary care models such as Patient-Centered Medical Homes (PCMHs). These efforts have demonstrated significant impacts on the costs and quality of care, although improvements have not been uniform across efforts. Although there is limited research examining success factors of PCMH models, stakeholders have reached agreement on the benefit of several key attributes of advanced primary care models, including that they should be:

- Person and family centered;
- Maintain continuous patient-provider relationships;
- Comprehensive and equitable;
- Team-based and collaborative;
- Coordinated and integrated;
- Accessible; and
- High-value.

Covered California could consider requiring insurers to document the extent to which it contracts with providers that meet advanced primary care standards and report on the cost, quality and patient-experience of those enrollees in such practices compared to those who are not. In addition, Covered California could continue to require insurers to utilize alternative payment models that support advanced primary care and set standards for payment to advanced primary care providers, allowing flexibility to recognize a range of advanced primary care models such as national accreditation or practices that meet standards set by Covered California. This recommendation dovetails with the recommendation to support ACO models, particularly those that include advanced primary care practices as a significant portion of their primary care delivery system.

Recommendation 5: Insurers could promote the use of non-clinical providers where they have been demonstrated to improve access to care, address social determinants of health, health disparities, and support more effective engagement of patients and families.

Across the strategies assessed in this report, HMA highlights the ways non-clinical providers, such as community health workers and peers, have been used to improve access to care, address disparities, engage patients and family, and support team-based care models. Patients with a greater sense of self-efficacy are more engaged and invested in their own care. Providers that understand the needs of their patients are more likely to make those patients feel welcome and provide the assistance they need. This can be done by medical providers themselves and through others, such as para-professionals (community health workers, peers) and other non-clinical staff. For some consumers, especially those with less historical access to or trust of the health care system, support and system navigation can increase their use of appropriate health care services and improve their outcomes.

Community health workers, peer support staff, and care coordinators have been shown to be adept at engaging racial, ethnic and cultural minorities. To encourage the use of these providers, Covered California could require issuers to establish payment strategies and contractual requirements that include paying for community health workers, peers or other support service providers. Non-clinical workers may be integrated into advanced primary care and ACO models promoted above or paid for outside of these models. Issuers may take different approaches to payment for this workforce, although attention could be paid to ensuring mechanisms to integrate non-clinical providers into the health care delivery system to ensure access to their services. Issuers could also consider using non-clinical providers as part of care models to address the needs of target populations, such as high-needs, high-cost populations with behavioral health needs.

Recommendation 6: Covered California could actively monitor and assess its issuers' activities in channelling patients to alternate sites and expanded approaches to care.

Alternate sites and expanded approaches to care delivery, including telehealth, retail clinics, and urgent care, are promising ways to deliver high value care but are lacking consistent evidence of the particular strategies to make them most effective.

Telehealth encompasses a diverse set of technologies that address a range of health conditions and needs of different patient populations. Research has shown that telehealth has been as effective as in-person visits for a broad range of conditions studied and has demonstrated the ability to improve access and timeliness of care. The impact of telehealth on costs depend significantly on the nature of services provided and whether telehealth serves to deter costlier downstream care or add to new health care utilization and associated increased spending.

To promote issuer adoption of high-value telehealth services, Covered California could consider requiring issuers to reimburse telehealth services that promote access to specialty care and reduce costlier downstream care or emergency department visits. As discussed in body of the report, programs connecting primary care providers with specialists (eConsults, Project ECHO) have shown promising results, improving patient access to specialty care and health outcomes and lowering spending. Medicare recently expanded coverage of eConsult codes, signaling growing recognition of the value of these services. Telehealth should be used strategically to fill

gaps rather than become an additive service that increases health system costs without improving outcomes.

This recommendation aligns with the recommendations to promote ACOs and increased investment in primary care and access to behavioral health services. Covered California could also consider opportunities to integrate telehealth within expectations of ACOs or advanced primary care models.

Retail clinics provide effective, convenient options for patients for a limited range of services. For those services for which the quality of care has been assessed, retail clinics appear to be equivalent to other settings, at a lower cost per episode of care. Covered California could establish expectations for how promotion of retail clinic services can complement or interact with its efforts to promote ACOs or advanced primary care models.

Recommendation 7: Covered California could actively consider and assess its issuers strategies to engage consumers in making choices regarding their provider, treatment and source of care.

Active engagement of consumers in their selection of patient-informed high value providers, services, and treatments has demonstrated success in pilot and limited settings, but there have been few, if any, proven models taking these strategies to large scale.

There has been growing effort to provide consumers with actionable information that assists in selection of high value providers, services, and treatments. HMA's review focused on three consumer engagement strategies that cut across both domains of Assuring Quality Care and Effective Care Delivery. The evidence associated with the effectiveness, and strategies to promote the use of these three strategies -- (1) transparency tools for provider/service selection, (2) shared decision-making tools, and (3) personal health records are described in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

While transparency tools do not demonstrate impacts on savings and quality on their own, they may be a core element to the delivery system advancement strategies where the onus is put on consumers to understand cost and quality implications of their decision-making. Tools that promote shared decision-making between consumers and providers demonstrated the most solid evidence of impact, though only for specific preference-sensitive services. Overall, the evidence for successful expansion of shared decision-making and their wide-scale adoption is virtually non-existent.

Active engagement of patients and consumers is central to Covered California's mission. Covered California could actively monitor and support testing in these areas and, as testing demonstrates efficacy, require issuers to implement patient engagement strategies at scale.

Cross-cutting Observations Related to Key Drivers

In addition to reviewing the evidence for the Assuring Quality Care and Effective Care Delivery strategies, HMA also assessed the applicability of the key drivers for each strategy. What follows are observations related to the key drivers identified as most critical to successful implementation of the strategies.

Observation 1: Standardize and promote data-sharing and data exchange.

Increased and improved data infrastructure to support availability of timely and actionable data will be vital to the success of delivery system improvement strategies going forward.

Advances in data interoperability across providers and patients, new data capture, and measurement systems are critical to support appropriate care for high-risk individuals, successful ACO performance, advanced primary care, and disparities reduction. Timely data exchange among providers and between providers and plans is central to supporting transitions in care, effective primary care, and accountability. Incorporation of non-clinical data and non-medical needs such as housing, food, transportation, or community safety permits providers and issuers to effectively address needs that lead to disparities in health, health care and high costs for complex needs.

Observation 2: Promote aligned, effective, and parsimonious measurement across all stakeholders.

This review highlights the disparate measurement approaches across purchasers, accreditation and recognition entities, research studies and other efforts, and the limitations inherent to that state. For example, Patient-Centered Medical Home models may be accredited or recognized by multiple national organizations, individual states or insurer-recognition programs. Disparate measurement introduces unnecessary complexity and leads to provider and administrative burden. Measurement strategies should be limited to meaningful, standardized and effective measures. Without standardized measurement performed in alignment across entities, it will remain difficult or impossible to know which factors or components of a given intervention or strategy contribute to its success or failure.

Observation 3: Payment should be used to deliver value.

Across the evidence reviewed, payment focused on enhancing value was a consistent critical ingredient in successful change and will be a necessary component to any future successful strategy. Physician reimbursement can support provision of additional transitional care management for high-risk/high-cost patients while value-based payment models incentivize reduced hospitalizations. Multiple payment models have been used to incentivize addressing gaps in behavioral health services and increasing behavioral health integration. Reference pricing results in expenditure reduction. Risk-based contracts and two-sided risk mark successful ACOs. Financial supports like alternative payment models or incentives are critical to support primary care practice transformation. Primary care spending targets and spending limits have also shown promise. Payment models have also shown potential to effectively impact disparities in care and outcomes.

Observation 4: Continued monitoring of and contribution to ongoing research is needed to address current limitations in evidence.

This review affirms that in many areas, the evidence remains incomplete, at times inconsistent, and is constantly changing. Covered California could continue to monitor and ultimately contribute to the evidence for these strategies. Covered California has an opportunity to inform the evolution of the evidence base in selecting strategies for prioritization by contracted issuers. Selection and design of these priority initiatives could be undertaken in ways that permit evaluation over time.

Non-traditional delivery systems and methods show promise. These efforts include alternate modalities of care delivery such as telehealth and alternate sites of care delivery including urgent care and birthing centers. Additionally, further investigation into effective scaling of consumer tools and patient engagement strategies is needed as the research demonstrates both the effectiveness of these tools, particularly in shared decision-making, and their underutilization. While transparency tools do not demonstrate impacts on savings and quality on their own, they are a required tool for many of the delivery system advancement strategies where the onus is on consumers to understand cost and quality implications of their decision-making.

Observation 5: Availability of issuer and provider robust analytic services is critical.

Issuers and providers need capacity to understand and make data actionable by providers and patients. Access to timely, reliable and accurate data and analytics is critical to positive ACO performance and effective primary care. This includes analytics capacity on the payer side to support providers with performance measurement, financial benchmarking and patient attribution as well as capacity on the provider side to assess quality of care, coordinate care, identify priority patients and develop appropriate interventions. For advanced primary care, both patient-level and practice-level data services can improve practice performance, but its value depends on the extent to which practices use this data, which varied across initiatives studied. Practices need patient-level data to coordinate and manage care for their assigned populations; and practice-level data to track performance and course correct as needed on key cost, quality, and utilization metrics.

Summary Recommendations on Measures and Benchmarks

Covered California commissioned PricewaterhouseCoopers (PwC) to conduct a detailed review of measures and benchmarks and the strategies used by healthcare purchasers to drive value in health care.[5] The comprehensive results of the analysis of measures and benchmarks are presented here, and the topic-by-topic review of measures are presented in each of the subject chapters of this report.

General Observations and Recommendations

Covered California's Attachment 7 reporting requirements are more extensive than those required under the Centers for Medicaid and Medicare Services' (CMS) Quality Rating System (QRS) for Qualified Health Plans (QHPs) and the reporting requirements of most other purchasers. Outside of the QRS measures, many Attachment 7 reporting requirements are not endorsed or widely adopted measures, do not have consensus definitions, and/or ask for descriptive or qualitative information. As a result:

- There is additional burden placed on QHPs to develop responses;
- Information reported by QHPs can be difficult to compare, evaluate, or measure; and
- External data and benchmarks for Attachment 7 measures vary by organization or are often limited, inconsistent, not credible, or not regularly updated.

Central to Covered California's measurement requirements, and those of QRS and many health care purchasers, is the use of standardized Healthcare Effectiveness Data Information Set (HEDIS) and Consumer Assessment of Healthcare Providers Survey (CAHPS) measures. These measure sets can have limitations but usually yield sufficient data to enable identification of performance benchmarks or reference points and analysis of trends over time.

Alignment of measures with those used by other purchasers and regulatory agencies minimizes reporting burden, provides an opportunity to compare performance, establishes relevant benchmarks or performance targets for measures with credible and consistent data, and drives desired health plan and health care system performance change.

For many Attachment 7 measures outside of standardized QRS measures, available data and benchmarks are limited or may not be directly relevant (e.g., based on Medicaid or Medicare populations) to assess QHP performance.

Systemic issues limit the data available to assess many of Covered California's strategies, some of which can be addressed through key drivers and other enabling tactics and collaboration opportunities identified in PwC's Purchaser Strategy Review. The body of the report provides specific recommendations for measures and potential benchmarks, but overarching recommendations follow.

[5] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Recommendation 1: Establish and apply clear principles to guide the selection and updating of measures and benchmarks required by Covered California.

PwC informed its review and recommendations by the guidance provided by Covered California by other measurement frameworks and principles developed and used by national organizations, including the Centers for Medicaid and Medicare Services, the American College of Physicians and the Robert Wood Johnson Foundation (see, Appendix 4, Principles to Guide Measure and Benchmark Selection). Covered California should review and update its criteria and principles for measure and benchmark selections based on these national reference points.

Recommendation 2: Covered California should continue to leverage existing data collection measures and processes.

Covered California should continue to leverage data collection by other California purchasers and regulatory agencies (e.g., Integrated Healthcare Association (IHA), Office of the Patient Advocate (OPA), Department of Managed Health Care (DMHC), Office of Statewide Health Planning and Development (OSHPD), Department of Health Care Services (DHCS)) to minimize health plan reporting burden.

Recommendation 3: In the absence of nationally standardized and already collected measures, for key domains Covered California should use its claims and encounter data to develop additional measures.

Covered California has access to a robust data claims and encounter data set submitted by health plans. Covered California should dedicate sufficient resources to analyzing this data this data for some domains to develop its own baselines and trends for additional measures and to improve its understanding of its enrolled population.

Recommendation 4: Given the broad lack of alignment across purchasers and measurement system sponsors, Covered California should make best efforts to align in ways that address priority concerns and that will foster better alignment in the future.

In many domains there are multiple “recommended” or “core” measure sets that are not aligned with one another and across Covered California’s current measure requirements detailed in Attachment 7. To illustrate with one example, the composite measure for Comprehensive Diabetes Care is a recommended or core measure for many programs, but programs differ in which measure components are required (see Table 1, Illustrative Example of Measure Non-Alignment: Comprehensive Diabetes Care Recommended/Core Measure Sets). Covered California currently relies on the measures required by CMS for QRS, which for 2019 includes three standard HEDIS measures to assess care provided to diabetics.

Table 1. Illustrative Example of Measure Non-Alignment: Comprehensive Diabetes Care Recommended/Core Measure Sets

Diabetes Measures	QRS		IHA MY19			Medicaid		CMMI CPC Plus 2018	CQMC		Washington State
						CMS Core	Medi-Cal EAS		ACO and PCMH / Primary Care		
	2018	2019	HMO	ACO	Medi-Cal EAS	Adult FY18	MY18		PCMH	ACO	
Eye Exams	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Foot Exam**									✓	✓	
HbA1c Testing	✓				Baseline	✓	✓		✓	✓	✓
Poor HbA1c Control			✓	✓	✓	✓	✓	✓	✓	✓	✓
Blood Pressure Control (<140/90)			✓	✓	✓		✓				✓
Medical Attention for Nephropathy	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
HbA1c Control (<8%)	✓	✓	✓		✓		✓				

**Data for the foot exam measure is not available in NCQA Quality Compass.

Given the inconsistency in diabetes measurement standards, Covered California could consider including three additional HEDIS measures, Non-Alignment Poor HbA1c Control, Blood Pressure Control, and HbA1c Testing (included in the NCQA Quality Compass data) to the diabetes measures it evaluates since those measures are well aligned with measure sets used by other purchasers and data is currently collected.

Throughout this report PwC makes specific recommendations regarding how Covered California could alter its measurement requirements to provide a clearer picture of issuers' performance and foster better alignment.

Recommendation 5: Covered California should work to improve analysis and response rates to existing sources and build on those surveys to better capture patients' perspectives of their experience getting coverage and care.

Precise alignment of survey-based measures and benchmarks is challenging due to survey question differences, low response rates, as well as the reliability of survey measure scores (see Table 2, Illustrative Example of Measure Non-Alignment: Patient Experience Measures). Covered California currently relies on the CMS designed patient experience survey used for the QRS.

Table 2. Illustrative Example of Measure Non-Alignment: Patient Experience Measures

Measures of Patient Experience	Surveys of Health Plan Performance			Surveys of Provider Performance	
	QRS	HEDIS® CAHPS® Commercial	DHCS Medi-Cal Managed Care	IHA*	MIPS
Access to Care	✓	✓	✓	✓	✓
Access to Information	✓	✓**			
Provider Communication		✓	✓	✓	✓
Care Coordination	✓			✓	✓
Claims Processing		✓			
Cost of Care					✓
Cultural Competence					
Health Promotion & Education		✓**			✓
Office Staff				✓	✓
Plan Administration	✓	✓	✓		
Shared Decision Making		✓**	✓		✓
Ratings (of care, of plan, etc.)	✓	✓	✓	✓	✓

Checkmarks indicate the existence of measure(s) (may be more than one). Shades indicate the existence of question(s) in the survey used.

*For IHA, only showing the measures and not the questions on the survey.

**NCQA has proposed retiring these measures due to reliability issues.

Conducting a separate survey can be costly. Covered CA could focus on analyzing the QRS results and determine root cause of any deficiencies. Covered CA could also work with QHPs to increase response rates or consider requiring a larger sample. In addition, Covered California could consider working with CMS to better align the QRS patient experience survey with other surveys and/or relying on other survey results that address broader populations than just Covered California enrollees to assess issuers' performance.

Recommendation 6: Covered California should update its measurement requirements of health plans.

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and industry articles, and assessed measures on the criteria listed below (Table 3, Measure Assessment Structure Applied by PwC). PwC evaluated each measure by assigning high to low rankings to each criterion based on the general rubric below, recognizing that there is subjectivity to assessing each measure. Because the healthcare market is quickly evolving, PwC notes these assessments are point-in-time and may become outdated.

Table 3. Measure Assessment Structure Applied by PricewaterhouseCoopers

Criterion	Evaluation	
	High	Low
NQF Endorsed / Industry Accepted	Measure is NQF endorsed or has been adopted by purchasers.	Measure is not NQF endorsed and has not been adopted by purchasers.
High impact, consistent with program goals, high priority	Matched to program priorities and populations	Not matched to program priorities and populations
Specification / Clear definition / Reliability	There exists a formal specification for how the measure should be calculated.	Measure lacks a consensus definition for how it should be calculated.
Feasibility / Ease of reporting	Measure is currently reported in QRS or requires only claims data for reporting.	Measure is not currently reported in QRS and requires more than claims data, e.g. clinical or survey data.
Benchmark / Availability of Reference Points	Relevant percentiles exist in QRS or Quality Compass.	No relevant data points are identified.

To view the comprehensive list of recommended measures for Covered California, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage. Each individual chapter of this report also presents measures and benchmarks organized by the domains of care and delivery strategies of the *Covered California Quality Care and Delivery Reform Framework*. Please note that some measures can be applicable to multiple domains and strategies.

Recommendation 7: Given the inconsistency of consensus and national standards in many critical domains, Covered California will need to either develop new measures or adopt some in limited use while promoting adoption of national standards.

In some areas there are national standard measures adopted and in widespread use, such as health promotion, hospital safety and some dimensions of chronic care. In others, there are few if any standard measures. In this context, Covered California will need to continually monitor for new candidates to measure critical areas and determine what its measurement approach is in the interim.

Below is a high-level summary of benchmarks for Covered California, organized by sources of standard benchmarks for continued or potential alignment, assessment of measures and benchmarks for industry consensus (based on criteria described in Table 3, Measure Assessment Structure Applied by PricewaterhouseCoopers) and recommendations for data and benchmarking. For example, mental health and substance use disorder treatment is ranked low

for industry consensus because there are no established measures to evaluate behavioral health integration in primary care that are reliable for improving quality.

Table 4. High-Level Summary of Benchmarking Standard Sources for Alignment, Industry Consensus, and Data & Benchmarking Recommendations

Strategy	Standard Sources for Alignment	Industry Consensus: Measures & Benchmarks			Data & Benchmarking Recommendations
1. Health Equity: Reducing Disparities	NCQA, AHRQ PQI	Low	**Medium**	High	Build and expand upon current efforts
2. Health Promotion and Prevention	NCQA	Low	Medium	**High**	Clarify tobacco and obesity measures
3. Mental Health and Substance Use Disorder Treatment	NCQA Limited Broader Consensus	**Low**	Medium	High	Develop measures of behavioral health access /integration
4. Acute, Chronic and Other Conditions	NCQA, AHRQ, CMS	Low	**Medium**	High	Consider using Health Risk Assessment screening to identify at-risk members
5. Complex Care	N/A	**Low**	Medium	High	Assess overlap of QHP Centers of Excellence networks
6. Networks Based on Value	Accreditation, NCQA, HCP-LAN typology Limited Broader Consensus	**Low**	Medium	High	Evaluate market trends in APM adoption. Need to rely on IHA to measure individual providers
7. Promotion of Effective Primary Care	CQMC PCMH Recognition	Low	**Medium**	High	Develop measures of PCP utilization effectiveness
8. Promotion of Integrated Delivery Systems & ACOs	NCQA ACO Accreditation, IHA AMP ACO	Low	**Medium**	High	Understand what makes some ACOs successful and measure those strategies and processes
9. Appropriate Interventions					
Pharmacy Utilization Management	NCQA, PQA	Low	**Medium**	High	Establish baseline experience benchmarks through analysis of Covered California population data to assess variations and trends
Patient and Consumer Engagement	N/A	**Low**	Medium	High	Need to assess how well QHPs can report them as Covered California did not require reporting for plan year 2017, but data is expected for plan year 2018
10. Sites & Expanded Approaches to Care Delivery					
Hospital Care	CMS	Low	Medium	**High**	Continue to leverage available reporting
Expanded Approaches to Care Delivery (Non-Hospital Sites)	IHA, CQMC	**Low**	Medium	High	Emerging area: low use but high growth; focus on monitoring and developing tracking capabilities

Strategy	Standard Sources for Alignment	Industry Consensus: Measures & Benchmarks			Data & Benchmarking Recommendations
11. Population-based and Community Health Promotion (see Appendix 5: Population-Based and Community Health Promotion Beyond Enrolled Population)	N/A	**Low**	Medium	High	Take a localized approach to measurement; focus on specific characteristics and needs of each community

Note: **ACO**= Accountable Care Organization; **AHRQ**= Agency for Healthcare Research and Quality; **APM**= Alternative Payment Model; **CMS**= Centers for Medicaid & Medicare Services; **CQMC**= Core Quality Measures Collaborative; **IHA AMP**= Integrated Healthcare Association Align Measure Perform; **HCP LAN**= Health Care Payment Learning & Action Network; **N/A**= Not Available; **NCQA**= National Committee for Quality Assurance; PCMH= Patient-Centered Medical Home; **PQA**= Pharmacy Quality Alliance; and **PQI**= Prevention Quality Indicators.

ASSURING QUALITY CARE
Chapter 1: Health Equity: Reducing Disparities

Health disparities are systematic, potentially avoidable health differences negatively affecting socially disadvantaged groups. Health disparities may reflect the conditions in which individuals are born, live, and work, known as the social determinants of health. Health equity is the achievement of the highest level of health for all people. Covered California has worked with issuers to reduce health disparities and promote health equity through: (1) identifying the race or ethnicity of all enrollees; (2) collecting data on diabetes, hypertension, asthma, and depression by race and ethnicity; (3) conducting population health improvement activities and interventions to narrow observed disparities in care; and (4) promoting community health initiatives that foster better health, healthier environments, and promote healthy behaviors.

Moving forward Covered California's goal is to ensure every individual receives care that is personalized for them and delivered in the right setting at the right time, does not cause harm and is the most cost-effective possible regardless of their circumstances, race, gender, where they live – and for some decisions where more than one evidence-based treatment is available, based on their values and preferences. These goals are consistent with the six domains of health care quality – safe, timely, effective, efficient, equitable, and patient-centered identified by the Institute of Medicine.[6]

This chapter on Health Equity: Reducing Disparities is organized into two sections:

Section 1. Review of Evidence for Health Equity: Reducing Disparities was prepared by Health Management Associates (HMA) and provides a review of the evidence related to health plan interventions to address health equity. The evidence review is followed by specific findings that represent opportunities or challenges for Covered California and then recommendations for how Covered California can monitor evidence on an ongoing basis.

Section 2. Review of Measures and Benchmarks for Health Equity: Reducing Disparities was prepared by PricewaterhouseCoopers (PwC) and provides a review of Covered California's current required measures, considerations and recommendations for revising its measures in this area.

Section 1. Review of Evidence for Health Equity: Reducing Disparities

Covered California contracted with HMA to conduct an evidence review in ten strategy areas that health insurance payers can utilize to drive value in health care. The review's results are presented here.[7] This chapter includes direct citations of the best evidence within the discussion of this strategy; information from additional sources was also used for this report and is listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

---

[6] Committee on Quality Health Care in America, Institute of Medicine. (2001). Crossing the quality chasm: a new health system for the 21st century. Washington, D.C.: National Academy Press.

[7] To view a more detailed description of HMA's approach, project team, and methods for literature review and evidence gathering, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Background

Disparities in health and health care are well documented. Efforts to eliminate racial and ethnic disparities in health care access, quality and outcomes have received national attention since 1985 when the Heckler report was released by the Department of Health and Human Services (HHS).[8] Over 20 years ago, the Institute of Medicine report, *Unequal Treatment,* highlighted racial and ethnic disparities in health care access, quality and outcomes.[9]

Much of the research in evidence-based practices to reduce health and care disparities comes from public health interventions and not clinical practice. This is in part due to the complexity of the conditions that impact health and our nation's collective difficulty addressing the ways race, gender, and other demographic differences affect health and social risks. However, lessons learned in research and public health settings have the potential to be adapted to clinical care settings and provide a rich knowledge base in the top health conditions and among all the populations in California.

Health disparities may represent inferior quality of care for the members who experience these disparities or the consequences of broader social determinants of care that differentially impact different populations. Supporting the provision of high-quality care for all members can have cost, utilization, member satisfaction, staff satisfaction and plan reputation benefits. Ensuring that members have access to the full range of appropriate services can help reduce avoidable future medical needs. Once members access care, the quality and cultural responsiveness of services are also important for optimizing costs and outcomes. Efforts to eliminate disparities across racial and ethnic groups have been underway for several decades. For example, in 2000, HHS identified the elimination of disparities in health and health care as a priority in its *Healthy People 2010* initiative.[10]

HMA's analysis of research on disparities reductions underscores the importance of multi-level approaches to achieving health equity. At an organizational level, it is important to focus on disparities reduction within existing quality strategies. Covered California's requirement of the collection of standardized race and ethnicity data reflects this focus. For example, if a quality initiative aims to improve breast cancer screening rates, it is important to assess how well the initiative is working for all racial and ethnic minority groups. At the practice level, ensuring adherence to the National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care is a proven way to increase member activation in their own care.[11] Rather than trying to identify a single "magic bullet" that eliminates disparities, organizations that take a multi-pronged approach appear to have better success.

---

[8] Margaret M Heckler, Report of the Secretary's Task Force on Black and Minority Health. HHS, 1985.

[9] Institute of Medicine, Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. March 20, 2002.

[10] HHS. Healthy People 2010: Understanding and Improving Health. 2nd ed. Washington, DC: US Government Printing Office; 2000.

[11] CLAS standards are described later in this section.

Understanding Disparities Reduction Efforts as a Benefit

HMA understands health disparities reduction as a goal in itself, in addition to an objective with cost or other benefits. For example, The Joint Center for Political and Economic Studies estimated the economic burden of health disparities in the United States, based on Medical Expenditure Panel Survey (MEPS) and National Vital Statistics Reports data from 2003-2006.[12] The authors assessed: (1) direct medical costs of health inequalities; (2) indirect costs of health inequalities; and (3) costs of premature death. The authors found that between 2003 and 2006, health inequalities and premature death in the United States cost $1.24 trillion. Eliminating health disparities for minorities would have reduced direct medical care expenditures by $229.4 billion for this period. Over 30 percent of direct medical care expenditures for African Americans, Asians, and Hispanics were "excess costs" due to health inequalities.

This report notes where cost, quality or other changes are identified in the literature, but even where such information is not available, reduction of disparities should be understood as itself a worthwhile outcome rather than just a step toward cost reduction or reduced provider burden.

Wide Range of Disparities

Efforts to reduce disparities often involve tailoring and adapting evidence-based practices to the needs and circumstances of specific racial, ethnic, cultural, age or gender groups. Gender identity, sexual orientation, geography, and disability can have a huge impact on health care access, quality and outcomes, too. Most of the disparities research HMA reviewed focused on race and ethnicity, and that is reflected in this report. As research in other demographic areas expands, Covered California will want to include these factors in its ongoing assessment and planning for disparities reduction.

The evidence HMA collected on successful efforts to reduce health disparities fell into three categories: global strategies; targeted strategies with broad application; and targeted strategies with focused application. Through research and discussions with subject matter experts, HMA determined that a combination of global and targeted strategies may be the most relevant for Covered California, as together they provide a framework for disparities reduction efforts and some specific examples of how these strategies can be applied.

Global strategies, such as recommending a Mediterranean diet for all members, ensuring that all children receive Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) services, and providing blood pressure screenings for all members at every visit are important steps to achieving health equity.[13] Targeted strategies with broad application include blood lead level screenings in areas with known lead hazards and screening for sexual transmitted infections among sexually active members. These strategies have been shown to impact care or outcomes for patients with a particular set of characteristics and needs but may not be widely applicable to care in other settings.

---

[12] Thomas A. LaVeist, Darrell J. Gaskin, Patrick Richard, The Economic Burden of Health Inequalities in the United States. The Joint Center for Political and Economic Studies, September 2009

[13] Cécilia Samieri, et al., The Association Between Dietary Patterns at Midlife and Health in Aging. Annals of Internal Medicine, November 5, 2013.

Limited Available Evidence on Issuer Efforts to Reduce Disparities

Analysis of issuer-focused efforts to reduce health disparities is limited and where it exists is primarily focused on the public sector.[14] For this reason, HMA focused on non-issuer settings such as hospitals, clinics and other medical care settings. Research is also limited in how organizational equity efforts impact health disparities more broadly. However, there are some examples. In 2012, Robert Wood Johnson University Hospital in New Jersey implemented a 3-year strategic plan to improve equity and increase workforce diversity. The efforts included diversity in hiring, increased community engagement, achieving greater equity in patient care, and corporate alignment. Efforts were tracked on the organization's dashboard used to determine executive compensation. Ethnic and racial minorities now make up 22 percent of the board of directors and 34 percent of executive leadership. While hospitals differ from issuers in many ways, HMA believes that efforts to change organizational culture and practice are relevant across organizational types.

Alignment with Institute for Healthcare Improvement Analysis and the Robert Wood Johnson Foundation Finding Answers Approach to Reducing Health Disparities

Researchers at the Institute for Healthcare Improvement (IHI) and Hamad Medical Corporation studied 21 U.S. health systems and two in Canada that take a comprehensive approach to improving health equity.[15] The organizations included academic institutions and community hospitals, non-profit and for-profit organizations, and institutions focused on children or the uninsured. While the focus was on health systems, this information is relevant to issuers, which can require their contracted providers to implement and administer equity-improving changes. Across the diverse organizations studied, the researchers identified five strategies employed by organizations with a health equity focus:

- Make health equity a leader-driven priority;
- Develop structures and processes that support equity;
- Take specific actions that address the social determinants of health;
- Confront institutional racism within the organization; and
- Partner with community organizations.

The Robert Wood Johnson Foundation-funded *Finding Answers: Solving Disparities Through Payment and Delivery System Reform*. The project reviewed over 200 studies on racial and ethnic disparities interventions to identify successful strategies to reduce disparities in nine disease areas, and additionally assessed the impact of cultural leverage and pay-for-performance incentives. The *Finding Answers* results were also consistent with HMA's overall evaluation of disparities reduction strategies.[16] The project identified the following strategies as successful ways to reduce health disparities: Multifaceted Programs; A Focus on Cultural

---

[14] Diana Crumley et al., Addressing Social Determinants of Health via Medicaid Managed Care Contracts and Section 1115 Demonstrations, Center for Health Care Strategies, December 2018.

[15] Kedar Mate and Ronald Wyatt, Health Equity Must Be a Strategic Priority. NEJM Catalyst. January 4, 2017.

[16] Finding Answers: Solving Disparities Through Payment and Delivery System Reform, A Systematic Review of Racial and Ethnic Disparities Intervention Literature. Online Resource: http://www.solvingdisparities.org/research/reviews

Relevancy; Nurse-led Programs; Interactive Education and Skills-based Training; and Family and Community Programs.

HMA's analysis of Disparities Reduction strategies is consistent with *Finding Answers* and the IHI reports.

Finding 1: Incorporating equity into overall quality strategy will enhance ability to achieve equity gains.

In developing a quality improvement strategy, it is important to embed health equity into the components of the quality plan. Marshall Chin and colleagues note that organizations should promote equity across quality work, rather than seeing disparities reduction as a goal separate from overall quality.[17] Chin, et al. present their recommendations in a synthesis report based on the major lessons learned from the Robert Wood Johnson Foundation's *Finding Answers: Disparities Research for Change* project. Between 2005-2015, *Finding Answers* funded 33 evaluations of innovative projects across the country focused on reducing racial and ethnic health care disparities, particularly related to diabetes, cardiovascular disease and depression. In addition, *Finding Answers* produced 12 systematic literature reviews and established recommendations for best practices.

Understanding the root causes of disparities is important to putting interventions in context and considering the range of levels of influence (patient, provider, microsystem, organization, community, and policy).[18] While an organization may not be able to immediately implement change at all levels, root cause analyses help to identify the intersections of influence and where a practice or provider can best intervene to make an impact with evidence-based strategies. As the report notes in another finding in this section, multi-level strategies can be particularly beneficial. A combination of multi-level strategies can include a focus on the patient and on the provider, as well as on the organization.[19] For example, research has shown improvement on health disparities due to the combination of top-down and bottom-up interventions.[20] Clinics working with low socioeconomic and minority populations in Israel participated in 3-year organization-wide efforts to reduce disparities and improve care quality. As part of a larger quality improvement effort, the project employed Marshall Chin's five-step roadmap.[21] Top-down strategies focused on medical and other clinic staff and included efforts to improve care management skills, effective teamwork, proactive patient engagement and health IT support tools. Bottom-up strategies included clinic-specific policy changes, intra-organizational professional training in teamwork and specific clinical areas, and culturally

---

[17] Marshall H. Chin, et al., A Roadmap and Best Practices for Organizations to Reduce Racial and Ethnic Disparities in Health Care. Synthesis of findings from the Robert Wood Johnson Foundation's Finding Answers: Disparities Research for Change. J Gen Intern Med. 2012 Aug;27(8):992-1000.

[18] Ibid.

[19] Mary Catherine Beach, et al., Improving health care quality for racial/ethnic minorities: a systematic review of the best evidence regarding provider and organization interventions. BMC Public Health 2006:104.

[20] R.D. Balicer et al., Sustained Reduction in Health Disparities Achieved through Targeted Quality Improvement: One-Year Follow-up on a Three-Year Intervention. Health Services Research, December 2015, 50:6.

[21] Marshall H. Chin, et al, op. cit.

tailored interventions tailored to the specific needs of the local population.[22] The authors reviewed the impact of the efforts on disadvantaged populations, assessing clinic quality using 7 clinical measures (diabetes control, blood pressure control, percentage of babies with elevated hemoglobin, and rates of mammography, colonoscopy, and influenza vaccination for specific populations). The change in scores were assessed over time, with the change in disparity between populations reviewed over time. Target clinics treat primarily low socioeconomic (SES) and minority populations; on average 82 percent low SES and 74 percent minority patients, compared to 48 and 33 percent, respectively at control clinics. All clinics (intervention and control) showed improvement in the 7 focus quality indicators over the study period, with intervention clinics improving at a significantly faster rate. For all 7 quality indicators, the gap in quality score between intervention and control was reduced by 66.7 percent ($p<.001$). The gap in a larger (61 measure) quality score closed by an impressive 70.5 percent ($p<.001$) from baseline scores.

In their discussion of how health care organizations focused on equity ensure success, Mate and Wyatt note that senior management must bring visibility to a health equity focus and incorporate it in all high-level decision-making.[23] Leadership sets the direction and helps employees understand that increasing equity is a core part of the organization's values and mission.

A recent analytic essay on structural interventions targeting health disparity outcomes identified steps for addressing the structural determinants of health disparities. These efforts, which include changing organizational culture and using contracts and funding agreements to push change to the provider level, can be implemented at the community level with the participation of government, provider, issuer and community stakeholder partners.[24] In addition to collecting data and measuring change, it may be necessary to develop a conceptual framework that addresses the ways a range of diverse factors impact health disparities. Although such efforts are in their infancy, attempting to understand how solutions to health disparities fit into a larger structure may prove to be the best long-term organizational solution.

For example, the Delaware Colorectal Cancer Coalition (CRC) brought together diverse policy, health care, and community stakeholders between 2002 and 2009 to greatly reduce or eliminate African American–White disparities in colorectal cancer screening, incidence, and mortality. CRC screening rates for all Delawareans 50 years or over increased from 57 percent (2002) to 74 percent (2009). Screening rates for Black residents rose from 48 percent to 74 percent (eliminating the prior black-white gap) The percent of Black patients with CRC diagnosed at advanced and regional stages dropped from 79 percent to 40 percent and the percent diagnosed at local stage increased from 16 percent to 50 percent ($P < .001$). Incidence rates per 100,000 declined from 67 and 58 for Blacks and whites, respectively, in 2002 to 45 for both in 2009 ($P < .001$). The mortality rate declined by 42 percent for Blacks, resulting in a rate almost equal to that among whites in 2009 ($P < .001$ for Blacks; $P = .002$ for whites).

---

[22] For additional details on all the interventions employed, see R.D. Balicer et al, op. cit.

[23] Mate and Wyatt, op. cit.

[24] Crumley, et al, op. cit.; Arleen Brown, et al., Structural Interventions to Reduce and Eliminate Health Disparities. American Journal of Public Health (AJPH) January 2019.

Two Los Angeles County programs (Community Partners in Care and the Health Neighborhoods Initiative) included multi-stakeholder coalitions that addressed mental health disparities. To improve mental wellness, increase housing stability, and reduce hospitalizations for adults with depression, the stakeholder group developed a broadened definition of mental health treatment that includes interventions impacting structural factors such as homelessness, unemployment, safety, school dropout, and incarceration.

Key Drivers and Enabling Tactics

Incorporating disparities reduction into an overall quality program

Covered California has set the stage for issuers to establish specific health equity goals by requiring issuers to collect and submit race and ethnicity data. This data can be paired with risk assessment information to provide providers access to stratified patient information including stratified quality measure reports. CMS has information on this kind of public, easy to understand reporting, including the structure used for Medicare Advantage plans.[25]

Issuers need to increase clarity about what they want to achieve and how identified quality goals will support outcomes for plan members from underserved groups. Health outcomes researchers advise health care organizations to define their primary equity goal and allow that goal to guide the strategies employed.[26] For example, is the organization's equity goal to improve outcomes for a minority population (improvement from a baseline) or to reduce an access, utilization or outcome gap between populations (relative performance)? Is the organization's equity goal to see improvement for specific condition or metric or to achieve overall progress? Determining the organization's primary goal will then shape the effort to understand the root causes of the issue(s), which can then drive the choice of activities to address those root causes. Depending on the goal, this could be a narrow strategy, but it does not have to be.

Provider contracts can include quality reporting that incorporates quality payments related to reduced disparities in areas the issuer has identified as problematic. Depending on what the data shows as areas of disparity, the issuer may identify specific topics to target for improvement or utilize a set of disparity reduction targets across the board.

Providers need to understand equity as an element of quality care and take steps to achieve that quality for all patients. The research indicates that simply understanding that disparities exist in health care does not impact provider performance because most providers do not understand how their behavior impacts health disparities. Providers benefit from coaching on how they can better meet patients' needs and increase patient engagement to improve quality and outcomes. Issuers' role should be to set actionable standards and support providers' efforts to meet them through information on how to change and what the impact will be.

---

[25] HHS Office of Minority Health and the RAND Corporation, Racial, Ethnic, and Gender Disparities in Health Care in Medicare Advantage, April 2018

[26] Partin, Melissa R; Burgess, Diana, Reducing Health Disparities or Improving Minority Health? The End Determines the Means. J. Journal of General Internal Medicine; New York Vol. 27, Iss. 8, (Aug 2012).

Considerations for Covered California's Next Contract Period

Covered California should consider aligning disparities data collection and analysis with other state efforts as part of its requirement of issuers to collect relevant demographic and clinical data needed to assess access, quality and outcomes by race, ethnicity, gender, and other patient characteristics. One way to increase the impact of these efforts is to align with other disparities efforts. One relevant effort is the California Department of Health Care Services (DHCS), Managed Care Quality and Monitoring Division's *2015-16 Disparities Focused Study 12-Measure Report,* which identifies disparities across Medi-Cal beneficiaries statewide and at the county level by gender, race, ethnicity and language in the areas of care for children and adolescents, women's health, care for chronic conditions, and appropriate treatment and utilization.[27] This data analysis effort is intended to help Medi-Cal improve health care for beneficiaries. This study can be used as an opportunity for alignment by Covered California. To the extent that commercial market enrollees can be studied on these same measures, it would offer a significant data set for assessing where disparities exist in this population and thus where issuers should focus their improvement efforts statewide and regionally.

Another step Covered California could take is to engage with issuers and their providers to align with the National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care (CLAS standards). This comprehensive set of 15 standards was developed by experts coordinated by the HHS Office of Minority Health. CLAS is designed to advance health equity, improve quality, and eliminate health care disparities by establishing a blueprint for health and health care organizations.[28]

CLAS standards promote respect for the whole individual and responsiveness to the individual's health needs and preferences. This idea is articulated in the principal standard and operationalized by the other 14 standards. The principal standard is to: "provide effective, equitable, understandable, and respectful quality care and services that are responsive to diverse cultural health beliefs and practices, preferred languages, health literacy, and other communication needs." The other standards focus on: governance, leadership and workforce; communication and language assistance; and engagement, continuous improvement, and accountability.

The CLAS standards were developed to help individuals and health and health care organizations implement culturally and linguistically appropriate services. The standards are as applicable to issuers and Covered California as they are to provider organizations and health systems. The governance, leadership and workforce standards can be implemented by any organization interested in improving equity through policy and practice changes at the staff and organizational levels. Communication and language standards offer issuers a framework for provider requirements that promote access to all health care consumers. The engagement,

---

[27] Managed Care Quality and Monitoring Division, California Department of Health Care Services, 2015-16 Disparities Focused Study 12-Measure Report. July 2018.

[28] HHS Office of Minority Health, National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care. April 2013.

continuous improvement and accountability standards provide guidance to issuers regarding steps to take to ensure providers are making progress toward greater equity.

Covered California can also consider aligning with national standards that were first developed by the HHS Office of Minority Health in 2000 and updated between 2010-2013 to reflect the growth in the field since the standards were first published. The CLAS Enhancement Initiative included public comment, a systematic literature review, and ongoing consultations with an advisory committee which included leaders and experts from a variety of settings in the public and private sectors. The HHS Office of Minority Health also produced *A Blueprint for Advancing and Sustaining CLAS Policy and Practice*, which provides a practical implementation guide to help organizations improve and sustain culturally and linguistically appropriate services.[29]

Recognizing that chronic diseases pose a significant problem in California resulting in substantial morbidity, mortality, disability, and cost, issuers may want to utilize the Mapping Medicare Disparities tool created by the HHS Office of Minority Health.[30] Although the Mapping Medicare Disparities Tool utilizes data on the Medicare population, it likely has relevance to commercial populations as well. The tool's interactive map identifies areas of disparities between subgroups of Medicare beneficiaries (e.g., racial and ethnic groups) in health outcomes, utilization, and spending and is an excellent starting point to understand and investigate geographic, racial and ethnic differences in health outcomes and costs in California. This information may be used to inform policy decisions and to target populations and geographies for potential interventions.

Using this tool, one can see a wide variation in average principal diabetes costs by race and ethnicity for a given county for Medicare enrollees. For example, in San Bernardino County, white beneficiaries experience the lowest costs per Medicare fee-for-service beneficiary at $784/year. American Indian/Alaska Natives experience costs nearly double that at $1433/year. Hispanics, Blacks, and Asians fall in the middle on cost. While this tool focuses on Medicare fee-for-service, it is important to see if similar trends exist for the commercially insured population and if these are proven interventions to address disparities. Issuers can use the tool to examine data on 24 conditions and 10 utilization, cost and outcome measures by race, ethnicity, gender, age and county.

Covered California could consider requiring issuers to use their contracting mechanisms to require providers to implement organizational-level efforts to implement a culture of equity and utilize culturally specific models that promote equity in health care outcomes. Issuers with both commercial and public-sector health plan offerings may benefit from developing consistency in the establishment of a culture of equity across lines of business to reinforce equity and cultural responsiveness as organization-wide values. If required by issuers to do so, provider organizations can take steps to create a culture of equity by training existing staff and setting expectations regarding equity and building a culturally and linguistically responsive workforce.

---

[29] HHS Office of Minority Health, National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care: A Blueprint for Advancing and Sustaining CLAS Policy and Practice. April 2013.

[30] CMS, Mapping Medicare Disparities. Retrieved from: https://data.cms.gov/mapping-medicare-disparities Updated September 2018

High quality training can help staff to understand the ways that existing systems and structures support ongoing disparities and understand how structural barriers undermine equity.

Finding 2: Using payment to improve quality shows mixed results on disparities.

Evidence Related to Quality and Disparities

From as early as 2008, there has been evidence that improvements in prevention, chronic care and access can positively impact disparities for a variety of services and populations, including:

- Mammography among Asian, American Indian, and Alaska Native women;
- Counseling for smoking cessation among low-income adults; and
- Appropriate timing of antibiotics to prevent surgery-related infections among American Indians and Alaska Natives.[31]

A Medicare Quality Improvement study showed improved hemodialysis outcomes resulted from better patient monitoring, feedback on performance data, and clinician education at dialysis centers, and the racial ethnic gap in outcomes narrowed from 46 percent of white patients and 36 percent of black patients getting the appropriate dose to 87 percent and 84 percent, respectively.[32] This was an improvement for all races, as well as a decrease in the performance gap by race, from 10 percentage points to 3 percentage points (P<.001). The impact by gender was also significant, with the gap decreasing from 23 percentage points to 9 percentage points (P=.008).

Researchers have not identified the best model for reducing disparities, but disparities research has led to promising strategies that provide guidance for health systems and payers. One area of guidance is on financial incentives that can be used to impact care and outcomes. Research does not yet elevate the use of one specific model over others, but analysis of programs designed to implement a financial reward system does suggest factors associated with successful payment approaches. These strategies include:[33]

- Test whether the financial incentive can have the desired equity impact without also implementing infrastructure improvements or other supports. Cook, et al. note that there is no one answer that works to reduce all disparities, and thus incentive systems should be flexible and allow for experimentation and targeted application.
- Consider the interaction between existing programs and a new effort. An organization that uses productivity or profit goals for management could find leadership unintentionally hampering staff working toward a quality incentive goal if there isn't alignment between the two programs.
- Recognize that incentives may need to change over time and preparation of staff for this evolutionary process. This could include easier targets at the start of a program, then ramping up expectations as initial gains level off.

---

[31] AHRQ, 2008 National Healthcare Disparities Report.

[32] Sehgal AR, Impact of Quality Improvement Efforts on Race and Sex Disparities in Hemodialysis. Journal of the American Medical Association. 2003;289(8):996–1000.

[33] Scott Cook, et al., Integrating Payment and Delivery System Reforms to Solve Disparities: Recommendations from Finding Answers Grantees. December 2018.

- If needed at the start, use global strategies that raise all boats, with additional focus on populations for whom lagging results indicate additional barriers that need to be addressed.

At the same time, Karen Ho et al., note that depending on the structure of quality incentives, some financial incentives (including pay for performance strategies) may discourage providers from treating patients seen as likely to bring down their performance statistics.[34]

Finding 3: Screening can provide an entry to better care.

Evidence Related to Access

Screenings are an important first step in the health care quality continuum for racial and ethnic minorities.[35] Historically underserved populations such as racial and ethnic minorities, low income consumers, and rural residents are less likely than whites, higher income and urban populations to receive screenings that identify cancer and other medical problems at an early stage.[36] For example, colorectal cancer (CRC) is the second leading cause of cancer death among cancers affecting both men and women. Screening for CRC has been shown to be effective in reducing the death rate, but screening rates are lower for racial and ethnic minority groups.

The review identified illustrative examples from practices in Alaska and Washington state that specifically sought to improve screening rates. The Alaska Native Tribal Health Consortium (ANTHC) is a statewide, Tribally-run nonprofit health services organization that is owned and managed by Alaska Native populations and supports Tribal Health Organizations (THOs) working for the 229 federally-recognized tribes across the state. In 2009, the ANTHC began focusing on improving CRC screening rates partnering with the Alaska Native Medical Center in Anchorage and five rural/remote regional THOs serving approximately 40,224 Alaska Native persons. To increase CRC screening, ANTHC helped establish provider reminders at three THOs and patient reminders at all five THOs and the Alaska Native Medical Center. The Indian Health Service provided data on 22 clinical performance measures, with specialized benchmarks including CRC screening rate. Data from the clinical partners were used to evaluate differences in screening rates before and during the program (2009-12) and were compared to statewide rates from Alaska's Behavioral Risk Factor Surveillance System. In 2009 (before the program began), 50.9 percent of adults ages 51-80 were screened; in 2012 58.4 percent were up to date on the screening. The rate for Alaska Native adults statewide was 59.8 percent, compared to 58 percent all adult residents in the same age range.

In 2011, Washington State's Breast, Cervical, and Colon Health Program funded Public Health Seattle & King County (PHSKC), the regional contractor for Clallam, Jefferson, King, and Kitsap

---

[34] Karen Ho, Ernest Moy, and Carolyn M Clancy, *Can Incentives to Improve Quality Reduce Disparities?* Health Serv Res. 2010 Feb; 45(1): 1–5.

[35] Mary Catherine Beach et al., Improving health care quality for racial/ethnic minorities: a systematic review of the best evidence regarding provider and organization interventions. BMC Public Health 2006:104

[36] Joseph DA, et al. Use of Evidence-Based Interventions to Address Disparities in Colorectal Cancer Screening. MMWR Suppl 2016;65.

counties, to increase CRC screening in the region.[37] PHSKC and its partner HealthPoint, a network of nonprofit community health centers serving historically underserved populations, funded staff time and upgrades to the clinics' EHR to support efforts designed to increase the proportion of HealthPoint's patients ages 50-75 who were up-to-date with CRC screening. Patient care coordinators (PCCs) coordinated staff CRC screening trainings and client and provider reminders. Eligible patients were contacted by telephone and letter. Screening kits were preaddressed and stamped and HealthPoint waived lab processing costs. Using the clinic EHR, patients who had not returned their screening kits within 2 weeks received follow up contact. In 2011, 24 percent of targeted clinic patients were up to date with CRC screening. Across clinics, the rate rose to 48 percent in 2014. Even the clinic with the smallest absolute increase saw screening rate rise from 17 percent to 32 percent.

Screening offers a strategy for engaging patients, including those with access barriers such as limited English proficiency. In addition to helping individuals identify medical concerns early, it can help bring them in for other services. This can improve access and reduce social isolation, which itself negatively impacts physical and mental health.[38] Despite this, testing is underused, especially for racial and ethnic minorities, those with less education and lower income persons. As indicated above, patient take up of screenings can be increased through provider and client reminders; contact by patient navigators; and interventions by in-clinic patient care coordinators.

Connecting this finding with the section of the report on Effective Primary Care, it is worth noting that the relationship between access to care and screenings is bi-directional. New research indicates that patients with comprehensive, continuous, and coordinated primary care were more likely to use high-value care such as cancer screening (78 percent of those with primary care compared to 67 percent of patients without).[39] Individuals with primary care also reported significantly better health care access and experience: physician communication was highly rated for 64 percent of those with primary care versus 54 percent of those without. Individuals with a source of primary care were more likely to be white.

While research does not identify which health screenings are most important for reducing disparities, one area of promise is chronic illness. The CDC has identified chronic diseases (including heart disease, cancer, and diabetes) as responsible for 7 of every 10 deaths in the United States.[40] Chronic disease accounts for 75 percent of health spending in the U.S. There are screenings available for three of the five leading causes of death in the U.S. (heart disease, cancer, and chronic lower respiratory disease) and for conditions associated with a fourth (stroke).[41] Screening for chronic disease can have a significant "bang for the buck" – particularly for minority and other populations who have historically had lower access to early disease detection. Much of the benefit is related to detecting chronic conditions early, which allows the

---

[37] Joseph DA, et al., op. cit.

[38] Miyawaki, C.E. Association of social isolation and health across different racial and ethnic groups of older Americans., Ageing Soc., November 2015, 35(10):2201-28

[39] David Levine, Bruce Landon, Jeffrey Linder, Quality and Experience of Outpatient Care in the United States for Adults with or Without Primary Care. JAMA Intern Med. January 28, 2019.

[40] Centers for Disease Prevention and Control, Gateway to Health Communication and Social Marketing Practice: Preventive Health Care. Updated September 15, 2017.

[41] CDC, op cit. The other most common cause of death is unintentional injuries.

patient to make changes that can help them avoid many of the health impacts of a condition such as diabetes. While the ACA makes many preventive services available at no cost to the consumer, more can be done to encourage consumers to access these services. Health Plans with significant deductibles can dissuade enrollees from using preventive care.[42] Using pooled MEPS data from 2011-2014 for 25,965 privately insured adults ages 18-64, researchers compared insured individuals with no deductible plans, low deductibles, high deductibles with an associated health savings account (HSA), and those with a high deductible without an HSA (HD-NoHSA). They found that individuals with high deductible health plans with no HSA were the least likely to visit primary care and specialist physicians. (IRR 0.88 95 percent CI [0.81-0.96]). HD-NoHSA beneficiaries had lower rates of hypertension screening (IRR 0.97 95 percent CI [0.94-0.99]) and flu vaccination (IRR 0.92 95 percent CI [0.86-1.00]) compared to no deductible individuals. HD-NoHSA females were 7 percent less likely to receive mammograms (IRR 0.93 95 percent CI [0.89-0.98]) compared to those with no deductible. Other research indicates that consumers often do not know that preventive services are free.[43]

Promising Practices: Harvard Pilgrim Health Care (HPHC) developed an initiative to reduce racial/ethnic disparities in colorectal screening, later expanding the program to increase health literacy. In four years, the effort has reduced the screening gap between groups with low health literacy and the general population from 11 percent to 4.1 percent. HPHC also works to increase the number of members who self-report race, ethnicity, and preferred language (REaL) information. HPCP uses improved self-reported REaL demographic data to better partner with the provider community and improve health equity efforts. The HPHC Strategic Plan includes a focus on addressing SDOH, including providing access to fresh and healthy food to help prevent obesity and related chronic diseases. The HPHC Foundation partners with nonprofit organizations in HPHC's service areas to make fresh food easier to find and buy.

Source: America's Health Insurance Plans, Boundaries of Health Care: Addressing Social Issues. July 2017.

Covered California should continue to assess how its benefit designs assure that cost and deductibles do not serve to discourage access to preventive services. Research conducted prior to implementation of the ACA and its coverage and cost-sharing protections found associations between plan deductibles and utilization of preventive services.

To improve the take up of preventive and screening services, issuers could require providers communicate with patients by email, letter, or phone calls targeted to patients identifying the specific preventive services they should be getting based on age and gender, reminding them this care is free, and explaining how to make an appointment specifically for this care. There is evidence that reminders for health care services including prevention and screenings can be

[42] Jetty A et al., Privately insured adults in HDHP with higher deductibles reduce rates of primary care and preventive services. Transl Behav Med. 2018 May 23;8(3):375-385. doi: 10.1093/tbm/ibx076.

[43] Mary E. Reed, et al., In Consumer-Directed Health Plans, A Majority of Patients Were Unaware of Free or Low-Cost Preventive Care. Health Affairs 31, NO. 12. 2012: 2641–2648

effective.[44] In addition, there is evidence that when offered screenings in work settings, about half of employees use them.[45]

Finding 4: A multi-pronged approach benefits disparities reduction.

Evidence Related to Disparities and Access

The benefit of a multi-pronged approach to reducing disparities is apparent across the research HMA reviewed and is also highlighted in industry publications addressing the intersection of health and social determinants.[46,47] This is expressed in several ways (by actor type or upstream/downstream interventions, for example) but the consistent theme is that there is not one strategy alone that will achieve equity. This focus is exemplified by a 2016 mental health disparities reduction strategic plan conducted by the California Pan-Ethnic Health Network for the California Department of Public Health's California Reducing Disparities Project (CRDP). The report, which largely addresses the Medi-Cal population, laid out the following themes:

- Address the social and environmental determinants of obtaining appropriate health care and adhering to provider recommendations;
- Implement capacity building at all levels;
- Improve data collection standards at all levels; and
- Address the social and environmental determinants of health.[48]

The network strategies include: developing and institutionalizing local and statewide infrastructure; building a culturally and linguistically responsive workforce; engaging community resources and leadership; developing, funding and utilizing culturally-specific models; and supporting the use of community health workers and other non-clinical supports. The CRDP is now focusing on funding and evaluating the promising practices identified in the 2016 report, as well as advancing the strategies outlined in the *CRDP Strategic Plan*.

---

[44] Perri-Moore S, Kapsandoy S, Doyon K, et al. Automated alerts and reminders targeting patients: A review of the literature. Patient Educ Couns. 2015;99(6):953–959. 0

[45] Center for an Aging Society, Institute for Health Care Research and Policy, Georgetown University, Screening for Chronic Conditions. online resource: https://hpi.georgetown.edu/screening/

[46] Interventions to reduce racial and ethnic disparities in health care. Chin MH, Walters AE, Cook SC, Huang ES. Med Care Res Rev. 2007 Oct;64(5 Suppl):7S-28S.

[47] America's Health Insurance Plans, Beyond the Boundaries of Health Care: Addressing Social Issues. July 2017.

[48] California Reducing Disparities Project: Strategic Plan to Reduce Mental Health Disparities. California Pan-Ethnic Health Network. 2016.

Disparities interventions utilizing a combination of tactics have evidence of lasting impact.[49] For example, as described in Finding 1, clinics in rural Israel with low income, minority patients simultaneously employed both "top-down" and "bottom-up" approaches to reducing disparities. Rated on a set of 7 disparities-related clinical quality measures, the gap between intervention and control clinics decreased by 66.7 percent, with disparity reduction continuing in the follow up period.[50]

Promising Practices: Health Net, Inc. has several multipronged interventions aimed at reducing disparities in California. Health Net uses geospatial mapping to target disparity reduction and access to care. The issuer's Health Equity advisory workgroup implemented a disparity-reduction model with a multidimensional approach to improving quality and delivery of care that involves the community, provider, member, and system-level touch points. Health Net's Postpartum Project for African-American women in the Antelope Valley addresses barriers to timely access to care by providing transportation to appointments. This has reduced the gap in post-partum visit rates between African-Americans and other members by 40 percent and improved postpartum visit attendance rates by 16 percentage points. Health Net has also implemented a clinical home visitation program for new mothers.

Source: AHIP, Beyond the Boundaries of Health Care: Addressing Social Issues. July 2017.

Evidence Related to Outcomes

A meta-analysis of randomized clinical studies that each included at least three interventions intended to reduce disparities in cancer care found that multi-level interventions have positive effects on cancer prevention, screening and the quality of health care system processes for ethnic and racial minorities.[51] Overall, the authors found what they consider medium-sized impacts on health behaviors among individual, provider, and organization-reported outcomes for ethnic and racial minorities.[52] The analysis further suggests that multilevel interventions may positively impact health-care system processes quality.

Combined approaches target changes at both the provider and patient level, such as improved care management to increase patient engagement. The issuer also has a role in this type of change, through contractual requirements on providers, support and provision of targeted provider training, funding of non-clinical supportive service providers, and consumer engagement to understand and benefit their own health.

---

[49] R.D. Balicer et al. op cit.

[50] Clinic performance was assessed on seven health and healthcare indicators related to the prevention and control of diabetes, hypertension and lipid control; prevention of anemia in infants; mammography screening; fecal occult blood tests; and influenza vaccinations. It is used by Israel's Clalit Health Services, the largest of the four health systems that collectively cover all Israelis.

[51] Sherri Sheinfeld Gorin, et al., Multilevel Interventions and Racial/Ethnic Health Disparities, J Natl Cancer Inst Monogr. 2012 May; 2012(44): 100–111.

[52] As in review research generally, the goal of this study was to understand the impact across studies, rather than to describe individual research outcomes one by one. For more information on the disparities impacts in the studies included in the review, see the study references in Sherri Sheinfeld Gorin, et al., op. cit.

Evidence Related to Population Health

There is evidence that environmental health interventions can support clinical efforts, and vice versa. Freudenberg, et al. used findings on health disparities to suggest that clinical improvements in chronic disease care should be paired with improved environmental protections.[53] They noted that reductions in exposure to fine-particulate air pollution were associated with approximately 15 percent of the increase in life expectancy in the 1980s and 1990s. The greatest benefit was for the most polluted urban counties, which had high concentrations of poor and minority populations. These are also the communities that face disparities in access and outcomes.

Considerations for Covered California's Next Contract Period

Implement multiple strategies to reduce health disparities

A rationale for implementing multiple strategies in the literature reviewed is to stop asking which one strategy is most effective, as the answer to this question varies by population and medical issue. Instead, implementing multi-level strategies supports a broader disparities reduction approach that will be flexible to respond to population need. While some strategies may rely on prior implementation of one or more previous steps, issuers can to take steps to improve their own equity programs while simultaneously requiring improvements by providers and supporting their efforts to improve. Similarly, Covered California can continue its work to increase its equity efforts internally, further integrate disparities into its quality program, and work with issuers through contractual requirements and educational efforts.

Finding 5: Engaging supportive service providers benefits outcomes.

To identify strategies that can reduce health and health care disparities, HMA reviewed information on conditions for which disease prevalence differs by race, gender and other factors. HMA paired that information with studies on the impact of supportive services such as the use of community health workers to improve access to care, outcomes or other factors for these conditions. While not all studies focused on disparities reduction, they are relevant to this discussion because they look at conditions disproportionally impacting marginalized communities.

Evidence Related to Disparities and Quality

Clinical practices that include culturally responsive and supportive workforces have shown positive impacts in patient outcomes and appropriate service use. A four percent hospital readmissions gap between African American and white patients was eliminated through collaborations and warm handoffs, such as care managers and EHR writers coordinating to promote assessments at discharge, utilizing pulmonary navigators for pneumonia and Chronic Obstructive Pulmonary Disease (COPD) patients, and implementing a patient-friendly process for scheduling follow up visits.[54] Similarly, in work that earned Kaiser Permanente a CMS Health Equity Award, Medicare Advantage members provided with responsive follow up care

---

[53] Freudenberg, N. and Olsen, K. Finding Synergy: Reducing Disparities in Health by Modifying Multiple Determinants. American Journal of Public Health, Supplement 1; Washington Vol. 100, Iss. S1, (2010): S25-30

[54] Cheney, C. Novant Dissolves Disparity in Pneumonia Readmissions. HealthLeaders. June 15, 2018.

experienced improved hypertension control, reducing the disparity between African Americans and whites by 58 percent.[55]

One area where supportive services have shown clear impacts is in translation services for patients with Limited English Proficiency (LEP). A study found that trained professional interpreters positively affect LEP patients' satisfaction, quality of care, and outcomes.[56] In addition, patients without interpretation or a language concordant provider are less satisfied. A survey of 2,746 patients with language-discordant providers reported receiving less health education (β=0.17) compared to those with language-concordant providers, but the effect was reduced for patients who used a clinic interpreter.[57] Patients with language-discordant providers also reported worse interpersonal care (β= 0.28).

Other examples cross a range of populations and services or conditions. A study on the use of promotoras/community health workers to provide education related to cervical cancer screenings to women of Mexican origin in El Paso, Texas (border) and Houston, Texas (urban) and Yakima, Washington (rural) found that within months, the program led to 52.3 percent of women getting screened compared to 24.8 percent of the women in the control group.[58] The results for the second and third phases of the project found similar results, and the differences persisted across geographies.

Evidence Related to Outcomes

Community health workers can be used to improve outcomes for traditionally underserved populations and groups with higher than average disease burden. The CDC reports that children, multiple race, Black and American Indian or Alaska Native persons had higher asthma prevalence than did whites. Emergency department and hospital visits for asthma are also higher for black persons, as is the asthma death rate per 1,000 people with asthma. The Community Asthma Initiative looked at the impact of an enhanced care model in which nurses and community health workers provide community-based care management and home visits to children with poorly controlled asthma.[59] At 12 months, fewer participants had asthma-related hospitalizations (79 percent decrease), ED visits (56 percent decrease), missed school days (42 percent decrease), missed parent/guardian workdays (46 percent decrease), and days of limited physical activity (29 percent decrease) The decreased number of asthma-related events or days for these same health outcomes reflect significant improvement at follow-up. The decrease in mean number of hospitalizations per child for the intervention group was significantly larger than that of the comparison group from one year before to one year of follow-up (difference = 0.16 hospitalizations per child, $p<0.001$).

---

[55] 2018 CMS Health Equity Award to Kaiser Permanente CMS. February 2018.

[56] Flores G. The impact of medical interpreter services on the quality of health care: a systematic review. Med Care Res Rev 2005 Jun;62(3):255-99.

[57] Ngo-metzger, Q., et al., Providing high-quality care for limited English proficient patients: The importance of language concordance and interpreter use. Journal of General Internal Medicine, 22, 324-30. 2007

[58] Community Preventive Services Task Force, AMIGAS: Promoting Cervical Cancer Screening Among Hispanic Women. The Community Guide in Action. October 2018.

[59] Woods, ER, et al., Community Asthma Initiative to Improve Health Outcomes and Reduce Disparities Among Children with Asthma, MMWR Suppl 2016;65.

A systematic review of 44 studies on the impact on diabetes management of community health workers as health educators, outreach and information agents, patient navigators and members of care delivery teams in the U.S., UK and Australia found that interventions engaging community health workers improved glycemic control (A1c, proportion at goal) and fasting blood glucose, and reduced health care use among participants with diabetes.[60] Individual studies found results across a range of measures:

- Median A1c decrease: 0.49 percent (IQI: -0.76 to -0.27; intervention duration: 12 months).
- Median increase in proportion at goal A1c: 6.6 percent (IQI: 3.5 to 13.0; duration: 12 months).
- Median decrease in fasting blood glucose: 29.5 mg/dL (IQI: -43.2 to -17.2; duration: 12 months).

While not all studies reviewed measured ED use, three studies found significant reductions in ED use (26-44 percent reduction in ED use; hospital use data were equivocal). In addition, taken together the diabetes studies suggest CHW interventions targeted to underserved groups are likely to reduce health disparities.

Motivational Interviewing, as a clinical alternative to providing advice, has been shown empirically to be more effective in promoting behavior change.[61] A systematic review and meta-analysis of randomized controlled trials using motivational interviewing found a significant effect (95th percentile CI) for motivational interviewing for combined effect estimates for the following: body mass index; total blood cholesterol; systolic blood pressure; blood alcohol concentration; and standard ethanol content. Only combined effect estimates for cigarettes per day and for HbA1c were not significant. Motivational interviewing had a significant and clinically relevant impact in approximately three out of four studies, equally affecting physiological (72 percent) and psychological (75 percent) diseases. Approximately 80 percent of studies with psychologists and physicians showed an effect, along with 46 percent of studies with other health care providers. Sixty-four percent of studies using motivational interviewing in brief encounters of 15 minutes showed an effect. More than one encounter with the patient increases effectiveness.

Detroit's Henry Ford Health System has established a connection between clinical and supportive services through its Center for Healthcare Equity.[62] The Center has ongoing operational and financial investment in the Women Inspired Neighborhood Network, which uses peer-support and a clinician-led group prenatal care model to reduce infant mortality rates. Early results showed no infant deaths among the first 200 women enrolled in the WIN Network, compared with Detroit's expected infant death rate 16 per 1,000 live births (3.2 per 200).

Longitudinal research on enhanced care models that utilize nurses and community health workers to provide community-based care management and home visits for children with

---

[60] Diabetes Management: Interventions Engaging Community Health Workers. Community Preventive Services Task Force Finding and Rationale Statement. Ratified April 2017.

[61] Sune Rubak, et al., Motivational interviewing: a systematic review and meta-analysis. Br J Gen Pract. 2005 Apr 1; 55(513): 305–312.

[62] Mate and Wyatt, op cit.

asthma showed significant reduction in hospital and emergency department use, along with reduced school and work absences for child and parent respectively. Similarly, a systemic review of studies looking at community health workers participating in care teams for individuals with diabetes (providing health education, outreach, enrollment assistance and consumer information) demonstrated improvements in health (glycemic control and fasting blood glucose) and reduced health care use for the treatment populations. Study findings also suggest that community health workers interventions targeted to underserved groups are likely to reduce health disparities.

Evidence Related to Savings

While HMA did not find studies that identified cost savings from the use of community health workers or similar support providers focused on reducing disparities, there is evidence that community health workers can impact costs for populations served. The Penn Center for community health workers' program Individualized Management for Patient-Centered Targets (IMPaCT) shows cost savings in a study by University of Pennsylvania researchers.[63] For the study, 446 low-income patients hospitalized with various conditions were randomly assigned to an intervention or control group. Intervention patients were assisted by community health workers who served as liaisons between the patients and the care team during hospitalization, explaining patient goals to the team and ensuring that patients could follow discharge instructions. After discharge, community health workers helped patients address barriers to accessing primary care (e.g., helping people find a primary care provider when they lacked one). Intervention patients were more likely than the control group to receive primary care within 14 days of discharge (60 percent versus 47.9 percent). They were also less likely to experience recurrent readmissions (2.3 percent and 5.5 percent, respectively; P=.08). For the 63 patients who were readmitted, the intervention decreased recurrent readmissions from 40 percent to 15.2 percent. Penn Medicine, which established the Center, says the model has saved $2 for every $1 invested, with savings primarily from decreased hospital and emergency department utilization over five years.[64]

Finding 6: Patient engagement improves outcomes and patient satisfaction.

Engaging patients in self-care can improve health outcomes and increase the patients' satisfaction with care. This can happen through one-on-one supports (peer or clinical) that complement patient education and office visits, culturally-targeted interventions, and improved cultural responsiveness by providers. While research in this area does not specifically call out impacts on health and health care disparities, improving outcomes for conditions disproportionately impacting minority and other marginalized populations can both improve results overall and reduce the disparities seen today for racial, ethnic and other groups.

---

[63] Kangovi S et al., JAMA Internal Medicine, April 2014.

[64] Sarah Kwon, Community health workers improve outcomes, reduce costs. Managed Care. November 11, 2018

For example, patients given both weekly self-care education calls and nurse follow-up support had improved diabetic control compared to those who only received automated calls.[65] Shared decision-making (providing specific information about condition, treatment options, and outcomes probabilities, as well as allowing patients to communicate their values and assessment of the relative importance of benefits and harm) has been shown to impact outcomes. In a 2013 Medicare Payment Advisory Commission (MedPAC) presentation, Sokolovsky and Smalley cite research on patient engagement, finding that shared decision-making can benefit minority patients.[66] They state that due to the size of populations and limited number of studies, the results are suggestive rather than generalizable. Patient activation can reduce disparities by helping patients to understand their role in decision-making. In demonstration projects, patients provided with information on their conditions and how to participate in care are more likely to keep appointments, ask questions of their providers and take medications, and have fewer emergency department visits. Instruments for measuring patient activation are available and can be easily administered.

Evidence Related to Patient Satisfaction

Patients feel most satisfied with care when their providers show that they understand their issues and needs. While research has shown that race concordance between provider and patient is associated with greater patient satisfaction, a similar result has been achieved by providers of all races employing patient-centered communication-skills.[67,68] Increasing patient choice also improves patient satisfaction. There are also larger implications for pipeline recruitment of diverse future health care professionals.

Evidence Related to Outcomes

Two Los Angeles County programs, Community Partners in Care and the Health Neighborhoods Initiative, formed multi-stakeholder coalitions to address disparities for individuals with behavioral health issues.[69] The result was reframing of mental health treatment in the context of structural factors such as homelessness, unemployment, safety, school dropout, and incarceration, with the goal of improving mental health and wellness, increasing housing stability, and reducing hospitalizations for adults with depression. After six months, the treatment, which included community engagement, significantly improved the mental health-related quality of life, increased physical activity, reduced homelessness risk factors and behavioral health hospitalizations compared to the control. In addition, outpatient services shifted from specialty medication visits toward primary care and community institutions such as faith-based settings and senior centers. Researchers did not see effects on depression

---

65 Piette JD, et al., Do automated calls with nurse follow-up improve self-care and glycemic control among vulnerable patients with diabetes? Am J Med. 2000 Jan; 108(1)

66 Joan Sokolovsky, Katelyn Smalley, Patient engagement and health care disparities. Presentation Slides. MedPAC. September 12, 2013.

67 Laveist, T.A. and Nuru-Jeter, A. J., Is doctor-patient race concordance associated with greater satisfaction with care? Health Soc. Behav.2002 Sep; 43(3):296-306.

68 Street RL Jr, et al., Understanding concordance in patient-physician relationships: personal and ethnic dimensions of shared identity. Ann Fam Med. 2008 May-Jun; 6(3):198-205.

69 UCLA Center for Health Services and Society, California Behavioral Health Center of Excellence. Health Neighborhood Initiative. Preliminary report to Los Angeles County Department of Mental Health. 2016.

treatments in health care settings (e.g., medication, specialty counseling) or on depressive symptoms. This suggested to the researchers that social stabilization by engagement with community agencies was the main mechanism for change.

Some research focuses on individuals with low health literacy, which is associated with cultural capital and other social factors. In a randomized, controlled trial, primary care providers made aware of diabetic patients' low health literacy skills were more likely to support their patients than were control physicians; they were more likely to use more recommended management strategies (21 percent vs. 8 percent used more than three strategies, odds ratio (OR)=3.2, P=.04, while 49 percent vs 32 percent used two or more strategies, OR=2.03, P=.02). Intervention physicians were more likely to involve a patient's family members and friends in patient discussions and to refer patients to nutritionists.[70] The study focused on diabetic patients due to the known association between effective physician-patient communication, patients' health literacy skills, and diabetes outcomes. For patients with cultural and communication barriers to care, this provider-focused effort can improve access and outcomes.

Utilizing supportive service providers as part of a multi-disciplinary team that can effectively engage patients and support care coordination can improve patient outcomes. An example of this is Genesys Health System, a regionally integrated health care delivery system that provides a full continuum of care to patients in central Michigan.[71] Genesys partners with approximately 140 primary care physicians through Genesys HealthWorks, which coordinates care for patients utilizing community resources. HealthWorks employs Health Navigators as members of the primary care practice team to support patients and develop community service linkages. The Health Navigators support patients' self-care, such as health behavior changes including eating healthier, increasing physical activity or quitting smoking. As patients identify barriers to engaging in their own self-care and adopting healthy behaviors, Health Navigators suggest community resources that support patient self-management. Navigators understand that behavior change takes place in the context of relationships and make community referrals that help the patient make a relationship with the community resource and support the patient before and during the development of that connection.

Genesys HealthWorks is an integrated health system located in the Flint, Michigan area that is designed to be a model of care that is focused on health, not just disease. The program coordinates care for patients using community resources. Patients include both General Motors employees and uninsured patients enrolled in a tax-supported county health plan. Almost 2,000 patients who used the Genesys HealthWorks Health Navigator program were surveyed about the program at initiation and six months later. Participants self-reported improvements in health behaviors and health outcomes, including 17 percent (120 of 713) of smokers quit smoking, 45 percent (217 of 481) who had never received formal diabetes education attended Diabetes Self-Management Education, and 42 percent (260 of 620) of patients screening positive for depression reported improved symptoms.

---

[70] Seligman HK, et al. Physician notification of their diabetes patients' limited health literacy. A randomized, controlled trial. J Gen Intern Med. 2005 Nov; 20(11):1001-7. Patients were English and Spanish speakers.

[71] Reducing Care Fragmentation: A Toolkit for Coordinating Care. (Prepared by Group Health's MacColl Institute for Healthcare Innovation, April 2011.

Key Drivers and Enabling Tactics

Patient engagement and activation. Patients with an increased sense of self-efficacy are more engaged and invested in their care. Providers that understand the needs of their patients are more likely to make those patients feel welcome and provide the assistance they need. This can be done by medical providers themselves and through others, such as para-professionals (community health workers, peers) and other non-clinical staff. For some consumers, especially those with less historical access to or trust of the health care system, support and system navigation can increase their use of appropriate health care services and improve their outcomes.

As discussed above, each member of a multi-disciplinary care team plays an important role in patient engagement and activation. Community health workers, peer support staff, and care coordinators are shown to be adept at engaging racial, ethnic and cultural minorities. To encourage the use of such providers, issuers could establish payment strategies and contractual requirements that support patient engagement, including paying for community health workers, peers or other support service providers. It may be easier to integrate reimbursement for non-clinical supportive services into current payment models than it would be to require all medical providers became expert in these aspects of patient care and incorporate additional activities into already short and packed patient visits.

Issuer support for patient activation (through reimbursement of non-clinical providers as well as making available patient education and other supports) can impact providers' efforts to achieve equity in care, making measurement of physician engagement a useful issuer tool for identifying providers in need of support. One questionnaire developed using the AREA model has been used to assess provider engagement in addressing racial and ethnic health care disparities rates provider: awareness of disparities as an issue; reflection on disparities; level of empowerment; and any action undertaken.[72]

Health IT. The ability to identify and eliminate health disparities is reliant on having the technology and processes to support data collection and analysis. Many of the resources HMA identified in the initial data review directly or indirectly referenced data, measurement, analytic capability and Health IT as facilitating factors. Health IT is particularly likely to have a positive impact on disparities reduction when the organization has an organizational culture of quality improvement and uses its technology to evaluate its QI efforts.[73] Moreover, health care institutions must develop policy, training and workflows for correct demographic identifiers for all patients. Self-identification of race, ethnicity, gender, language and sexual orientation are standard of care. Front line staff must be trained in how to elicit this information with sensitivity, clarity, respect and patience.

Flags, dashboards and easy to use EHRs that can be used across a multi-disciplinary care team can all reduce burden provider burden and improve providers' success. CMS has made this effort a focus area, as part of the 21st Century Cures Act requirement to ease regulatory

---

[72] Alexander, G.C. et al. Development of a Measure of Physician Engagement in Addressing Racial and Ethnic Health Care Disparities. Health Services Research April 2008, 43:2.

[73] Man Millery and Rita Kukafka, Health Information Technology and Quality of Health Care: Strategies for Reducing Disparities in Underresourced Settings. Medical Care Research and Review, supplement: MCRR; Vol. 67, Iss. 5 (Oct 2010): 268S.

and administrative burdens associated with the use of EHRs and Health IT. The DHHS draft strategy included three goals designed to limit clinician burden: reduce the effort required to record health information in EHRs; reduce the effort required to meet regulatory reporting requirements; and improve EHRs' functionality and ease of use.

Culturally-tailored Interventions. Interventions designed or adapted to meet the needs, strengths, and preferences of a specific cultural group, have greater impacts on disparities than generic interventions as shown in 36 studies assessing programs enrolling racial and ethnic minorities and low SES participants.[74] Findings across the studies indicate that community health workers interventions designed specifically for underserved individuals with disabilities are likely to reduce health disparities. In research on asthma care, a comprehensive community-based approach in Boston (the Community Asthma Initiative, or CAI) targeted Black and Hispanic children, whose pre-intervention asthma rates were almost 5 times higher than those for non-Hispanic white children.[75] CAI used an enhanced model of care, with nurses and community health workers providing community-based asthma case management and home visits to children ages 2-18 with poorly controlled asthma. Prior to the intervention, Boston Children's Office of Community Health had identified asthma as a needed area of intervention, based on a 2-year community needs assessment using a community participatory approach. The intervention focused on high poverty neighborhoods with high asthma prevalence; 66 percent of the participants lived in poverty areas and 74 percent lived in primarily Black, Hispanic or Black and Hispanic neighborhoods. Over 12 months, intervention participants showed significant decreases in asthma-related hospitalizations (79 percent decrease), ED visits (56 percent decrease), missed school days (42 percent decrease), missed parent/guardian workdays (46 percent decrease), and days of limited physical activity (29 percent decrease). During the 33-month pilot, four intervention zip codes were compared with demographically similar neighborhoods. A significantly greater decrease occurred in the mean number of hospitalizations per child for the intervention group compared with the comparison group from one year before to one year of follow-up (difference = 0.16 hospitalizations per child, $p<0.001$). Both groups saw a decrease in ED visits, but there was no significant difference between the groups.

Tailoring strategies for specific populations and for particular conditions or diseases will improve results. Asthma interventions require different strategies than those addressing hypertension, both because the affected populations are different and because managing the conditions require different efforts. Issuers should provide implementation guidance that allows providers to customize interventions for their population and relevant conditions. Obesity interventions that are tailored to the target population can be successful by fitting interventions within existing culinary and social practices. Researchers have noted that adapting a culturally relevant obesity prevention program includes qualitative research to tailor key obesity prevention messages, pilot testing and implementation of key messages and activities, along with ongoing modification

[74] Community Preventive Services Task Force, Diabetes Management: Interventions Engaging Community Health Workers. Op. cit.

[75] Woods ER, Bhaumik U, Sommer SJ, et al., Community Asthma Initiative to Improve Health Outcomes and Reduce Disparities Among Children with Asthma. MMWR Suppl 2016.

to incorporate culturally innovative elements.[76] Provider education should target the populations and conditions in the service area to better prepare providers to respond to consumers in a culturally responsive manner.

Considerations for Covered California's Next Contract Period

Covered California could use issuer contracts to establish requirements and standards for patient engagement and activation, allowing issuers the flexibility to determine how to operationalize the payment arrangements with providers.

Key Resources for Monitoring New Research

The following are resources, organizations, and other references that Covered California could monitor to stay up to date on the evidence related to this strategy. Among the resources cited in this section and listed in Appendix 2 Bibliography Supporting Evidence Review by Health Management Associates, several stand out. HMA recommends annually checking for updates or follow-on work based these evidence-based products grounded in an extensive process of review and assessment of available research.

- *National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care.* Office of Minority Health, U.S. Department of Health and Human Services. (2013)
- *The Community Guide to Preventive Services*, The Community Preventive Services Task Force (CPSTF). https://www.thecommunityguide.org/
- *Finding Answers, Solving Disparities Through Payment and Delivery System Reform.* Robert Wood Johnson Foundation.
- Institute of Medicine, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. March 20, 2002.
- Managed Care Quality and Monitoring Division, California Department of Health Care Services, *2015-16 Disparities Focused Study 12-Measure Report.* July 2018.

The last listed reference is California-based consensus report that includes a review of research on racial and ethnic disparities in health care. As the research base grows, a follow up or revised report could be produced. DHCS analyzed disparities across Medicaid beneficiaries by gender, race/ethnicity and language in the areas of care for children and adolescents, women's health, care for chronic conditions, and appropriate treatment and utilization, which it can use to direct plan level disparities reduction efforts. Covered California could coordinate data collection with this effort and continue to review findings over time to track overall disparities at the state and county levels to understand where there is overlap between Medi-Cal and commercial populations.

[76] Lucia Kaiser, et al., Adaptation of a Culturally Relevant Nutrition and Physical Activity Program for Low-Income, Mexican-Origin Parents With Young Children. Prev Chronic Dis 2015;12:140591.

For materials that offer implementation guidance based in evidence available to date, Covered California could review the products identified below.

- *A Roadmap and Best Practices for Organizations to Reduce Racial and Ethnic Disparities in Health Care*, Marshall H. Chin, MD, MPH, Amanda R. Clarke, MPH, Robert S. Nocon, MHS, Alicia A. Casey, MPH, Anna P. Goddu, MSc, Nicole M. Keesecker, MA, and Scott C. Cook, PhD. (2012)
- *Health Care Innovations Exchange Evidence-Based Practice Center Review* - Agency for Healthcare Research and Quality (AHRQ) (http://www.innovations.ahrq.gov/learning-communities) AHRQ's learning Communities

Covered California has taken some steps identified in the *Roadmap* and could extend itself in other areas. Some of the steps – intervention design, for example – are more relevant to issuers and providers, but Covered California can use its contracting mechanism and ongoing role with issuers to move them toward adoption of these steps.

Recognizing that the United States Preventive Services Task Force continues to assess interventions and make new recommendations, HMA recommends periodically re-visiting the list of recommended Grade A and B services. At present, the United States Preventive Services Task Force is currently assessing new recommendations related to identification and interventions for opioid use disorder.

- United States Preventive Services Task Force, Grade A and B Recommendations. (https://www.uspreventiveservicestaskforce.org/)

Section 2. Review of Measures and Benchmarks for Health Equity: Reducing Disparities

This section of the report on Health Equity: Reducing Disparities is the product of PricewaterhouseCooper's (PwC) detailed review of measures and benchmarks that can be used by Covered California to assess quality care is being delivered and that its contracted health plans use effective strategies to promote improvements in how care is delivered. The section includes a review of Covered California's current measurement strategy which is followed by considerations for revising those measures and specific recommendations for Covered California's consideration.[77]

Covered California's Current Required Measures

Takeaway: There are a wide range of measures available to assess health equity, although many have significant issues with credibility and data quality. PwC recommends Covered California maintain its current measures that focus on high volume conditions and consider expanding its scope of areas for measurement beyond race and ethnicity.

As shown below, Covered California has a range of measures pertaining to healthy equity and disparities in care (see Table 1, Covered California Required Measures, Qualified Health Plan Performance Data and Sources of Potentially Relevant Comparisons). PwC has also summarized QHP performance data and sources of potentially relevant comparisons.

Table 1. Covered California Required Measures, Qualified Health Plan Performance Data, and Sources of Potentially Relevant Comparisons

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
Race/ethnicity self-identification rate [§3.01(1)(b)]	QHP Self-ID Target: 80% for 2019. QHPs in 2017 average about 77% with a range of 42% to 99%, and five QHPs are below the 80% target.	Federally Facilitated Marketplace (FFM) & other State Based Exchanges (SBE) National Committee for Quality Assurance's (NCQA) Distinction in Multicultural Health Care
Condition specific measures by race/ethnicity across all lines of business (excluding Medicare): Diabetes, Hypertension, Asthma, Depression [§3.01(2)(b)]	Three years of baseline data for all lines of business, excluding Medicare.	Agency for Healthcare Research & Quality National Healthcare Quality and Disparity Report, NCQA Quality Compass data. Behavioral Risk Factor Surveillance System, National Health Interview Survey, and specialty data sets California Health Interview Survey (CHIS), CHIS Neighborhood (California Department of Health Care Services Medi-Cal managed care uses differences of =>10% to indicate disparity)

[77] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures. To view the full list of measures recommended by PwC, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

Considerations for Revising Covered California's Measures

In developing measures and data recommendations for Covered California, PwC considered the following:

- Covered California wants better data to inform the design and expectations for implementation of effective interventions to reduce disparities.
- Many plans have not yet achieved target goal of self-reported demographic factors that can be used to assess disparities.
- Even when using total enrolled population (excluding Medicare), for many issuers current QHP disparity reporting has small numbers for many racial and ethnic groups, which makes it difficult to compare year to year changes and determine the statistical significance of differences. In many cases, rates that are reported are better than AHRQ national benchmarks.
- While many of the AHRQ Prevention Quality Indicators might be used as a measure for a national or state average, a limited number of them include a breakdown by demographic factors or race and ethnicity.
- The state of California is far below benchmark (defined as the average of the top performing states) on 16 quality measures in AHRQ's 2017 National Healthcare Quality and Disparity Report, including measures related to condition specific measures for diabetes, hypertension and asthma.[78]
- The state of California quality measures for Black and American Indian/Alaska Native are far below AHRQ benchmarks.

Measures and Data Recommendations

What follow are PwC's measures and data recommendations for Covered California:

1. Recommend Covered California maintain its current health equity measures.
2. Continue to improve demographic and socioeconomic status member data collection.
3. Continue to track disease control by race/ethnicity and other demographic factors, such as income.
4. To increase QHP disparity measure credibility, consider multiple year averaging or rolling year average reporting. Examples of existing measures that use multiple years of data include:
    a. Quality Rating System (2019): "The Medical Assistance with Smoking and Tobacco Use Cessation (Tobacco) measure is calculated as a two-year rolling

[78] https://www.ahrq.gov/sites/default/files/wysiwyg/research/findings/nhqrdr/2017nhqdr.pdf

average based on [sub-measure indicator] data reported in the prior year (i.e., 2017) and the ratings year (i.e., 2018)."

b. Medicare Shared Savings Program (2019): "CMS will average the performance year per capita amounts [...] to determine the average per capita amount for the agreement period. CMS will also determine the ACO's average final sharing rate based on an average of the ACO's quality performance in each performance year of the agreement period."

5. Consider adding tracking measures beyond racial/ethnic disparity:

   a. Stratified outcome analysis by socioeconomic status;

   b. Provider access measures by region/geographic sub area; and

   c. Consideration of rural and urban geographies and market characteristics.

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and industry articles, and assessed measures on several attributes, including strength of evidence, alignment with other purchasers and feasibility of reporting (see Table 2, PwC Recommended Measures for Health Equity: Reducing Disparities).[79]

Table 2. PwC Recommended Measures for Health Equity: Reducing Disparities

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
AMR - Asthma Medication Ratio Ages 5-85	Existing	QHPs	IHA, HEDIS, EAS	High	High	High	High	Medium
Antidepressant Medication Management	Existing	QHPs	HEDIS, QRS	High	High	High	High	Medium
CBP – Controlling High Blood Pressure (NQF 0018)	Existing	QHPs	HEDIS, IHA QRS	High	High	High	High	Medium
Diabetes Care: HbA1c Control < 8.0% (NQF 0575)	Existing	QHPs	HEDIS, QRS	High	High	High	High	Medium

[79] For the criteria used by PwC to assess measures, please see Table 3, Measure Assessment Structure Applied by PwC, in the chapter on Summary Recommendations on Measures and Benchmarks. For a detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Admissions for Asthma among Children and Younger Adults with Asthma	Existing	QHPs	n/a	High	High	High	High	Medium
Admissions for Asthma among Older Adults with Asthma	Existing	QHPs	n/a	High	High	High	High	Medium
Admissions for Bacterial Pneumonia among Members with Asthma	Existing	QHPs	n/a	High	High	High	High	Medium
Admissions for Diabetes Long-Term Complications among Members with Diabetes	Existing	QHPs	n/a	High	High	High	High	Medium
Admissions for Diabetes Short-term Complications among Members with Diabetes	Existing	QHPs	n/a	High	High	High	High	Medium
Admissions for Heart Failure among Members with Hypertension	Existing	QHPs	n/a	High	High	High	High	Medium
Admissions for Hypertension among Members with Hypertension	Existing	QHPs	n/a	High	High	High	High	Medium
Admissions for Lower-Extremity Amputation among Members with Diabetes	Existing	QHPs	n/a	High	High	High	High	Medium
Admissions for Uncontrolled Diabetes among Members with Diabetes	Existing	QHPs	n/a	High	High	High	High	Medium
Self-Identification Rates	Existing	QHPs	FFM, SBM	High	High	High	High	Medium

To review the background research completed by PwC to inform these measures and data recommendations, please see Appendix 3, Bibliography Supporting Measures Review by PricewaterhouseCoopers.

Chapter 2: Health Promotion and Prevention

Health Promotion and Prevention relates to health plan activities to encourage all enrollees to receive preventive care services and health screenings and use support tools that promote a healthy lifestyle. This includes everything from regular checkups to smoking cessation and dietary programs.

This chapter on Health Promotion and Prevention is organized into two sections:

Section 1. Review of Evidence for Health Promotion and Prevention was prepared by Health Management Associates (HMA) and provides a review of the evidence related to health plans' interventions to promote preventive care and healthy lifestyles.[80] The evidence review is followed by specific findings that represent opportunities or challenges for Covered California and then recommendations for how Covered California can monitor evidence on an ongoing basis.

Section 2. Review of Measures and Benchmarks for Health Promotion and Prevention was prepared by PricewaterhouseCoopers (PwC) and provides a review of Covered California's current required measures, considerations and recommendations for revising its measures in this area.

Section 1. Review of Evidence for Health Promotion and Prevention

Covered California contracted with HMA to conduct an evidence review in ten strategy areas that health insurance payers can utilize to drive value in health care. The review's results are presented here.[81] This chapter includes direct citations of the best evidence within the discussion of this strategy; information from additional sources was also used for this report and is listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Background

The Affordable Care Act requires that issuers provide coverage without enrollee cost share for preventive care screenings and immunizations as well as screening and counseling for smoking and obesity as recommended by the United States Preventive Services Task Force (USPSTF). HMA documents some of the evidence demonstrating the benefits of a consistent application of U.S. Preventive Services Task Force recommendations in primary care, and complementary evidence-based interventions to reduce the prevalence of tobacco use and obesity both in the clinical setting and in the community.

---

[80] Under current contract terms, QHPs also have requirements to annually report initiatives, programs and projects that it supports that promote wellness and better community health. Covered California commissioned HMA to review evidence for Population-Based and Community Health Promotion Beyond Enrolled Population (see Appendix V, Population-Based and Community Health Promotion Beyond Enrolled Population). HMA found significant public health evidence about effective strategies for promoting population-based and community health but did not find research on specific health plan interventions that positively impacted population health for non-enrolled populations. As such, HMA's findings focus on areas where public health strategies have been shown to have benefit. Covered California is reevaluating this contract requirement in light of the current best evidence.

[81] To view a more detailed description of HMA's approach, project team, and methods for literature review and evidence gathering, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Finding 1: The United States Preventive Services Task Force provides evidence-based, best practice recommendations for preventive services across the individuals' lifespan.

The United States Preventive Services Task Force (USPSTF) is an independent, volunteer panel of national experts in disease prevention and evidence-based medicine that provides evidence-based recommendations about clinical preventive services. The USPSTF grades each recommendation:

- Grade A recommendations are defined as having "high certainty that net benefit is substantial"
- Grade B recommendations are defined as having "high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial."[82]

There are currently 16 Grade A preventive services, all of which improve health outcomes on a population level. Although USPSTF does not consider the costs of a preventive service when determining a recommendation grade, there is published evidence that many of these services ultimately save money. A provision of the Patient Protection and Affordable Care Act requires coverage of all A and B Recommendations as promulgated by the USPSTF.

Figure 1, Crosswalk of the U.S. Preventive Services Task Force Grade A and B Recommendations and HEDIS 2019 (as of May 2019) lists brief descriptors of the USPSTF Grade A and B recommendations and indicates those that align with the Healthcare Effectiveness Data and Information Set (HEDIS). HEDIS is one of the most widely used performance improvement tools in health care and is familiar to issuers.[83]

The USPSTF regularly reviews and updates recommendations as new evidence becomes available. For example, a routine and comprehensive physical examination became a fixture in American medical practice in the 1940's. By the 1980s, many influential professional groups including the USPSTF recommended that this approach be replaced. The USPSTF replaced the annual comprehensive physical exam with periodic screening, counseling and a physical exam tailored to a patient's age, sex, risk factors; systems as elicited by the medical history; and a review of symptoms. Though not evidence-based, for many years, some providers continued to endorse the complete annual physical examination for a variety of reasons including patient expectation for a yearly physical exam, fear of malpractice litigation, perceived benefits to the physician-patient relationship and compensation.[84]

---

[82] United States Preventive Services Task Force. Online resource: https://www.uspreventiveservicestaskforce.org/

[83] National Committee for Quality Assurance. 2019 HEDIS Summary Table of Measures, Product Lines and Changes. 2018.

[84] Bloomfield, Hannah, et al. Evidence Brief: Role of the Annual Comprehensive Physical Examination in the Asymptomatic Adult. VA Evidence Synthesis Program Evidence Briefs. October 2011.

Figure 1: Crosswalk of the U.S. Preventive Services Task Force Grade A and B Recommendations and HEDIS 2019 (as of May 2019)

USPSTF Grade A and B Recommendation	Related HEDIS Measure?	USPSTF Grade A and B Recommendation	Related HEDIS Measure?
Abdominal aortic aneurysm screening: men		HIV screening: pregnant women	
Aspirin preventive medication		Hypothyroidism screening: newborns	
Bacteriuria screening: pregnant women		Intimate partner violence screening: women of reproductive age	
Blood pressure screening: adults	✓	Lung cancer screening	
BRCA risk assessment and genetic counseling/testing		Obesity screening and counseling: adults	✓
Breast cancer preventive medications		Obesity screening: children and adolescents	✓
Breast cancer screening	✓	Osteoporosis screening: postmenopausal women under 65	
Breastfeeding interventions		Osteoporosis screening: women 65 years and older	✓
Cervical cancer screening	✓	Perinatal depression: counseling and interventions	
Chlamydia screening: women	✓	Phenylketonuria screening: newborns	
Colorectal cancer screening	✓	Preeclampsia prevention: aspirin	
Dental caries prevention: infants and children up to age 5 years		Preeclampsia: screening	
Depression screening: adolescents	✓	Rh incompatibility screening: first pregnancy visit	
Depression screening: adults	✓	Rh incompatibility screening: 24–28 weeks' gestation	
Diabetes screening		Sexually transmitted infections counseling	
Falls prevention: older adults	✓	Skin cancer behavioral counseling	
Folic acid supplementation		Statin preventive medication: adults ages 40–75, with no history of CVD	
Gestational diabetes mellitus screening		Syphilis screening: nonpregnant persons	
Gonorrhea prophylactic medication: newborns		Syphilis screening: pregnant women	
Gonorrhea screening: women		Tobacco use counseling and interventions: nonpregnant adults	✓
Healthy diet and physical activity counseling to prevent cardiovascular disease		Tobacco use counseling: pregnant women	
Hemoglobinopathies screening: newborns		Tobacco use interventions: children and adolescents	
Hepatitis B screening: nonpregnant adolescents and adults		Tuberculosis screening: adults	
Hepatitis B screening: pregnant women		Unhealthy alcohol use: adults	✓
Hepatitis C virus infection screening: adults		Vision screening: children	
HIV screening: nonpregnant adolescents and adults			

Evidence Related to Population Health[85]

Below are examples of two high yield preventive services supported by literature to help guide implementation to improve population health. These examples address cost savings, quality of care, provider and administrative burden, and health disparity.

Colorectal Cancer Screening is a USPSTF Grade A preventive service – the USPSTF recommends screening for colorectal cancer starting at age 50 and continuing until age 75. The death rate from colorectal cancer has dropped for both men and women for several decades. One likely reason is that colorectal polyps are now being found more often by screening and either removed before they can develop into cancers or found earlier when the disease is easier to treat. In addition, treatment for colorectal cancer has improved over the last few decades. Despite the efficacy, colorectal cancer is expected to cause about 51,020 deaths during 2019.[86]

Pignone et al. conducted a systematic review for the U.S. Preventive Services Task Force on the cost-effectiveness of colorectal cancer screening in 2002.[87] Since then, several new cost-effectiveness analyses of colorectal cancer (CRC) screening have been published. These studies generally confirm the results of the earlier systematic review, finding that CRC screening is cost-effective compared to no screening. No single strategy is consistently found to be the most effective or to have the most attractive incremental cost-effectiveness ratio for a given willingness to pay per life-year gained.[88]

Experts believe that increasing the low uptake of CRC screening requires educating patients about all approved tests and helping them choose one that fits their preferences. As the adage goes: “The best test is the one that gets done.” Screening tests range from colonoscopy, which is invasive but very sensitive for polyps and cancer, to less invasive and less sensitive methods (e.g., fecal immunochemical testing). A recent Journal of the American Medical Association (JAMA) article highlighted interventions for increasing colorectal screening rates in community health centers, finding that fecal immunochemical tests have few barriers. A randomized controlled study demonstrated that outreach interventions increased screening rates from 37 percent to 82 percent.[89]

Screening, Brief Intervention and Referral to Treatment (SBIRT) is another example of a highly effective preventive intervention. A model for addiction prevention in health care, SBIRT is a comprehensive, integrated, public health approach to the delivery of early intervention and treatment services for persons with substance use disorders, as well as those at risk of

---

[85] In each strategy section, HMA identified the evidence that supports potential impact on the following evaluation outcomes: savings; quality; population health; provider burden; administrative burden; and disparities reduction.

[86] American Cancer Society. Key Statistics for Colorectal Cancer. Online resource updated January 2019.

[87] Pignone, Michael; Saha, Somnath; Hoerger, Tom; Mandelblatt, Jeanne. Cost-effectiveness analyses of colorectal cancer screening: A systematic review for the U.S. Preventive Services Task Force. Annals of Internal Medicine; Philadelphia Vol. 137, Iss. 2, (Jul 16, 2002): 96-104.

[88] Lansdorp-Vogelaar, Iris; Knudsen, Amy B; Brenner, Hermann. Cost-effectiveness of colorectal cancer screening - An overview. Best Practice & Research: Clinical Gastroenterology; Kidlington Vol. 24, Iss. 4, (Aug 2010): 439-49.

[89] Baker et al. Comparative effectiveness of a multifaceted intervention to improve adherence to annual colorectal cancer screening in community health centers: a randomized controlled clinical trial. JAMA Internal Medicine. 2014 Aug: 174(8): 1235-41

developing these disorders. The SBIRT model includes: universal screening in a non-substance use treatment disorder setting; brief five to twelve-minute interventions targeting one or more specific behaviors related to risky alcohol and drug use; and referral to treatment as appropriate. Consistent with SBIRT, the State of California Department of Health Care Services contractually requires all Medi-Cal managed care health plans to provide Alcohol Misuse Screening and Behavioral Counseling Interventions to members ages 18 and older who misuse alcohol.[90]

SBIRT has been studied for many years and has been found to improve health outcomes and potentially reduce health care costs. A recent study confirmed several prior studies of large and statistically significant decreases for almost every measure of substance use pre-SBIRT versus 6 months post-SBIRT.[91] Model-adjusted means indicate lower substance use prevalence 6 months after SBIRT administration: 35.6 percent lower for alcohol use; 43.4 percent lower for heavy drinking; and 75.8 percent lower for illicit drug use.[92] A relatively recent study measured the effectiveness of paraprofessional-administered SBIRT services on subsequent health care utilization and costs.[93] The pre-post comparison group study design used a population-based sample of Wisconsin Medicaid members ages 18 to 64 who were receiving health care services from 33 clinics. Substance use screens were completed by 7,367 members compared to close to the same number of randomly selected members with usual care. SBIRT was associated with significantly greater outpatient visits and significant reductions in inpatient days over the 24-month follow-up period. The best estimate of net annual savings is $391 per Medicaid adult member (2014 dollars).

Evidence Related to Savings

As noted above, CRC screening has proven to be cost effective. SBIRT yields significant cost savings: $391 per Medicaid adult member in the Wisconsin study.[94] While there is strong evidence regarding these two preventative interventions, not all of the U.S. Preventive Services Task Force recommended interventions have similar cost analysis in the public domain.

Evidence Related to Quality

Primary preventive services such as cancer screenings improve care though early detection and appropriate follow-up on positive screens. Focus should be not only gaps in care, but deviations from recommended care to address both under- and over-use of preventive services. For example, cervical cancer screening for women between 21 and 65 more frequently than every 3

---

[90] State of California Department of Health Care Services, All Plan Letter 18-014, September 14, 2018.

[91] Aldridge A, Linford R, Bray J.. Substance use outcomes of patients served by a large US implementation of Screening, Brief Intervention and Referral to Treatment (SBIRT). Addiction. 2017 Feb;112 Suppl 2:43-53. doi: 10.1111/add.13651.

[92] Aldridge A, Linford R, Bray J. Substance use outcomes of patients served by a large US implementation of Screening, Brief Intervention and Referral to Treatment (SBIRT). Addiction, 2017;112 Suppl:43-53.

[93] Paltzer et al. Substance Use SPIRT Among Medicaid Patients in Wisconsin: Impacts on Healthcare Utilization and Costs. Journal of Behavioral Health Services and Research, 2016. 102-112.

[94] Ibid.

years with cytology alone confers little additional benefit, with a large increase in harm (including treatment of lesions that would otherwise resolve on their own).[95]

Secondary preventive services such as alcohol, tobacco and other drug screenings also improve the quality of care by revealing a problem (often prior to the member reaching the diagnostic level of addiction) so that appropriate treatment options may be provided and a more serious problem averted.

Evidence Related to Administrative Burden

Issuers often identify gaps in preventive services based on claims. They send "gaps in care" reports to providers to act on, or the issuer may dedicate care coordination resources to outreach to members by phone or mail reminders. For specialized preventive services, such as SBIRT, issuers need to ensure provider certification for reimbursement.

Evidence Related to Disparities

There is strong evidence that racial and socioeconomic disparities exist in cancer detection, treatment and mortality. Educational Community Health Worker interventions have been shown to increase client knowledge and awareness about colorectal cancer as well as colorectal cancer screening. Several articles have demonstrated significant improvements in CRC screening rates using lay health workers.[96] Similarly, a systematic review of research on Community Health Worker interventions - education, referrals, support and other interventions – found improved mammography screening rates, especially in medical and urban settings and among women whose race and ethnicity is similar to that of the community health workers serving them.[97]

Key Drivers and Enabling Tactics

Data-supported outreach. Achieving high rates of preventive screening requires providers to conduct population health outreach for their attributed members. This requires programming an electronic health record (EHR) to develop exception reports or purchasing a population health module. It also requires dedicating care coordination resources to outreach to members by phone or mail. For specialized preventive services, such as SBIRT, California providers are required to take a four-hour certification course to administer or oversee the administration of SBIRT.

Supported by the research and practice cited above, issuers can take steps to improve the success of prevention measures. One step is to optimize provider achievement of high rates of Grade A and B preventive services. As noted above, Grade A and B recommended services are

---

[95] USPSTF Cervical Cancer Screening, Clinical Considerations. Accessible online at: https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/cervical-cancer-screening2#consider

[96] Gerald Liu and Allen Perkins, Using a Lay Cancer Screening Navigator to Increase Colorectal Cancer Screening Rates. J Am Board Fam Med March 2015, 28 (2) 280-282.

[97] Kristin Wells, et al. Do Community Health Worker Interventions Improve Rates of Screening Mammography in the United States? A Systematic Review. Cancer Epidemiology, Biomarkers and Prevention 2011; 20(8): 1580-1598.

covered services pursuant to ACA section 2713. To maximize providers' use of these services, issuers should:

- provide support to improve selected providers' electronic decision supports/alerts and reporting capabilities to address preventive care measures;
- produce provider-specific reports on deviations from preventive services recommendations and review with providers; and
- implement or expand Pay for Performance or other incentive programs for meeting preventive services goals.

Provider-focused drivers. Key drivers for providers include: knowledge of preventive services recommendations; easily accessible individual patient and panel reports on deviations from recommended care; staff to conduct outreach to bring patient in for preventive care services; and motivation to change clinical workflows.

Finding 2: A range of evidence-based tobacco cessation interventions are available; a combination of individual and population interventions holds greatest promise for improving health outcomes and reducing health care costs.

As indicated in the discussion of Preventive Services, issuers and providers should adopt USPSTF recommendations on preventive services including tobacco screening and interventions.

Evidence Related to Savings

Cigarette smoking is one of the greatest cost drivers for state Medicaid programs. A review of the literature led CMS to conclude that: "Tobacco treatment is one of the most cost-effective preventive services with as much as a $2-$3 return on every dollar invested."[98] One study examined the relationship between modifiable health risks and short-term health care charges in a health plan population aged 40 and older. Examining health plan charges prospectively over 18 months, they found that tobacco use was related to 18 percent higher charges. These results provide evidence that reducing tobacco use may offer relatively short-term returns on investments for members in this age group.[99] Research on the savings associated with smoking cessation has found that while former smokers briefly experience higher health care costs after quitting when compared to current smokers, over time this spike dissipates and is compensated for within two years of quitting.[100]

A Community Guide economic review assessed 15 studies on the impact of reducing out-of-pocket costs for tobacco cessation medications and counseling.[101] In the four studies that estimated cost effectiveness, reducing out-of-pocket costs for relevant services was determined

---

[98] CMS. Tobacco Cessation. Online resource available at https://www.medicaid.gov/medicaid/quality-of-care/improvement-initiatives/tobacco/index.html.

[99] Pronk N, Goodman MJ, O'Connor PJ, Martinson BC. 1999. Relationship between modifiable health risks and short-term health care charges. JAMA 282(23): 2235-39.

[100] Fishman PA, Khan ZM, Thompson EE, Curry SJ., *Health care costs among smokers, former smokers, and never smokers in an HMO.* Health Serv Res. 2003 Apr; 38(2): 733-49.

[101] The Community Guide, *Reducing tobacco use and secondhand smoke exposure: reducing out-of-pocket costs for evidence-based cessation treatments*, Task Force Finding and Rationale Statement. June 24, 2013.

to be highly cost effective; the median cost estimate was $2,349 per Quality-Adjusted Life Year saved (range: $1,290 to $24,647). Other studies assessed cost-benefit in other ways; one looked at cost per life year saved ($5,990) and another estimated the cost per disability-adjusted life year[102] averted at $7,695 to $16,559. Given the cost for covering participant cost sharing and the benefit of tobacco cessation, eighty percent of the studies found that the benefits of the interventions exceeded their costs.

A study on the Massachusetts evidence-based Medicaid tobacco cessation benefit, found that within three years, 37 percent of Medicaid beneficiaries who smoke utilized the benefit.[103] The crude smoking rate decreased 26 percent - from 38.3 percent before the benefit was implemented to 28.3 percent in the post-benefit period. Annual hospitalizations for heart attacks and other acute heart disease diagnoses dropped 46 percent and 49 percent, respectively. For every dollar invested in the program, the return on investment was $2.12.

Research gathered by the CDC's 6|18 Initiative indicated that a tobacco cessation benefit that includes coverage for medications and behavioral treatments, has few barriers to access, and is heavily promoted to smokers and their health care providers can be widely used, substantially reduce smoking prevalence, lead to improved health outcomes, and achieve a favorable return on investment by reducing health care costs.[104]

Evidence Related to Provider Burden

While no studies on provider burden were identified, pharmacotherapy and the provision of behavioral counseling or referral for such should not be particularly burdensome. While some providers may choose to contribute to policy or environmental changes in the community around issues such as tobacco use prevention/cessation; other providers may find non-reimbursable engagement in these community efforts burdensome.

Evidence Related to Administrative Burden

While no studies on administrative burden were identified, the framework described above recommends issuers collect data on tobacco use and smoking status of their members and engage in quality improvement efforts which requires dedicated staff.

Evidence Related to Population Health

See the "Population-based and Community Health Promotion Beyond Enrolled Population" chapter of this report for discussion of the population health impact of reducing tobacco use.

---

[102] Life lost to death and disability.

[103] The benefit covered up to 16 individual or group cessation counseling sessions and two 90-day courses per year of FDA-approved cessation medications, including over-the-counter and prescription medications.

[104] Additional resources, including clinical practice guidelines, case studies and evidence tables related to the guidelines, are available online at https://www.cdc.gov/sixeighteen/tobacco/index.htm under *Featured Resources*.

Evidence Related to Disparities

The Centers for Disease Control and Prevention highlights research studies related to disparities on its website.[105] Studies related to tobacco use prevalence, health effects, patterns of tobacco use, second hand smoke exposure, quitting behavior, tobacco industry marketing and influence are cited, and resources to reduce tobacco use disparities are highlighted, by geographic region and for each of the following populations: African Americans; American Indians/Alaska Natives; Asian Americans/Pacific Islanders/Native Hawaiians; Hispanics/Latinx; lesbian, gay, bisexual, and transgender persons; people of low socioeconomic status; and adults with mental illness and substance use disorders.

Key Drivers and Enabling Tactics

Supporting Access. To support the success of evidence-based tobacco cessation interventions, issuers can:

- Increase access to evidence-based tobacco cessation treatments, including individual, group, and telephone counseling as well as Food and Drug Administration-approved cessation medications.
- Remove barriers that restrict access to covered cessation treatments, such as cost-sharing and prior authorization.
- Encourage tobacco users to use covered treatment benefits.[106]
- Add tobacco control to the issuer's policy agenda and join with allies to strengthen smoke-free ordinances and policies and raise the cost of tobacco products. This can include collaboration with public health departments and others to initiate anti-tobacco campaigns and media messages.
- Consider measuring tobacco use and smoking status of members to drive behavior change in the provision of tobacco cessation treatment, and counseling.

Key drivers include provider decision-support related to current recommendations to prevent and treat tobacco use; willing partners to collaborate with to affect community-level change related to tobacco use; and capability to measure tobacco use in member population, identify users and conduct outreach.

As an example of actions taken by issuers, Blue Cross Blue Shield of Minnesota's tobacco cessation program added tobacco control to issuer policy agendas and joins with allies to influence legislators and other decision-makers to implement proven methods for decreasing tobacco use among youth through local and state law and policy on topics such as increasing the tobacco tax and protecting people from exposure to second-hand smoke. Blue Cross Blue Shield of Minnesota also captures data and provides feedback to health care providers to drive behavior change in the provision of tobacco cessation treatment and counseling. With better

---

[105] Centers for Disease Control and Prevention, Tobacco-Related Disparities. Reviewed March 7, 2018. https://www.cdc.gov/tobacco/disparities/index.htm.

[106] The 6|18 Initiative, *Evidence Summary: Reduce Tobacco Use*. April 2017.

systems to identify tobacco users, providers and issuer staff can better target and tailor interventions.[107]

Finding 3: A range of evidence-based interventions to prevent and reduce obesity prevalence are available; a combination of individual and population interventions holds greatest promise for improving health outcomes and reducing health care costs.

Obesity is estimated to add $3,371 annually (adjusted to 2012 dollars) to per-patient medical expenditures, compared with patients who are not obese (including $1,372 each year for inpatient services, $1,057 for outpatient services, and $1,130 for prescription drugs).[108] As indicated in the Preventive Services discussion, issuers and providers should adopt USPSTF recommendations on preventive services including obesity screening and interventions.

Evidence Related to Quality

In addressing the optimal use of clinical interventions, Garvey et al. cite several multicenter, randomized controlled lifestyle-intervention studies that have demonstrated efficacy as a therapeutic intervention implemented by a multi-disciplinary team – either in person or virtually.[109] The Look AHEAD and other lifestyle intervention programs have reported that combined behavioral, nutrition, and physical activity are successful in achieving and maintaining health outcomes.[110]

A stepped care approach with rapid escalation to combination lifestyle modification and medication therapy is frequently needed to achieve weight loss and prevent weight regain. Weight loss medications and other more aggressive interventions should be targeted to patients with obesity-related complications who can benefit the most from weight loss. The combination of lifestyle intervention combined with pharmacotherapy can induce 5 to 15 percent weight loss in the majority of patients which is sufficient to substantially improve a large number of obesity-related complications. Bariatric surgery is an option for patients with a body-mass index (BMI) ≥40 kg/m2 and those with BMI ≥35 kg/m2 and severe obesity-related comorbidities.[111] A recent economic analysis indicates that gastric bypass and gastric banding are cost-effective methods of reducing mortality and diabetes complications in severely obese adults with diabetes.[112]

---

[107] Manley, Marc W, et al., The role of health plans in tobacco control. Annual Review of Public Health; Palo Alto Vol. 24, 2003: 247-66.

[108] Cawley C, Meyerhoefer C. The medical care costs of obesity: an instrumental variables approach. Journal of Health Econ. 2012;31:219-230.

[109] Timothy Garvey, et al. American Association of Clinical Endocrinologists and American College of Endocrinology Consensus Conference on Obesity: Building and Evidence Base for Comprehensive Action. Endocrine Practice; Jacksonville Vol. 20, Iss. 9, Sep 2014: 956-976.

[110] Pi-Sunyer, Xavier, et al. Reduction in Weight and Cardiovascular Disease Risk Factors in Individuals With Type 2 Diabetes: One-year results of the Look AHEAD trial. Diabetes Care; Alexandria Vol. 30, Iss. 6, Jun 2007: 1374-83.

[111] Timothy Garvey, et al., op. cit.

[112] Hoerger, Thomas, et al. Cost-Effectiveness of Bariatric Surgery for Severely Obese Adults With Diabetes. Diabetes Care; Alexandria Vol. 33, Iss. 9, Sep 2010: 1933-9.

Evidence Related to Population Health

Providers also play a role in referring patients to community programs and advocating for and strengthening community nutrition and physical activity resources that complement clinical strategies. For example, Chicago-based HealtheRx has mapped community resources and integrated them into a referral system for patients that augments clinical efforts. In a study looking at the impact of the service among publicly insured Chicago residents, authors found it had a positive impact on intervention participants' confidence with finding resources compared to individuals in the control, suggesting its role in population health promotion.[113]

Kaiser Permanente's Community Health Initiative is an example of one issuer's effort to address the obesity epidemic on a population level. Created in 2003, Kaiser Permanente began the Community Health Initiative (CHI) to promote obesity-prevention policy and environmental change in communities they served. Faced with high and rising rates of obesity-and mounting research and clinical experience indicating that clinical prevention alone is not enough to address the problem, Kaiser Permanente focuses its CHI on Healthy Eating and Active Living. The framework for this initiative emphasizes a multisectoral approach addressing clinic, policy, and environmental changes; long-term partnerships and investments; and a commitment to using evidence where it is available and building the evidence base where it is lacking.[114]

The CDC continually collects best evidence on community interventions to reduce obesity. Based on this evidence, an issue of CDC's *Morbidity and Mortality Weekly Report* recommends 24 strategies along with performance measures for community-level obesity prevention efforts. Six overarching strategy domains include:

- promoting the availability of affordable healthy food and beverages;
- supporting healthy food and beverage choices;
- encouraging breastfeeding;
- encouraging physical activity or limiting sedentary activity among children and youth;
- creating safe communities that support physical activity; and
- encouraging communities to organize for change.[115]

Evidence Related to Provider Burden

While no studies on provider burden were identified, lifestyle interventions may be improved through a multi-disciplinary team including a dietician and social worker. Not all primary care practices have these roles in-house, and in some geographies primary care providers could be challenged in developing these relationships. Some communities have a source (such as 3-1-1) that identifies, compiles, and maintains a listing of community resources. It would be time consuming and potentially burdensome to require individual providers to do this research. Finally, while some providers may choose to contribute to policy or environmental changes in

---

[113] Stacy Tessler Lindau, et al., CommunityRx: A Real-World Controlled Clinical Trial of a Scalable, Low-Intensity Community Resource Referral Intervention. AJPH. March 2019.

[114] Ross, Robert, et al. Community Approaches to Preventing Obesity in California. American Journal of Public Health; Washington Vol. 100, Issue 11, Nov 2010: 2023-5.

[115] Morbidity and Mortality Weekly Report. Recommended Community Strategies and Measurements to Prevent Obesity in the United States. July 24, 2009 / Vol. 58 / No. RR. https://www.cdc.gov/mmwr/pdf/rr/rr5807.pdf.

the community around issues such as obesity prevention, other providers may find non-reimbursable engagement in these community efforts burdensome.

Evidence Related to Administrative Burden

While no studies on administrative burden were identified, the framework described above recommends issuers engage in supporting both clinical and population health efforts which requires dedicated staff.

Evidence Related to Disparities

A summary of key literature in disparities related to obesity and diabetes can be found in *Next Steps: Eliminating Disparities in Diabetes and Obesity*. The author identifies African Americans, American Indians/Alaska Natives and those with socioeconomic disadvantages as having a disproportionate burden of obesity, related diseases, and associated complications. She draws on a variety of literature to conclude that root causes are defined by multiple social constructs that influence health, including poverty, living and working conditions, housing quality, and access to healthy food and safe neighborhoods. The author describes individual constructs, such as health literacy, communication barriers, or cultural differences associated with disparities. While the articles reviewed by the author vary widely in topic and scope, they collectively provide a better understanding of the influences on social and physical environment and how these environments affect behavior, health and inform translational interventions to reduce disparity.[116]

In a recent article in the American Journal of Public Health, *Structural Interventions to Reduce and Eliminate Health Disparities*, the authors note that the majority of health disparities interventions have focused primarily on behavior changes at the individual and interpersonal levels, with limited impact on sustained improvements in health and health disparity reductions. They state that social economic, environmental and policy drivers also determine the health status of individuals and populations and call for structural interventions to change the social and environmental contexts that yield and perpetuate social and health inequalities.[117]

Key Drivers and Enabling Tactics

Encouraging access. Key drivers may include provider decision-support related to current obesity screening and treatment recommendations; primary care provider capability and/or referral capacity/access to evidence-based therapeutic interventions implemented by a multi-disciplinary team that combines behavioral, nutrition, and physical activity; and willing partners to collaborate with to affect community-level change related to obesity.

---

[116] Haire-Joshu DL. Next Steps: Eliminating Disparities in Diabetes and Obesity. Prev Chronic Dis 2015;12:150102. DOI: http://dx.doi.org/10.5888/pcd12.150102.

[117] Brown, Arleen, et al. Structural Interventions to Reduce and Eliminate Health Disparities. American Journal of Public Health. January 2019.

Considerations for Covered California's Next Contract Period

Supported by the research and practice cited above, the following evidence-based recommendations are aimed at issuers:

- Ensure optimal rates of provider screening for obesity in children and adolescents 6 years and older and offer or refer them to comprehensive, intensive behavioral interventions to promote improvements in weight status per USPSTF recommendations.
- Cultivate and reimburse evidence-based therapeutic interventions in provider networks that are implemented by a multi-disciplinary team that combine behavioral, nutrition, and physical activity to assist members in losing and maintaining weight loss.
- Support the targeting of lifestyle interventions combined with pharmacotherapy and other more aggressive interventions for patients with obesity-related complications who can benefit the most from weight loss. Bariatric surgery should be a benefit option for patients with BMI ≥40 kg/m2 and those with BMI ≥35 kg/m2 and severe obesity-related comorbidities.[118]
- Review CDC strategies to reduce obesity at the community level; identify at least one strategy to implement in the issuer's geography in collaboration with local government, public health, healthcare providers, advocacy organizations, coalitions and/or other organizations. https://www.cdc.gov/mmwr/pdf/rr/rr5807.pdf

Key Resources for Monitoring New Research

The following are resources, organizations, and other references that Covered California could monitor to stay up to date on the evidence related to this strategy.

Prevention

Among the resources cited in this section and listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates, HMA recommends annually checking for updates or follow-on work from the following:

- **US Preventive Services Task Force**
  Check in on "Recommendations in Progress" on the Task Force's home page to identify and promote new Grade A and B recommendations without delay.
  https://www.uspreventiveservicestaskforce.org/Page/Name/recommendations

Tobacco Cessation

Among the resources cited in this section and listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates, HMA recommends annually checking for updates or follow-on work from the following:

- **U.S. Public Health Service**
  Treating Tobacco Use and Dependence is a U.S. Public Health Service-sponsored Clinical Practice Guideline which has been updated twice based on extensive literature

[118] Garvey et al., 2014, op. cit.

reviews since its original publication in 1996. It has not been updated since 2008 and so we would expect an update in the not-too-distant future.

Obesity Management

Among the resources cited in this section and listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates, HMA recommends annually checking for updates or follow-on work from the following:

- **Centers for Disease Control and Prevention**
  Nutrition, physical activity, and obesity prevention strategies are continually updated based on new evidence. These focus both on individual and community strategies. https://www.cdc.gov/obesity/resources/strategies-guidelines.html

- **Clinical Guidelines for Treatment of Obesity**
  NHLBI released clinical guidelines in 2000 – *The Practical Guide: Identification, Evaluation and Treatment of Overweight and Obesity in Adul*ts. The American Association of Clinical Endocrinologists released *Clinical Practice Guidelines for Treating Obesity* in 2016. HMA recommends looking out for new clinical guidelines that build on new evidence.

Section 2. Review of Measures and Benchmarks for Health Promotion and Prevention

This section of the report on Complex Care is the product of PricewaterhouseCooper's (PwC) detailed review of measures and benchmarks that can be used by Covered California to assess quality care is being delivered and that its contracted health plans use effective strategies to promote improvements in how care is delivered. The section includes a review of Covered California's current measurement strategy which is followed by considerations for revising those measures and specific recommendations for Covered California's consideration.[119]

Covered California's Current Required Measures

Takeaway: Qualified Health Plans (QHP) have room to improve Healthcare Effectiveness Data Information Set (HEDIS) scores for standard preventive measures. Measures related to improving personal behavior are less standardized and benchmark data less available.

As shown below, Covered California has a range of measures pertaining to Health Promotion and Prevention (see Table 1, Covered California Required Measures, Qualified Health Plan Performance Data and Sources of Potentially Relevant Comparisons). PwC has also summarized QHP performance data and sources of potentially relevant comparisons.

Table 1. Covered California Required Measures, Qualified Health Plan Performance Data, and Sources of Potentially Relevant Comparisons

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
HEDIS/CAHPS measures [§6.01(1)]	Quality Rating System (QRS) data; National Committee for Quality Assurance (NCQA) HEDIS reporting	Quality Compass
Wellness program participation [§6.01(1)]	Not reported	Relevant comparison data were not identified
Tobacco cessation participation rate among smokers [§6.01(2)]	Inconsistent reporting and unclear denominator: methods vary plan-to-plan and year-to-year	Covered California encounter data California Health Interview Survey (CHIS) results PwC 2018 Touchstone Survey: participation rate among all employees (75th Percentile: 6%)
Obesity management participation rate among obese enrollees [§6.01(3)]	Inconsistent reporting and unclear denominator: methods vary plan-to-plan and year-to-year	Covered California encounter data CHIS survey results PwC 2018 Touchstone Survey: participation rate among all employees (75th Percentile: 15%)

[119] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures. To view the full list of measures recommended by PwC, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

Considerations for Revising Covered California's Measures

In developing measures and data recommendations for Covered California, PwC considered the following:

- There is strong alignment for benchmarking preventive measures by comparing California QHP scores to the QRS national percentiles.
- The preventive services metrics required in QRS HEDIS and survey reporting generally align with the preventive services metrics required in HEDIS and survey reporting by commercial and Medicaid health plans, but there are differences.
    - Some QRS HEDIS preventive service related measures, such as immunizations and screenings, can be compared to Quality Compass benchmarks. California QHP health plans are underperforming relative to commercial plans in many of these measures.
    - For prevention measures such as maternity care and healthy child preventive services, the QHP population is too small to generate scores that meet Quality Compass minimum population requirements.
    - Where the QRS HEDIS measures and survey questions do not exactly align across QHP, Commercial and Medicaid benchmarks, Covered California will have to determine if they are sufficiently similar that the Quality Compass benchmark is applicable.
- The current health plan reporting on tobacco cessation appears to be unreliable. The denominator for this metric, the percentage of smokers on the exchange, is unknown and health plans that report do not provide numbers that are in-line with California population estimates.
    - CHIS indicates that pre-ACA, the uninsured population had a higher smoking rate than the insured population (19.3% vs 12.3% in 2009; 19.0% vs. 11.7% in 2013) and for the 100%-299% FPL group from 2009 to 2013, the lowest estimate was 15.5%.
- Employer wellness programs often use rewards and penalties to encourage participation in programs such as smoking cessation and weight loss. Health interventions should consider the context of the individual marketplace and the way members may not have the same work environment as those under large employers.

Measures and Data Recommendations

What follow are PwC's measures and data recommendations for Covered California:

1. Use QHP national benchmarks reported from QRS.
2. For measures that Covered California compares to Quality Compass scores, set QHP benchmark at the 50th, 75th, or 90th percentiles for commercial and Medicaid.

3. Recommend new measures: Adults' Access to Preventive/Ambulatory Health Services (AAP).

4. Because participation measures for wellness, tobacco cessation, and obesity programs are difficult to collect, consider analyzing Covered CA encounter data to assess utilization of tobacco cessation and weight management program services or evaluate prevalence using CHIS survey data.

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and industry articles, and assessed measures on several attributes, including strength of evidence, alignment with other purchasers and feasibility of reporting (see Table 2, PwC Recommended Measures for Health Promotion and Prevention).[120]

Table 2. PwC Recommended Measures for Health Promotion and Prevention

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Adult BMI Assessment (ABA)	Existing	QHPs	QRS	High	High	High	High	High
Annual Dental Visit (ADV)	Existing	QHPs	QRS	High	High	High	High	High
Breast Cancer Screening (BCS)	Existing	QHPs	IHA, QRS	High	High	High	High	High
Cervical Cancer Screening (CCS)	Existing	QHPs	IHA, QRS	High	High	High	High	High
Childhood Immunization Status (CIS) (Combination 3)	Existing	QHPs	QRS	High	High	High	High	High
Chlamydia Screening in Women (CHL)	Existing	QHPs	QRS	High	High	High	High	High

[120] For the criteria used by PwC to assess measures, please see Table 3, Measure Assessment Structure Applied by PwC, in the chapter on Summary Recommendations on Measures and Benchmarks. For a detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Colorectal Cancer Screening (COL)	Existing	QHPs	QRS	High	High	High	High	High
Flu Vaccinations for Adults Ages 18-64 (FVA)	Existing	QHPs	QRS	High	High	High	High	High
Immunizations for Adolescents (IMA) (Combination 2)	Existing	QHPs	QRS	High	High	High	High	High
Medical Assistance with Smoking and Tobacco Use Cessation (MSC)	Existing	QHPs	QRS	High	High	High	High	High
Prenatal and Postpartum Care (PPC)	Existing	QHPs	QRS	High	High	High	High	High
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents (WCC)	Existing	QHPs	QRS	High	High	High	High	High
Well-Child Visits in the 3rd, 4th, 5th, and 6th Years of Life (W34)	Existing	QHPs	QRS	High	High	High	High	High
Well-Child Visits in the First 15 Months of Life (W15)	Existing	QHPs	QRS	High	High	High	High	High
Number/percent of Enrollees who take advantage of the tobacco cessation benefit.	Existing, but Difficult to Collect	Covered California (formerly QHPs)	n/a	Medium	High	High	High	Low
Number/percent of enrollees who utilize wellness benefit.	Existing, but Difficult to Collect	Covered California (formerly QHPs)	n/a	Medium	Medium	High	High	Low
Number/percent of its Enrollees who take advantage of the obesity benefit	Existing, but Difficult to Collect	Covered California (formerly QHPs)	n/a	Medium	High	High	High	Low

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Adults' Access to Preventive/Ambulatory Health Services (AAP)	New	Covered California	HEDIS, Medicare Part C, Washington State	High	High	High	High	High
Body Mass Index (BMI) Screening and Follow-Up Plan	Stretch: Requires Clinical Data	QHPs	CMS	High	High	High	Low	Low
HIV Screening	Stretch: Requires Clinical Data	QHPs	eCQMs, MIPS	High	High	High	Low	Low
HIV Screening of STI Patients	Stretch: Requires Clinical Data	QHPs	CQMC	High	High	High	Low	Low

Note: "Stretch" measures are measures Covered California may consider promoting or tracking in the future. Since provider clinical data is required for reporting, it may be challenging unless mechanisms are put in place to support it.

To review the background research completed by PwC to inform these measures and data recommendations, please see Appendix 3, Bibliography Supporting Measures Review by PricewaterhouseCoopers.

Chapter 3: Mental Health and Substance Use Disorder Treatment

Mental Health and Substance Use Disorder Treatment includes health plan activities to identify, engage and support through treatment of those with mental health conditions and substance use disorders, and ensure that they are provided with timely and effective care that is integrated with their general health care needs.

This chapter on Mental Health and Substance Use Disorder Treatment is organized into two sections:

Section 1. Review of Evidence for Mental Health and Substance Use Disorder Treatment was prepared by Health Management Associates (HMA) and provides a review of the evidence related to interventions to address mental health and substance use disorders. The evidence review is followed by specific findings that represent opportunities or challenges for Covered California and then recommendations for how Covered California can monitor evidence on an ongoing basis.

Section 2. Review of Measures and Benchmarks for Mental Health and Substance Use Disorder Treatment was prepared by PricewaterhouseCoopers (PwC) and provides a review of Covered California's current required measures, considerations and recommendations for revising its measures in this area.

Section 1. Review of Evidence for Mental Health and Substance Use Disorder Treatment

Covered California contracted with HMA to conduct an evidence review in ten strategy areas that health insurance payers can utilize to drive value in health care. The review's results are presented here.[121] This chapter includes direct citations of the best evidence within the discussion of this strategy; information from additional sources was also used for this report and is listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

> ***Behavioral Health – Definition***
>
> As an umbrella term, behavioral health services are described by the Substance Abuse and Mental Health Services Administration (SAMHSA), as promoting "mental health, resilience and wellbeing; the treatment of mental and substance use disorders; and the support of those who experience and/or are in recovery from these conditions, along with their families and communities."
>
> *Source: SAMHSA, Behavioral Health Integration*

Background

Mental health and substance use disorders are highly prevalent among Californians and costly. Nearly 20 percent of Californians (5.4 million people) age 18 or older experienced a mental illness, 3.9 percent (1.2 million people) a serious mental illness, and 7.8 percent (2.3 million people) suffered from a substance use disorder in the past year.[122] Mirroring national

[121] To view a more detailed description of HMA's approach, project team, and methods for literature review and evidence gathering, please see Appendix 1, Background on Expert Review of Evidence and Measures.

[122] National Survey on Drug Use and Health, State-Specific Tables 19-20. https://www.samhsa.gov/data/report/2015-2016-nsduh-state-specific-tables

trends, the majority of Californians with behavioral health needs received no treatment for their mental health or substance use disorder condition.[123,124,125,126] Further, the medical cost for treating mental health and substance use disorder services can be high, particularly when considering the chronic nature of these diseases, the frequency of co-morbidities, and nature of treatment options.[127] Medical costs for treating individuals with chronic medical and comorbid mental health and substance use disorders are two to three times higher on average compared to patients without comorbid mental health and substance use disorder conditions.[128] In 2015, mental health and substance use disorders were the largest cause of disease burden in the United States, with mental illness accounting for one of the costliest conditions.[129, 130] Total spending in the United States across all service categories for mental health and substance use disorders is estimated to be $752 billion annually, a 7.5 percent annualized increase in costs since 2014.[131]

While research supporting mental health and substance use disorder treatments has grown significantly over the last two decades, it remains limited compared to physical health conditions. While mental health and substance use disorder treatment systems have largely operated outside the mainstream health care system, with separate provider networks and financing arrangements, there is momentum to integrate primary care and behavioral health services because of the increasing evidence on the efficacy of behavioral health services in improving health outcomes and the return they deliver on investment by reducing downstream health care costs.

Physical and Behavioral Health Parity

Pursuant to California Law and the federal Mental Health Parity and Addiction Equity Act (MHPAEA), as amended by the Affordable Care Act, all plans are required to cover behavioral health treatment, mental and behavioral health inpatient services, and substance use disorder treatments with the same cost-sharing requirements and to the same extent as the plan covers medical and surgical benefits.

Nationally the MHPAEA and ACA have resulted in a significant expansion of mental health and substance use disorder services, but many issuers expanded coverage prior to that. In California, issuers have been subject to state coverage requirements for certain behavioral

---

123 National Council for Behavioral Health, The Business Case for Effective Mental Health Treatment. October 2017.

124 John Fortney, et al., Fixing Behavioral Health Care in America, A National Call for Integrating and Coordinating Specialty Behavioral Health Care with the Medical System. Kennedy Forum Issue Brief, 2015.

125 California Health Care Foundation, Mental Health in California: For Too Many, Care Not There. March 2018.

126 California Health Care Foundation, Medi-Cal Moves Addiction Treatment into the Mainstream. August 2018.

127 National Institute of Mental Health, Prevalence of Any Mental Illness, November 2017, based on 2016 SAMHSA data.

128 Stephen Melek, et al., Potential economic impact of integrated medical-behavioral healthcare. Updated projections for 2017. Milliman Research Report. January 2018.

129 Kamal R, Cox C, Rousseau D, et al. Costs and Outcomes of Mental Health and Substance Use Disorders in the US. JAMA 2017;318(5): 415.

130 Roehrig C. Mental Disorders Top The List Of The Most Costly Conditions In The United States: $201 Billion. Health Affairs 35, no. 6 (2016) 1130 – 1135.

131 Stephen Melek, et al., op cit.

health conditions prior to MHPAEA's passage in 2008. A national survey of commercial insurance company senior executives found that 68 percent of insurers reported they had expanded mental health and substance use disorder coverage between 2010 and 2014; many also eliminated exclusions for conditions such as eating disorders.[132] Another survey of private health plans noted that some issuers invested in delivery models, such as telehealth and provider payment incentives, to improve delivery of behavioral health services.[133]

Despite gains, some researchers do not find the improvements over the past decade sufficient. Reif et al. note that although Americans now have access to a broader and more affordable range of treatment options for opioid addiction, only 18 percent of substance use disorder treatments were paid for by private insurance in 2014.[134] She and other authors found that commercial insurers nationally were still using copayments, prior authorizations, step therapy, and other treatment limits to control costs and restrict access to particular treatments, such as certain medications for Attention Deficit Disorder.[135,136] While there is better commercial insurance coverage overall for mental health and substance use disorder services, this is not universally true. Cost and consequently access are still barriers to many affected individuals for receiving necessary treatments to manage their conditions.[137] A March 5, 2019 *The New York Times* article on mental health coverage by insurers further validated these research findings, reporting that a federal ruling in Northern California determined UnitedHealth Group "had created internal policies aimed at effectively discriminating against patients with mental health and substance abuse disorders to save money." This recent ruling is only one example in the controversial debate over whether health insurers provide inadequate coverage for behavioral health conditions and deny patients access to care in nonemergent circumstances, underscoring the need for stronger enforcement of the MHPAEA.[138]

---

[132] Hodgkin, D et al. (2018). Federal parity and access to behavioral health care in private health plans. Psychiatric Services, 69(4): 396-402.

[133] Horgan, CM et al. (2016). Behavioral health services in the changing landscape of private health plans. Psychiatric Services, 67(6): 622-629

[134] Reif, S et al., Commercial health plan coverage for selected treatments for opioid use disorders from 2003 to 2014. 2017. Journal of Psychoactive Drugs, 49(2): 102-110.

[135] Hodgkin, D et al. (2014). Management of newer medications for Attention Deficit Hyperactivity Disorder in commercial health plans. Clinical Therapeutics, 36(12): 2034-2046

[136] Hodgkin, D et al., 2018, op. cit.

[137] California Health Care Foundation, Mental Health in California, op. cit.

[138] Reed Abelson, Mental Health Treatment Denied to Customers by Giant Insurer's Policies, Judge Rules. The New York Times, March 5, 2019.

Finding 1: Increasing the use of evidence-based practices, including consistent utilization of screening, assessment tools, and performance measurement standards improves the quality of mental health and substance use disorder identification and treatment processes.[139, 140, 141, 142]

Evidence Related to Quality[143]

One of the most significant advances in mental health and substance use disorder treatment over the past two decades has been the movement towards measurement-based treatment. As discussed in the *Disparities Reduction* section, screening patients for behavioral health disorders using evidence-based tools can be an effective means for identifying patient needs and then planning early interventions and referrals to appropriate services. Research indicates it can also have an impact on cost.[144] State Medicaid programs are requiring issuers to incentivize physical and behavioral health providers to use evidence-based screening tools to more reliably identify patients with mental health and substance use disorder treatment needs.[145]

Screening tools can be regularly administered in a systematic fashion to measure and track outcomes. These outcomes can be recorded sequentially in a registry (as occurs with diabetes, hypertension and other chronic conditions) to identify individual patient care gaps and the need to adjust treatment for patients who are not improving. They can also be used in aggregate to assess for clinic and individual provider performance and demonstrate to issuers the value of supporting services.

The PHQ-2/PHQ-9 and GAD-7, in particular, are evidence-based screening tools commonly used to collect both baseline symptomology and ongoing response to treatment in the primary care and specialty behavioral health settings. The PHQ-2 is a very brief screener for depression that consists of the first two items of the PHQ-9. It has been found to have a sensitivity of 86 percent, meaning that 86 percent of those with major depression would screen positive on the PHQ-2, but only a specificity of 78 percent with a score of two or higher, meaning that 22 percent of those without major depression have a false positive.[146] If a patient scores in the positive range on the PHQ-2, then the additional 7-question PHQ-9 are typically administered.

---

[139] Glenda Wrenn, et al., A Core Set of Outcome Measures for Behavioral Health Across Service Settings, Supplement to Fixing Behavioral Health Care in America: A National Call for Measurement-Based Care in the Delivery of Behavioral Health Services. Integration Issue Brief, The Kennedy Forum.

[140] Fortney et al., 2015, op. cit

[141] Fortney, J., et al. The Tipping Point for Measurement Based Care in Behavioral Health. Psych Serv 2016

[142] SC Cook, AC Schwartz, NJ Kaslow. Evidence-Based Psychotherapy: Advantages and Challenges. Neurotherapeutics. 2017 Jul;14(3):537-545.

[143] In each strategy section, HMA identified the evidence that supports potential impact on the following evaluation outcomes: savings; quality; population health; provider burden; administrative burden; and disparities reduction.

[144] Lisa Clemans-Cope et al, Potential Cost Savings Associated with Providing Screening, Brief Intervention, and Referral to Treatment for Substance Use Disorder in Emergency Departments. Urban Institute, June 2018.

[145] For example, the 2018 Arizona Complete Care RFP.

[146] Arroll, B, et al., Validation of PHQ-2 and PHQ-9 to screen for major depression in the primary care population, Jul-Aug, 2010, 8(4),348-353.

The PHQ-9 has a 74 percent sensitivity but an increased specificity to 91 percent for a score over 10, meaning only 9 percent of those without major depression have a false positive.

The GAD-7 is a 7-item, self-report screening instrument for anxiety disorder with well-established validity and reliability.[147] Though many patients have both anxiety and depression, the GAD-7's anxiety score has been found to be measuring a distinct dimension. According to Jordan, the first four items of the instrument should be weighted more heavily to decrease the number of patients measured to have anxiety who do not in fact have an anxiety disorder.[148]

SBIRT (Screening, Brief Intervention, Referral to Treatment) is an evidence-based approach for assessing patients in behavioral health and physical health settings, especially primary care, for risky substance use and substance dependence. It consists of universal (for adults) screening with a validated tool to identify patients who are using alcohol excessively or illicit substances; brief intervention (usually 1-5 sessions) for those patients who screened at risk for developing substance abuse; and referral to a specialty behavioral health provider for those who meet Diagnostic and Statistical Manual for Mental Disorders (DSM) criteria for a substance use disorder. Based on its findings from a large, 5-year demonstration project, SAMHSA determined that SBIRT has utility for identifying patients early for hazardous use of alcohol and illicit drugs.[149] A more recent research review on SBIRT concluded that it "has been

Evidence-Based Treatment for Mental Health and Substance Use Disorders

Mental health and substance use disorders are largely treated with a few modalities: psychopharmacotherapy; behavioral therapies (such as different forms of psychotherapy); or combination treatments using medications and counseling. Pharmacotherapy includes the use of pharmaceutical drugs of many different classes utilized in a variety of ways.

There is growing emphasis on the use of evidence-based behavioral therapies for mental health and substance use disorders. Most effective behavioral treatments incorporate several key elements—a strong therapeutic alliance between the patient and provider; adequately trained providers; and the application of differing treatment modalities with fidelity but also flexibility to account for clients' specific needs. Evidence-based psychotherapies that contain these elements include cognitive-behavioral therapy, interpersonal therapy, contingency management, and 12-Step Facilitation therapy. Other, more holistic, behavioral treatment approaches include mindfulness-based treatments, though these have less supporting evidence and are more recently adopted treatment strategies. Behavioral therapies are often used to augment the effectiveness of psychopharmacotherapy. For instance, behavioral therapies can help patients better engage with substance use disorder treatments, incentivize their compliance with treatment regimens, and educate them about the dangers of continued drug abuse.

Source: American Psychological Association's Society for Clinical Psychology

[147] Spitzer, RL et al., A brief measure for assessing Generalized Anxiety Disorder, 2006;166(10): 1092-1097.

[148] Jordan, P et.al., Psychometric analysis of the GAD-7 in primary care using modern item response theory, PLoS One, 2017; 12(8).

[149] Babor, TF et al., SBIRT: Implications of SAMHSA's SBIRT initiative for substance abuse policy and practice, Addiction, 112(2): 110-117.

found effective for tobacco use and risky drinking" but that "the data on SBIRT for dependent alcohol use and for drug use are inconsistent."[150]

In 2018, Medi-Cal required all Medicaid issuers to adopt SBIRT (renamed Alcohol Misuse Screening and Behavioral Counseling Interventions) as a standard of care for primary care practices. In this initiative, "risky alcohol use" is defined (as per the National Institute for Alcohol Abuse) as more than four drinks a day or 14 drinks a week for men, and 3 drinks a day and 7 drinks a week for women and older adults. Universal screening of adults is to occur at least yearly with the Alcohol Use Disorders Identification Test (AUDIT), the AUDIT-Consumption (AUDIT-C) or a single question, such as "How many times in the past year have you had 4 (for women and all adults older than 65 years) or 5 (for men) or more drinks in a day?" Medicaid issuers are required to cover brief interventions and specialty behavioral health services for alcohol misuse.

For patients whose screenings indicate a need for substance use disorder treatment, the standard of practice is to use the DSM criteria for formal diagnosis of a substance use disorder and the American Society of Addiction Medicine (ASAM) patient placement criteria for assessing the appropriate level of care. The ASAM criteria help providers develop treatment plans through "a multidimensional patient assessment over five broad levels of treatment that are based on the degree of direct medical management; structure, safety and security provided; and the intensity of treatment services provided."[151] The five levels of treatment range from early intervention services to medically managed intensive inpatient services. In its 1115 waiver for organized delivery of Medi-Cal substance use disorder services, the Department of Health Care Services now requires all counties participating in the demonstration to use ASAM criteria for assessment and treatment planning.

One substance use disorder treatment option that has been utilized to a greater degree in recent years is Medication Assisted Treatment (MAT). It is a category of pharmacotherapy that uses FDA-approved medications in combination with behavioral therapies to provide a holistic approach to substance use disorders related to opioids, alcohol, and tobacco.[152] Research shows that some substance use disorders are best managed using MAT over a longer period, with various medications prescribed during the initial detoxification and withdrawal process, in conjunction with behavioral therapies and counseling.[153]

For example, a 2014 study of substance use disorder treatments noted that MAT is a well-established, evidence-based treatment for ethnic minority groups.[154] A 2018 literature review of the use of buprenorphine therapy, a type of MAT, with adolescents with opioid use disorder

---

[150] Levesque, D et. al., Stage-based mobile intervention for substance use disorder in primary care: development and test of acceptability, JMIR Medical Informatics, 2018, Jan-Mar, 6(1).

[151] American Society of Addiction Medicine, What is the ASAM Criteria? Online resource. https://www.asam.org/resources/the-asam-criteria/about

[152] SAMHSA, Medication-Assisted Treatment. Online resource. https://www.samhsa.gov/medication-assisted-treatment

[153] SAMHSA, Medication and Counseling Treatment, online resource. https://www.samhsa.gov/medication-assisted-treatment/treatment

[154] Guerrero, E.G. et al. Organizational Implementation of Evidence-Based Substance Abuse Treatment in Racial and Ethnic Minority Communities. Adm. Policy Ment. Health. 2014; 41(6): 737-49

(OUD) found it reduced drop-out rates and increased engagement with naltrexone therapy (another form of MAT) than did clonidine. Long-term buprenorphine use also proved to be more cost-effective than detoxification.[155]

Evidence Related to Savings

Mental health and substance use disorder treatment options, particularly evidence-based treatments, demonstrate a high degree of clinical effectiveness and economic return. Clinical research demonstrates that 65-80 percent of individuals with mental illnesses improve with appropriate treatment protocols; a higher success rate than for many non-psychiatric medical treatments. The literature also demonstrates effective recovery from alcohol and drug dependences using pharmacotherapies and behavioral therapies. Medical science has established addiction as a chronic brain disease, with individuals susceptible to recurring relapses if left untreated or unmanaged, similar to the poor outcomes associated with other unmanaged physical illnesses (e.g., diabetes).[156,157]

In assessing the economic impact of detecting and treating depression and anxiety, an analysis of the healthcare systems of 36 countries conducted by the World Health Organization in 2016 predicted that the returns on scaling up MH treatment during the period of 2016-2030 as 2.3-3.0:1 when only economic benefits (e.g., restoring capacity for doing paid work) are considered and 3.5-5.7:1 when the value of health returns (e.g., decreased hospitalization utilization resulting in lower healthcare costs) are taken into account.[158]

A Monitor Deloitte report on mental health and substance use disorders in the United Kingdom further breaks down this return on investment, suggesting that early-stage interventions can have ROI as high as 8:1, along with 6:1 for proactive interventions such as diagnostic/screening tools, training, and support interventions, and 5:1 for reactive interventions such as therapies.[159]

The economist David Cutler's book, *Your Money or Your Life—Strong Medicine for America's Health Care System*, reported that expanded diagnosis and treatment for depression has a return on investment of $7 for every $1 invested due to increased productivity and reduced costs for healthcare, criminal justice, and social services.[160] Similar cost-benefit analyses of public treatment systems operated at the state level found returns of $4 to $7 per dollar spent.[161]

---

[155] Ramos, C. et al. Evidence Based Interventions for Adolescent Opioid Use Disorder: What Might Work for High Risk Ohio Counties. Urban Institute. September 2018.

[156] National Institute of Drug Abuse, Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition). January 2018.

[157] American Psychiatric Association Foundation, Center for Workplace Mental Health, Business Case for Mental Health and Substance Use Disorder Treatment: A Literature Review. December 2009.

[158] World Health Organization, Investing in treatment for depression and anxiety leads to fourfold return. April 13, 2016.

[159] Monitor Deloitte, Mental health and employers: the case for investment. Supporting study for the independent review. October 2017.

[160] Cutler, David M. Your Money or Your Life: Strong Medicine for America's Health Care System. New York, New York: Oxford University Press. 2004.

[161] New Jersey Association of Mental Health and Addiction Agencies, The Business Case for Investment in Behavioral Health and the Return.

A randomized controlled study of the use of Collaborative Care (CoCM), an empirically supported form of integrated care (discussed further below in Finding 3), found that CoCM-assigned participants had lower mean healthcare costs over a four-year period.[162] A 2008-2013 study of Vermont Medicaid beneficiaries with opioid use disorder found that those using MAT had reduced healthcare utilization, particularly inpatient hospital admissions and outpatient detoxification, as compared to OUD patients receiving usual care.[163] A small 2003 study of patients receiving cognitive behavior therapy (an evidence-based treatment for depression and anxiety) for panic disorder with agoraphobia (forms of anxiety) had a significant reduction in overall healthcare costs.[164]

Key Drivers and Enabling Tactics

Payment. When payment reform shifts emphasis from fee-for-service to value-based care, screenings with evidence-based tools take on greater importance as both process measures (e.g., percentage of patients who are administered a given tool) and outcome measures (e.g., as a quantitative means of tracking treatment progress). Widespread adoption of screening will require issuers to incorporate it into behavioral health quality standards and then incentivize providers.

Workforce shortages. During the past decade, there have been numerous reports about mental health and substance use disorder workforce shortages in many parts of the country and their negative impacts on the provision of mental health and substance use disorder services.[165, 166, 167, 168] According to a 2016 SAMHSA brief, more than 75 percent of all U.S. counties are considered mental health and substance use disorder shortage areas and half of all U.S. counties have no mental health and substance use disorder professionals at all. There is a paucity of psychiatrists.[169] Between 2003 and 2013, there was a 10 percent decline in the number of psychiatrists.[170] Most states have only 1 to 17 child psychiatrists per 100,000 children.[171] Among psychiatrists who remain in clinical practice, 40 percent of them do not participate in insurance plans but only accept cash.[172] This inaccessibility contributes to the

---

[162] Unützer, J. et al. Long-term Cost Effects of Collaborative Care for Late-life Depression. Am. J. Managed Care. 2008; 14(2): 95-100.

[163] Mohlman, M.K. et al. Impact of Medication-Assisted Treatment for Opioid Addiction on Medicaid Expenditures and Health Services Utilization Rates in Vermont. Journal of Substance Abuse Treatment. 2016. 67: 9-14

[164] Roberge, P. et al. Healthcare Utilization Following Cognitive-Behavioral Treatment for Panic Disorder with Agoraphobia. Cognitive Behaviour Therapy. 2005; 34(2):79-88

[165] Thomas, K.C. et al. County-level estimates of mental health professional shortage in the United States. Psychiatric Services, 2009; 60(10): 1323-28

[166] Fortney et al., 2015, op. cit

[167] National Council Medical Director Institute. The psychiatric shortage: cause and solutions. 2017

[168] Block, R. Behavioral Health Integration and Workforce Development. Issue Brief. Milbank Fund. 2017.

[169] SAMHSA. Rural behavioral health: telehealth challenges and opportunities, 9(2). 2016.

[170] National Council Medical Director Institute, 2017, op. cit.

[171] Tyler, E.T. et al. Behavioral Health Integration in pediatric Primary Care: Considerations and Opportunities for Policymakers, Planners, and Providers. Milbank Fund. 2017.

[172] National Council Medical Director Institute, 2017, op. cit.

relatively low levels of individuals with mental health and substance use disorder who receive clinical treatments. In any given year, it is estimated that only 36 percent of individuals with mental health or substance use disorder needs receive clinical care.[173] Most of that care (23 percent) is being administered by primary care providers, many of whom may have limited training in mental health and substance use disorder diagnosis and treatment modalities.[174] Only 22 percent of individuals receive care from a mental health and substance use disorder specialist of any type; only 12 percent from a psychiatrist.[175]

These challenges are particularly acute in rural areas.[176] Research estimates that outpatient substance use disorder treatment services in the U.S. are almost four times less likely to be available in rural hospitals than in urban hospitals; hospitals in larger rural areas are about twice as likely to offer those services compared with hospitals in smaller or more isolated rural areas.[177] In addition to the dearth of providers, other factors that impede rural access to behavioral health care include perceived lack of privacy for those seeking behavioral health services and lack of culturally appropriate care. For example, Rieckmann et al., cite "treatment culture" and "organizational fit" as barriers to implementation of Medication-Assisted Treatment for American Indians/Alaska Natives with substance use disorders.[178] Similarly, Guerrero concludes that "limited organizational capacity to deliver culturally responsive mental health and substance use disorder services represents a major barrier to accessing services for African-American and Latino clients."[179]

According to the California Future Health Workforce Commissions 2019 report, California has significant needs for behavioral health services: 17 percent of Californians have behavioral health concerns and 1 in 20 have serious mental illnesses, but only one-third of state inhabitants with a behavioral health disorder receive behavioral health treatments. As several recent reports have documented, this shortfall in behavioral health treatment is largely due to the state's marked and worsening behavioral health workforce shortage.[180] In 2016, there was a 23.6 percent shortfall of psychiatrists in the state compared to the number required to care for all persons who needed mental health services. Most of these shortages were occurring in California's rural areas. While the state as a whole had 14.7 psychiatrists per 100,000 individuals, it had only 7.1 and 7.7 respectively in the rural regions of the San Joaquin Valley and the Inland Empire. (In contrast, the Greater Bay Area had 25.) According the 2019

---

[173] Fortney et al., 2015, op. cit.

[174] Priester, M.A. et al., Treatment Access Barriers and Disparities Among Indivdiuals with Co-Occuring Mental Health and Substance Use Disorders: An Integrative Literature Review. J Subst Abuse Treat. 2016; 61:47-59.

[175] Fortney et al., 2015, op. cit

[176] Broffman, L et al. Understanding Treatment Gaps for Mental Health, Alcohol, and Drug Use in South Dakota: A Qualitative Study of Rural Perspectives. The Journal of Rural Health, 11 December 2015.

[177] SAMHSA. Rural behavioral health: telehealth challenges and opportunities, 9(2). 2016.

[178] Rieckmann, T et al., National overview of Medication-Assisted Treatment for American Indians and Alaska Natives with substance use disorder, Psychiatric Services, Psychiatry Online, July 17, 2017.

[179] Guerrero et al., 2014, op. cit.

[180] Coffman, Julia and Beer, Tanya (2016) "How Do You Measure Up? Finding Fit Between Foundations and Their Evaluation Functions," The Foundation Review: Vol. 8: Iss. 4, Article 6; Janet Coffman et al. California's Current and Future Behavioral Health Workforce, Healthforce Center at UCSF Research Report. February 2018.

California Future Health Workforce Commission report, the state's Northern and Sierra regions have the highest suicide rates at twice the state's average but have a 40 percent lower provider-to-population ratio for psychiatry and psychology professions than the state average.[181]

In part, this is a function of the misdistribution of mental health and substance use disorder training programs in California. There are no residency programs for psychiatrists nor graduate programs for psychologists or psychiatric nurse practitioners north of Sacramento.[182] It is also due to the aging of the current behavioral health workforce. According to the 2019 California Future Health Workforce Commission report, many of the current behavioral health providers in the state are nearing retirement; 45 percent of psychiatrists and 37 percent of psychologists are over age 60.[183]

Various solutions to the limitations of mental health and substance use disorder treatment access have been proposed in the 2019 California Future Health Workforce Commission report, and in briefs by the Kennedy Forum and the National Medical Director Institute. Of these, the most promising are to increase utilization of telepsychiatry and teletherapy services and supported integrated care models (see Findings 2 & 3). [184, 185, 186] A long-term potential solution to addressing the workforce shortage is bolstering training through providing more funding for residency training for psychiatrists and primary care physicians; incentivizing students with scholarships to choose behavioral health professions; expanding psychiatric nurse practitioner programs to train more prescribers of psychiatric medications; and standardization and certification for community health workers and peer support specialists. The Kennedy Forum brief also called for an expansion of interdisciplinary team-based, behavioral health care with more rigorous training for working in primary care and other interdisciplinary settings,[187, 188] including means of collaboration, shared decision-making, and knowledge-sharing.[189, 190]

---

[181] Fleury, MJ et al., California Future Health Workforce Commission report. Meeting the Demand for Health. 2019. Variables associated with work performance in multidisciplinary mental health teams. SAGE Open Med, 5.

[182] Holzer, H. California needs more mental health professionals—and the shortage will get worse, experts say. The Sacramento Bee, July 11, 2018.

[183] Fleury et al., op. cit.

[184] SAMHSA. Rural behavioral health: telehealth challenges and opportunities, 9(2). 2016.

[185] Campbell, A. Internet-delivered treatment for substance abuse: a multi-site randomized controlled clinical trial. Am J Psychiatry. 2014; 171(6): 683-90

[186] Nelson, E.L. and Sharp, S. A review of pediatric telemental health. Pediatr. Clin. N. Am. 2016; 63: 913-31

[187] Holzer, 2016, op. cit.

[188] National Council Medical Director Institute, 2017, op. cit.

[189] Markon, MP et al., Modeling the effect of perceived interdependence among mental healthcare professionals on their work role performance. Journal of Interprofessional Care, 31(4): 520-528, 2017.

[190] Fleury, MJ et al., Variables associated with work performance in multidisciplinary mental health teams. SAGE Open Med, 5, 2017.

Considerations for Covered California's Next Contract Period

To encourage providers to utilize evidence-based screening and assessment tools for mental health and substance use disorders, Covered California could take the following steps:

- Require issuers to monitor and report percentages of patients who have been assessed on a yearly basis using empirically supported screening tools, such as the PHQ-2/PHQ-9 and GAD-7, and evidenced-based approaches, including the use of SBIRT for hazardous alcohol and illicit drug use. Issuers could be encouraged to incentivize providers to gather this clinical screening data.
- Require issuers to monitor and report percentages of patients with substance use disorder diagnoses and treatment plans who have been assessed using ASAM patient placement criteria.

Finding 2: Telehealth modalities, from apps to computer-assisted treatments and virtual visits, have been regarded as potential solutions to behavioral health access issues.[191]

Evidence Related to Savings and Access

Telehealth has the potential to overcome some of the access barriers to mental health and substance use disorder treatment, particularly in rural areas, such as cost, transportation, and the shortage of providers.[192] Although most states have explored telehealth adoption in rural counties, penetration remains limited in many places. There is good evidence for the effectiveness of telehealth for psychotherapy and MH in general,[193] although there is limited evidence for the use of telehealth to support the integration of behavioral health and physical health services, such as treating a patient for depression and diabetes at the same time. In this report, the *Alternate Sites of Care* section provides an overview of evidence relating to telehealth and its impacts. Additional evidence specific to the use of telehealth for mental health and substance use disorder care includes:

- A mixed-methods analysis (literature review, assessment of two observational studies, four studies with national data, and five clinical trials with patients of diverse race/ethnicity, age, language use, immigration status, and clinical presentation) determined that telephone-based cognitive behavioral therapy was as effective as face-to-face interventions for reducing depression among low-income Latinx patients and was associated with greater engagement in treatment.[194] Billing restrictions hamper the expansion of telehealth service delivery. Other review studies have found more mixed results, but half the studies included in a recent systematic review found benefit

[191] Campbell et al., 2014, op. cit.

[192] Teri Browne et al., op cit.

[193] Annette Totten et al. *Telehealth: Mapping the Evidence for Patient Outcomes From Systematic Reviews*. Technical Briefs, No. 26 Agency for Healthcare Research and Quality. 2016 June.

[194] Alegría M. et al. Removing Obstacles To Eliminating Racial And Ethnic Disparities In Behavioral Health Care. Health Aff (Millwood). 2016 Jun 1;35(6):991-9. 2016

(reduced costs or utilization due to telehealth.[195] Other studies found increased utilization, which in context could be beneficial as well. Murphy et al. found that adding internet-based educational supports to treatment as usual was cost-effective and had similar quality-adjusted life years to treatment as usual, despite a small increase in cost per patient.[196]

- A SAMHSA brief that outlines the opportunities for telehealth to improve behavioral health access in rural areas cites research demonstrating that video telehealth users have outcomes and satisfaction levels similar to those of individuals receiving therapy in person.[197] The brief notes the barriers to access in rural communities (for example, lack of providers and privacy concerns) and identifies how telehealth can overcome these issues.

Evidence Related to Provider Burden and Disparities

Project ECHO (Extension for Community Healthcare Outcomes) uses distance learning to help providers gain information and skills they may otherwise not have access to receiving, and consequently, better meet the needs of underserved populations.[198] ECHO serves as a model that academic medical centers, departments of health, and primary care teams can build upon to provide complex specialized care to underserved populations. According to Komaromy, "participants in ECHO cite the opportunity to learn up-to-date information and diminished professional isolation as important motivators for participation in teleECHO clinics."[199]

The Project ECHO teleECHO clinic in New Mexico is an example of a telehealth model that has positively impacted providers in the state. The clinic has presented approximately 950 cases since 2008, with opioids discussed most commonly (31 percent), followed by alcohol (21 percent), and cannabis (12 percent). New Mexico is near the top of U.S. states in DATA-2000 buprenorphine-waivered physicians per capita. Since the program focused on substance use disorders was established in 2005, the state has had much more rapid growth in waivered physicians practicing in traditionally underserved areas than has the rest of the country.

In practice, the ECHO model is a distance education model in which specialists located at a "hub" (which is located in an academic medical center or more rarely in a public health department or FQHC) connect via simultaneous video link with numerous community-based PCPs (the "spokes") to facilitate case-based learning. The model has been proven safe and effective for teaching PCPs to treat hepatitis C and is being applied to many other conditions, both nationally and internationally. The ECHO model is based on the principle of demonopolizing medical knowledge. Specialists share their expertise and provide telementorship and guided practice to help PCPs to deliver high-quality specialized care to

---

[195] Annette Totten, et al., op. cit.

[196] Campbell et al., 2015, op. cit.

[197] SAMHSA, 2016, op. cit.

[198] Miriam Komaromy, et al., Project ECHO: A new model for educating primary care providers about treatment of substance use disorders, Substance Abuse, 2016, Jan 2, 37(1): 20-24

[199] Ibid.

patients in their own communities. See the report section, *Alternate Sites of Care*, for further information about Project ECHO and other telehealth models.

Key Drivers and Enabling Tactics

Funding workforce development. The behavioral health workforce can grow through multiple means. Federal and state monies can be made available to expand training capacity at established graduate schools and promising students can be supported in their studies, especially if they commit to working in underserved areas. Foundations can fund behavioral health professorships and programs. State licensing boards can credential more behavioral health providers while maintaining standards of professional and ethical practice.

Telehealth strategies. States that strongly support telehealth initiatives, such as New Mexico and Delaware, have active departments to foster telehealth practices, provide instruction and technical assistance, and serve the role of convener of stakeholders. These states also have created regulations and codes to ensure insurance coverage for telehealth services.

Considerations for Covered California's Next Contract Period

To increase access to mental health and substance use disorder treatment services, Covered California may want to use its contracting authority to require or encourage the following by issuers:

- Provide reimbursement for telepsychiatry and telehealth;
- Incentivize providers to maintain or start new practices in underserved areas, for example by enhancing reimbursements;
- Reimburse an expanded complement of behavioral health workers who have met certification standards and work under close supervision of licensed behavioral health professionals. This would include reimbursement for prescribing services provided by psychiatric nurse practitioners, mental health and substance use disorder care management services, and community health workers and peer support specialists.

Finding 3: Integrated behavioral healthcare, especially in primary care settings, increases behavioral health access and improves treatment outcomes.

Models of integrated behavioral health care that emerge most prominently in the literature include co-located care, Primary Care Behavioral Health, and Collaborative Care. [200] (See Box, Models of Behavioral Integration)

Evidence Related to Quality

Numerous studies have demonstrated that integrated care models—particularly when utilized in primary care settings-improve access to behavioral health care.[201] Integrating MAT into primary

[200] For example: Katherine E. Watkins, et al. Collaborative Care for Opioid and Alcohol Use Disorders in Primary Care. The SUMMIT Randomized Clinical Trial. JAMA Intern Med. 2017 Oct; 177(10): 1480–1488; Campo, JV. Geist, R., Kolko, D.J. Integration of Pediatric Behavioral Health Services in Primary Care: Improving Access and Outcomes with Collaborative Care. 2018; Balasubramanian et al. Outcomes of Integrated Behavioral Health with Primary Care. J Am Board Fam Med. 2017 Mar-Apr;30(2):130-139.

[201] Clarke, R. et al. Delivering On Accountable Care: Lessons From A Behavioral Health Program To Improve Access And Outcomes. Health Affairs. 2016; 35(8): 1487-93

care practices has been shown to be especially effective for increasing access to substance use disorder services.[202]

Extensive research also documents the positive impacts on both mental and physical health measures of integrated approaches. A 2016 Milbank review of the research on integrated behavioral health care from 2004 to 2014 found fully integrated care and care management decreased the length of manic episodes and symptoms compared to usual care; they also improve use of preventive and medical services and may improve physical health symptoms (including blood pressure) and quality of life for patients with bipolar disorder and serious and persistent mental illness.[203] A 10-year study of 113 Intermountain Healthcare primary care practices found that those which employed team-based integrated care had higher rates of active depression screening, adherence to a diabetes care bundle, and documentation of self-care plans as compared to practices with usual care.[204] In a study of 11 Colorado practices that varied by type (mental health or primary care clinic), size, and ownership in which each adopted an evidence-based integration strategy to suit its setting, statistically significant reductions in PHQ-9 depression screening tool scores—ranging from 2.72 to 6.46-were observed.[205]

The Collaborative Care Model (see description in box below) has the strongest empirical support among integrated care models, demonstrating better results than co-location at reducing symptoms of depression. High-quality evidence from more than 90 studies demonstrate that the Collaborative Care Model improves symptoms from mood disorders and mental health-related quality of life. It improves behavioral health outcomes for patients with chronic medical conditions and may improve medical outcomes, especially if case managers also address the medical conditions.[206] In one study of the impact of Collaborative Care on opioid and alcohol use disorders, researchers found that the intervention increased both the proportion of primary care patients receiving evidence-based treatment for opioid and alcohol use disorders and the number of patients achieving abstinence from opioids or alcohol use at 6 months compared to usual care at participating clinic sites.[207]

---

[202] Edelman, E.J. et al. Office-Based Addiction Treatment in Primary Care: Approaches That Work. Med. Clin. North Am. 2018; 102(4): 635-52.

[203] Gerrity, M, Integrating Primary Care into Behavioral Health Settings: What Works for Individuals with Serious Mental Illness. Millbank Memorial Fund and The Reforming States Group. April 2016.

[204] Reiss-Brennan, B. et al. Association of Integrated Team-Based Care With Health Care Quality, Utilization, and Cost. JAMA. 2016; 316(8): 826-34

[205] Balasubramanian, B et al. Outcomes of integrated behavioral health with primary care. Journal of the American Board of Family Medicine, 30(2): 130-139. 2017.

[206] Gerrity, M. Evolving Models of Behavioral Health Integration: Evidence Update 2010-2015. Milbank Fund. 2016.

[207] Watkins, K.E., Ober, A., Lamp, K., Lind, M., Setodji, C., Osilla, K.C., Hunter, S., McCullough, C., Becker, K., Iyiewuare, P., Diamant, A., Heinzerling, K., & Pincus, H.A.. Collaborative Care for Opioid and Alcohol Use Disorders in Primary Care. The SUMMIT Randomized Clinical Trial. JAMA Intern Med. 2017

Models of Behavioral Health Integration

Co-location refers to behavioral health and physical health providers working in the same clinical setting, most often a primary care clinic. It shows promise because the close proximity in one office enables enhanced interaction and improved accessibility of services because of the built-in unscheduled availability of behavioral health providers. At this point in time, co-location is the model of integrated care that primary care practices appear most ready to implement. Another form of co-located care is "reverse integration" in which a community mental health clinic that has built relationships with patients brings in primary care providers to meet patients' physical health needs. Evidence for the efficacy of this is still limited, but some studies are demonstrating reductions in hospital use.[1]

The Primary Care Behavioral Health (PCBH) model uses "behavioral health consultants" or BHCs (generally licensed professional counselors or licensed clinical social workers) to provide rapid, on-site behavioral health screenings and brief interventions in integrated primary care settings. The model's goals are to increase a primary care team's capacity for managing behavioral health conditions while enhancing the practice's overall capabilities for improving the health of its entire clinic population. Early research of the model supports its effectiveness and improved access to behavioral health services. A program evaluation demonstrated increased access and utilization of care for patients receiving care through the model.[1] There is similar early evidence to demonstrate PCBH utilization leads to improved functioning and decreased behavioral health symptoms, although researchers emphasize research on the model lacks rigorous methodological quality.[1] The approach has become increasingly popular in recent years. It has been used in several health care systems in the U.S., including the Veterans Health Administration, Department of Defense, and community health organizations such as Cherokee Health System.

The Collaborative Care Model (formerly known as IMPACT) combines the services of site-based primary care providers and behavioral health personnel with the expertise of consulting psychiatrists. The behavioral health case manager in a primary care office maintains an active list or registry of all patients within that practice who have a MH diagnosis (e.g., Major Depressive Disorder) and tracks their progress with that illness by consistently administering a standardized measurement tool each time they visit the office. The PCP and behavioral health case manager will collaboratively look over the registry, note the degree of progress for each patient, and then make necessary treatment regimen adjustments-such as changing antidepressant medication prescriptions or adding brief therapy techniques (conducted by a licensed behavioral health provider)—to promote increased progress. The PCP and behavioral health case manager will confer with a consulting psychiatrist, generally via video conferencing, for additional ideas on treatment changes for any of the practice's patients whose depressive symptoms do not seem to be getting better with basic medications and counseling.

Source: SAMHSA-HRSA Center for Integrated Health Solutions

Evidence Related to Savings

Some evidence exists linking the adoption of integrated care models to the reduction of total healthcare costs. A 2018 Milliman report estimated there is a potential annual savings of $38 billion to $68 billion with effective integration of medical and behavioral health services.[208] In an early national study of the Collaborative Care model with over 1,800 older adults patients

[208] Stephen Melek, et al., Potential economic impact of integrated medical-behavioral healthcare. Updated projections for 2017. Milliman Research Report. January 2018.

receiving care in eight health systems, Collaborative Care participants had lower mean total healthcare costs during a four-year period than those patients receiving usual care.[209] In a small study of a primary care practice in which a licensed psychologist was embedded, an over 10 percent reduction in total healthcare costs was seen with patients who had at least one encounter with that psychologist, according to Blue Cross Blue Shield of Kansas City claims data.[210] The UCLA Health System found that integrating behavioral health providers into its primary care practices tripled the number of patients receiving behavioral health care and decreased emergency room use of patients with behavioral health disorders by 13 percent over a three-year period.[211]

Evidence Related to Provider Burden

An important aspect of behavioral health integration is considering the infrastructure for data and information exchange between PCPs and behavioral health practices or contracting entities, as well as HIPAA rules protecting the privacy of individuals with mental health or substance use disorder conditions. Research demonstrates the adoption of electronic health records (EHRs) can improve patient care, promote safe practice, and enhance communication across care delivery settings, while reducing the risk of error, though there has been limited uptake and integration in primary care and hospital settings to date. Integrated EHR systems pose additional legalities and risks such as administrative complexities/responsibilities, additional data and documentation for review, and increased risk of medical error through automated record keeping. The cost of implementing an integrated EHR system is also cited as a primary factor for failed widespread adoption in health systems.[212] A 2018 survey of 95 California licensed marriage and family therapists found that perceived use and usefulness were key variables for the adoption of EHRs in behavioral health facilities and that older behavioral health clinicians were less likely than younger clinicians to find EHRs useful to their professional practices.[213] Integrating behavioral health and primary care can burden currently available EHRs if interoperability is not established among systems and providers.[214] EHRs specifically designed to support integrated care delivery functions, such as data documentation and reporting, would be better able to track patients with emotional and behavioral problems over time.[215]

---

[209] Unützer, J. et al. Long-term Cost Effects of Collaborative Care for Late-life Depression. Am. J. Managed Care. 2008; 14(2): 95-100.

[210] Ross, K. et al. The Cost Effectiveness of Embedding a Behavioral Health Clinician into an Existing Primary Care Practice to Facilitate the Integration of Care: A Prospective, Case–Control Program Evaluation. Journal of Clinical Psychology in Medical Settings. 2019; 26(1): 59-67

[211] Clarke et al., 2016, op. cit.

[212] Palabindala, V. et al. Adoption of electronic health records and barriers. J. Community Hosp Intern Med Perspect. 2016; 6(5):32643

[213] Odom, S. and Willeumier, K. Attitudes and Perceptions of Behavioral Health Clinicians on Electronic Health Record Adoption: Overcoming Obstacles to Improve Acceptance and Utilization. Perspectives in Health Information Management. 2018.

[214] Melanie Au. Integrating Behavioral and Physical Health Care in Medicaid: Lessons from State Experiences. Mathematica Policy Research. 2016.

[215] Broffman et al., 2015, op cit.

Key Drivers and Enabling Tactics

Value-Based Payment. There is strong agreement in the research on the importance of integrating the delivery of physical and behavioral health care, yet payment models are varied in their approach to managing both aspects of care. The most common form of provider reimbursement today is fee-for-service, but it is difficult to sustainably finance integration efforts under such arrangements. The prevalence of fee-for-service in many regions of the country may help explain the relatively slow spread of integrated care thus far. Its use has been relatively limited, even in settings for which it seems ripe, such as ACOs.[216]

The 2017 Kennedy Forum cites additional innovative, value-based purchasing initiatives within the mental health and substance use disorder space, such as a bundled payment initiative for Medication Assisted Treatment (MAT), bundled or case payments for coordinated specialty care for youth and adults experiencing psychosis, performance-based incentives tied to utilization of mental health or substance use disorder screening tools, and ACOs incorporating financial risk related to mental health and substance use disorder quality and outcome indicators in provider contracts.[217] As the largest payer in the nation for behavioral health services, Medicaid agencies are leading efforts in transitioning to VBP and other alternative payment models for behavioral health and integrated care models. Historically, Medicaid populations have seen higher rates of diagnoses and utilization of mental health and substance use disorder services, with the 20 percent of Medicaid beneficiaries who have behavioral health diagnoses accounting for over half of all total Medicaid expenditures. As a consequence, Medicaid plans have steadily moved away from fee-for-service, volume-based financing toward greater emphases on paying for value as a means of decreasing overall healthcare costs.[218] As noted in the 2017 Center for Health Care Strategies report, transition from fee-for-service reimbursement to value-based payment has been hindered thus far by a lack of universally accepted behavioral quality metrics and insufficient provider capacity.[219] Efforts to develop behavioral health quality measures are highlighted above (See Box, Ongoing development of behavioral health service quality measures).

---

[216] Lewis, V et al. *Few ACOs Pursue Innovative Models that Integrate Care for Mental Illness and Substance Abuse with Primary Care*. The Commonwealth Fund, October 2014.

[217] Amanda Mauri, et al., Payment Reform and Opportunities for Behavioral Health: Alternative Payment Model Examples. September 2017. The Kennedy Forum.

[218] Michelle Herman Soper, Rachael Matulis, and Christopher Menschner, Moving Toward Value-Based Payment for Medicaid Behavioral Health Services. Center for Health Care Strategies. June 2017.

[219] Ibid.

Insurer Contracting Approach to Behavioral Health Services. There has been debate—though little actual research, especially in the past decade—about whether mental health and substance use disorder benefits should be "carved in" to health plans or remain under the management of separate managed behavioral health insurers or third-party administrators.[220,221] This debate has primarily occurred in Medicaid but informs commercial coverage as well. The advantages of a carve-in model are "ease of whole person care, reduced administrative burden, and a clear system for beneficiaries".[222] But carve-ins have also been criticized for short-changing care for special populations, such as individuals with mental health and substance use disorder and developmental disabilities.[223] Carve-out managed care insurers claim they have a better understanding of populations with mental health and substance use disorder conditions and can therefore provide more appropriate care. But carve-out insurers have been criticized for not adopting rigorous quality metrics or stronger measures for community-based services.[224]

Issuers' Contracting Approaches for Behavioral Health Services

Managed Behavioral Health Organization: In this arrangement, the issuer contracts with a managed behavioral health organization (MBHO) for the delivery and management of behavioral health services.

Hybrid-Internal Model: In this model, mental health or substance use disorder services are managed by a specialty organization that is part of the same parent organization as the health plan. This specialty organization may also contract with other issuers.

Internal Arrangement: In an internal arrangement to the issuer, all behavioral health services are provided by plan employees or through a provider network directly administered by the issuer.

Comprehensive Carve-In Arrangement: In a comprehensive carve-in arrangement, an issuer contracts with a single vendor for both general medical and mental health/substance use disorder provider networks.

Over the past 10 years, the trend in many states' Medicaid programs has been towards carving mental health and substance use disorder benefits back into health plans.[225] This has been hastened in part by the impact of the Patient Protection and Affordable Care Act (ACA), which has encouraged a whole person approach to care via integrated care models and population health strategies.

Though California's Medicaid (Medi-Cal) managed care plans are permitted to manage mental health and substance use disorder services directly, most Medi-Cal beneficiaries access services either through a subcontracted behavioral health managed care company (e.g. LA

---

[220] Dave Richards, What Is Next for Behavioral Health in Managed Care? North Carolina Medical Journal January-February 2017 vol. 78 no. 1 30-32.

[221] Michael Dalzel, Mental Health: Under ACA, Is It Better To Carve In or to Carve Out? Managed Care, Dec 27, 2012.

[222] Richards, 2017, op. cit.

[223] Dalzel, 2012, op. cit.

[224] Richards, 2017, op. cit.

[225] Dalzel, 2012, op. cit.

Care Health Plan subcontracts with Beacon Health Services) the county specialty mental health and substance use disorder carve-out program, and Fee-For-Service Medi-Cal.

Currently, only nine state Medicaid programs have behavioral health carve-outs, down from 15 carve-outs in 2011.[226] States that maintain their behavioral health carve-outs have adopted requirements to increase collaboration and accountability between the contracting entities, though this coordination can be time- and resource-intensive. Commercial issuers are also increasingly bringing the management of behavioral health in-house instead of contracting out the delivery and management of specialty behavioral health services to MBHOs.[227]

Ongoing Development of Behavioral Health Service Quality Measures

Compared to quality standards that have been developed for the treatment of physical health disorders, those for the treatment of mental health and substance use disorders are in a more formative stage. However, the standards created for behavioral health services by CMS, SAMHSA, the National Committee on Quality Assurance, National Quality Forum and other institutions have shown promise. These include changes in Patient Health Questionnaire-9 (PHQ-9) scores to reflect a clinically significant response to depression care (50 percent or more decrease in PHQ-9 and 6 and 12 months–NQF 1884 and 185); depression remission (PHQ-9 < 5 at 6 and 12 months–NQF 710 and 711); and more process-related metrics, including retention in care, adherence to medications, and 7- and 30-day hospital admission follow-ups. In addition, there are many HEDIS measures addressing the physical health of persons with serious mental and persistent mental illness such as diabetes assessment for patients with schizophrenia and tobacco smoking assessment and intervention. The advent of these measures reflects the comorbidity of physical and behavioral health conditions as a seminal 16-state 2003 research study found that persons with serious mental illness live on average 25-30 years less than the general population, often due to their unmanaged physical health conditions and being underserved in medical systems (SAMHA, 2003).

Several other initiatives have also worked to develop quality metrics for behavioral health. The United States Department of Veterans Affairs recently implemented a Mental Health Domain as part of its SAIL (Strategic Analytics for Improvement and Learning) performance measurement system in use in 128 VA facilities (Lemke, 2017). The Domain measures the quality of population coverage, continuity of care, and experience of care (including waiting times for initiating treatments) for behavioral health services. However, the SAIL measurement process creates scores for internal comparisons of VA facilities and does not compare these facility scores against any absolute standards. The passage of the federal Excellence in Mental Health Act in 2016 created a new Certified Community Behavioral Health Center (CCBHC) provider designation in Medicaid to provide a coordinated and comprehensive range of mental health and substance use disorder and primary care services for vulnerable populations, including individuals with complex health profiles, serious and persistent mental illness, mild and moderate mental illness, and substance use disorder. As part of the program, SAMHSA has a set of quality metrics for consideration as national standards for behavioral health providers. CCBHCs engaged in demonstration projects are required to collect 21 of the 32 quality measures for which the Office of Management and Budget has approved technical specifications and data-reporting templates (SAMHSA, Quality Measures – CCHHCs).

---

[226] Horgan CM, Stewart MT, Reif S, Garnick DW, Hodgkin D, Merrick EL, Quinn AE. Behavioral Health Services in the Changing Landscape of Private Health Plans. Psychiatr Serv. 2016 June 1; 67(6): 622–629.

[227] Dalzel, 2012, op. cit.

Considerations for Covered California's Next Contract Period

To increase access to mental health and substance use disorder treatments generally and integrated behavioral health care specifically, Covered California can use its contracting authority to require or encourage three related goals:

1. Improve access to behavioral health services

Covered California can encourage issuers to decrease copayments, prior authorizations, step therapy and other treatment limits, consistent with MHPAEA requirements. Eliminating barriers would better enable plan members to utilize medically necessary mental health and substance use disorder services.

Covered California could also require issuers to monitor behavioral health penetration rate. Determining penetration rate entails knowing the number of members who receive a behavioral health service divided by the expected prevalence rate of behavioral health needs within a state or region, multiplied by 100 to get a percent. Issuers would have the flexibility to determine how to respond, which could be by making benefit design changes to the extent permissible under MHPAEA or supporting access in other ways.

The key to this method would be accurately estimating prevalence. The 2017 National Survey on Drug Use and Health (NSDUH) by SAMHSA estimates there were an estimated 46.6 million adults aged 18 or older in the U.S. with any mental illness (AMI) (18.9 percent of all U.S. adults) in 2017.[228] The prevalence of AMI was higher among women (22.3 percent) than men (15.1 percent) and young adults aged 18-25 years had the highest prevalence of AMI (25.8 percent, compared to 22.2 percent of adults aged 26-49 years and 13.8 percent of those aged 50 and older). Adults reporting two or more races were most likely to have AMI (28.6 percent), followed by white adults (20.4 percent). Among the 46.6 million adults with AMI, 19.8 million (42.6 percent) received behavioral health services in the past year[229]

2. Enhance behavioral health treatment quality

Given California's carve-out behavioral health system, Covered California can enhance treatment quality by enforcing more stringent reporting requirements for issuers of provider network quality and performance measures. Those indices could include rates of screening for behavioral health disorders, rates of referrals to specialty behavioral health providers, numbers of members who receive and complete behavioral health services according to treatment plans, rates of referrals to physical health providers, numbers who fill out Health Risk Assessment forms, etc. Issuers could be given public credit for strong performance and subject to public "shaming" when they fail to match up to the benchmark or competitors.

---

[228] Includes behavioral health disorders diagnosable currently or within the past year and of sufficient duration to meet diagnostic criteria specified within the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV); excludes developmental and substance use disorders.

[229] Defined as having received inpatient or outpatient treatment/counseling or having used prescription medication for problems with emotions, nerves or mental health. National Institute of Mental Health. Mental Health Information. Online resource accessible at: https://www.nimh.nih.gov/health/statistics/mental-illness.shtml.

3. Increase the prevalence of integrated behavioral health services

Covered California's primary mechanism for improving access would be to use additional reporting requirements and implementation benchmarks as part of its issuer contracts. This could create incentives for providing integrated, coordinated care across management systems and/or providers. This would require coordination across issuers and could begin with coordination agreements for monitoring only, before ultimately progressing to specific performance metrics tied to value-based payment arrangements.

Covered California can encourage issuers to remove administrative barriers to integrating mental health and substance use disorder services into primary care by decreasing burdensome documentation requirements and adopting the proposed billing codes for Collaborative Care services.

Covered California could promote integrated care pilots that co-locate services or fully integrate care. For example, in a pilot for an integrated care program, primary care and other physical health patients could be routinely screened for mental health and substance use disorder using evidence-based screening tools. Individuals then found to have relatively mild issues could be treated by primary care providers. Those with mild to moderate issues could receive treatment from co-located mental health providers in physical health settings. Individuals with moderate to severe mental health needs could be referred to specialty mental health facilities, such as outpatient clinics, day programs and psychiatric hospitals, to receive the most intensive level of services.

Key Resources for Monitoring New Research

The following are resources, organizations, and other references that Covered California should monitor to stay up to date on the evidence related to this strategy. Among the resources cited in this section and listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates, several stand out. HMA recommends annually checking for updates or follow-on work from the following:

- **Substance Abuse and Mental Health Services Administration and Health Resources and Services Administration Center for Integrated Health Solutions (CIHS).** The CIHS promotes the development of integrated primary and behavioral health services to better address the needs of individuals with mental health and substance use conditions, whether seen in behavioral health or primary care provider settings.

- **Kennedy Forum Issue Brief: *Fixing Behavioral Health Care in America—A National Call for Integrating and Coordinating Specialty Behavioral Health Care with the Medical System*** (2015). Reports the findings of an expert convening in which challenges with behavioral health stigma, access and cost were discussed in depth. This document summarizes some of the strongest evidence for using the Collaborative Care Model to address limited access to specialty behavioral health care.

- **Kennedy Forum Issue Brief: *Fixing Behavioral Health Care in America—A National Call for Measurement-Based Care in the Delivery of Behavioral Health Services*** (2015). The second part of the issue brief above. In this document, expert consensus for

the advantages and limitations of behavioral health symptom rating scales is explored. It makes a strong argument for the use of standardized measures in primary care and specialty behavioral health.

- **Milliman Research Report: *Potential Economic Impact of Integrated Medical-Behavioral Healthcare*** (2018). This summary of research evidence demonstrates in disease-by-disease detail that behavioral health disorders significantly increase costs for chronic medical disorders. It also outlines best arguments for potential cost savings of addressing both medical and behavioral health problems.

- **Families, Systems & Health.** This American Psychological Association-owned academic journal contains the latest research on integrated behavioral health practice.

- **Well Being Trust.** The Well Being Trust is a non-profit mental health advocacy foundation launched by Providence St. Joseph Health in 2016. It champions clinical and community transformation, advocating for behavioral health parity and innovation. It also curates some of the most important developments in the field, as well as media reports from a wide array of sources.

Section 2. Review of Measures and Benchmarks for Mental Health and Substance Use Disorder Treatment

This section of the report on Mental Health and Substance Use Disorder Treatment is the product of PricewaterhouseCooper's (PwC) detailed review of measures and benchmarks that can be used by Covered California to assess quality care is being delivered and that its contracted health plans use effective strategies to promote improvements in how care is delivered. The section includes a review of Covered California's current measurement strategy which is followed by considerations for revising those measures and specific recommendations for Covered California's consideration.[230]

Covered California's Current Required Measures

Takeaway: While there are some Healthcare Effectiveness Data Information Set (HEDIS) clinical measures, there are not yet established measures to evaluate behavioral health integration in primary care that are reliable for improving quality.

As shown below, Covered California has a limited set of measurement for behavioral health (see Table 1, Covered California Required Measures, Qualified Health Plan Performance Data and Sources of Potentially Relevant Comparisons). PwC has also summarized QHP performance data, but sources of potentially relevant comparisons were not identified.

Table 1. Covered California Required Measures, Qualified Health Plan Performance Data, and Sources of Potentially Relevant Comparisons

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
Percent of enrollees cared for in an integrated behavioral health model [§4.04(3)]	CA QHPs self-report a range of 0% to 6%, with 2% of members enrolled in integrated behavioral health for 2015 plan year.	Relevant comparison data were not identified

Considerations for Revising Covered California's Measures

In developing measures and data recommendations for Covered California, PwC considered the following:

- Behavioral health integration generally means tackling the following key issues:[231]
    - **Access:** Ensuring parity in terms of access to services between mental health/ substance use disorders, and physical health, including mental health urgent

[230] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures. To view the full list of measures recommended by PwC, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

[231] Druss & Goldman 2018.

care clinics and that PCPs can make referrals to specialists that accept new patients and timely access standards are met for time to appointment.

- **Identification:** Destigmatization and effective diagnosis at the primary care level through routine and repeat use of screening tools; connect PCPs with mental health/substance use disorder specialists or care managers with mental health/substance use disorder training and expertise.
- **Effectiveness of care:** Effective care management of enrollees with mental health and chronic condition comorbidities, including (but not limited to) tobacco cessation and HIV; whole person care.

- There is a lack of consensus definition of integration / method of integration measurement. Implementations of integration models are evolving. There's no one size fits all definition. Most implementations are tailored to a specific population.
  - Soper et al. 2017 surveys various states' effort in moving towards value-based purchasing for behavioral health services in Medicaid.
  - Successful implementations often rely on the initial funding from government innovation grants and providers are concerned about the sustainability of financing care coordination when the funding runs out. See discussions in Williams et al. 2019, Carlo et al. 2018, and Moise et al. 2018. Efforts are underway to define fee-for-service Current Procedural Terminology (CPT) codes for reimbursing care coordination, but the update of these codes has been slow.
  - Reiter et al. 2018 defines the Primary Care Behavioral Health (PCBH) model as a team-based approach to managing biopsychosocial issues that present in primary care, with the overarching goal of improving primary care in general. The article provides a description of the key components and strategies used in the model, the rationale for those strategies, a brief comparison of this model to other integration approaches.
  - Ramanuj et al. 2019 describes examples from the UK and USA in terms of recent advances to integrate behavioral and primary care for new target populations including people with serious mental illness, people at the extremes of life, and for people with substance use disorders. The article summarizes mechanisms to incentivize integration efforts and to stimulate new integration between health and social services in primary care.

- Collaborative Care Model (CoCM)
  - Integrated models such as the CoCM have been shown to improve depression outcomes while patients remain under the care of primary care providers.[232]
  - Core principles:[233] Patient-Centered Team Care, Population-Based Care, Measurement-Based Treatment to Target, Evidence-Based Care, Accountable Care.
  - As of January 1, 2017, Medicare makes separate payments to physicians and non-physician practitioners for Behavioral Health Integration (BHI) services they furnish to beneficiaries over a calendar month service period. Beginning January 1, 2018, these services will be reported using new CPT codes. CPT codes 99492, 99493, and 99494 will be used to bill for services furnished using the Psychiatric CoCM. CPT code 99484 (General BHI) will be used to bill services furnished using other BHI models of care.[234,235]
  - Vanderlip et al. 2016 indicated that one Collaborative Care intervention component stands out as being highly predictive of clinical outcomes: having regularly scheduled care management supervision by a psychiatrist (i.e., conducting weekly patient caseload reviews).
- Care Management Process (CMP) Score
  - Bishop et al. 2016 found a lower use of care management processes among primary care practices for depression compared to that for other chronic illnesses such as diabetes, congestive heart failure, and asthma. Among the conditions examined, diabetes had the highest use of care management processes and experienced a growth of such use to a greater extent over time. As likely explanations the authors mentioned the larger number of HEDIS measures for diabetes as well as the likely use of payment incentives attached to the performance of diabetes metrics.

- Limited/inconsistent use of mental health/substance use disorder screening tools by providers; PHQ-9 has been incorporated in NQF measures proposed for ACO reporting.

---

[232] Archer et al. 2012.

[233] http://aims.uw.edu/collaborative-care/principles-collaborative-care.

[234] CMS. 2018. Behavioral Health Integration FAQs. https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/Downloads/Behavioral-Health-Integration-FAQs.pdf.

[235] CMS. 2018. Behavioral Health Integration Fact Sheet. https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/BehavioralHealthIntegration.pdf.

- Evidence that including behavioral care specialists in primary care team, with consistent member engagement and provider communication, can improve member outcomes for depression and anxiety and reduce ED utilization.
- NQF endorsed measures have gaps and may duplicate or compete with other measures; many measures originate from research work and are not generalizable to or practical for accountability needs; many measures have insufficient evidence to establish usefulness in improving outcomes.[236]

Measures and Data Recommendations

What follows are measures and data recommendations for Covered California:

1. Continue to report QRS mental health and substance use disorder measures.
2. Recommend additional HEDIS mental health and substance use disorder endorsed measures:
    a. Opioid safety, prescribing, and treatment, adherence
    b. Follow-up after Emergency Department visits
3. Recommend Covered California adopt new measures:
    a. Access to mental health/substance use disorder providers
    b. HEDIS measure: Mental Health Utilization (MPT)
4. Consider analyzing QHP data to develop baseline values:
    a. Utilization and expenditure of mental health and substance use disorder services
    b. Prevalence of mental health and substance use disorder diagnoses and comorbid conditions
    c. Formulary tiering
5. Consider potential of telehealth to expand access to mental health and substance use order treatment.
6. Consider strategies to increase provider use of mental health/substance use disorder screening tools, such as educating providers on reimbursable screening and collaborative care procedure codes (e.g. G0444, 99420 with relevant diagnosis, 99492-99494).
7. Consider future development of behavioral health parity measures, e.g., time/distance and reimbursement level.

[236] Pincus et al. 2016.

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and industry articles, and assessed measures on several attributes, including strength of evidence, alignment with other purchasers and feasibility of reporting (see Table 2, PwC Recommended Measures for Mental Health and Substance Use Disorder Treatment).[237]

Table 2. PwC Recommended Measures for Mental Health and Substance Use Disorder Treatment

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Antidepressant Medication Management (AMM)	Existing	QHPs	HEDIS, QRS	High	High	High	High	High
Follow Up After Hospitalization For Mental Illness (FUH)	Existing	QHPs	QRS	High	High	High	High	High
Follow Up Care for Children Prescribed ADHD Medication (ADD)	Existing	QHPs	QRS	High	High	High	High	High
Initiation & Engagement of Alcohol & Other Drug Abuse or Dependence Treatment (IET)	Existing	QHPs	IHA, QRS	High	High	High	High	High
Medical Assistance with Smoking and Tobacco Use Cessation (MSC)	Existing	QHPs	QRS	High	High	High	High	High
Percent of enrollees cared for in an integrated behavioral health model	Existing	QHPs	n/a	High	High	Low	Low	Low
Use of Opioids at High Dosage in Persons Without Cancer	New	Covered California	IHA, HEDIS, Medicaid Adult Core, Medicare Part D	High	High	High	High	Medium

[237] For the criteria used by PwC to assess measures, please see Table 3, Measure Assessment Structure Applied by PwC, in the chapter on Summary Recommendations on Measures and Benchmarks. For a detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Use of Opioids from Multiple Providers in Persons Without Cancer	New	Covered California	Medicare Part D	High	High	High	High	Medium
Use of Opioids from Multiple Providers and at High Dosage in Persons Without Cancer	New	Covered California	Medicare Part D	High	High	High	High	Medium
Concurrent Use of Opioids and Benzodiazepines (COB)	New	Covered California	IHA, Medicaid Adult Core	High	High	High	High	Medium
Use of pharmacotherapy for opioid use disorder (OUD)	New	Covered California	n/a	High	High	High	High	Medium
Continuity of Pharmacotherapy for Opioid Use Disorder	New	Covered California	MIPS	High	High	High	High	Medium
Follow-Up After Emergency Department Visit for Mental Illness or Alcohol and Other Drug Abuse or Dependence (FUA, FUM)	New	Covered California	HEDIS, CMS Medicaid Adult Core	High	High	High	High	High
% of providers in a network accepting new patients (MH and SUD providers)	New	Covered California	n/a	High	High	Medium	Medium	High
Mental Health Utilization (MPT)	New	Covered California	HEDIS	High	High	High	High	Medium
Depression Screening and Follow-Up for Adolescents and Adults (DSF)	Stretch: Requires Clinical Data	QHPs	HEDIS, EAS, Medicaid Adult Core, eCQMs, MSSP, MIPS	High	High	High	Low	Low

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Utilization of the PHQ-9 to Monitor Depression Symptoms for Adolescents and Adults (DMS)	Stretch: Requires Clinical Data	QHPs	HEDIS	High	High	High	Low	Low
Depression Remission or Response for Adolescents and Adults (DRR)	Stretch: Requires Clinical Data	QHPs	HEDIS, IHA	High	High	High	Low	Low

Note: "Stretch" measures are measures Covered California may consider promoting or tracking in the future. Since provider clinical data is required for reporting, it may be challenging unless mechanisms are put in place to support it.

To review the background research completed by PwC to inform these measures and data recommendations, please see Appendix 3 (Bibliography Supporting Measures Review by PricewaterhouseCoopers).

Chapter 4: Acute, Chronic and Other Conditions

Acute, Chronic and Other Conditions entails health plans actively managing care for enrollees with acute conditions, which is defined as an illness or disease that is short-term and lasts typically a few days to weeks (such as an infection, an injury or the misuse of medications), chronic conditions, which typically develop slowly over time and last months to years (such as diabetes, most cancers, cardiovascular disease, and infectious diseases like Human Immunodeficiency Virus) and other conditions that are temporary, such as pregnancy or gestational diabetes.

This chapter on Acute, Chronic and Other Conditions has a different organization. Since the domain of Acute, Chronic, and Other Conditions encompasses many conditions and/or populations, Covered California did not ask HMA to do a separate review. Instead, HMA's evidence reviews are presented in the following chapters: Chapter 3: Mental Health and Substance Use Disorder Treatment; Chapter 5: Complex Care; Chapter 7: Promotion of Effective Primary Care; and Chapter 10: Appropriate Interventions. Covered California acknowledges that further research is needed to identify the best evidence related to interventions that should be the focus of contracted QHPs and performance measures for cancer care, orthopedics, pregnancy, and surgical volume are not covered in this evidence review. These areas will require ongoing effort to identify areas of potential focus for Covered California.

This chapter on Acute, Chronic and Other Conditions focuses on standard measures, including those in the Healthcare Effectiveness Data Information Set, that ensure care delivered by health plans is wanted, timely, safe, and effective. A major mechanism used by Covered California for health plan oversight and accountability is public reporting of qualified health plan (QHP) standard measures to the Center for Medicaid and Medicare Services' Quality Rating System (QRS).

Beyond the standard measures discussed in this chapter, the domain of Acute, Chronic and Other Conditions currently has several gaps, particularly for cancer care, orthopedics, pregnancy, and surgical volume measures. Just as there is a need for further research on evidence related to health plan and provider-level interventions in these areas, Covered California acknowledges further research is needed to identify performance measures for these conditions.

Review of Measures and Benchmarks for Acute, Chronic and Other Conditions

This section of the report on Acute, Chronic and Other Conditions is the product of PricewaterhouseCooper's (PwC) detailed review of measures and benchmarks that can be used by Covered California to assess quality care is being delivered and that its contracted health plans use effective strategies to promote improvements in how care is delivered. The section includes a review of Covered California's current measurement strategy which is

followed by considerations for revising those measures and specific recommendations for Covered California's consideration.[238]

Covered California's Current Required Measures

Takeaway: Preliminary analysis indicates that nationally Healthcare Effectiveness Data Information Set (HEDIS) scores at the 90th and 75th percentiles are comparable for QHPs and Commercial plans.

As shown below, Covered California QHPs report a range of measures pertaining to Acute, Chronic and Other Conditions (see Table 1, Covered California Required Measures, Qualified Health Plan Performance Data and Sources of Potentially Relevant Comparisons). PwC has also summarized QHP performance data and sources of potentially relevant comparisons.

Table 1. Covered California Required Measures, Qualified Health Plan Performance Data, and Sources of Potentially Relevant Comparisons

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
QHP Quality Rating System (QRS) HEDIS measures and enrollee survey [§2.01]	QRS submissions	Quality Compass (Commercial, Medicaid) QRS National

Considerations for Revising Covered California's Measures

In developing measures and data recommendations for Covered California, PwC considered the following:

- HEDIS clinical data is generally high quality, collected, validated, and calculated using standardized methods, and is updated annually.
- HEDIS clinical measures can be readily compared across health plans, states, and lines of business, as well as over time to view changes in values.
- Benchmark data for the numbers of individuals identified by health plans with chronic conditions and services provided to enrollees were not identified from the research. Analysis of Covered California encounter data should allow identification of the prevalence of chronic conditions within its population.

Measures and Data Recommendations

Following are measures and data recommendations for Covered California:

1. Recommend Covered California maintain its current acute, chronic and other conditions measures.

[238] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures. To view the full list of measures recommended by PwC, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management webpage.

2. Use QHP national benchmarks reported from QRS.
3. For measures that Covered California compares to Quality Compass commercial scores, set QHP benchmark at the 50th, 75th, or 90th percentiles for commercial and Medicaid.
4. Consider analyzing QHP data to develop baseline values:
    a. Utilization and expenditure of services
    b. Prevalence of diagnoses and comorbid conditions
5. Recommend adding endorsed measures for chronic conditions, such as cardiovascular disease and diabetes (statin therapy), rheumatoid arthritis (disease-modifying drug therapy), and Chronic obstructive pulmonary disease (COPD) (pharmacotherapy management).
6. Consider strategies to increase the use of health risk assessments to aid identification of enrollee health conditions, such as educating providers on reimbursable procedure codes (e.g. 96160, 96161)

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and industry articles, and assessed measures on several attributes, including strength of evidence, alignment with other purchasers and feasibility of reporting (see Table 2, PwC Recommended Measures for Acute, Chronic and Other Conditions).[239]

Table 2. PwC Recommended Measures for Acute, Chronic and Other Conditions

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Annual Monitoring for Patients on Persistent Medications	Existing	QHPs	QRS	High	High	High	High	High
Comprehensive Diabetes Care: Eye Exam (Retinal) Performed	Existing	QHPs	IHA, QRS	High	High	High	High	High
Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)	Existing	QHPs	HEDIS, QRS	High	High	High	High	High

[239] For the criteria used by PwC to assess measures, please see Table 3, Measure Assessment Structure Applied by PwC, in the chapter on Summary Recommendations on Measures and Benchmarks. For a detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Comprehensive Diabetes Care: Medical Attention for Nephropathy	Existing	QHPs	QRS	High	High	High	High	High
Controlling High Blood Pressure	Existing	QHPs	HEDIS, IHA, QRS	High	High	High	High	High
Medication Management for People with Asthma (75% of Treatment Period)	Existing	QHPs	QRS	High	High	High	High	High
Proportion of Days Covered (3 Rates by Therapeutic Category)	Existing	QHPs	QRS	High	High	High	High	High
Statin Therapy for Patients with Cardiovascular Disease (SPC)	New	Covered California	IHA, HEDIS, CMS, Washington State	High	High	High	High	High
Statin Therapy for Patients with Diabetes (SPD)	New	Covered California	IHA, HEDIS	High	High	High	High	High
Disease-Modifying Anti-Rheumatic Drug Therapy for Rheumatoid Arthritis (ART)	New	Covered California	IHA, HEDIS, CMS	High	High	High	High	High
Pharmacotherapy Management of COPD Exacerbation (PCE)	New	Covered California	HEDIS	High	High	High	High	High
HIV Medical Visit Frequency	Stretch: Requires Clinical Data	QHPs	CQMC, MIPS	High	High	High	Low	Low
HIV Viral Load Suppression	Stretch: Requires Clinical Data	QHPs	CQMC, Medicaid Adult Core, MIPS	High	High	High	Low	Low
HIV/AIDS: Pneumocystis Jurevicius Pneumonia (PCP) Prophylaxis	Stretch: Requires Clinical Data	QHPs	CQMC, eCQMs, MIPS	High	High	High	Low	Low

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
HIV/AIDS: Sexually Transmitted Disease Screening for Chlamydia, Gonorrhea, and Syphilis	Stretch: Requires Clinical Data	QHPs	CQMC, MIPS	High	High	High	Low	Low

Note: "Stretch" measures are measures Covered California may consider promoting or tracking in the future. Since provider clinical data is required for reporting, it may be challenging unless mechanisms are put in place to support it.

To review the background research completed by PwC to inform these measures and data recommendations, please see Appendix 3, Bibliography Supporting Measures Review by PricewaterhouseCoopers.

Chapter 5: Complex Care

Complex Care involves effectively managing very complex conditions for individuals that require a multitude of specialty, high-cost treatments – such as rare cancers or transplants – or require end of life care. These are individuals who need to be managed effectively or seen in very specialized settings by providers who know how to manage their condition well and can provide coordinated interventions.

This chapter on Complex Care is organized into two sections:

Section 1. Review of Evidence for Complex Care was prepared by Health Management Associates (HMA) and provides a review of the evidence related to health plan interventions to address complex conditions. The evidence review is followed by specific findings that represent opportunities or challenges for Covered California and then recommendations for how Covered California can monitor evidence on an ongoing basis.

Section 2. Review of Measures and Benchmarks for Complex Care was prepared by PricewaterhouseCoopers (PwC) and provides a review of Covered California's current required measures, considerations and recommendations for revising its measures in this area.

Section 1. Review of Evidence for Complex Care

Covered California contracted with HMA to conduct an evidence review in ten strategy areas that health insurance payers can utilize to drive value in health care. The review's results are presented here.[240] This chapter includes direct citations of the best evidence within the discussion of each strategy. Information from additional sources was also used for this report and is listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Background

For the strategies related to identification and management of high-risk or high-cost individuals HMA focused on best practices for purchasers to oversee quality assessment and improvement functions of their issuers. While most recommendations have a strong base in peer-reviewed studies presented, some are based on promising practices as evidenced in pilot projects or newer studies. Just as health care is evolving at a head-spinning pace, so is evidence to support new, innovative approaches. The recommendations in this section may include evidence of this nature, which are marked as such.

The literature review included a review of programs and interventions operated by payers, primary care practices, hospital systems, ACOs, and regional entities to better manage care for high-risk and high-cost individuals. In reviewing the evidence, the available information included strategies used in both the public and the private sectors. However, for certain topics discussed in HMA's findings (such as segmentation of high-risk or high-cost patients) the review found less

[240] To view a more detailed description of HMA's approach, project team, and methods for literature review and evidence gathering, please see Appendix 1, Background on Expert Review of Evidence and Measures.

publicly available research has been conducted on strategies applied to commercially-insured populations.[241]

Finding 1: Stratification/segmentation based on both quantitative and qualitative data is crucial for identifying high-risk or high-cost individuals and should be applied prospectively for maximum impact. Hybrid segmentation models that supplement claims analysis with survey data (such as from tools that assess SDOH and patient activation) are most predictive.

Identifying high-risk or high-cost individuals is the first step to managing care for complex populations.[242] Identification methods can be quantitative (using claims or other electronic data sources) or qualitative (such as physician referrals). Health care organizations routinely use predictive modeling to identify high-risk individuals who have complex and expensive health care conditions or are likely to develop such conditions in the future.[243,244] Some organizations further segment those identified as high- or rising risk into smaller subgroups to enable more targeted interventions and effective allocation of resources.[245] This is often referred to as segmentation.

Identifying high-risk or high-cost individuals using only historical cost data can be problematic, as many high-cost patients in one year are not high-cost in the next. Susan Hayes et al. distinguish between individuals who have multiple chronic conditions and those who also have functional limitations in their ability to care for themselves or perform daily tasks.[246] The latter group is more likely to persistently have the highest costs. Medical Expenditures Panel Survey (MEPS) data indicate that only 42 percent of the individuals who

Promising Practice: Publicly available population health data can help identify geographies where high-risk or high-cost populations reside

Publicly available data sets such as the Behavioral Risk Factor Surveillance System (BFRSS) can supplement claims-based approaches to targeting high-risk or high-cost individuals. The Health Care Transformation Task Force reports that models using the BRFSS are more likely to accurately predict a population's costs. Although these data sets cannot be used to identify specific individuals for care management, they could be used to prioritize community-based resources and supports.

Source: Health Care Transformation Task Force. Proactively Identifying the High Cost Population. White Paper. 2015.

[241] Dana Jean-Baptiste, et al. Mathematica Policy Research. Population Segmentation and Targeting of Health Care Resources: Findings from a Literature Review. December 2017.

[242] Health Care Transformation Task Force. Developing Care Management Programs to Serve High-Need, High-Cost Populations. February 2016.

[243] Ann O'Malley, et al. The Commonwealth Fund. How Accountable Care Organizations Use Population Segmentation to Care for High-Need, High-Cost Patients (January 3, 2019).

[244] Dana Jean-Baptiste, et al., op. cit.

[245] Ann O'Malley, et al., op. cit.

[246] Susan L. Hayes et al. High-Need, High-Cost Patients: Who Are They and How Do They Use Health Care? A Population-Based Comparison of Demographics, Health Care Use, and Expenditures. Commonwealth Fund Issue Brief. August 29, 2016.

account for the top 10 percent of health care spending experience are consistently high spending over two years.[247] An Agency for Healthcare Research and Quality (AHRQ) study had similar findings, with only 45 percent of people in the top 10 percent for spending remaining in the top 10 percent for spending in the subsequent year.[248]

For these and other reasons, the effectiveness of many predictive modeling tools and claims-based algorithms is limited if they rely only on cost or claims data. Payers interviewed in a 2013 study indicated the accuracy of predictive modeling tools ranged from 4 percent to 23 percent.[249] Limitations include lack of sensitivity, limited clinical data, and time lag.

HMA's review of the literature found that hybrid models using clinical, cost, and non-clinical data are considered the most reliable and actionable.[250,251,252] Access to qualitative information such as social and behavioral health needs, measures of frailty, functional status, or patient activation scores offers critical nuance not seen with claims-based data alone.[253,254] For example, patient activation scores measure a member's confidence and knowledge of their health conditions and can help issuers identify members most likely to benefit from self-management interventions. Similarly, an in-home Health Risk Assessment may identify fall risks or social determinants needs related to safe housing, social isolation, or access to healthy foods not present in claims data but important to holistically addressing a member's needs to improve health outcomes.

Evidence Related to Provider Burden[255]

Because patient needs change, identification approaches should include a continuous process for updating a patient's risk level and/or subgroup assignment with new patient data.[256] Further, electronic health records (EHRs) offer an opportunity to supplement claims data with more timely, accurate information and can be used to trigger outreach during an acute care event.[257]

Evidence Related to Precision of Identification Processes

The precision of identification processes can be tested. For example, the LACE index (Length of stay, Acuity of the admission, Co-morbidity of the patient, and ED utilization) is recommended in

---

[247] Long, P., et al. Effective Care for High-Need Patients: Opportunities for Improving Outcomes, Value, and Health. Washington, DC: National Academy of Medicine. 2017.

[248] Health Care Transformation Task Force. Proactively Identifying the High Cost Population (July 2015).

[249] California HealthCare Foundation. Complex Puzzle: How Payers Are Managing Complex and Chronic Care (April 2013).

[250] Dana Jean-Baptiste, et al., op. cit.

[251] Ann O'Malley, et al., op. cit.

[252] Health Care Transformation Task Force, op. cit..

[253] Dana Jean-Baptiste, et al., op. cit.

[254] Ann O'Malley, et al., op. cit.

[255] In each strategy section, HMA identified the evidence that supports potential impact on the following evaluation outcomes: savings; quality; population health; provider burden; administrative burden; and disparities reduction.

[256] Dana Jean-Baptiste, et al., op. cit.

[257] Ann O'Malley, et al., op. cit.

the academic literature because it has been validated for accuracy at predicting outcome risk (Hosmer–Lemeshow goodness-of-fit statistic 14.1, $p = 0.59$).

Evidence Related to Savings

One of the rare examples of public data related to commercial populations is Anthem's Condition Care program, which offers a use case for complex care management in the employer-sponsored coverage setting. The program provides tailored support for eligible members with several chronic conditions and uses multiple clinical and other data sources to stratify members into low, medium or high risk. An undated marketing webinar for the Condition Care program, probably from 2010, reported an ROI of 2:1 and noted that 85 percent of members surveyed in 2009 reported being likely to recommend the program to others.[258]

Key Drivers and Enabling Tactics

Electronic data exchange. Exchange of data – such as Admission, Discharge, and Transfer notifications – can enhance an issuer's ability to identify high-cost or high-risk patients by providing more timely and actionable information about a member's current health status than claims data alone.

Considerations for Covered California's Next Contract Period

Methods to identify at-risk enrollees could encompass both quantitative and qualitative data

Covered California currently requires issuers to identify and proactively manage at-risk enrollees and provide Covered California with a documented process, care management plan, and strategy for targeting and management. Predictive analytic capabilities are already required by the model contract language (Attachment 7, Section 6.06), but issuers could be asked to describe both quantitative and qualitative data inputs used to identify high-risk or high-cost individuals. Issuers could include information about their care management programs and the referral process in provider educational materials and trainings. Covered California could also consider helping develop a standardized set of social determinants screening questions where evidence supports a strong link to impacting health outcomes. Issuers could use the standard screening voluntarily.

[258] CalPERS PPO Members OnHealth pamphlet, Vol. 8.

Finding 2: High-risk and high-cost patients have heterogeneous needs. Segmentation helps identify impactable individuals and sub-populations to target resources and interventions.[259]

Evidence Related to Quality

While many health care organizations use predictive modeling and risk stratification to assign risk levels to their patient population, overall results are mixed.[260] This is due in part to high-risk patients having heterogeneous clinical, social, and behavioral health needs.[261] [262] Segmentation is an emerging approach that sorts high-risk or high-cost individuals into subgroups of patients with similar characteristics and needs. The approach is supported by the National Academy of Medicine (NAM), which has identified its taxonomy for segmenting high needs patients into smaller homogenous subgroups as a promising tool to inform and target care. This taxonomy should be further tested to better understand which evidence-based care models are most effective in improving outcomes for specific subpopulations.[263]

Segmentation can occur after risk stratification, or as part of the same process.[264,265] Alternatively, a few organizations segment populations by condition first, and then stratify targeted subgroups for risk.[266] The segmentation process aims to identify individuals most likely to respond to care management and tailor interventions based on their unique needs.[267, 268]

Research exploring segmentation approaches is extremely immature, but some best practices are beginning to surface.[269] Much of the research we reviewed focused on segmentation by ACOs and other providers taking on increasing risk, as opposed to payers. However, segmentation is a promising approach that can be used by health care organizations of all types.

When reviewing segmentation approaches across 18 ACOs, a 2019 Commonwealth Fund report found no consistent set of population segments, but identified that certain subgroups are more commonly targeted.[270] These subgroups include the frail elderly, individuals with advanced

---

[259] This finding focuses on how segmentation can identify patient needs. While the report uses outcome lenses, the information did not lend itself to these categories. Accurately identifying and segmenting populations is a key driver for effectively designing and targeting resources, but without subsequent intervention does not improve outcomes.

[260] Ann O'Malley, et al., op. cit.

[261] Ibid.

[262] Long, P., et al., op. cit.

[263] Ibid.

[264] Ibid.

[265] Dana Jean-Baptiste, et al., op. cit.

[266] Ann O'Malley, et al., op. cit.

[267] Dana Jean-Baptiste, et al., op. cit.

[268] Ibid.

[269] Ibid.

[270] Ann O'Malley, et al., op. cit.

illness (requiring end-of-life care), those in transitional care, the homebound, individuals with co-morbid medical conditions (e.g., diabetes, congestive heart failure, chronic obstructive pulmonary disease), individuals with co-morbid medical and behavioral health conditions, those with chronic care risk (e.g., individuals with a severe chronic condition who may not have had an acute care episode but would benefit from early intervention), disabled, and individuals with end-stage renal disease.[271] A Mathematica Policy Research study identified very similar subgroups.[272] The National of Academy of Medicine's starter taxonomy uses similar subgroups, but also includes children with complex needs.[273]

A growing body of literature shows higher than average prevalence of addiction and mental health needs among people with the highest costs, particularly those whose high costs persist over time.[274] Please see the section Assuring Quality Care Strategies: Mental Health and Substance Use Disorder Treatment for a discussion of costs of individuals with chronic medical and comorbid mental health and substance use disorders. This has been most clearly documented in the Medicaid population, but indicates a need to identify and design interventions specific to this population segment across all lines of business.[275,276] In the National Academy of Medicine (NAM) starter taxonomy, each patient is assigned to a clinical subgroup based on the medical needs that drive their health care costs, with follow-on assessment of behavioral health issues and social services needs to determine the specific type of services the individual needs. Examples of high impact social variables include social isolation and low socioeconomic status.[277]

The Centers for Medicare and Medicaid Services (CMS) recognizes that a range of medical conditions and needs can make someone a "super utilizer" of care. In the Medicaid program, super utilizers are beneficiaries who, because of their health and/or social conditions, are likely to experience high levels of costly but preventable service utilization, and who have potentially impactable care patterns and costs. Since 2015, CMS has provided states with information, tools, and financial support to help with state programs focusing on Beneficiaries with Complex Care Needs and High Costs (BCNs).[278] The tools include a technical resource for using data analysis to improve a state's understanding of populations with serious mental illness and a

---

[271] Ibid.

[272] Dana Jean-Baptiste, et al., op. cit.

[273] Long, P., et al., op. cit.

[274] Better Care Playbook. 2018. Online resource accessed at: https://www.bettercareplaybook.org/.

[275] Health Care Transformation Task Force. Proactively Identifying the High Cost Population. op. cit.

[276] Dana Jean-Baptiste, et al., op. cit.

[277] Long, P., et al., op. cit.

[278] CMS. Resources for States: Improving Care for Medicaid Beneficiaries with Complex Care Needs and High Costs. Note: the resource provides information on measures used by a range of states, but does not include benchmarks.

national webinar on stratification of beneficiaries with complex care needs and high costs.[279,280] These tools, which share information about model programs in state Medicaid programs across the country, indicate common measures for evaluating the effectiveness of programs for high-need, high-cost populations include measures such as: Total Cost of Care; ED utilizations; inpatient admissions; and readmissions. Some programs also monitor engagement, caseload capacity, and/or patient satisfaction.

Key Drivers and Enabling Tactics

Primary Care Providers. Engaging primary care providers (PCPs) in the development of a segmentation approach has been found to increase provider buy-in and usefulness of the model.[281]

Considerations for Covered California's Next Contract Period

Issuers could be required to identify and develop tailored interventions for one or more subsets of the high-risk or high-cost population

Targeting the high-risk or high-cost individuals most likely to benefit from interventions supports efficient use of limited resources and promotes better outcomes. Based on the literature review that highlights the prevalence of behavioral health conditions among high-risk or high-cost members, Covered California could add substance use and mental health diagnoses to the list of conditions flagged in the model contract language as "most likely to benefit from well-coordinated care" (Attachment 7, Section 6.06). Individuals with advanced illness (those requiring end-of-life care), individuals experiencing transitions in care, and individuals with co-morbid medical conditions (e.g., medically complex) should also be included, as these conditions are common in all markets, including commercial lines of business.

HMA does not recommend that issuers adopt a single taxonomy for identifying and targeting subpopulations, but Covered California could convene a high-risk or high-cost population workgroup with representatives from participating issuers. Covered California could use the workgroup as an opportunity to educate issuers about the NAM starter taxonomy and ways to address social, behavioral health, and functional limitation assessments in the patient segmentation process, as well as share information and best practices for identifying and intervening in the care of high-risk or high-cost populations.

---

[279] CMS Medicaid Innovation Accelerator Program, Using Data Analytics to Better Understand Medicaid Populations with Serious Mental Illness. 2016.

[280] CMS Medicaid Innovation Accelerator Program, Webinar: Identification and Stratification of Medicaid Beneficiaries with Complex Care Needs and High Costs. October 31, 2016.

[281] Ibid.

Finding 3: Using comprehensive needs assessments as part of the identification and care planning process helps segment individuals and target clinical and non-clinical interventions to holistically address medical, behavioral health, and social service needs.

Evidence Related to Quality

Health Risk Assessments or other patient assessments have been identified as a valuable element of the stratification process and inform individualized care plans.[282] Effective assessment tools identify gaps in care, functional status, perceived health status, behavioral health needs, social service needs, and potential barriers to care. Approaches and assessment tools can be further tailored for defined populations such as children and adolescents, members with disabilities, or members with serious and persistent mental illness. An important assessment tool is the Patient Activation Survey to gauge a patient's willingness to engage in future targeted care management.[283]

Many state Medicaid programs require contracted managed care organizations to perform initial screenings of all new enrollees to identify individuals with unmet needs who require a more comprehensive assessment. Initial screenings can help engage new members and provide information about urgent social determinants needs and health status, as well as identify members that would benefit from a more comprehensive assessment. Some states like Michigan experience high completion rates (91%) for a basic assessment that is conducted by the state's enrollment broker, but this rate does not include the many beneficiaries who are automatically assigned to a health plan and may be hard to reach.[284]

New Mexico Medicaid's Centennial Care program mandates that all newly enrolled members receive a Health Risk Assessment for the purpose of "(I) introducing the [Managed Care Organization] to the Member, (ii) obtaining basic health and demographic information about the Member, and (iii) confirming the need for a Comprehensive Needs Assessment." The Comprehensive Needs Assessment serves to identify social determinants of health, behavioral health, and cultural information, among other information, to inform care coordination implementation for each member.[285]

The 2017 NAM report *Effective Care for High-Need Patients: Opportunities for Improving Outcomes, Value, and Health* recommends addressing the following high-impact variables during the assessment process because they help determine what type of clinical and non-clinical care the patient requires: social variables (low socioeconomic status, social isolation, community deprivation, housing insecurity); and behavioral variables (substance use, serious mental illness, cognitive decline, and chronic toxic stress). As outlined above, the NAM

---

[282] Health Care Transformation Task Force, Developing Care Management Programs to Serve High-Need, High-Cost Populations. Op. cit.

[283] Long, et al., op. cit.

[284] Healthy Michigan Demonstration Section 1115 Annual Report. Demonstration Year 2018.

[285] State of New Mexico, Human Services Department, Centennial Care, Medicaid Managed Care Services Agreement, RFP Amendment 2. 2017.

taxonomy assigns each patient to a clinical segment based on the medical needs that drive their health care costs, with follow-on assessment of behavioral health issues and social services needs to determine the specific type of services an individual requires. The goal is to meaningfully target care to each population and avoid having too many or too few subgroups. The range of possible services include community-based programs, non-physician providers (community health workers, navigators), and connections with social service providers, among others.

Evidence Related to Savings

As highlighted in the 2017 NAM report, Denver Health, a safety net provider in Colorado, achieved significant true savings of 2 percent, or $6.7 million, over 12 months using a risk stratification system followed by a comprehensive behavioral health assessment for the highest risk populations.[286] Denver Health achieved these savings through effective management of patients assigned to high risk groups, including adults and children with multiple, potentially avoidable, inpatient admissions within a year. The highest risk pediatric population accrued 15-20 percent of the total savings achieved by Denver Health. Tracy Johnson of Denver Health shared in-depth information on the workflow and process for creating the stratification during a 2016 CMS webinar titled, “Identification and Stratification of Medicaid Beneficiaries with Complex Care Needs and High Costs,” part of a series through the Medicaid Innovation Accelerator Program for Beneficiaries with Complex Care Needs and High Costs.[287]

Evidence Related to Administrative Burden

Health Risk Assessments are an important part of the process used to accurately stratify individuals with the highest risk because they can incorporate functional status and specific medical, behavioral health, and social service needs. However, implementation and administration are resource intensive, especially when provided by a nurse care manager in person (such as at the hospital prior to discharge or at home). Additionally, documenting social and behavioral health data in current EHRs represents a challenge due to the discreet structured format of EHR platforms.[288]

Key Drivers and Enabling Tactics

Inclusion of full range of issues. The National Academy of Medicine’s 2017 report *Effective Care for High-Need Patients: Opportunities for Improving Outcomes, Value, and Health* emphasizes that stratification approaches should include social determinants of health, functional limitations, mental health and substance use diagnosis, total accrued health care costs, and intensity of care utilized for a given period of time.[289] Health Risk Assessments can

---

[286] Ibid.

[287] CMS, Identification and Stratification of Medicaid Beneficiaries with Complex Care Needs and High Costs, Webinar Transcript. Op. cit.

[288] Ann O’Malley, et al., op. cit.

[289] Long, P., et al., op. cit.

be used to gather information about social determinants needs, functional limitations, and mental health and substance use experience.

Financial Incentives. For issuers that use initial screenings to identify potentially high-risk members, financial incentives can be used to increase initial screening completion rates and in one example increased the completion rate by 12 percent.[290] An initial screening or assessment conducted by a third-party involved in health plan selection or outreach could also increase completion rates for members contacted.

Considerations for Covered California's Next Contract Period

Comprehensive health assessments should follow identification of a potentially high-risk or high-cost individual. Health assessments are currently optional for Covered California issuers, but if used must be available in threshold languages (Attachment 7, Section 6.03). Covered California could consider expanding the provisions in the Model Contract regarding health assessments to require a health assessment or screening tool be used for specifically identified potentially high-risk or high-cost individuals that require a more comprehensive assessment and that the comprehensive assessment incorporate functional status, perceived health status, behavioral health needs, social service needs, and potential barriers to care as appropriate. Comprehensive assessments must also be used as part of the care planning process for programs that manage care for high-risk or high-cost populations.

Finding 4: Complex Care Management is a patient-centered approach to improving care and reducing costs for individuals identified as high-risk and/or high-cost.

Complex Care Management, also referred to as Care Management or Case Management, aims to improve an individual's health status, foster access to appropriate care and reduce utilization of inappropriate or expensive health care services such as hospital admissions. It is an umbrella term that includes programs and interventions developed to better manage and coordinate care for high-risk or high-cost populations. Complex Care Management may include the provision of Disease Management services, but it is distinguished from traditional Disease Management programs which typically target a single condition and deliver less intense interventions.[291,292] Many payers include Complex Care Management as part of their overall population health management approach.

Each Complex Care Management program is different and must be tailored to the type of organization, covered population, market, geography, and available resources. However, the Commonwealth Fund indicates effective Complex Care Management programs generally include four core functions: 1) identifying and engaging high-risk patients; 2) conducting a comprehensive health assessment to identify issues that may be addressed through care management interventions; 3) establishing an interdisciplinary care process that engages patients, caregivers, primary care, specialists, and social service providers; and 4) quickly

---

[290] Rebecca Moore. A Different Goal for Employers to Offer Wellness Programs. PlanSponsor. January 24, 2018.

[291] California Health Care Foundation.

[292] Health Care Transformation Task Force, op. cit.

responding to changes in a patient's condition.[293] Care management interventions can be provided in-house by the issuer, contracted to a vendor, or delegated to the provider level.

In 2016 the Commonwealth Fund published a "Quick Reference Guide" summarizing care models for adults with complex needs that had strong, moderate, or promising evidence related to quality, utilization, and/or cost. The guide was updated in January 2019 and outlines elements of 28 different care models. All or nearly all of the models include:[294]

- Individualized care plan (27/28 models)
- Ongoing care plan review (27/28 models)
- Interdisciplinary care team (26/28 models)
- Active care coordination (26/28 models)
- Education for providers and patient (26/28 models)

Promising Practice: Using telemonitoring to improve patient engagement

Data collected by telemonitoring devices can flag for nurse care managers whether a clinical intervention or additional outreach is needed. The Commonwealth Fund notes that remote monitoring for select individuals provides the ability to improve efficiency and help care teams take on larger caseloads.

Source: The Commonwealth Fund. Caring for High-Need, High-Cost Patients: What Makes for a Successful Care Management Program? 2014.

Best practices include interdisciplinary care teams that meet face-to-face and are supported by shared information technology platforms. Patient and caregiver engagement, motivational interviewing, and the provision of patient-centered care are considered basic components of effective care management programs because empowering patients to actively participate in their care and change their behaviors leads to better outcomes.[295,296] For high-risk or high-cost patients it is also critical to connect them to community resources and social supports to address non-clinical needs that are likely to impact their overall health.[297] The review of the research indicates that programs that include in-person interactions with patients and close coordination with physicians are more likely to reduce inpatient admissions.[298] Initial outreach when the patient is still in the hospital or immediately upon discharge may increase the likelihood of engagement.[299] In some programs, high utilizers may be assigned to a high-intensity clinic or linked to a primary care provider.[300]

---

[293] Clemens S., et al, Caring for High-Need, High-Cost Patients: What Makes for a Successful Care Management Program. August 2014.

[294] Tanya Shah, et al. The Commonwealth Fund. Quick Reference Guide to Promising Care Models for Patients with Complex Needs. January 2019.

[295] Clemens S. Hong, et al., op. cit.

[296] Health Care Transformation Task Force. Developing Care Management Programs to Serve High-Need, High-Cost Populations. Op. cit.

[297] Ibid.

[298] Phillip, S. and Miller, S. Complex Puzzle: How Payers are Managing Complex and Chronic Care, California Health Care Foundation, 2013.

[299] Ibid.

[300] Dana Jean-Baptiste, et al., op. cit.

Evidence Related to Outcomes

According to a 2019 article in New England Journal of Medicine Catalyst, there is a dearth of evidence about patients' views on the care models that target their complex health care needs. To begin to address this need, researchers held focus groups to learn which solutions could best meet the needs of patients from the patient's perspective. Participating patients identified the following solutions: care management; readily available at-home physical therapy and nursing services; home delivery of prescription medications and easier refills; telemedicine; and more after-hours clinics. All of these solutions are being implemented in diverse programs across the country and many are included in this report. Among the solutions listed, care management has been identified through a systematic review as a leading intervention for reducing emergency department visits.[301] It is not a new concept; in fact, large employers like Boeing and Pitney Bowes have been incorporating complex care management for employees since 2010.[302] The evidence behind Stanford's chronic care self-management program dates back to 1999, where a random-controlled trial of 952 patients age 40 or older with chronic conditions found that the intervention significantly lowered rehospitalization rates at 30 days and 90 days in comparison to the control group. Mean hospital costs were lower for intervention patients than control patients at 180 days. [303,304]

Evidence Related to Quality

Best practices for achieving patient-centered care for high-risk or high-cost patients are emerging. The *Better Care Playbook* inventoried care models for high-risk high-cost patients based on which patient-centered characteristics each model employs. An often-cited use case of a high-touch, care-coordinated, patient-involved, and team-based program in the commercial market is the Pacific Business Group on Health's Intensive Outpatient Care Programs (IOCP). The program structure rests upon six "guardrails":

- A care coordinator who maintains an ongoing relationship with the patient across the care continuum;
- In-home visit within 30 days of enrollment to conduct a comprehensive assessment and establish a shared action plan;
- Regular communications between the care coordinator and patient;
- A shared action plan that includes as least one goal selected by the patient;
- Warm hand-offs by the care coordinator to needed support services (e.g., home health, food banks, drug assistance programs); and
- Access to non-emergency care 24 hours a day, 7 days a week.

---

[301] Maria C. Raven, et al. The Effectiveness of Emergency Department Visit Reduction Programs: A Systematic Review, Annals of Emergency Medicine, Volume 68, Issue 4, 2016.

[302] Konrad, W, "For Chronic Care, Try Turning to Your Employer." New York Times. July 23, 2010.

[303] Lorig KR, et al. Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: a randomized trial. Med Care. 1999 Jan;37(1):5-14.

[304] Tanya Shah, et al., op. cit.

The IOCP learned that "warm hand-offs" by the PCP to the care coordinator were the most successful mechanism to engage patients in the program, and ultimately incorporated the "warm hand-off" strategy not only in patient recruitment for the program, but in all relevant referrals to social services and other supports.[305] The IOCP program has expanded substantially since its beginnings serving CalPERS members; elements of the IOCP model were included in technical assistance and training that the Pacific Business Group on Health led for California Medicaid providers under the Health Homes Program. Even after the CMS Innovation grant funding for IOCP ended, 90 percent of participating delivery systems continued the core elements of the program for Medicare patients and 15 of 23 participating medical groups expanded programs into their commercial populations.[306]

In 2015, Takach and Yalowich reported that the Oregon Yamhill Coordinated Care Organization care team model, which was led by an interdisciplinary team of a community health nurse and two community health workers, reduced emergency department utilization by nearly twenty percentage points in two years.[307] One key lesson learned is to support patients in meeting their own immediate goals, whether health-related or not. This fosters patient engagement and is helpful in starting the process of identifying and addressing the many factors contributing to an individual's health issues, such as unemployment, lack of transportation, and social isolation.[308]

Aetna's Compassionate Care Program for Advanced Illness targets individuals with life-threatening illnesses and has been able to achieve significant reductions in inpatient days while improving member satisfaction. Members are identified for the program by predictive modeling, utilization review, self-referral, and physician referrals. Once enrolled in the program, individuals receive complex care management by nurse care managers that focuses on pain management, palliative care, and education to make informed decisions about end-of-life care. The nurse care managers address psychosocial needs, help ensure advance directives are available and followed, coordinate home and community-based services, and support care transitions. Nurse care managers initially engaged with members remotely, but Aetna indicates it is moving to a model where care managers are embedded in physician practices and can interact face-to-face with members and their providers. As part of the program, Aetna also eliminated barriers to receiving the hospice benefit, allowing members to continue to receive curative care while in hospice.[309]

Members enrolled in Aetna's Compassionate Care Program for Advanced Illness have experienced an 82 percent reduction in acute inpatient days, 86 percent reduction in ICU days, 77 percent reduction Emergency Department (ED) visits, and more than doubled the average

---

[305] Kristof Stremikis, Clare Connors, and Emma Hoo, Intensive Outpatient Care Program: A Care Model for the Medically Complex Piloted by Employers, Commonwealth Fund September 26, 2017.

[306] Long, P., et al., op. cit.

[307] Mary Takach and Rachel Yalowich. AARP Public Policy Institute. Transforming the Workforce to Provide Better Chronic Care: The Role of a Community Health Nurse in a High-Utilizer Program in Oregon. 2015.

[308] Ibid.

[309] As Atul Gawande notes in his book *Being Mortal*, researchers have found that acceptance of hospice goes up when it is not presented as an alternative to curative medicine, but as a complement.

length of stay in hospice. Members and their caregivers express a high level of satisfaction with the program.

Evidence Related to Savings

The IOCP is an example of a purchaser-led care management strategy for medically complex populations shown to reduce costs among commercially insured patients with a severe chronic illness by up to 20 percent, primarily due to fewer ER visits and hospitalizations.[310] The additional care management fees paid to participating physician groups were included in the cost savings analysis. The authors note that the 20 percent spending reduction aligns with peer-reviewed findings reported for similar care models by Geisinger and Johns Hopkins, among other researchers. They further indicate that in addition to improving quality and patient experience of care for the sickest patients in an employer-coverage population, targeting care management for chronically ill individuals showed a 3-6 percent net reduction in population-wide per capita total spending.

Evidence Related to Provider Experience

Oklahoma's Medicaid program, SoonerCare, was directed by the state legislature to improve management of chronic conditions including, but not limited to, asthma, chronic obstructive pulmonary disease, congestive heart failure, diabetes, and renal disease. In response, the Oklahoma Health Care Authority launched the SoonerCare Health Management Program in 2008. The program utilized nurse care managers to provide care management. The highest risk beneficiaries received face-to-face interventions, while lower risk beneficiaries received telephonic outreach. In later versions of the program, health coaches were embedded in primary care sites as an alternative to centralized care management. An assessment of the initial version of the program found that in addition to decreasing inpatient days by 65 percent, and ED visits rates by five percent, the program received positive marks from participating providers. Eighty-seven percent of participating practices surveyed reported improved care and 68 percent reported being very satisfied with the program.[311]

Key Drivers and Enabling Tactics

Expansive care management factors. Elements of effective care management programs include but are not limited to:

- Identification process based on quantitative and qualitative data, including clinician referrals;
- Comprehensive assessment process;
- Patient-centered care management to address medical, functional, social, and behavioral health needs; and
- Care coordination across an interdisciplinary team.

---

[310] Arnold Milstein and Pranav P. Kothari, Are Higher-Value Care Models Replicable? Health Affairs Blog, October 20, 2009.

[311] Clemens S. Hong, et al., op. cit.

Considerations for Covered California's Next Contract Period

Issuer engagement of high-risk or high-cost enrollees should require demonstration of core components of an effective Complex Care Management program and measurement of impacts.

Successful Complex Care Management programs are dependent on a number of factors and HMA does not recommend a particular model. However, the literature indicates several features associated with effective programs. Like state Medicaid programs that commonly require contracted managed care organizations to incorporate identification, assessment, care planning, care coordination, and connection to community resources in their care management programs (e.g., New Hampshire, New Mexico), Covered California could revise Attachment 7, Section 6.06 to specify required elements of programs initiated for the highest risk enrollees. These elements could include the Key Drivers described above, such as:

- Multi-faceted identification process that is not limited to claims data;
- Health Risk Assessment conducted in-person or by phone;
- Patient-centered care management; and
- Care coordination and information sharing across an interdisciplinary team.

Covered California can support the identification and management of high-risk or high-cost individuals by publicizing the success of issuers that demonstrate positive outcomes from their care management programs (e.g., for reduced ED utilization and admissions, reduced costs, improved quality). Covered California can:

- Explore the feasibility of its staff using encounter data to generate performance scores using a measures engine. This would allow more granular reporting on standard quality measures. For example, Covered California could generate a report that compares all issuers in one region to each other for that region.
- Compare different segments of the population to each other within a region or issuer. For example, Covered California could compare performance between all six issuers operating in San Francisco county on the 30-day readmissions rate.
- Compare the statewide rates on measures by race/ethnicity, preferred language, or disability status.
- Consider requiring issuers to report patient-reported outcomes measures,[312] measures of member and provider satisfaction, financial results, and utilization data.

Given the recommendation to allow issuers to adapt different strategies to promote engagement of high-risk or high-cost enrollees, Covered California could require consistency in how issuers report on who is enrolled in such programs, the cost of the program, and the benefits. Issuers participating in the IOCP program or who have adopted similar models could also report this data.

---

[312] Patient-reported outcomes are defined as "any report of the status of a patient's (or person's) health condition, health behavior, or experience with healthcare that comes directly from the patient, without interpretation of the patient's response by a clinician or anyone else." Domains include quality of life; symptom and symptoms burden; experience with care; and healthy behaviors. National Quality Forum. *Patient Reported Outcomes (PROs) in Performance Measurement.* January 10, 2013.

Finding 5: Managing care transitions for high-risk patients reduces costs and improves care. Electronic alerts to a patient's primary care provider from the emergency department and hospital admission teams is the key to effective transitions management.

Inadequate care coordination, including an inability to properly manage care transitions, is nationally associated with $25 to $45 million in avoidable health care costs annually.[313] Driving these excess costs are preventable complications and unnecessary inpatient readmissions.[314] Failures during the care transition process include but are not limited to inadequate discharge planning, ineffective patient education, lack of communication between care settings, and delays in receiving follow up care. By comprehensively managing care during this critical time, payers can reduce costs while improving quality and patient satisfaction.

Promising Practices: Assessment tools used to identify individuals most likely to benefit from care transitions interventions

In 2014, the Center for Healthcare Research and Transformation reviewed the literature on successful care transitions programs, noting the difficulty in identifying high-risk, high-need patients using traditional risk stratification methods. The LACE (Length of Stay, Acuity, Comorbidities, and Emergency Department Admission) model and the 8Ps Risk Assessment Tool (referring to the 8 risk factors that should be identified and addressed for all hospitalized patients) were recommended in the academic literature to more accurately identify high-risk, high-need individuals for which care transitions interventions would have the greatest impact.

Source: Center for Healthcare Research and Transformation. Care Transitions: Best Practices and Evidence-based Programs. 2014.

Care transitions occur when patients move from one health care setting to another. Care transitions are an opportune time to intervene and are likely to have the greatest impact.[315] This is evidenced by McCarthy et al., who found that managing transitions from the hospital and referrals to community resources post-discharge are common attributes of successful models for managing care for high-risk or high-cost populations.[316]

The most studied models for improving care transitions focus on care provided during and after hospital discharge to the home, as opposed to transitions between other settings.[317] Figure 2, Care Transitions Intervention and the Transitional Care Model, outlines these models, which are noteworthy because following randomized controlled trials they were found to both reduce hospital readmission rates and reduce costs.

---

[313] Health Affairs. Health Policy Brief. Improving Care Transitions. Better coordination of patient transfers and the community could save money and improve the quality of care. September 13, 2012.

[314] Ibid.

[315] Center for Healthcare Research & Transformation. Care Transitions: Best Practices and Evidence-based Programs January 2014.

[316] McCarthy, D., J. Ryan, and S. Klein, Models of care for high-need, high cost patients: An evidence synthesis. Issue Brief, Commonwealth Fund, 31:1–19. 2015.

[317] Center for Healthcare Research & Transformation. Op. cit.

Figure 2. Care Transitions Interventions and Transitional Care Model

Care Model	Description
Care Transitions Intervention[318, 319] ***Eric Coleman, University of Colorado***	A Transitions Coach, which can be a nurse or social worker, meet patients in the hospital prior to discharge and follows up with one in-person home visit and three phone calls over the subsequent 30-day period. The Transitions Coach focuses on promoting self-care and quickly identifying and responding to "red flags" that could indicate a worsening of the patient's condition. This recognized model has been adopted by both providers and payers[320] and does not require an integrated delivery system to implement.
Transitional Care Model[321] ***Mary Naylor, University of Pennsylvania***	Advance practice nurse provides education about self-care to patients and their caregivers, develops and coordinates a follow-up care plan with the patient's physician, and conducts regular home visits. Telephonic support is also available 24 hours a day, 7 days a week.

Evidence-based care transitions models like those outlined in Figure 2 above show that in-home visits by a nurse or social worker and the development of action plans for patients if certain events or changes in health care status occur are improving care transitions. Medication reconciliation is also often cited as an important component of successful programs.[322,323] Care teams should assess current services and supports available to the patient, and work closely with hospitals, skilled nursing facilities, other providers, and community service providers to fill in any identified gaps.

CMS already recognizes the importance of improving care transitions. Since January 2013, it reimburses new codes (99495 and 99496) under the Physician Fee Schedule to cover transitional care management services following certain kinds of discharges.[324] Under Section 3026 of the Affordable Care Act, CMS has also tested a Community-based Care Transitions Program where community-based organizations partner with hospitals to improve care transitions for Medicare beneficiaries identified as high-risk.[325] Many value-based payment models incentivize improved care transitions by rewarding providers who reduce unnecessary utilization and costs by keeping patients out of the hospitals (e.g., Shared Savings Program, bundled payment models, readmissions penalties).

---

[318] Health Affairs. Op. cit.

[319] The Care Transitions Program, online resource accessible at https://caretransitions.org.

[320] Center for Healthcare Research & Transformation, Op. cit.

[321] Health Affairs. Op. cit.

[322] Center for Healthcare Research & Transformation. Op. cit.

[323] Dana Jean-Baptiste, et al, op. cit.

[324] CMS. Frequently Asked Questions about Billing the Medicare Physician Fee Schedule for Transitional Care Management Services. March 17, 2016.

[325] CMS Innovation Center. Community-based Care Transitions Program. Online resource updated February 2019.

Difficulty in transmitting medical records across different computer systems, such as from a hospital to a primary care practice, is an identified barrier to coordinating care during transitions from one health care setting to another. As a promising practice, several CMS-funded State Innovation Model (SIM) demonstration grants emphasize alerting provider networks when their patients are admitted or discharged from the hospital. Both Iowa and Michigan implemented tests that include Admission, Discharge, Transfer notifications.[326] These notifications communicate updates about care transitions. They can be used by primary care providers to initiate an intervention, such as a follow up visit. Care managers at payers and providers can use the same Admission, Discharge, Transfer notifications to prompt outreach for high-risk or high-cost patients and engage them in care management. According to the California Association of Health Information Exchange (CAHIE), the majority of Community Health Information Organizations (HIO) exchange Admission, Discharge, Transfer data.[327]

The Health Care Transformation Task Force's *Care Management Contracting for Complex Populations: Best Practices and Tools* is available to help operationalize other arrangements between payers and providers toward data sharing goals and includes a section on data sharing agreements.[328]

Evidence Related to Savings

Care transitions can reduce hospital readmissions by up to one-third.[329] Results of a randomized controlled trial show that the Coleman Care Transitions Intervention resulted in intervention patients having lower rehospitalization rates at 30 days (8.3 vs 11.9, P=.048) and at 90 days (16.7 vs 22.5, P=.04) when compared to control subjects in a randomized controlled trial.[330] Average hospital costs were also lower for intervention patients ($2,058) compared to control subjects ($2,546) at 180 days (log-transformed P=.049).[331] The Transitional Care Model, which specifically focuses on high-risk elderly patients, similarly reduced hospital readmissions by 36 percent and costs by 39 percent per patient during the 12-month period following discharge.[332]

Evidence Related to Quality

The University of California, Los Angeles Health System (UCLA) and Partners in Care Foundation were one of the 101 sites that participated in the CMS Community-based Care Transitions Program demonstration. In their model, UCLA identified eligible patients by using

---

[326] Iowa and Michigan SIM Operational Plans. At publication of this report final evaluations for SIM projects were not yet available.

[327] California Health Information Exchange, HIE Landscape. Online resource accessible at: https://www.ca-hie.org/initiatives/hie-in-ca/

[328] Health Care Transformation Task Force. Care Management Contracting for Complex Populations: Best Practices and Tools. July 2018.

[329] National Academy of Medicine. Op. cit.

[330] Eric A. Coleman, et al. The care transitions intervention: results of a randomized controlled trial. Arch Intern Med. 2006; 166: 1822-1828.

[331] Ibid.

[332] Burton, Health Affairs, Op. cit.

the LACE criteria (referring to Length of stay, Acuity, Comorbidities, and Emergency department admission). These patients were referred to a community-based Partners coach, who performed a comprehensive assessment (including psychosocial, environmental, and functional assessments) and developed a care plan while the patient was still in the hospital or other care setting. UCLA pharmacists performed medication reconciliation. After discharge, the Partners coach conducted home visits and telephonic care management. If applicable, the coach referred the patient to community organizations for needed social services such as meal delivery or transportation. This model achieved the following results:[333]

- 19 percent reduction in readmissions;
- 14 percent increase in physician follow-up visits within seven days of discharge; and
- Improved medication safety.

Connecting patients to outpatient providers following a care transition should be a core element of any care transitions model. A study on physician networks in Ontario, Canada found that networks with timely hospital-community transitions—measured as a percentage of patients with a follow-up visit to a primary care physician or specialist—had lower rates of avoidable admissions and readmissions (r = -0.89 and -0.58, respectively).[334] The Bridges to Care (B2C) program, an ED-initiated, multidisciplinary, community-based program, reduced ED visits (a reduction of 27.9 percent) and increased the number of primary care visits (an increase of 114 percent), among high ED utilizers, including those with mental health comorbidities, compared to patients in the control group.[335] This program targeted Medicaid-eligible high ED users, defined as two or more ED visits or hospital admissions within 180 days, and provided high-touch care coordination and care management services that included frequent home visits and assistance obtaining needed social services such as housing and transportation.

Evidence Related to Utilization

Oregon and Washington have both implemented Emergency Department Information Exchanges. The Emergency Department Information Exchange provides real time notifications that allow ED physicians to identify patients with complex care needs who frequently use the emergency room. The Emergency Department Information Exchange alerts the patient's attending ED physician to alerts and care recommendations from the patients' health care team, allowing the ED provider to provide better care. All hospitals in Oregon use Emergency Department Information Exchange and ED physicians report finding significant value from Emergency Department Information Exchange notifications.[336] In Washington State, year one

[333] The SCAN Foundation. Innovation in Health Care Award. University of California, Los Angeles: Community Based Care Transitions Program.

[334] Rahman F, Guan J, Glazier RH, et al. Association between quality domains and health care spending across physician networks. PLoS One. 2018;13(4):e0195222. April 3, 2018.

[335] Capp R, Misky GJ, Lindrooth RC, et al. Coordination program reduced acute care use and increased primary care visits among frequent emergency care users. Health Affairs. 2017.

[336] Oregon Health Authority, EDIE Analysis Annual Report for Q1-Q4 2017. June 15, 2018.

results included a decline in ED visits by 9.9 percent and 10.7 percent reduction in frequent ED users (those with five or more visits per year).[337]

Key Drivers and Enabling Tactics

Electronic data sharing. The ability to exchange patient data and care plans electronically helps identify care transitions in real-time and can streamline the care coordination process and improve communication across the information and communications technology.

Considerations for Covered California's Next Contract Period

Improved care transitions should be supported by specific programming and health information exchange.

To promote improved care transitions for high-risk or high-cost consumers, issuer care management programs should include policies specific to care transitions. These policies should address methodology used to identify high-risk or high-cost patients most likely to benefit from care transitions interventions; type of intervention; patient and caregiver education; medication reconciliation; and information exchange. Ideally, interventions will include an in-person visit by a nurse, social worker, or community health worker prior to discharge and/or at home following discharge.

Issuers could be encouraged to adopt an Admission Discharge Transfer use case through the existing health information networks and ensure receipt of alerts to support timely interventions during care transitions. In addition, they could require or incentivize network hospitals to transmit Admission, Discharge, Transfer notifications and/or exchange discharge summaries and other information with primary care practices. Covered California can use measures such as 30-day readmission rate and physician follow-up within seven days to monitor care transitions outcomes and identify issuers with effective care transitions programs. Hospitals can be evaluated using the National Quality Forum's *Timely Transmission of Transition Record* measure to assess how often hospitals submit discharge records to primary care physician within 24 hours.[338]

Key Resources for Monitoring New Research

The following are resources, organizations, and other references that Covered California should monitor to stay up to date on the evidence related to this strategy. Among the resources cited in this section and listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates, several stand out. HMA recommends annually checking for updates or follow-on work from the following organizations:

- **Health Care Transformation Task Force**
  The Health Care Transformation Task Force is an organization that researches and promotes value-based care. Members include providers, payers, and purchasers in public sector and commercial markets (in fact seems to have more commercial focus

[337] Washington State Hospital Association, ER is For Emergencies. Fiscal year 2013 results.

[338] National Quality Forum. NQF #0648: Timely Transmission of Transition Record (Discharges from an Inpatient Facility to Home/Self Care or Any Other Site of Care). May 5, 2010.

than other research organizations writing on same subjects). High-risk, high-cost patients are an area of focus, and they publish new items fairly regularly here: https://hcttf.org/category/high-need-cost-patients/. The white paper, *Developing Care Management Programs to Serve High-Risk, High-Cost Populations* is a good introduction to the subject with case studies at the end.

- **The Commonwealth Fund**
  The Commonwealth Fund conducts research on health care delivery systems. High-risk, high-cost populations are an area of focus (https://www.commonwealthfund.org/trending/high-need-high-cost-patient-personas), with new publications added periodically. The 2014 brief *Caring for High-risk, High-Cost Populations: What makes for a successful Care Management Program*, provides a good overview of components of successful care management programs, reviews outcomes across different categories (e.g., utilization, quality, patient experience), and identifies which models are sponsored by payers versus providers or other organizations.

In addition, HMA recommends the following resources:

- **Center for Health Care Transformation**
  The 2014 brief *Care Transitions: Best Practices and Evidence-based Programs* provides an overview of the importance of improving care transitions and a summary of various models.

- **Mathematica**
  Mathematica's overview of the segmentation approach, methodologies, limitations and how it is used to target resources for high-cost, high-risk populations is titled: *Population Segmentation and Targeting of Resources: A Literature Review*.

Section 2. Review of Measures and Benchmarks for Complex Care

This section of the report on Complex Care is the product of PricewaterhouseCooper's (PwC) detailed review of measures and benchmarks that can be used by Covered California to assess quality care is being delivered and that its contracted health plans use effective strategies to promote improvements in how care is delivered. The section includes a review of Covered California's current measurement strategy which is followed by considerations for revising those measures and specific recommendations for Covered California's consideration.[339]

Covered California's Current Required Measures

Takeaway:

- **Qualified health plans (QHP) offer care management to members identified with conditions of concern. The proportion of members identified as "at risk" and the services that are offered to these enrollees vary substantially, likely due to plan definitions of at-risk enrollees.**
- **While almost all QHPs report use of Centers of Excellence, there is limited reporting on efforts to direct members to those facilities and limited information on their comparative quality and value.**

As shown below, Covered California has a range of measures pertaining to complex care (see Table 1, Covered California Required Measures, Qualified Health Plan Performance Data and Sources of Potentially Relevant Comparisons). PwC has also summarized QHP performance data and sources of potentially relevant comparisons.

Table 1. Covered California Required Measures, Qualified Health Plan Performance Data, and Sources of Potentially Relevant Comparisons

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
Highly specialized care management Centers of Excellence [§1.02(4a)]	Each QHP reported whether Centers of Excellence for specific services are available to enrollees	NBGH Healthcare Strategy Survey of Employers, Other employer surveys and employer case studies Covered California QHP encounter data
Identification of and services to "at risk" enrollees with chronic conditions: diabetes, asthma, heart disease, hypertension [§6.06(8)]	Numbers of identified enrollees with specified chronic conditions, plan-specific methods for identifying enrollees vary.	Quality Compass Healthcare Effectiveness Data Information Set (HEDIS) data Covered California encounter data National and California population prevalence data

[339] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures. To view the full list of measures recommended by PwC, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

Considerations for Revising Covered California's Measures

In developing measures and data recommendations for Covered California, PwC considered the following:

In developing measures and data recommendations, PwC considered the following:

- Covered California does not require QHPs to administer health risk assessments (HRA) to enrollees as a means of obtaining information about enrollee health conditions. Health risk assessments are used in employer wellness programs and Medi-Cal managed care. The Medi-Cal managed care plans are required to assess new enrollees within 120 days of enrollment.[340] For seniors and persons with disabilities, there are more specific time frame requirements for members identified by the plan's risk stratification mechanism as "higher risk."[341] A similar requirement imposed by Covered California could increase QHP ability to report the numbers of enrollees with chronic conditions that are identified, assessed, and treated, and better understanding of social determinants of health affecting these enrollees.
- Effective interventions and care for high cost, high need patients require case management. QHPs should ensure providers have the tools to manage these patients and facilitate/provide support as necessary.
- The criteria for determining and implementing Centers of Excellence vary across QHPs.
    - Health plans leverage federal accreditation programs, such as the National Cancer Institute or Blue Cross Blue Shield Association (BCBSA) national programs; some may develop their own criteria.
    - The conditions for which QHPs contract with Centers of Excellence vary. The most common Centers of Excellence were for Transplants, Cancer Care, and Burn Care.
- Employer Centers of Excellence programs are associated with larger, self-insured employers. Many of the Center of Excellence programs implemented for large employers are developed as a supplement to Preferred Provider Organization (PPO) and High Deductible Health Plans (HDHP) associated with Health Savings Accounts or Health Reimbursement Accounts.
- Center of Excellence programs have reported significant cost savings and demonstrated improvements in quality and patient satisfaction.
    - Center of Excellence programs using direct contracting and bundled payment methodologies have reported significant cost savings.
    - Two Center of Excellence programs that have demonstrated cost savings and reduced complication and readmission rates (BCBSA Blue Distinction Plus and

[340] CA DHCS Staying Healthy Assessment web page, Medicaid Policy Letter 13-001 and questionnaire at https://www.dhcs.ca.gov/formsandpubs/forms/pages/stayinghealthy.aspx.

[341] CA DHCS All Plan Letter 17-013. July 11, 2017 https://www.dhcs.ca.gov/formsandpubs/Documents/MMCDAPLsandPolicyLetters/APL2017/APL17-013.pdf

PBGH Employers Centers of Excellence Network) appear to be associated with rigorous evaluation and selection processes that includes review of surgeon level performance as well as facility metrics, and ongoing reporting and monitoring.

- Improved quality and cost savings have not been demonstrated in all Center of Excellence programs. For example, in 2014, CMS dropped the requirement that Medicare cover bariatric surgeries only when performed at facilities that were either certified by the American College of Surgeons (ACS) as a Level 1 Bariatric Surgery Center or certified by the American Society for Metabolic and Bariatric Surgery (ASMBS) as a Bariatric Surgery Center of Excellence. CMS concluded that there was sufficient evidence that certification does not improve health outcomes for Medicare beneficiaries.[342]

- QHPs do not generally have mechanisms to direct enrollees to Centers of Excellence.
  - Employer programs may direct employees to Center of Excellence through use of reduced or waived member cost sharing or require members to use Centers of Excellence for treatment of selected conditions or procedures.

Measures and Data Recommendations

Following are measures and data recommendations for Covered California:

1. Consider strategies to increase the use of health risk assessments to aid identification of enrollee health conditions, such as educating providers on reimbursable procedure codes (e.g. 96160, 96161).
2. Continue to require issuers to describe how high needs, high cost populations are identified, the number of members and conditions for the high need, high cost group, and what care management programs are in place for each subpopulation. Consider requiring issuers to describe specific utilization and cost measures they track for high needs, high cost populations.
3. Recommend additional measures: inpatient and Emergency Department (ED) use, and ED follow-up.
4. Require improved reporting on QHP Center of Excellence selection criteria and member utilization of Centers of Excellence. This may be most appropriate for all members rather than just QHP members.
5. Consider requiring each health plan to provide its Center of Excellence benchmarks by condition/treatment to demonstrate the scope of Center of Excellence activity and the metrics that the plan is using to manage its contracted Centers of Excellence.
6. Determine best practice evaluation and selection of Centers of Excellence, analyze the extent to which the health plans have identified the same or different providers as

[342] CMS. Decision Memo for Bariatric Surgery for the Treatment of Morbid Obesity - Facility Certification Requirement (CAG-00250R3). https://www.cms.gov/medicare-coverage-database/details/nca-decision-memo.aspx?NCAId=266.

Centers of Excellence for each condition, and consider alignment of Center of Excellence requirements across health plans.

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and industry articles, and assessed measures on several attributes, including strength of evidence, alignment with other purchasers and feasibility of reporting (see Table 2, PwC Recommended Measures for Complex Care).[343]

Table 2. PwC Recommended Measures for Complex Care

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Plan All-Cause Readmissions (PCR)	Existing	QHPs	QRS, HEDIS	High	High	High	High	High
Percentage of enrollees identified as high risk	Existing	QHPs	n/a	Medium	High	Low	Low	Low
Percentage of enrollees identified as high risk that are in case or care management	Existing	QHPs	n/a	Medium	High	Low	Low	Low
Ambulatory Care - Emergency Dept. Visits/1000 MY (AMB)	New	Covered California	IHA, HEDIS, Medi-Cal	High	High	High	High	Medium
Inpatient Utilization - GH/Acute Care (IPU)	New	Covered California	IHA, HEDIS	High	High	High	Medium	High
Follow-Up After Emergency Department Visit for People with High-Risk Multiple Chronic Conditions (FMC)	New	Covered California	HEDIS	High	High	High	High	Medium
Transitions of Care (TRC)	Stretch: Requires Clinical	QHPs	HEDIS	High	High	High	Low	Medium

[343] For the criteria used by PwC to assess measures, please see Table 3, Measure Assessment Structure Applied by PwC, in the chapter on Summary Recommendations on Measures and Benchmarks. For a detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Percent of Primary Care Physicians Who Successfully Meet Meaningful Use Requirements (CMS ACO #11)	Data Stretch: Requires Clinical Data	QHPs	MSSP	Medium	Medium	Medium	Low	Low

Note: "Stretch" measures are measures Covered California may consider promoting or tracking in the future. Since provider clinical data is required for reporting, it may be challenging unless mechanisms are put in place to support it.

To review the background research completed by PwC to inform these measures and data recommendations, please see Appendix 3, Bibliography Supporting Measures Review by PricewaterhouseCoopers.

EFFECTIVE CARE DELIVERY
Chapter 6: Networks Based on Value

As a major strategy for effective care delivery, Networks Based on Value means health plans select and regularly assess all clinicians, providers, hospitals and sites of care based on how those individuals or institutions provide care that is safe, timely, effective, efficient, equitable, and patient-centered. Ideally, every network is composed of integrated systems, effective primary care and designed considering the value it provides.

This chapter on Networks Based on Value is organized into two sections:

Section 1. Review of Evidence for Networks Based on Value was prepared by Health Management Associates (HMA) and provides a review of the evidence related to health plan strategies to implement value-based networks. The evidence review is followed by specific findings that represent opportunities or challenges for Covered California and then recommendations for how Covered California can monitor evidence on an ongoing basis.

Section 2. Review of Measures and Benchmarks for Networks Based on Value was prepared by PricewaterhouseCoopers (PwC) and provides a review of Covered California's current required measures, considerations and recommendations for revising its measures in this area.

Section 1. Review of Evidence for Networks Based on Value

Covered California contracted with HMA to conduct an evidence review in ten strategy areas that health insurance payers can utilize to drive value in health care. The review's results are presented here.[344] This chapter includes direct citations of the best evidence within the discussion of this strategy; information from additional sources was also used for this report and is listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Background

Value-based network design strategies include the use of narrow networks, tiered networks, reference pricing and the use of Centers of Excellence. The evidence indicates narrow networks have been the most broadly tested of the models. Narrow networks indicate promising impacts of lowering premium costs without negatively impacting quality. Evidence for the remaining strategies was less robust. Tiered networks demonstrate the potential for lower expenditures, but the consumer benefit is not clearly quantifiable, and the benefit design brings significant complexity. Reference pricing appears to be effective at driving consumers to select lower-cost providers. Centers of Excellence models similarly drive utilization to high-value providers. Evidence is still in the early stages and warrants further monitoring by Covered California before Covered California can weigh the full cost-benefit impact of changing their standard benefit design.

[344] To view a more detailed description of HMA's approach, project team, and methods for literature review and evidence gathering, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Finding 1: Narrow/limited networks are an effective mechanism to lower premium costs without impacting quality, though quality is not broadly a consideration in their design.

Issuers serving marketplaces nationally have increasingly tested limited network designs to guide consumers to providers who deliver high quality services without driving up cost. Over half (53 percent) of Marketplace networks nationally restricted patient choice of provider as opposed to using broad networks in 2017.[345]

Evidence Related to Savings[346]

The evidence supports narrow networks as a mechanism to substantially lower premium costs. An issue paper Milliman prepared for America's Health Insurance Plans cites premium reductions of between five percent and 20 percent or more compared to costs of broader network plans.[347] A recent study in Health Affairs substantiated these findings, stating that a plan with narrow physician and hospital networks was 16 percent less expensive than a plan with broad networks for both, and that narrowing the breadth of just one type of network was associated with a 6–9 percent decrease in premiums.[348] Another Health Affairs study quantified the savings differential in premium dollar amounts, showing adjusted silver plan monthly premiums ranged from an average of $261 with extra-small networks to $324 for extra-large networks.[349]

Evidence Related to Quality

There is a paucity of evidence on how narrow networks impact quality and consumer well-being.[350] One study of Covered California's hospital networks found that a limited hospital network did not have a significant clinical impact on the quality measures studied.[351] Another study of the Massachusetts market found no association between enrollment in limited network plans and changes in the quality of accessible inpatient hospital care.[352]

There are no published empirical studies on how plans develop their networks and the criteria used. Most gray literature points to plans' use of unit price as the primary criterion for high-value

---

345 McKinsey Center for U.S. Health System Reform. Hospital networks: Perspective from four years of the individual market exchanges. May 2017. https://healthcare.mckinsey.com/hospital-networks-perspective-four-years-individual-market-exchanges

346 In each strategy section, HMA identified the evidence that supports potential impact on the following evaluation outcomes: savings; quality; population health; provider burden; administrative burden; and disparities reduction.

347 O'Conner, J and Spector, J. Milliman. High-Value Healthcare Provider Networks. July 2, 2014, https://www.ahip.org/wp-content/uploads/2016/02/High-Value-Provider-Networks-Issue-Paper-2014_07_01.final-pdf.pdf

348 Dafney L. et al. Narrow Networks On The Health Insurance Marketplaces: Prevalence, Pricing, And The Cost Of Network Breadth. Health Affairs 36, No. 9 (2017): 1606–1614

349 Sen, A. Most Marketplace Plans Included At Least 25 Percent of Local-Area Physicians, But Enrollment Disparities Remained. Health Affairs. 36, NO. 9 (2017): 1615–1624

350 Gruber, Jonathan, and Robin McKnight. Controlling Health Care Costs through Limited Network Insurance Plans: Evidence from Massachusetts State Employees. American Economic Journal: Economic Policy 8, no. 2 (May 2016): 219–250.

351 Haeder S, Weimer, D, and Mukamel D. California hospital networks are narrower in Marketplace than in commercial plans, but access and quality are similar. Health Aff (Millwood). 2015 May;34(5):741-8.

352 Gruber 2016.

network inclusion.[353] Some plans simply excluded high-priced providers and other plans entered into an exclusive or semi-exclusive alignment with a particular hospital system. The Catalyst for Payment Reform conducted interviews with twelve issuers serving various populations in 2016, which confirmed that price/premium targets are typically the primary goal in designing a narrow network.[354] Quality may be considered, but issuers often use their credentialing standards or their "physician designated" status (the issuer's assessment of a clinician's level of quality and cost efficiency) as the measure of quality. Milliman cited the following quality measures being considered by some plans to configure high-value provider networks:

- Episode Treatment Groups (ETG) total case analyses;
- NCQA Healthcare Effectiveness Data and Information Set (HEDIS);
- AHRQ Quality Indicators;
- Medicare Advantage and Part D Star Ratings;
- Integrated Healthcare Association (IHA) Pay for Performance (P4P) measures;
- Analyses of referral patterns; and
- Prescription drug prescribing patterns.

Evidence Related to Provider Burden

There has only been a small focus on the impact of narrow networks on provider burden. One study showed provider turnover was three percentage points higher in plans with narrow networks after one year and 20 percent higher after five years compared to broader network plans.[355] HMA did not find extensive evidence to report.

Evidence Related to Disparities

HMA found limited evidence on the association between narrow networks and health equity. A Health Affairs study matching the characteristics of enrollees in narrow and broad network plans found that Hispanic enrollees were significantly more likely to be in a narrow network plan than their non-Hispanic white counterparts. This research did not identify negative impacts to quality, patient experience or access.[356] The enrollment of low-income individuals also fell as network size increased.

Evidence Related to Access

Narrow networks have generated concern about reduced access and consumer choice as well as disruptions in continuity of care. However, evidence is inconclusive. Paul Ginsburg, a health care economist at the Brookings Institution recently noted there is no evidence to date that

---

[353] Corlette, S, Lucia, K and Ahn S. Implementation of the Affordable Care Act: Cross-Cutting Issues Six-State Case Study on Network Adequacy. Robert Wood Johnson Foundation. September 2014.

[354] Caballero A, Murray R, and Delbanco S. Are Limited Networks What We Hope And Think They Are? Health Affairs Blog. February 12, 2018. https://www.healthaffairs.org/do/10.1377/hblog20180208.408967/full/

[355] Ndumele C, et al. Network Optimization And The Continuity Of Physicians In Medicaid Managed Care

[356] Sen A. et al. Most Marketplace Plans Included At Least 25 Percent Of Local-Area Physicians, But Enrollment Disparities Remained. Health Affairs. 36, NO. 9 (2017): 1615–1624

quality of care is compromised compared to broader networks or that people are being denied access to care they need.[357] However, a secret shopper study of Covered California's plans in 2015 regarding the first year of consumers' experience enrolled pointed to potential access concerns for both primary care and acute needs based on wait times to get an appointment. The study pointed to a need for accurate provider directories with information about availability to ease consumer burden.[358] Other studies have pointed to decreased access to specialists such as mental health providers in the narrow network model.[359] Given that narrowing a network can expose consumers to out-of-network billing, several states have enacted legislation to shield consumers from surprise bills.[360]

Key Drivers and Enabling Tactics

Larger markets. Narrow networks are more likely to be successful in large urban markets with a significant provider supply. Price negotiation is more difficult in small areas which already have a limited supply of providers. Payer alignment around narrow network design (regional cost and quality benchmarks) would help providers prepare for narrow networks and allow for more inclusive networks that expand patient choice. Payers could also incentivize coordination between primary care providers and specialists through bundled payment or telemedicine arrangements to ensure that needed specialists are successfully engaged in a narrow network.

Considerations for Covered California's Next Contract Period

The evidence supports maintaining Covered California's current strategy around narrow networks. Narrow networks demonstrate savings potential, but limited studies have shown they positively (or negatively) impact quality. Most plans report incorporating quality in the design of the narrow network to Covered California, but how they consider quality is inconsistent and not subject to public scrutiny. Therefore, Covered California should continue to require issuers to report how they include quality in their network design and review the metrics to ensure they are meaningful. To ensure that access is not being compromised with limited networks, Covered California could use all assessment processes to assess quality of care.

---

[357] Findlay S. In Search of Insurance Savings, Consumers Can Get Unwittingly Wedged Into Narrow-Network Plans. Kaiser Health News. November 1, 2018.

[358] Haeder S, Wimer D and Mukamel D. Secret Shoppers Find Access To Providers and Network Accuracy Lacking for Those in Marketplace and Commercial Plans. Health Affairs 35, No. 7 (2016): 1160–1166.

[359] Zhu J, Zhang Y and Polsky D. Networks in ACA Marketplaces are Narrower for Mental Health Care Than for Primary Care. Health Affairs 36, NO. 9 (2017): 1624–1631.

[360] New York State Health Foundation. Issue Brief: New York's Efforts to Reform Surprise Medical Billing. February 2019. https://nyshealthfoundation.org/wp-content/uploads/2019/02/new-yorks-efforts-to-reform-surprise-medical-billing.pdf.

Finding 2: Tiered networks may be an effective tool to lower expenditures with fewer restrictions on consumer choice but the design matters; the trade-off between complexity and consumer benefit (quality improvement, cost savings) is not yet clear.

Tiering networks involves grouping network providers based on value, generally a combination of cost and quality performance. Under this arrangement, consumers pay different rates of cost sharing for the various tiers.

Evidence Related to Savings

The impacts of tiering hospital and physician networks based on cost and performance have not been extensively studied. The Institute of Medicine (IOM) summarized the current state of evidence in its *Roundtable on Value & Science-Driven Health Care* in 2010 and found "no peer-reviewed literature examining the effect of physician tiering strategies on any kind of outcome, including physician choice, quality improvements, clinical outcomes, costs, or expenditures."[361] One recent study points to tiered networks as having savings potential in the form of lower expenditures. The study of Blue Cross Blue Shield of Massachusetts' (BCBSMA) tiered network found the value-based network was associated with $43.36 lower total adjusted medical spending per member per quarter, representing around a five percent decrease in spending relative to enrollees in similar plans without a tiered network.[362] Another study demonstrated that BCBSMA's three-tiered hospital network was successful in driving patients to seek care at preferred and middle tier hospitals relative to non-preferred hospitals.[363] The authors warn, however, that tiered networks may lead to patients paying higher out-of-pocket costs for lower-tier providers.

In theory, tiering could help shield consumers from billed charges stemming from receiving care from non-participating providers. However, HMA did not find any evidence to this effect. In part, physicians who can engage in out-of-network billing can demand high in-network rates, making contracting costlier. Issuers can be limited in their ability to pressure hospital networks to have their providers accept in-network rates, especially if the hospital has significant market clout.[364]

The design of tiered networks matters in the extent to which they impact consumer decision-making. An Urban Institute study found many tiered network plans do not have large enough

---

[361] Institute of Medicine (US) Roundtable on Value & Science-Driven Health Care; Yong PL, Olsen LA, McGinnis JM, editors. Washington, DC: National Academies Press (US); 2010.

[362] Sinaiko, A. Enrollment In A Health Plan With A Tiered Provider Network Decreased Medical Spending By 5 Percent. Health Affairs 36, NO. 5 (2017): 870–8757

[363] Chernew M. The Impact of a Tiered Network on Hospital Choice. The Commonwealth Fund. April 22, 2015.

[364] Adler L, et al. State Approaches to Mitigating Surprise Out-of-Network Billing. USC-Brookings Schaeffer Initiative for Health Policy. February 2019.

differentials between tiers to alter consumer behavior. [365] Massachusetts law requires plans to offer a base premium that is 12 percent lower than non-select or non-tiered plans.[366]

Evidence Related to Quality

Tiers are often described as being designed based on some combination of price, quality, safety and efficiency. HMA did not find evidence suggesting that providers were motivated to improve performance on quality to shift to a lower cost/higher volume tier. This could partially be due to the fact that tiers do not always closely align with variation in quality.[367]

Evidence Related to Provider Burden

Tiered networks reward providers by being in a preferred tier but there are other forces at play, such as anti-tiering contract clauses and weak benefit incentives, that limit the extent to which consumers are steered to one provider or another as noted above. The IOM review discussed historical clinician resistance to tiering methodology, leading to legal action against plans for not adequately measuring the quality of physician care.

Evidence Related to Disparities

The review did not find evidence that tiered networks impacted disparities, but this has not been widely studied. One 2008 study reviewed Aetna's tiered network for self-insured employers and generally found no differences in minority patient distribution across designated and non-designated tiers.[368] However, this study requires further corroboration.

Evidence Related to Consumer Literacy

Communicating these complex benefit designs to consumers remains a challenge and the evidence does not suggest a successful strategy to overcome the complexity. CMS' Center for Consumer Information and Insurance Oversight is in the process of developing and testing the most effective ways of communicating network size to consumers to aid in plan choice.[369]

Key Drivers and Enabling Tactics

Competitive markets. Tiered networks may be more successful in a competitive, larger provider market versus consolidated markets as there is likely more opportunity to sort by value. Tiering is only effective where providers have the capacity to take on new patients.

---

[365] Delbanco S. et al. Payment Methods and Benefit Designs: How They Work and How They Work Together to Improve Health Care. Tiered Networks. Urban Institute. April 2016.

[366] Commonwealth of Massachusetts. Sessions Laws. Acts (2010). Chapter 288. An Act To Promote Cost Containment, Transparency And Efficiency In The Provision Of Quality Health Insurance For Individuals And Small Businesses.

[367] Sinaiko A. 2017.

[368] Brennan TA et al. Do managed care plans' tiered networks lead to inequities in care for minority patients? Health Aff (Millwood). 2008;27(4):1160–1166

[369] CMS. Center for Consumer Information & Insurance Oversight. Updated CMS Bulletin on Network Breadth Information for Qualified Health Plans on HealthCare.gov. June 9, 2017.

Any strategy to tier networks should include proven strategies to assist consumers in understanding these complex benefit designs. Otherwise consumers may be unaware that they are buying a product with more limited provider access and significant cost differentials.

Considerations for Covered California's Next Contract Period

The evidence on tiered networks is still nascent and not yet robust enough to support tiered provider networks as significantly improving consumer wellbeing in the face of significant complexity. Covered California should continue to monitor the evidence as it builds to assess whether the goal of tiered networks in driving consumers to lower cost and higher quality providers is being borne in the form of savings and quality improvement.

Finding 3: Reference pricing results in higher use of lower-price facilities for large group plans; relatively untested in small group and individual markets. While there is no evidence that providers raise prices on other services as a consequence of reference pricing, reference pricing has yet to demonstrate that it can lower premiums.

Under reference pricing, a plan or purchaser determines a fixed contribution they will make towards the cost of a specific health care service. Consumers would pay the difference between the "reference price" and the cost of the provider or service they select.

Evidence Related to Savings

Reference pricing initiatives have resulted in expenditure reductions for payers due to an increase in consumer selection of lower cost providers and shifting of costs above the reference price to consumers. Most empirical studies of reference pricing come from a review of the California Public Employees' Retirement System (CalPERS) reference pricing initiatives. CalPERS saw a savings of $2.8 million for their reference pricing program for hip and knee replacement surgeries in 2011, with 84.6 percent of the savings reportedly coming from hospitals lowering their prices.[370] In a review of reference pricing initiatives over time, authors found the impact on cost-sharing for patients varied but in all cases employer and insurer expenditures decreased. The authors estimated total potential savings from implementing reference-based pricing at $19.59 billion (ranging from $340 million for cataract removal to a high of $7.59 billion for labs).[371]

Other state employee health plans have experimented with reference pricing. According to their bureau chief of health plan operations, the State of Montana Benefit Plan saved $13.6 million under its initiative to link hospital payments to a percent of Medicare rates over the last three years.[372] North Carolina's State Health Plan is starting a similar effort.

---

[370] Families USA. How to Make Reference Pricing Work for Consumers. June 2014.

[371] Robinson J, Brown T, Whaley C. Reference Pricing Changes the 'Choice Architecture' of Health Care For Consumers. Health Affairs 36, NO. 3 (2017): 524–530 ©2017

[372] Livingston S. Montana's experiment in reference-based pricing has saved $13.6M so far. Modern Healthcare. March 2, 2019.

There is no evidence that a reference price translates to lower premiums. The studies also did not test whether the price of other services increased as a consequence of the reference price.

Evidence Related to Quality

While the primary goal of reference pricing can be to drive selection of lower-cost providers, payers can also build in quality standards such as quality thresholds or lower consumer cost-sharing for higher-quality providers even if they do not charge the lowest price.[373] Most studies to date assessed the quality impacts of reference pricing based only on the measure of surgical complications, which showed no change.[374] However, other important indicators of quality have not been studied.

Evidence Related to Provider Burden

Reference pricing may reward high-value providers with additional volume but is largely used as a tool to reduce price variation. In some cases when providers find themselves above the reference price, they have re-negotiated to come within the reference price.

Evidence Related to Administrative Burden

Adoption of reference-based pricing as a network management tool is extremely complex. Network adequacy standards have not been developed to address the issue of plans submitting a large network to meet adequacy requirements but setting a reference price that may effectively limit the network based on cost-sharing. Some posit setting a reference price too high could result in clustering around the reference price, driving further inefficiency, while a low reference price could face provider resistance.[375] The federal government released guidance on reference pricing for large group plans but indicated additional requirements would apply to individual and small group markets.[376]

Key Drivers and Enabling Tactics

Services with price variation. Reference pricing is most effective when applied to high cost services with large price variations, when consumers have the time and ability to compare the price. Reference pricing may have limited or no impact when implemented in markets with high rates of provider consolidation. Programs should incorporate exceptions based on clinical needs and geographic location of patients (e.g. exceptions when patients live far from a facility that offers pricing below the reference price).

---

[373] Delbanco S et al., op. cit.

[374] Robinson J. 2017.

[375] AMA Council on Medical Service. Reference Pricing Report. March 1, 2013.

[376] Department of Labor. FAQs about Affordable Care Act Implementation Part 31, Mental Health Parity Implementation and Women's Health and Cancer Rights Act. April 2016.

Combining clear and transparent information to consumers along with active outreach appears to improve the effectiveness of efforts to encourage consumer selection of lower-cost services.[377]

Considerations for Covered California's Next Contract Period

Data is not conclusive as to the impact of reference pricing outside of expenditure reductions for select large group plan experiments. Before widely rolling out a reference pricing program, especially given the administrative burden involved in changing the standard benefit design, Covered California should gather more evidence on the long-term cost, quality and access impacts of reference-based pricing. However, there are steps Covered California's issuers can take to build the foundation for reference pricing while evidence is being gathered, including identifying price variation in their networks, and establishing methods to share price and quality information with consumers in an easy-to-use format.

Finding 4: Large employers have found savings and quality improvement combining bundled payment and Centers of Excellence. However, no standards exist for designating Centers of Excellence.

The principle of Centers of Excellence contracting is to guide patients to entities that provide high quality care at discounted prices based on an assured volume of patients. Initially these programs were aligned with highly specialized procedures such as organ transplants that require expert providers. However, this practice has been extended to more common procedures.[378] Designation as a Center of Excellence is not regulated, and the title can therefore be used at will. This makes it difficult to attribute general impacts to a Center of Excellence model. However, HMA reviewed key examples for insights into this strategy.

Large Employer: Walmart Stores and Spine Surgery

Walmart identified providers with a track record of delivering high-value spinal care to identify potential Center of Excellence partners to perform spine surgery for its employees – the employer ultimately contracted with seven locations due to the geographic diversity of the workforce. Walmart covers 100 percent of the costs of evaluation and surgery at the Center of Excellence rather than standard cost sharing. They established pre-set rates for bundled care, which could be set 10-15 percent lower than traditional standard fee-for-service arrangements. Success measures reviewed included: the number of unneeded surgeries, length of stay, readmission rate, complication rate, out-of-network utilization and adherence to Center of Excellence recommendations. Walmart saw savings, primarily from a reduction in medically unnecessary surgeries.[379] In 2017, the employer made surgeries outside the Center of

---

[377] Wu S. et al. Price Transparency For MRIs Increased Use Of Less Costly Providers And Triggered Provider Competition. Health Affairs. 33, NO. 8 (2014): 1391–1398

[378] Robinson J and MacPherson K. Payers Test Reference Pricing and Centers of Excellence to Steer Patients to Low-Price and High-Quality Providers. Health Affairs 31, NO. 9 (2012): 2028–2036.

[379] Catalyst for Payment Reform. Centers of Excellence: Walmart Stores, Inc. Case Study.

Excellence an out-of-network benefit, exposing employees to 50 percent co-insurance. Walmart has expanded the program to total joint replacements, cancer care and weight loss.

Large Employer: Centers of Excellence Network

The Pacific Business Group on Health established the Employers Centers of Excellence Network (ECEN), negotiating bundled payments for its contracted Centers of Excellence for total joint replacement, spinal surgery and bariatric surgery. ECEN describes using a robust evaluation process, with fewer than five percent of health care systems initially identified meeting all quality requirements for consideration.[380] Participating Centers of Excellence are able to give ECEN a lower price than they negotiate with issuers, partially because they are receiving ECEN volume from outside their normal service area.[381] The ECEN is typically an optional benefit that sits on top of the regular employer benefits. The program has successfully reduced unnecessary care; 16 percent of candidates for joint surgery avoided inappropriate surgery.[382] A cancer Center of Excellence (City of Hope) was added to the network in January 2019. The list of ECEN Centers of Excellence are provided at the end of Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Large Employer: Washington State Health Care Authority (HCA)

According to the agency's website, the Washington HCA began using a Center of Excellence program for hip and knee replacements under its self-insured plan in 2017. They require providers to meet clinical criteria established by the Dr. Robert Bree Collaborative, a group of stakeholders established to identify strategies to improve the affordability and quality of health care in Washington.[383] The provider must follow the Bree criteria and document them in the patient record. In the first year, 95 joint replacement surgeries were performed with the designated Center of Excellence, Virginia Mason, and the average out-of-pocket cost saved by members was $988.46. [384] HCA recently added a spine care Center of Excellence program.

Medi-Cal: Transplant Centers of Excellence

The California Department of Health Care Services (DHCS) requires the use of Centers of Excellence for specific procedures carved out of Medicaid managed care such as bone marrow, heart, and liver transplants. When a member is identified as an appropriate transplant candidate, plans must refer the member to a Medi-Cal approved Center of Excellence transplant center. Initially DHCS aligned its Center of Excellence contracting criteria with CMS. However, DHCS staff reports they are currently reevaluating their Center of Excellence criteria.[385] The

---

[380] Slotkin R, Ross O, and Ryu, J. Why GE, Boeing, Lowe's, and Walmart Are Directly Buying Health Care for Employees. Harvard Business Review. June 8, 2017.

[381] Correspondence with ECEN staff on January 28, 2019.

[382] Jonathan R Slotkin et al., Lowe's, and Walmart Are Directly Buying Health Care for Employees. Harvard Business Review. June 8, 2017.

[383] Dr. Robert Bree Collaborative. Total Knee and Total Hip Replacement Bundle and Warranty. 2017.

[384] Washington State Health Care Authority. Centers of Excellence (COE) – COE Results.

[385] California DHCS benefits staff could not be reached prior to submission of this report to provide more detail on how the criteria will change or if savings have been achieved.

current list of Centers of Excellence is provided at the end of Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Evidence Related to Savings

The cases above offer evidence that Center of Excellence models combined with a bundled payment and benefit incentives can result in savings for both the purchaser and consumer. There were few empirical studies quantifying the potential savings. A case study found for the 95 members who received joint replacements through Washington HCA's Center of Excellence program in 2017, the state saved more than 15 percent compared to surgeries performed outside the Center of Excellence and members saved a collective $94,000.[386]

Evidence Related to Quality

There did not appear to be evidence of best practices in Center of Excellence referral or standardized quality criteria. In most of the models HMA reviewed, purchasers or payers set up their own criteria using a combination of CMS Hospital Compare measures, Medicaid measures, service-specific measures from professional associations such as the American College of Orthopedic Surgeons and internal quality metrics. A Center of Excellence program can be viewed as a competitive business advantage and therefore criteria may not be made available publicly.

Like savings, there are few empirical studies of the impact of Center of Excellence models on quality. Reviews of the Medicare Center of Excellence program for bariatric surgery found Center of Excellence facilities did not consistently have better outcomes than non-Center of Excellence facilities, resulting in Medicare dropping its requirement for bariatric facility certification.[387] A study looking at spine surgery Centers of Excellence found similarly that readmission and complication rates were comparable to non-Center of Excellence hospitals.[388]

Evidence Related to Provider Burden

Centers of Excellence show preference for national elective procedure markets, potentially impacting local providers that may no longer receive revenue for high-paying services.[389]

Evidence Related to Administrative Burden

Centers of Excellence program administrators found establishing the program and developing the prospective payment model to require substantial effort, coordination and resources. For example, the Washington HCA Center of Excellence core team included a program manager with expertise in provider strategies, a program specialist with experience in benefit design, the

---

[386] *Key Resource:* Peterson M and Rolph S. NEJM Catalyst. Improving Care by Redesigning Payment. Case Study. October 9, 2018.

[387] CMS. Decision Memo for Bariatric Surgery for the Treatment of Morbid Obesity - Facility Certification Requirement (CAG-00250R3).

[388] Mehrotra A, Sloss E, Hussey P, Adams J, Lovejoy S, SooHoo N. Evaluation of a center of excellence program for spine surgery. Med Care. 2013;51(8):748–757

[389] Delbanco S, Murray R, Berenson R and Upadhyay, D. Payment Methods and Benefit Designs: How They Work and How They Work Together to Improve Health Care- Centers of Excellence. Urban Institute / Catalyst for Payment Reform. April 216.

Chief Medical Officer, subject matter experts (nursing, finance, contracts), and a project manager during implementation as well as a third-party program administrator. Plans who choose to implement a Center of Excellence model combined with bundled payment must have the administrative systems and sophistication to pay in bundled form. To encourage consumers to seek care at the Center of Excellence, plans may also need to implement cost-sharing differentials.

Evidence Related to Disparities

Limited studies have illustrated the potential for inequitable access to Centers of Excellence by racial and ethnic minorities. For example, a study of CMS' national coverage decision restricting Medicare patients to Centers of Excellence for bariatric surgery found the policy was associated with a relative decline in the proportion of nonwhite Medicare patients receiving bariatric surgery.[390] While this policy no longer exists, it illustrates the need to assess unintended consequences for minority populations in establishing Center of Excellence requirements. Entities like the Diverse Cancer Communities Working Group are working to develop solutions and innovations to optimize access to specialized treatment and clinical trial inclusion for ethnic minorities.

Key Drivers and Enabling Tactics

Plan negotiating power. If a plan has more exclusive contracts with Centers of Excellence, they may have more negotiating power to lower prices based on volume. However, geographical spread may be a concern in terms of access. Providers may be reluctant to offer a discounted bid rate to a payer with whom they already have a higher negotiated rate, potentially posing a challenge to Center of Excellence contracting. Plans also may resist adopting too high of a quality standard for Centers of Excellence to avoid excluding key providers in their network.

Considerations for Covered California's Next Contract Period

More transparency is required to understand what standards for Centers of Excellence and what types of Center of Excellences lead to positive impacts on cost and quality. Covered California could require its plans to disclose the standards they use for their Center of Excellence programs along with available evaluation data to begin to draw connections between program design and success. In addition, plans could report on effective mechanisms to incentivize consumers to select Center of Excellence providers.

Key Resources Monitoring New Research

The following are resources, organizations, and other references that Covered California should monitor to stay up to date on the evidence related to this strategy.

Among the resources cited in this section and listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates, several stand out. HMA recommends annually checking for updates or follow-on work from the following:

---

[390] Nicholas L and Dimick J. Bariatric Surgery in Minority Patients Before and After Implementation of a Centers of Excellence Program. JAMA. 2013 Oct 2; 310(13).

- Dafney L, Hendel I, Marone V, Ody C. Narrow Networks on The Health Insurance Marketplaces: Prevalence, Pricing, And the Cost of Network Breadth. Health Affairs 36, No. 9 (2017): 1606–1614.
- Haeder S, Wimer D and Mukamel D. Secret Shoppers Find Access to Providers and Network Accuracy Lacking for Those in Marketplace and Commercial Plans. Health Affairs 35, No. 7 (2016): 1160–1166.
- Institute of Medicine (US) Roundtable on Value & Science-Driven Health Care; Yong PL, Olsen LA, McGinnis JM, editors. Washington (DC): National Academies Press (US); 2010.
- Sinaiko, A. Enrollment in A Health Plan with A Tiered Provider Network Decreased Medical Spending By 5 Percent. Health Affairs 36, NO. 5 (2017): 870–8757.

For more evidence on the impacts of narrow networks, Covered California should monitor Health Affairs, Urban Institute, The Commonwealth Fund, Health Payer Intelligence (Authors: Sabrina Corlette, Simon Haeder, Leemore Dafny, Jane Zhu, Catalyst for Payment Reform) and search PubMed using the terms “narrow network” or “limited network”.

For more evidence on the impacts of tiered networks, monitor Health Affairs, Urban Institute, The Commonwealth Fund (Authors: Michael Chernew, Paul Ginsburg, Elena Prager, Jaime Robinson, Anna Sinaiko, Catalyst for Payment Reform) and search PubMed using the terms “tiered network” or “value-based network”. Often the terms narrow networks and tiered networks are used interchangeably. For more evidence on the impacts of reference pricing, monitor Health Affairs and the Employee Benefit Research Institute (Authors: Timothy Brown, Paul Fronstin, Kimberly MacPherson, James Robinson, Christopher Waley) and search PubMed using the term “reference pricing” or “reference-based pricing”.

Collecting further empirical evidence on Centers of Excellence success is challenging given the dilution of the term. However, following up on the case studies provided in this section will be a good indicator of whether initiatives are improving quality and producing savings over time. Searching on PubMed for “Centers of Excellence” also produces some empirical results.

Section 2. Review of Measures and Benchmarks for Networks Based on Value

This section of the report on Networks Based on Value is the product of PricewaterhouseCooper's (PwC) detailed review of measures and benchmarks that can be used by Covered California to assess quality care is being delivered and that its contracted health plans use effective strategies to promote improvements in how care is delivered. The section includes a review of Covered California's current measurement strategy which is followed by considerations for revising those measures and specific recommendations for Covered California's consideration.[391]

Covered California's Current Required Measures

Takeaways:

- **Qualified Health Plan (QHP) network value can be assessed using access and quality measures to compare QHPs to commercial plans to determine to what extent narrow networks are impacting enrolees.**
- **While almost all QHPs report use of Centers of Excellence, there is limited reporting on efforts to direct members to those facilities and limited information on their comparative quality and value.**

As shown below, Covered California has a range of measures pertaining to value-based networks (see Table 1, Covered California Required Measures, Qualified Health Plan Performance Data and Sources of Potentially Relevant Comparisons). PwC has also summarized QHP performance data and sources of potentially relevant comparisons.

Table 1. Covered California Required Measures, Qualified Health Plan Performance Data, and Sources of Potentially Relevant Comparisons

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
Report provider and hospital selection factors; must include quality measures such as clinical, safety, patient experience, and cost [§1.02(2)]	Selection Factors - Credentialing and Accreditation, Quality/Healthcare Effectiveness Data Information Set (HEDIS), Integrated Healthcare Association (IHA) Align, Measure, Perform (AMP), Public Quality Data (Leapfrog)	Office of Patient Advocate (OPA)/HEDIS/IHA physician group, Cal Hospital Compare
Adoption of Alternative Payment Models [§8.02(2)]	Seven QHPs ranked on track and two QHP ranked strong performance by increased use of category 3 and 4 alternative payment models described in the Health Care Payment Learning & Action Network (HCP LAN) model framework	HCP LAN survey of payment mechanisms and risk sharing/other surveys, Medicare and state Medicare program targets, Washington State Health Care Authority

[391] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures. To view the full list of measures recommended by PwC, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

Considerations for Revising Covered California's Measures

In developing measures and data recommendations for Covered California, PwC considered the following:

- Current issuer value-based payment (VBP) reporting does not indicate specific measures or the weightings of those measures.

- In a 2017 RAND systematic review, Ahluwalia et al. 2017 found no consistent definition of a High Performing Health Care Delivery System. Common measures include quality, cost, access, equity, patient experience and safety, with the most common combination being quality and cost.

- Medicare and many state Medicaid programs have established targets for adopting value-based payments. California public hospitals under the Medi-Cal Delivery System reform Investment Pool have set the goal of 60 percent of Medicaid managed care beneficiaries in an Alternative Payment Model by 2020) (see e.g., Heider et al. 2017).

- Metrics are more developed around hospital payment than physician payment due to complexity of issues of attribution and volume.

- Providers that care for disproportionate numbers of disadvantaged patients tend to perform less well than other providers in pay for performance programs, leading to redistribution of resources away from providers needing them most.

    - Hu et al. 2017 found that outcome measures had stronger associations with sociodemographic factors (SDS) than did process measures that are under the control of the provider. The authors studied twenty-two primary care sites of a large multispecialty group practice. As part of the same care organization, the clinics differed primarily by the SDS of the neighborhoods they served, and not by the quality of care delivery as measured by structural and process measures. The authors concluded that rewards and punishments would create strong incentives for physicians to avoid serving low income patients.

    - Chen et al. 2017 found that in its first year, Medicare's Physician Value-Based Payment Modifier (PVBM) program rated the physician practices that served more patients who were of either socially or medically high-risk as lower quality. (Practices exposed to high social risks were defined as those in the top quartile of the proportion of patients dually eligible for Medicare and Medicaid.) There was strong financial incentive in only serving the population that is the easiest to manage.

    - Maddox et al. 2017 found that nearly one third of the first-year participants in Medicare's Physician Value-Based Payment Modifier (PVBM) program were penalized for failing to successfully register and report quality measures. The participants that were penalized were more likely to be smaller practices that lack functional electronic health records (EHR).

  - Roberts et al. 2017 found that Medicare's Physician Value-Based Payment Modifier (PVBM) program had no effect on the quality or efficiency of care, but disproportionately penalized practices that cared for poor or sicker patients.

- The Washington Health Care Authority (HCA) is annually surveying health plans and providers to assess purchaser and provider response to the state Value Based Purchasing initiative.[392]

  - Enablers for APM adoption include aligned quality measures and definitions, aligned incentives and contract requirements, trusted partnerships, and state-based initiatives.

  - Barriers to APM adoption include data system interoperability, lack of timely data to assist with patient and financial management, disparate measures/definitions, and health plan current provider contract incentives and requirements, and regulatory changes.

  - As a result of the shift to VBP, health plans are increasingly shifting care coordination and quality management functions to contracted providers. Most health plans still retain the utilization management function as well as provider network management and provider payment functions.

Measures and Data Recommendations

Following are measures and data recommendations for Covered California:

1. Covered California should leverage existing HEDIS measures to compare quality and access of QHPs to Commercial plans to understand the relative value of QHP narrow networks.

2. Recommend adding measures for PCP-to-member and total physician-to-member ratios. To the extent ratios are available by rating region or county, it may highlight areas with more prevalent access issues.

3. Continue using Cal Hospital Compare, California Department of Public Health hospital rankings, Leap Frog, Centers for Medicaid and Medicare Services (CMS) hospital ratings, OPA/IHA physician ratings and other available metrics. Now that IHA Atlas data is available, continue efforts with IHA, providers and issuers to assess the value of each QHP provider network.

4. Continue to adopt HCP LAN APM payment definitions and collect data consistent with that framework. It is typical to measure APM adoption as a percent of revenue or payment and percent of membership assigned to providers under such contracts.

---

[392] Washington State Health Care Authority. (2018). Value Based Purchasing Survey Results 2017 VBP Experience. https://www.hca.wa.gov/assets/program/2018-vbp-survey-analysis-public.pdf.

Covered California could update its data collection process to be more consistent with the HCP LAN APM framework.

5. Establish benchmarks for APM categories 3 and 4.

    a. APM Benchmarks should be established over an agreed upon timeframe.

    b. Based on figures reported in HCP-LAN's 2018 APM Measurement Report, plans reported 28.3% of Commercial provider payments under APM categories 3 and 4 combined.[393] Washington State reports 35% of 2017 commercial payments under APM categories 3 and 4. Reasonable benchmarks for progress towards adoption of APMs would be other public programs, such as Medicare. HHS set a goal of 50% of FFS payments in APM categories 3 and 4 by 2018, however the HCP-LAN report indicates only 38.3% of payments in those categories as of 2017.

    c. For commercial line of business, the latest HCP-LAN reported values are 26.6% and 1.7% of payments, respectively for category 3 and 4. For 2017, the Washington HCA survey indicated that 26% of payments and 16% of commercial members were associated with category 3 contracts and 9% of payment and 11% of members with category 4 contracts.

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and industry articles, and assessed measures on several attributes, including strength of evidence, alignment with other purchasers and feasibility of reporting (see Table 2, PwC Recommended Measures for Networks Based on Value).[394]

Table 2. PwC Recommended Measures for Networks Based on Value

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
QRS Survey Measure (Access to Care)	Existing	QHPs	QRS	High	High	High	High	High
QRS Survey Measure (Rating of All Health Care)	Existing	QHPs	QRS	High	High	High	High	High

[393] http://hcp-lan.org/workproducts/apm-methodology-2018.pdf.

[394] For the criteria used by PwC to assess measures, please see Table 3, Measure Assessment Structure Applied by PwC, in the chapter on Summary Recommendations on Measures and Benchmarks. For a detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
QRS Survey Measure (Rating of Personal Doctor)	Existing	QHPs	QRS	High	High	High	High	High
QRS Survey Measure (Rating of Specialist)	Existing	QHPs	QRS	High	High	High	High	High
Percentage of dollars paid under HCP LAN category 3 and 4.	Existing	QHPs	CMS	High	High	High	Medium	High
Percentage of in-network hospitals with low safety ratings	Existing	Covered California	n/a	High	High	High	High	Medium
PCP to member ratio (by rating region or county)	New	QHPs	Medi-Cal, CA regulation	High	High	High	High	High
Physician to member ratio (by rating region or county)	New	QHPs	Medi-Cal, CA regulation	High	High	High	High	High

Note: "Stretch" measures are measures Covered California may consider promoting or tracking in the future. Since provider clinical data is required for reporting, it may be challenging unless mechanisms are put in place to support it.

To review the background research completed by PwC to inform these measures and data recommendations, please see Appendix 3, Bibliography Supporting Measures Review by PricewaterhouseCoopers.

Chapter 7: Promotion of Effective Primary Care

Effective Primary Care that is well integrated, coordinated, continuous, team-based, and data-driven is the foundation of providing appropriate and equitable care. While many consumers benefit from an ongoing continuous relationship with a single physician, others may be able to receive effective primary care through sites of care or delivery systems that are well integrated.

This chapter on Promotion of Effective Primary Care is organized into two sections:

Section 1. Review of Evidence for Promotion of Effective Primary Care was prepared by Health Management Associates (HMA) and provides a review of the evidence related to health plan strategies to strengthen and make primary care more effective. The evidence review is followed by specific findings that represent opportunities or challenges for Covered California and then recommendations for how Covered California can monitor evidence on an ongoing basis.

Section 2. Review of Measures and Benchmarks for Promotion of Effective Primary Care was prepared by PricewaterhouseCoopers (PwC) and provides a review of Covered California's current required measures, considerations and recommendations for revising its measures in this area.

Section 1. Review of Evidence for Promotion of Effective Primary Care

Covered California contracted with HMA to conduct an evidence review in ten strategy areas that health insurance payers can utilize to drive value in health care. The review's results are presented here.[395] This chapter includes direct citations of the best evidence within the discussion of this strategy; information from additional sources was also used for this report and is listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Background

This review identified evidence of the overall value of primary care as part of the broader delivery system and strategies to strengthen and make primary care more effective.

Given the breadth of evidence on primary care, this review focused on recent systematic reviews and syntheses of primary care research. In addition, the review identified state reports and other literature on focused topic areas that are not addressed through the systematic reviews, such as evaluations of state efforts in Rhode Island and Oregon to set primary care spending targets.

Finding 1: Primary care is foundational to an effective health care system and evidence supports that more primary care is associated with lower health care spending and higher quality.

Research demonstrates the value of primary care in improving patient outcomes and reducing total health care expenditures. Greater use of primary care has been associated with lower

[395] To view a more detailed description of HMA's approach, project team, and methods for literature review and evidence gathering, please see Appendix 1, Background on Expert Review of Evidence and Measures.

costs, higher patient satisfaction, reduced low birthweight, fewer hospitalizations and emergency department visits, and lower mortality, among key outcomes.[396, 397, 398]

A recent nationally representative study comparing U.S. adults with and without primary care (determined by the 4 "Cs" of primary care: first-contact care that is comprehensive, continuous, and coordinated) found having primary care is associated with significantly greater high-value care and better health care experience. For example, adults with comprehensive, continuous, and coordinated primary care were more likely to receive cancer screenings (78 percent of those with primary care compared to 67 percent of patients without). The largest between-group differences were seen in colorectal cancer screening (16 percent difference) and mammography (14 percent difference).[399]

The importance of primary care is further reflected in the fact that the U.S. spends more than twice as much as other developed countries on health care, spends a far lower share on primary care, and experiences worse outcomes in life expectancy and mortality. Countries with stronger primary care systems have lower costs and better outcomes, including lower rates of mortality, hospitalizations for ambulatory care sensitive conditions, and low birthweight.[400] The percentage of total U.S. health care spending on primary care is estimated to range between 5.8 and 7.7 percent.[401] Some experts and academic literature indicate that the primary care spend goal should be 10 to 12 percent or double the current national average.[402] According to the Organization for Economic Cooperation and Development (OECD), the average primary care spending rate across 24 developed countries is 12 percent.[403] This review identified two states, Oregon and Rhode Island, that have established primary care spending targets (12 percent and 10.7 percent, respectively), which have led to increased primary care spending meeting the target levels in each state.[404, 405]

Experience in Canada has underscored the value of assigning patients to a primary care provider. A peer-reviewed study exploring primary care costs and total health care spending of patients across different primary care payment models in Ontario found that patients who were not enrolled with a primary care provider had an average of $130 per patient per year higher total health care costs (significance at $p < 0.05$) compared to the reference group of patients

---

396 Friedberg, M.W., Hussey, P.S., Schneider, E.C. (2010). Primary Care: A Critical Review of evidence on quality and costs of health care. Health Affairs.

397 Starfield, B., Shi, L., Macinko, J. (2005). Contribution of Primary Care to Health Systems and Health. Milbank Quarterly.

398 Shi, L. (2012). The Impact of Primary Care: A Focused Review. Scientifica (Cairo).

399 Levine D.M., Landon B.E., Linder J.A. (2019). Quality and Experience of Outpatient Care in the United States for Adults With or Without Primary Care. JAMA Intern Med.

400 Friedberg, et al., op. cit.

401 Patient Centered Primary Care Collaborative (2018). Consensus Recommendations on Increasing Primary Care Investment.

402 Gold, S.B., Park, B.J. (2016). Effective Payment for Primary Care: An Annotated Bibliography. Farley Health Policy Center.

403 Christopher F. Koller and Dhruv Khullar. (2017). Primary Care Spending Rate – A Lever for Encouraging Investment in Primary Care. New England Journal of Medicine. doi: 10.1056/NEJMp1709538

404 Senate Bill 934 (2017).

405 State of Rhode Island, Office of Health Insurance Commissioner, Affordability Standards.

who were enrolled with a primary care provider operating within a traditional fee-for-service arrangement.[406] Subject matter experts consulted in this review noted that a large U.S. commercial issuer has cited this research as part of the evidence base supporting a new pilot program requiring patients to select a primary care provider from within an identified network of providers. Like Covered California's current approach, the primary care provider in this new commercial program, launched in 2019 in select markets, would not serve as a "gatekeeper" for the patient. This review otherwise identified limited literature exploring whether requiring patient assignment to a primary care provider leads to improved cost or quality.[407, 408]

Finding 2: Some Advanced Primary Care models have demonstrated the potential of effective primary care to improve health and reduce costs and have played a key role in ACO efforts to reduce the total costs of care. Since not all primary care promotion efforts have demonstrated success, the focus should be on supporting those elements of advanced primary care that show the greatest impact and potential.

Over the last decade, state policymakers, private insurers, and other health systems have pursued support for different types of advanced primary care arrangements, including Patient-Centered Medical Homes, as a key strategy for strengthening primary care.

In 2017, the Patient Centered Primary Care Collaborative supported a coalition of 300 diverse stakeholder leaders to create the *Shared Principles of Primary Care*, defining the most important features of advance primary care practices:[409, 410]

- Person and Family Centered;
- Continuous;
- Comprehensive and Equitable;
- Team-Based and Collaborative;
- Coordinated and Integrated;
- Accessible; and
- High-Value.

The *2017 Shared Principles* are aspirational features for which primary care practices can strive. They build on the "Joint Principles of the Patient Centered Medical Home" released in 2007 by the American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), American College of Physicians (ACP), and American Osteopathic Association (AOA), and broader engagement of diverse stakeholders around important features of effective primary

---

[406] Hutchison, B. et al. (2011). Primary health care in Canada: systems in motion. The Milbank Quarterly, 89(2), 256-88.

[407] Bazemore A et al.. Higher Primary Care Physician Continuity is Associated With Lower Costs and Hospitalizations. Annals of Family Medicine November/December 2018 16:492-497.

[408] Maude, L. et al.(2017). Costs of health care across primary care models in Ontario. BMC Health Services Research, 17(511).

[409] Patient Centered Primary Care Collaborative. (2017). *Shared Principles of Primary Care*.

[410] Epperly, T., Bechtel, C., Sweeney, R., Greiner, A., Grumbach, K., Schilz, J., Stream, G., O'Connor, M. (2019). The Shared Principles of Primary Care: A Multistakeholder Initiative to Find a Common Voice. Annals of Family Medicine., Appendix 1: https://journals.stfm.org/media/2045/epperly-appendix1.pdf

care models. The 2017 Shared Principles also align with 10 Building *Blocks of High-Performing Primary Care* developed by Thomas Bodenheimer and colleagues in 2014 to describe existing high-performing practices as well as serve as a model for improvement. The 10 building blocks include four foundational elements (engaged leadership, data-driven improvement, empanelment, and team-based care) that assist in the implementation of the other six building blocks (patient-team partnership, population management, continuity of care, prompt access to care, comprehensiveness and care coordination).[411]

Approximately 44 states and the District of Columbia have passed or introduced over 330 laws to support medical home efforts, and it is estimated that 45 percent of physicians practice within a PCMH or other advanced primary care arrangement.[412] Advanced primary care and PCMH models may be accredited or recognized through national organizations[413] [National Committee for Quality Assurance, Accreditation Association for Ambulatory Health Care, The Joint Commission, URAC (formerly the Utilization Review Accreditation Commission)], state-based[414] (*e.g.* Oregon, New York), insurer-based recognition programs (*e.g.* BCBS Michigan) or Centers for Medicare & Medicaid Innovation (CMMI) as part of their testing of innovative models.

Below is a summary of evidence on advanced primary care models, including PCMH efforts. While advanced primary care and PCMH initiatives have demonstrated potential to make significant improvements, these improvements are not necessarily uniform across efforts. The challenge has therefore been in operationalizing and scaling the advanced primary care concepts into effective processes that can achieve the desired outcomes on a broad scale.

Evidence Related to Savings[415]

Evidence has shown that advanced primary care and PCMH practices are associated with decreases in overall costs, but that reduced costs are not uniform across initiatives.[416] In general, the impacts on costs have been shown to be more significant for advanced primary care and PCMHs that had several years of experience and for practices caring for patients with more complex medical conditions.

---

411 Bodenheimer, T., Ghorob, A., Willard-Grace, R., & Grumbach, K. (2014). The 10 Building Blocks of High-Performing Primary Care. Annals of Family Medicine.

412 Patient-Centered Primary Care Collaborative. (2017). The Impact of Primary Care Practice Transformation on Cost, Quality, and Utilization.

413 Gans, M. (2014). A Comparison of the National Patient-Centered Medical Home Accreditation and Recognition Programs. Medical Group Management Association.

414 Centers for Disease Control and Prevention. (2017). State Law Fact Sheet: A Summary of State Patient-Centered Medical Home Laws, In Effect May 2016.

415 In each strategy section, HMA identified the evidence that supports potential impact on the following evaluation outcomes: savings; quality; population health; provider burden; administrative burden; and disparities reduction.

416 Patient-Centered Primary Care Collaborative. (2017). The Impact of Primary Care Practice Transformation on Cost, Quality, and Utilization.

Evaluations of initiatives led by CMMI to test advanced primary care models have shown limited impacts on costs. A meta-analysis of the six CMMI advanced primary care initiatives showed that none of the initiatives reduced costs.[417] See Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates, for an overview of CMMI initiative characteristics.

Consistent with the findings of the meta-analysis of CMMI primary care initiatives, in 2018, the final evaluation of the Comprehensive Primary Care (CPC) Initiative reported that the initiative reduced the number of ED visits (-2 percent) and ED revisits (-3 percent), however the initiative did not reduce spending enough to cover the care management fees paid to practices for Medicare fee-for-service populations.[418] Evaluators noted that the Comprehensive Primary Care Plus (CPC+) initiative, launched in 2017, builds on CPC's same foundation of multi-payer support for five primary care core functions, while also adjusting the model to deepen practice transformation and increase value-based payment incentives. There are currently 2,932 primary care practices participating in CPC+ in 18 regions throughout the country.[419]

On April 22, 2019, CMMI announced the Primary Cares Initiative (PCI), presenting a new set of payment models to support advanced primary care, and building on the lessons learned and experiences of CPC+. The PCI is comprised of two tracks, Primary Care First (PCF) and Direct Contracting (DC) and encourages providers and other entities to transition to payment and care delivery models with increased downside risk. CMS has not yet provided the complete details of each of

CMMI Comprehensive Primary Care Initiative: Model Overview

Launched in 2012, Comprehensive Primary Care (CPC) was a four-year CMS-led initiative to engage multi-payer efforts in supporting primary care transformation. In addition to CMS, 39 other private and public payers participated in the initiative in seven regions throughout the country, involving 502 primary care practices.

The CPC model required practices to implement a set of five "comprehensive" primary care functions: (1) Risk-stratified Care Management; (2) Access and Continuity; (3) Planned Care for Chronic Conditions and Preventive Care; (4) Patient and Caregiver Engagement; and (5) Coordination of Care across the Medical Neighborhood. Participating practices were given flexibility on how they implemented these changes and the initiative did not require practices to obtain external recognition as patient-centered medical homes, although nearly 40 percent did have this recognition when they applied to CPC. Practices were also required to have an electronic health record system or electronic registry.

To support implementation of these core functions, CMS and other payers (including commercial, Medicare Advantage, and Medicaid managed care plans) paid practices care management fees, in addition to traditional reimbursements, for their respective members. Practices were also offered savings opportunities beginning in year two of the initiative. In addition, CPC provided practices with continuous performance reporting and learning support, such as webinars and practice coaching.

Source: Peikes, D. et al. (2018). The Comprehensive Primary Care Initiative: Effects on Spending, Quality, Patients, and Physicians. Health Affairs.

[417] Kennel and Associates, Inc., (2018). Systematic Review of CMMI Primary Care Initiatives – Final Report. Prepared for CMS.

[418] Peikes, D. et al.. (2018). The Comprehensive Primary Care Initiative: Effects on Spending, Quality, Patients, and Physicians. Health Affairs.

[419] CMS Comprehensive Primary Care Plus. 2019.

the models, but the agency has indicated that additional information will be provided through a Request for Applications (RFAs) process which will begin in Spring 2019.[420]

Despite CPC's seeming lack of impact, researchers have underscored the fact that the CPC evaluation commissioned by CMS focused only on impacts to the Medicare fee-for-service population, and did not report results experienced by Medicare Advantage, commercial and other payers participating in the initiative. When considering these other populations, evaluations have found significant reductions in costs and improved health outcomes.[421]

In the CPC Ohio and Kentucky regions, a review of multi-payer claims data for all nine participating payers (including CMS) confirmed the findings of the CMS evaluation with respect to the Medicare fee-for-service population, while also showing considerable savings and utilization reductions for the Medicare Advantage and commercial populations. Overall, total cost of care declined by 9.1 percent for the non-Medicare fee-for-service payers, with the most dramatic cost decreases (-37 percent) experienced by Medicare Advantage plans. These cost decreases were significant enough to cover the costs of care management fees, and in some cases the cost reductions resulted in savings shared with the participating practices. Researchers underscored that these results emphasize the need to consider varied impacts of the initiative on different populations, as well as the possibility of a longer period of investment needed to impact populations with more challenging needs.

In addition to the evaluation of claims data in the CPC Ohio and Kentucky region, interviews with private plan executives highlighted several benefits of the CPC model based on plan business analyses including: improvements in the quality of care and physician satisfaction; benefits of the multi-payer approach to leverage efforts to support practice change; redistribution of funds previously spent on care management at the plan level to practices; improved patient engagement; and recognition of a two to three-year timeframe needed for practices to meaningfully implement the changes in the CPC model.

Although the CMS evaluation design is more rigorous than the analysis conducted by plans for purposes of business decisions, it is noteworthy to consider the narrow focus of the CMS evaluation on the Medicare fee-for-service population and the significant impacts suggested by review of multi-payer claims data and qualitative interviews with plans on the Medicare Advantage and commercial populations.

State-based initiatives, such as in Oregon, have demonstrated the potential of advanced primary care programs to generate significant cost savings. An evaluation of Oregon's Patient-Centered Primary Care Home (PCPCH) program, for example, found that for every $1 increase in primary care spending related to the PCPCH program, there was a $13 savings in other health care costs such as specialty care, hospital and ED spending.[422] Researchers analyzed claims and eligibility data in Oregon's all-payer all-claims database (APAC) covering one year prior and three years following the PCPCH program implementation (October 2010-September

---

[420] CMS. HHS To Deliver Value-Based Transformation in Primary Care. 2019. The CMS Primary Cares Initiative to Empower Patients and Providers to Drive Better Value and Results.

[421] Shonk, R.F & Sessums, L.L. (2018). The Comprehensive Primary Care Initiative: Another Side of the Story.

[422] Gelmon, S., et al. 2016). Implementation of Oregon's PCPCH Program: Exemplary Practice and Program Findings. Portland State University (under contract with the Oregon Health Authority).

2014). PCPCH program effects were identified based on a "difference in difference" analysis of pre- to post-designation changes among clinics that attained PCPCH designation compared to non-PCPCH clinics. Findings included reduced total service expenditures per person by 4.2 percent or approximately $41 per person per quarter (~$13.50/month). Effects increased significantly the longer clinics were designated as a PCPCH, generally doubling from the first to the third year of recognition. The study demonstrated savings of an estimated $240M over its first three years, with projected increased savings as more clinics become recognized and continued to mature in the program. Evaluations of medical home programs in multiple states have found fewer positive effects than Gelmon et al. found for the PCPCH Program.[423] Gelmon notes that PCPCHs include some of Oregon's largest clinics, which are connected to large health care systems, and that such clinics may enjoy the resources needed to make quality improvements that result in improved care and reduced spending.[424]

Blue Cross Blue Shield of Michigan, with one of the largest and most mature PCMH initiatives in the U.S., has also demonstrated positive impacts on costs and utilization, including a 15 percent decrease in ED visits and 21 percent decrease in adult ambulatory care sensitive inpatient stays.[425]

Evidence Related to Quality

Like cost impacts, the PCMH and advanced primary care practices have demonstrated improved outcomes with respect to quality, but not uniformly. [426] Few peer-reviewed studies measured impacts using the same quality outcomes, underscoring the need for more shared measures. Evidence has shown that certain PCMH features such as team-based care (including case management and having a usual source of care) have had positive impacts on the patient experience of care. Greater positive results were also seen the longer the practice had implemented transformation, as well as among practices serving higher-needs patients.

A 2017 systematic review in Health Affairs examined outcomes for 11 major PCMH initiatives throughout the country. Based on a meta-analysis standardizing the outcomes studied, researchers found PCMH initiatives were not associated with changes in the majority of outcomes studied, including primary care, ED, and inpatient utilization rates and four quality measures. Nevertheless, positive effects were found in several areas including a 1.5 percent reduction in the use of specialty visits, a 1.2 percent increase in cervical cancer screening among all patients, and a 1.4 percent increase in breast cancer screening among higher-morbidity patients. The review reported an overall 4.2 percent reduction in total spending. Given

---

[423] Sinaiko, A.D. et al.(2017). Synthesis of Research on Patient Centered Medical Homes Brings Systematic Differences into Relief. Health Affairs.

[424] Kushner, J. et al. (2017). Evaluation of Oregon's 2012-2017 Medicaid Waiver. Oregon Health & Science University, Center for Health Systems Effectiveness (under contract with the Oregon Health Authority).

[425] Jabbarpour, Y. et al. (2017). The Impact of Primary Care Practice Transformation on Cost, Quality, and Utilization. Patient Centered Primary Care Collaborative.

[426] Ibid.

these findings, researchers identified the need for future research to identify the components of PCMHs likely to improve outcomes.[427]

An evaluation of Oregon's PCPCH Program found that the cumulative effect of the six PCPCH attributes had more impact on cost and utilization measures than their independent effects. Based on qualitative interviews with 20 representative PCPCH clinics, researchers found the Coordination and Integration attribute was one notable exception by appearing to increase provision of care overall and contribute to a downward trend in costs.[428]

Oregon PCPCH Model - Key Standards for Recognition

Accessible: Care is available when patients need it.

Accountable: Clinics take responsibility for the population and community they serve and provide quality, evidence-based care.

Comprehensive: Patients get the care, information and services they need to stay healthy.

Continuous: Providers know their patients and work with them to improve their health over time.

Coordinated: Care is integrated, and clinics help patients navigate the health care system to get the care they need in a safe and timely way.

Patient & Family Centered: Individuals and families are the most important part of a patient's health care. Care should draw on a patient's strengths to set goals and communication should be culturally competent and understandable for all.

Source: Oregon Health Authority. PCPCH Recognition Standards. Accessed January 2019.

Evidence Related to Provider Burden and Administrative Burden

Transformation initiatives generally require significant work, practice change, and increased reporting by primary care practices. Despite the intensive work required, studies do not show a negative impact on physician burnout or job satisfaction. Based on a survey of physicians participating in CPC, for example, 80 percent of respondents indicated that CPC improved the quality of care they provided, and 79 percent said that they would still support their practice's participation in CPC.[429] The Kentucky and Ohio CPC multi-payer collaborative's own survey of participating physicians found similarly strong results of physician acceptance and satisfaction with the program.[430]

Evidence Related to the Relationship between Advanced Primary Care and ACOs

A 2018 systematic review found that ACOs with a focus on primary care have shown positive results on costs, quality and utilization, suggesting a potential association between success of an ACO and advanced primary care models.[431] Overall, however, the systematic review found limited literature examining the intersection between advanced primary care models and ACOs, noting a lack of rigorous study design across these studies to evaluate this intersection. Given

---

[427] Sinaiko, et al., 2017, op. cit.

[428] Gelmon, et. al., op. cit.

[429] Peikes, et. al., (2018). The Effects of a Primary Care Transformation Initiative on Primary Care Physician Burnout and Workplace Experience. J Gen Intern Med.

[430] Shonk, R.F & Sessums, L.L. (2018). The Comprehensive Primary Care Initiative: Another Side of the Story.

[431] Jabbarpour, Y. et al.(2018) Advanced Primary Care: A Key Contributor to Successful ACOs, Patient-Centered Primary Care Collaborative

this lack of literature, researchers conducted an original quantitative analysis of the Medicare Shared Savings Program (MSSP) and the impacts of PCMHs on MSSP ACOs. This analysis showed that having PCMHs were associated with higher savings and improved quality outcomes among ACOs in the MSSP. A comparison of ACOs with PCMHs to ACOs without PCMHs found a 1.9 percent greater savings rate for ACOs with PCMHs; this was significant compared to the overall saving rate of .6 percent across ACOs.[432]

HMA also notes a finding from a 2018 meta-analysis of six CMMI primary care initiatives that ACOs, in some cases, decreased practice participation in the CMMI primary care initiatives. For example, some payers reported that some ACOs encouraged practices to drop out of the CPC initiative and join the ACO; in other cases, initiative eligibility requirements precluded practices from also participating in an ACO.[433]

Evidence Related to Population Health and Disparities

See Chapter 1: Health Equity: Reducing Disparities for a discussion of the role of primary care in reducing disparities and improving population health.

Key Drivers and Enabling Tactics

The 2018 meta-analysis of CMMI primary care initiatives identified key factors that facilitate primary care transformation at both the initiative and practice levels.[434] Initiative-level supports associated with better outcomes include:

Multi-Payer Structures. Multi-payer initiatives aid transformation, particularly where performance measures are aligned across payers.

Financial Support. Alternative payment models or incentives are critical to support practice transformation because traditional fee-for-service payments do not reimburse for the practice changes nor the majority of activities associated with transformation.[435, 436] Additionally, new staff are needed to support transformation. Subject matter experts noted financial modeling conducted by Bailit Health Purchasing, LLC (under contract to the Agency for Healthcare Research and Quality) found that the cost of providing comprehensive primary care would require an estimated per member per month of $45, which is more expensive than current cost estimates from the field (estimated to be between $20 to $30 per member per month); much of this cost difference is due to the fact that the financial modeling is based on a smaller panel size (1,250 average adult patients per primary care physician) than is common in the U.S. (estimated to be between 2,200 and 2,300 patients per physician).[437]

---

[432] Ibid.

[433] Kennel and Associates, Inc., (2018). Systematic Review of CMMI Primary Care Initiatives – Final Report. Prepared for CMS.

[434] Ibid.

[435] Michael K. Magill, MD, et al. The Cost of Sustaining a Patient-Centered Medical Home: Experience From 2 States, Annals of Family Medicine, 2015.

[436] Friedberg, M.W. et al., Practice Expenses Associated with Comprehensive Primary Care Capabilities, Santa Monica, Calif.: RAND Corporation.

[437] Bailit M, Meyers D, LeRoy L, Kanneganti D, Schaefer J, Wagner E, Zhan C. New Models of Primary Care Workforce and Financing: Costs Associated with High Quality Comprehensive Primary Care. November 2018.

Technical Assistance. Initiatives used a variety of learning system approaches to provide technical assistance (TA) and other support to practices. Evaluations highlighted the need customize TA to the different practice levels of sophistication, and that practices preferred one-on-one coaching and peer-to-peer learning. In the meta-regression analysis of initiative outcomes, findings indicated that some form of TA significantly contributed to improved outcomes studied across the initiatives (Medicare costs, hospital admissions, ED visits, and 30-day readmission).

Data reporting and feedback to practices. Both patient-level and practice-level data reporting to practices can improve practice performance, but its value depends on the extent to which practices use this data, which varied across initiatives. Practices need patient-level data to coordinate and manage care for their assigned populations; and practice-level data to track performance and course correct as needed on key cost, quality and utilization metrics.

Practice-level supports. In addition to these key initiative-level factors, several practice level supports were identified as critical to success. These included: practice readiness and prior experience with transformation, health information technology capabilities; and the ability to effectively integrate new staff with clearly defined roles and improved hiring practices.

An evaluation of Oregon's PCPCH initiative included a qualitative review of key factors that hindered or enabled practice success in the program. Key factors that supported success in the program included[438]:

- A collective organizational understanding of the role of the clinic within broader health system reform efforts;
- Clinic leadership embracing the values and goals of the PCPCH program;
- Ability to harness power of team-based care;
- Standardization of policies and practices;
- Integration of the role of care coordinator; and
- Organizational culture embracing willing to experiment, adapt and learn.

Key factors that hindered transformation efforts included: a workforce unprepared for large scale change, lack of alignment of payment incentives with the model, rapid increase in patient populations with complex issues, lack of adequate space, and a lack of understanding of essential technologies.

Considerations for Covered California's Next Contract Period

Covered California should continue to require insurers to contract with providers that meet advanced primary care standards and report on the cost, quality and patient-experience of those enrollees in such practices compared to those who are not. In addition, Covered California should continue to require insurers to utilize alternative payment models that support advanced primary care and set standards for payment to advanced primary care providers, allowing flexibility to recognize a range of advanced primary care models such as national accreditation or practices that meet standards set by Covered California.

---

[438] Gelmon, et al., op. cit.

Key Resources for Monitoring New Research

The following are resources, organizations, and other references that Covered California should monitor to stay up to date on the evidence related to this strategy. Among the resources cited in this section and listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates, several stand out. HMA recommends annually checking for updates or follow-on work from the following sources:

- Patient-Centered Primary Care Collaborative.
- National Committee for Quality Assurance (NCQA).
- Health Affairs.
- National Academy for State Health Policy (NASHP).
- AHRQ Patient Centered Medical Home Resource Center.
- Oregon Health Authority, Transformation Center (Patient Centered Primary Care Home Program, Primary Care Payment Reform Collaborative).
- Rhode Island Office of the Health Insurance Commissioner – Affordability Standards.

Section 2. Review of Measures and Benchmarks for Effective Primary Care

This section of the report on Effective Primary Care is the product of PricewaterhouseCooper's (PwC) detailed review of measures and benchmarks that can be used by Covered California to assess quality care is being delivered and that its contracted health plans use effective strategies to promote improvements in how care is delivered. The section includes a review of Covered California's current measurement strategy which is followed by considerations for revising those measures and specific recommendations for Covered California's consideration.[439]

Covered California's Current Required Measures

Takeaway: Covered California's current required measures are largely structural measures that may be insufficient for evaluating primary care effectiveness. Covered California should consider analysis of its own administrative data to develop resource and utilization baseline values for future benchmarking.

As shown below, Covered California has a range of measures pertaining to effective primary care (see Table 1, Covered California Required Measures, Qualified Health Plan Performance Data and Sources of Potentially Relevant Comparisons). PwC has also summarized QHP performance data and sources of potentially relevant comparisons.

Table 1. Covered California Required Measures, Qualified Health Plan Performance Data, and Sources of Potentially Relevant Comparisons

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
Percent of enrollees matched to primary care physician (PCP) [§4.01]	QHPs report 99% of enrollees matched to a PCP	California Department of Health Care Services Medi-Cal managed care (has requirement that members are assigned to a primary care physician)
Percent of enrollees cared for in patient-centered medical home (PCMH) [§4.02(3)(a)]	QHPs report 0% to 100% of enrollees in PCMH, with 6% average, excluding Kaiser	Survey data, State Medicaid reports, PCMH recognition programs (National Committee for Quality Assurance, Joint Commission, Utilization Review Accreditation Commission (URAC), Accreditation Association for Ambulatory Health Care)
QHP use of payment models to promote PCMH and proportion of primary care physicians paid under incentive models	Seven QHPs ranked on track and two QHP ranked strong performance by increased use of category 3 and 4 alternative payment models described in the Health Care Payment Learning & Action Network (HCP LAN) model framework	Survey data and reports from Health Care Payment Learning and Action Network (HCP LAN)

[439] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures. To view the full list of measures recommended by PwC, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

Considerations for Revising Covered California's Measures

In developing measures and data recommendations for Covered California, PwC considered the following:

- Effective primary care is covered by several existing Quality Rating System (QRS) measures such as care coordination and appropriate testing and treatment.
- High reported primary care match rate leaves little room for improvement and suggests need to consider additional measures of primary care effectiveness.
- Covered California has no initial Health Risk Assessment requirement, as in Medi-Cal managed care.
- Use of administrative (claims) data to establish baseline and comparison of utilization and clinical measures by extent of PCMH and use of payment incentives.
    - PCP spending rate
        - Koller et al. 2017 & Bailit et al. 2017 have data points for primary care spending rates.
        - Oregon requires its Medicaid Coordinated Care Organizations spend "at least 12 percent of the coordinated care organization's total expenditures for physical and mental health care provided to members, except for expenditures on prescription drugs, vision care and dental care."[440]
        - Delaware's Primary Care Reform Collaborative recently recommended that Delaware should incrementally increase primary care spending to eventually account for 12 percent of total health care spending.[441]
    - Telemedicine use for primary care
        - Barnett et al. 2018 used OptumLabs Data Warehouse to estimate the trend of telemedicine use among privately insured and Medicare Advantage enrollees in a large, private US health plan.[442] The rapid

[440] 2017 ORS 414.625(1)(c) https://www.oregonlaws.org/ors/414.625

[441] Patient-Centered Primary Care Collaborative (PCPCC). (2019, 1). PCPCC Applauds Delaware Report Recommending Increased Investment in Primary Care. https://www.pcpcc.org/2019/01/11/pcpcc-applauds-delaware-report-recommending-increased-investment-primary-care

[442] Compared with the overall US population, studied enrollees are younger and more concentrated in the South.

increase in 2016 and 2017 is result of coverage expansion for direct-to-consumer telemedicine.[443,444]

Measures and Data Recommendations

What follow are measures and data recommendations for Covered California:

1. Use QHP national benchmarks reported from QRS.
2. For measures that Covered California compares to Quality Compass commercial scores, set QHP benchmark at the 50th, 75th, or 90th percentiles for commercial and Medicaid.
3. Recommend Healthcare Effectiveness Data Information Set (HEDIS) measures: Adult Access to Care and Hospitalization for Potentially Preventable Complications; Integrated Healthcare Association (IHA) Align Measure Perform (AMP) measure: Encounter Rate by Service Type.
4. Consider analyzing QHP data to develop baseline values:
    a. Utilization and expenditure of services
    b. Prevalence of diagnoses and comorbid conditions
    c. PCP visits per thousand; % enrollees with PCP or no visit
    d. Emergency Department visits and admits with ambulatory care sensitive conditions

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and industry articles, and assessed measures on several attributes, including strength of evidence, alignment with other purchasers and feasibility of reporting (see Table 2, PwC Recommended Measures for Effective Primary Care).[445]

---

[443] Pittman, D. (2016). Major insurer adds telemedicine in Medicare Advantage plans. POLITICO. https://www.politico.com/tipsheets/morning-ehealth/2016/01/politicos-morning-ehealth-telemedicines-use-in-medicare-advantage-biden-talks-tumor-sequencing-and-data-onc-faca-talks-ehr-tool-212103.

[444] Pai, A. (2015). UnitedHealthcare now covers Doctor On Demand, American Well video visits too. MobiHealthNews. https://www.mobihealthnews.com/43052/unitedhealthcare-now-covers-doctor-on-demand-american-well-video-visits-too.

[445] For the criteria used by PwC to assess measures, please see Table 3, Measure Assessment Structure Applied by PwC, in the chapter on Summary Recommendations on Measures and Benchmarks. For a detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Table 2. PwC Recommended Measures for Effective Primary Care

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Annual Monitoring for Patients on Persistent Medications	Existing	QHPs	QRS	High	High	High	High	High
Appropriate Testing for Children with Pharyngitis	Existing	QHPs	IHA, QRS	High	High	High	High	High
Appropriate Treatment for Children with Upper Respiratory Infection	Existing	QHPs	QRS	High	High	High	High	High
Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis	Existing	QHPs	QRS	High	High	High	High	High
QRS Survey Measure (Care Coordination)	Existing	QHPs	QRS	High	High	High	High	High
Use of Imaging Studies for Low Back Pain	Existing	QHPs	QRS	High	High	High	High	High
Percentage of enrollees assigned to a PCP	Existing	QHPs	N/A	Medium	Medium	High	High	Low
The number and percent of Covered California enrollees who obtain their primary care in a PCMH.	Existing	QHPs	State Medicaid programs	Medium	Medium	Medium	Medium	Medium
Adults' Access to Preventive/Ambulatory Health Services (AAP)	New	Covered California	HEDIS, CMS	High	High	High	High	High
Hospitalization for Potentially Preventable Complications (HPC)	New	Covered California	HEDIS	High	High	High	High	Medium
Encounter Rate by Service Type (ENRST)	New	Covered California	IHA	High	High	High	High	Medium

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Percent of Primary Care Physicians Who Successfully Meet Meaningful Use Requirements (CMS ACO #11)	Stretch: Requires Clinical Data	QHPs	MSSP	Medium	Medium	Medium	Low	Low

Note: "Stretch" measures are measures Covered California may consider promoting or tracking in the future. Since provider clinical data is required for reporting, it may be challenging unless mechanisms are put in place to support it.

To review the background research completed by PwC to inform these measures and data recommendations, please see Appendix 3, Bibliography Supporting Measures Review by PricewaterhouseCoopers.

Chapter 8: Promotion of Integrated Delivery Systems and Accountable Care Organizations

Promotion of Integrated Delivery Systems and Accountable Care Organizations is premised on the increasing evidence that effectively caring for and managing a person's health requires an integrated care system that can coordinate across providers, sites and times for a variety of conditions while delivering good outcomes and quality at an affordable cost.

This chapter on Integrated Delivery Systems and Accountable Care Organizations is organized into two sections:

Section 1. Review of Evidence for Promotion of Integrated Delivery Systems and Accountable Care Organizations was prepared by Health Management Associates (HMA) and provides a review of the evidence related to health plan strategies to strengthen and make primary care more effective. The evidence review is followed by specific findings that represent opportunities or challenges for Covered California and then recommendations for how Covered California can monitor evidence on an ongoing basis.

Section 2. Review of Measures and Benchmarks for Promotion of Integrated Delivery Systems and Accountable Care Organizations was prepared by PricewaterhouseCoopers (PwC) and provides a review of Covered California's current required measures, considerations and recommendations for revising its measures in this area.

Section 1. Review of Evidence for Integrated Delivery Systems and Accountable Care Organizations

Covered California contracted with HMA to conduct an evidence review in ten strategy areas that health insurance payers can utilize to drive value in health care. The review's results are presented here.[446] This chapter includes direct citations of the best evidence within the discussion of each strategy. Information from additional sources was also used for this report and is listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Background

Integrated, coordinated and mostly prepaid or capitated health care systems in the United States date back to the mid-1940s and include Kaiser Permanente, Group Health Cooperative, Geisinger Health System, Cleveland Clinic and the Mayo Clinic. Historical details vary and not all produced predictable high quality in their early years, but over time they have proven to exemplify consistent delivery of high-quality health care more cost-effectively than the open health care systems that typify independent hospitals and physicians of many network health plans. A full review of these models was not within the scope of HMA's research, but they provide a critical frame of reference for understanding the history, value and performance of integrated delivery systems.

[446] To view a more detailed description of HMA's approach, project team, and methods for literature review and evidence gathering, please see Appendix 1, Background on Expert Review of Evidence and Measures.

In preparation for passage of the Affordable Care Act, Fisher et al. used Medicare fee-for-service claims data to demonstrate that network plans can build on current referral patterns among primary and specialty care physicians and local hospitals to establish organizations that could be held accountable for triple aim goals.[447] The ACO model, catalyzed by the Affordable Care Act, is a model that builds on the history of integrated delivery systems to coordinate patient care and reduce unnecessary expenditures. In the first quarter of 2018, a total of 1,011 ACOs were recorded nationwide, covering 32.7 million patients, with 48 percent commercial contracts, 46 percent Medicare and 6 percent Medicaid.[448] In California, an estimated 7-10 percent of the population is in an ACO, but this varies significantly by region.

Over time, ACOs appear to be effective at generating savings and moving the bar on quality, even for complex populations. ACOs with a focus on population health, social determinants of health, and health equity show early signs of making positive impacts on population health metrics. The strongest evidence points to ACO success being associated with risk-based contracting experience, double sided risk arrangements (both shared savings and shared risk) and physician-led ACO models. However, HMA also found evidence that sophisticated primary care staffing, behavioral health integration, effective care management, partnerships with post-acute facilities and other entities that address social determinants of health, and patient engagement initiatives continue to maximize the positive impact of ACOs.

Finding 1: ACOs have successfully generated savings over time and shown improvement in select quality measures.

Evidence Related to Savings[449]

Medicare, Medicaid, and commercial ACOs have been successful in generating savings. A study using a difference-in-differences regression analysis found that ACOs entering the Medicare Shared Savings Program (MSSP) in 2012 saved a collective $1.84 billion during performance years 2013-2015. Net savings were $541.7 million after accounting for shared savings bonuses. Estimated per-member per-year net savings rose from $110 in 2013 to $118 in 2015.[450] Other studies using CMS benchmarking methodology are more conservative, estimating gross savings of only $954 million from 2013-2015 and finding the program only began to generate net savings in 2017 (about $35 per beneficiary).[451] Part of the savings was attributed to a decrease in hospitalizations and emergency department visits, as well as reductions in post-acute care. However, the savings were not only tied to preventable hospitalizations or high-risk patients but applied to a broader population. While commercial ACO

---

[447] Fisher et al, Fostering Accountable Care: Moving Forward in Medicare, *Health Affairs* 28, no. 2 (2009): w219–w231.

[448] Muhlestein D et al. Recent Progress In The Value Journey: Growth Of ACOs And Value-Based Payment Models In 2018. Health Affairs Blog, August 14, 2018.

[449] In each strategy section, HMA identified the evidence that supports potential impact on the following evaluation outcomes: savings; quality; population health; provider burden; administrative burden; and disparities reduction.

[450] Dobson, A. et al. Estimates of Savings by Medicare Shared Savings Program ACOs: Program Financial Performance 2013-2015. National Association of Accountable Care Organizations. August 30, 2018.

[451] Bleser, W. et al. Half A Decade In, Medicare Accountable Care Organizations Are Generating Net Savings: Part 1. Health Affairs Blog. September 20, 2018.

models are less studied, one review used 2012-2015 data to show that ACOs with both commercial and public contracts had $2,000 lower expenditures per Medicare enrollee than ACOs with no private contracts.[452] Large commercial payers have their own ACO models with differing benchmarks and reimbursement details, challenging universal conclusions about performance.

Evidence Related to Quality

ACOs have also demonstrated an improvement in quality scores over time and compared to fee-for-service providers. An HHS Office of the Inspector General report found in the first three years of the MSSP, ACOs improved their performance on 82 percent of individual quality measures and out-performed fee-for-service providers on 81 percent of the quality measures.[453] The majority of quality metrics have been primarily process measures with only some outcome measures to date. Examples of the most improved quality measures over the three years were depression screenings and follow-up, screenings for future fall risk, Electronic Health Record Incentive Payment qualification, pneumococcal vaccination, and Body Mass Index screening and follow-up. Notably, ACOs performed better than 90 percent of all fee-for-service providers in terms of low hospital readmissions. However, there was not uniform improvement across all quality measures.

Evidence Related to Provider Burden

Significant investment is required to develop the infrastructure to support an accountable care model. Setting up an ACO can add costs for administration, EHR system establishment and maintenance and, often, additional staff depending on the organization's initial capacity. HMA did not review the costs of ACO participation extensively, but one study of the costs of rural health center ACO participation suggests that joining an ACO raises the cost per visit from between 14 percent and 21 percent and the increase lasts at least two years.[454]

Evidence Related to Population Health

ACOs vary in the extent to which they focus on community health and social determinants of health versus solely clinical management of their patient population. Generally, Medicaid ACOs are more likely than commercial and Medicare ACOs to incorporate public health entities as providers or strategic partners. Most states are still in the early stages of developing these initiatives but early evidence of the impact of models focused on social determinants are promising. For example, a study on supportive housing initiated with Oregon's Coordinated

---

[452] Peiris D et al. ACOs Holding Commercial Contracts Are Larger and More Efficient Than Noncommercial ACOs. The Commonwealth Fund. October 5, 2016.

[453] HHS Office of the Inspector General. Medicare Shared Savings Program Accountable Care Organizations Have Shown Potential for Reducing Spending and Improving Quality. 2017. OEI-02-15-00450.

[454] Hoffler R and Ortiz J. Costs of accountable care organization participation for primary care providers: early stage results. BMC Health Serv Res. 2016; 16: 315.

Care Organization reform found reductions in health care use and expenditures among homeless individuals.[455]

Evidence Related to Administrative Burden

Payers continue to face challenges in setting up ACO programs in terms of obtaining provider buy-in, supporting organizational transformation, facilitating data sharing, identifying appropriate patient attribution models, developing downside risk models, and managing multiple ACO contracts.

Evidence Related to Disparities

Results on the impacts of ACOs on health disparities were mixed. Some studies pointed to narrowing the divide between health outcomes of racial minorities and non-minorities such as in Oregon's CCO model.[456] However, other studies found ACOs serving minorities lagged in quality performance. A higher proportion of minority patients in a MSSP ACO was associated with worse quality performance on 26 of 33 Medicare ACO performance measures during the study period.[457]

State efforts to address social determinants in Medicaid ACOs included encouraging or requiring Social Determinants of Health (SDOH) interventions through plan agreements, providing services outside the traditional benefit package, or offering SDOH-specific incentives. States also developed risk adjustment strategies, recruited SDOH-savvy ACOs to participate and encouraged or required community partnerships.[458] Beginning in 2020, Oregon CCOs will be required to spend a portion of their end-of-year surplus on health disparities and SDOH and the state will offer bonus payments to CCOs that meet SDOH-Health Equity related performance milestones.

More detail on specific impacts of the ACO models on savings, quality of care, and other above elements can be found in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates. The following finding focuses on identifiable features of successful ACO models.

---

[455] McConnel J, et al. Oregon's Medicaid Reform and Transition To Global Budgets Were Associated With Reductions In Expenditures. Health Affairs 2017 36:3.

[456] McConnell J, et al. Oregon's Emphasis On Equity Shows Signs Of Early Success For Black And American Indian Medicaid Enrollees. Health Affairs 2018 37:3, 386-393

[457] Lewis V et al. Accountable Care Organizations Serving High Proportions of Racial and Ethnic Minorities Lag in Quality Performance. Health Aff (Millwood). 2017 Jan 1; 36(1): 57–66.

[458] Crumley, D. Addressing Social Determinants of Health through Medicaid Accountable Care Organizations. Center for Health Care Strategies. April 2018. Administration & Society.

Finding 2: There is strong evidence that ACOs with risk-based contracts, that are physician-led and have two-sided risk contracts are associated with greater savings and improved quality results. Other factors such as use of advanced primary care providers, care management, and behavioral health integration also deserve attention.

Few empirical studies focus on the specific program features that correlate to a high performing ACO. Confounding factors, including the type of model, enrollment size, and experience of the organization, make common success factors difficult to isolate. Therefore, the evidence behind the factors and features of successful ACO models is variable. The studies defined success broadly as a mix of savings and quality.

The strongest evidence points to previous experience with ACO or other risk-based contracts as a success factor, in both public and commercial models. Experienced ACOs have a higher probability of achieving savings and higher scores on quality metrics. Further, physician-led ACOs save more than hospital-led ACOs and ACOs with two-sided risk contracts generate slightly larger savings than one-sided (shared savings only) ACOs. [459,460]

Several studies also pointed to access to timely, reliable and accurate data and analytics as critical to positive ACO performance. This includes analytics capacity on the payer side to support providers with performance measurement, financial benchmarking and patient attribution as well as capacity on the provider side to assess quality of care, coordinate care, identify priority patients and develop appropriate interventions.[461] Some ACOs have their own analytics capabilities but lack raw claims data from plans, which can serve as a barrier.

HMA found more limited but directional evidence to suggest the following key success factors, drawn from studies that reviewed existing ACOs across the nation:

- ***Share of advanced primary care providers.*** ACOs with an NCQA certified Patient-Centered Medical Home primary care provider share of more than zero were more likely to generate savings and better quality, specifically in health promotion, health status, preventive service, and chronic disease management scores.[462] An evaluation of the Next Generation ACO program identified primary care providers' importance to value based purchasing models because of their focus on preventive care and comprehensive care management. Further discussion can be found in the "Promotion of Primary Care" section of this report.

---

[459] McWilliams J. et al. Medicare Spending after 3 Years of the Medicare Shared Savings Program. N Engl J Med 2018; 379:1139-1149

[460] Glass D, McClendon S and Stensland J. Long-term issues confronting Medicare Accountable Care Organizations (ACOs). MedPAC. April 6, 2018.

[461] Matulis R and Lloyd J. The History, Evolution, and Future of Medicaid Accountable Care Organizations. Center for Health Care Strategies. February 2018.

[462] Jabbarpour Y. et al. Advanced Primary Care: A Key Contributor to Successful ACOs. Patient-Centered Primary Care Collaborative. August 2018.

- ***Care management strategies.*** Implementing care management strategies focused on reducing unnecessary ED visits and hospitalizations and managing high-risk patients' care were consistently identified as important elements of success. Having the analytic capacity to effectively segment populations and tailor care management resources to segmented populations was also cited as a strength, including engaging primary care clinicians in refining segmentation approaches.[463]
- ***Strategic provider partnerships.*** Research also suggests that strategic and strong partnerships beyond physician groups and hospitals contributes to success. Specifically, partnering with Skilled Nursing Facilities and other post-acute care facilities may have been an important component to the success of Next Generation ACOs.[464] Other partnerships to support the continuum of care include behavioral health, home health and social service organizations.
- ***Leadership culture.*** Physician involvement in ACO leadership and fostering a culture of shared commitment across leadership, staff and providers were listed as important elements of ACO success.
- ***Patient-centered culture.*** Limited evidence showed the implementation of patient engagement initiatives in MSSP ACOs improved depression and physical function scores.[465]
- ***Certain organizational and environmental factors.*** Market characteristics and ACO organizational features influence success including: higher ACO enrollment size, higher Medicare Advantage penetration, higher savings benchmarks, rurality, and prior risk-sharing experience.

Although not cited as consistent factors contributing to positive ACO performance, several analyses reviewed the benefits of ACO strategies to expand access to behavioral health and other specialists.

Behavioral Health Integration

Integrating behavioral health in an ACO practice is increasingly recognized as an important factor in controlling utilization and spending but the level of behavioral health and physical health integration varies across ACO sites. Some ACOs created formal contractual partnerships with behavioral health organizations while others partnered through informal understandings.

---

[463] O'Malley A. et al. How Accountable Care Organizations Use Population Segmentation to Care for High-Need, High-Cost Patients. The Commonwealth Fund. January 3, 2019.

[464] NORC at the University of Chicago. Next Generation Accountable Care Organization (NGACO) Model Evaluation. First Annual Report. September 2018.

[465] Shortell S. et al. A Multilevel Analysis of Patient Engagement and Patient-Reported Outcomes in Primary Care Practice of Accountable Care Organizations. J GEN INTERN MED (2017) 32: 640.

Funding for integrated care models has historically depended on grants and organizational discretionary funds, which is a challenge for population-based payment approaches.[466]

Much of the focus on behavioral health integration to date has been in serving the Medicaid population. For example, the Oregon CCOs were required to integrate physical, behavioral and oral health. In 2017, CCOs showed improvement in a majority of measures, including a 21.3 percent increase in statewide depression screening and follow-up.[467] The National Association of State Mental Health Program Directors offered the following recommendations to advance behavioral health integration in the Medicaid ACO model:[468]

- Require ACO leaders to incorporate mental health and substance use disorder providers in their governing bodies and networks.
- Offer incentives for the adoption of health information technology to help facilitate exchange of patient data across providers.
- Ensure mental health quality outcomes are measured and reported and linked to incentives.
- Provide education to enrollees and providers to address societal stigma as well as education on permissible disclosures under 42 CFR Part 2 (Confidentiality of Substance Use Disorder Patient Records).[469] Perceived obstacles posed by the regulation can unnecessarily limit sharing between ACOs and mental health and substance use disorder providers.
- Preempt workforce shortages by considering the inclusion of non-physician mental health providers in the ACO network and use of tele-behavioral health.
- Reimburse mental health and substance use disorder treatment adequately to ensure that providers are accessible within the ACO.
- Allow time for ACO initiatives to produce sustainable outcomes and provider revenues for providers to want to participate.

Specialist Access

Engaging mental health, substance use disorder, and other specialists in the model is important to the ACO's ability to control costs and quality across the continuum of care. ACOs have pursued technology solutions, such as telehealth and eConsults, as well as value-based payment models to bring specialists into the fold.

Telehealth appears to be a particularly powerful tool in rural areas where specialists may be scarce. For example, Catalyst Heath Network, a commercial ACO in north Texas, added

---

[466] Fullerton C. et al. The Impact Of Medicare ACOs On Improving Integration And Coordination Of Physical And Behavioral Health Care. Health Affairs. Health Aff (Millwood). 2016;35(7):1257–65.

[467] Oregon Health Authority. Oregon Health System Transformation: CCO Metrics 2017 Final Report. June 2018.

[468] National Association of State Mental Health Program Directors. Integrating Behavioral Health into Accountable Care Organizations: Challenges, Successes, and Failures at the Federal and State Level. September 2016.

[469] In the substance abuse field, confidentiality is governed by federal law (42 U.S.C. § 290dd-2) and regulations (42 CFR Part 2) that outline the circumstances under which information about the client's treatment may be disclosed with or without the client's consent.

QuestCare Medical Clinics to its member network in 2015, which provides telehealth services across multiple disciplines.[470] This practice should increase with the new final rule for the MSSP program, coming into effect in 2020, as Medicare will start reimbursing for home-based telehealth services in select ACOs. This may help alleviate concerns about the cost required to implement a telehealth solution and create more certainty about the return on investment. More evidence is required to assess the effectiveness of telehealth solutions to substitute for in-person care in the ACO setting.[471]

Some states also take advantage of Project ECHO electronic consultation to supplement primary care provider knowledge where there is less ready access to specialists. For example, two Oregon CCOs opted to contract with an ECHO hub to support effective medication management for individuals with psychiatric conditions. Project ECHO is detailed further in this report in Chapter 10: Sites and Expanded Approaches to Care Delivery.

Value-based purchasing or bundled payment initiatives have been raised as levers to further specialist collaboration with primary care providers. Experts suggest payers could contract directly with specialists or incorporate incentive structures into ACO compensation.[472]

Key Drivers and Enabling Tactics

The following are additional critical considerations for implementing an ACO model based on HMA's knowledge and review.

Payment/Revenue Considerations

- In shared risk models, the investment that physicians and hospitals need to make into their practice to achieve savings need to positively correlate with the amount they can recoup. Otherwise, the ACO may be a poor investment for the provider.
- Smaller safety net providers may not have the cash reserves to take on financial risk or to make investments in data analytics systems, including non-physical health providers. Several states have used federal dollars to support needed investments in data infrastructure such as a system to produce claims and encounter reports for providers.
- ACO contracts can represent a minority of the provider's revenue. Therefore, driving payer alignment to expand the total percent of revenue that is linked to a population-based contract may encourage faster and more meaningful care model improvements.
- Requiring downside risk too early may impact participation of good ACO organizations (three years may be needed to achieve savings).

---

[470] Questcare Telehealth information sheet. https://questcaretelehealth.com/about/overview/.

[471] Shah, S. et al. Virtual Visits Partially Replaced In-Person Visits In An ACO-Based Medical Specialty Practice. Health Affairs 2018 37:12

[472] Hoangmai P and Ginsburg B. Payment and Delivery-System Reform — The Next Phase. New England Journal of Medicine Catalyst. October 2, 2018.

Equity Considerations

Health equity must be a purposeful emphasis, like in Oregon's case, to have an impact on health disparities. Their multi-pronged approach included strategic planning, community health workers and Regional Health Equity Coalition.

Considerations for Covered California's Next Contract Period

Some integrated health care models such as ACOs have proven to bear net savings and improvement in certain quality measures over time. Therefore, Covered California could encourage the use of integrated models by leveraging plans' value-based payment mechanisms. To advance the savings and quality of care potential, value-based payment programs to promote integrated health care model development should gradually encourage two-sided risk contracts (both shared savings and shared risk), incorporate entities with experience in risk-based contracting, and embrace physician-led models. It is important that the value-based payment exceeds a provider's investment and that plans support providers with infrastructure (such as sharing of claims data to allow for needed population health analytics). Plans could monitor contracted ACOs to see how they include advanced primary care staffing, mental health and substance use disorder integration, sophisticated care management, partnerships with post-acute facilities and other entities that address social determinants of health, and patient engagement initiatives as there is some evidence that these features contribute to ACO success. Research does not address preferred monitoring mechanisms, but it could be added to issuers' provider contract/ performance monitoring.

Given that the level of ACO enrollment is important to an ACO's ability to produce savings and implement quality initiatives, Covered California could encourage plans to implement strategies to drive ACO participation, where members desire to participate. Covered California could assess the extent to which it could use benefit designs to create cost-sharing incentives for consumers to seek care from the ACO.[473] The new MSSP ACO rule also allows ACOs to offer incentive payments to beneficiaries for taking steps to achieve good health.

Some of Covered California's issuers function themselves as ACO-like entities, in particular the integrated delivery system organizations such as Kaiser and SHARP. Given the parallels between how those issuers are structured and the structural elements assessed relative to ACOs, Covered California could assess and determine the extent to which those issuers in their entirety meet or should be independently evaluated by ACO standards.

Key Resources for Monitoring New Research

The following are resources, organizations, and other references that Covered California should monitor to stay up to date on the evidence related to this strategy. Among the resources cited in this section and listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates, several stand out. HMA recommends annually checking for updates or follow-on work from the following:

[473] Delbanco, S. Urban Institute. 2016.

- NORC at the University of Chicago. Next Generation Accountable Care Organization (NGACO) Model Evaluation. First Annual Report. September 2018.
- Center for Healthcare Strategies (Medicaid ACO Learning Collaborative).
- The National Association of ACOs.
- The Patient-Centered Primary Care Collaborative.

For more evidence on the impacts and design of ACOs, Covered California should monitor Leavitt Partners, Milliman, RAND, Health Affairs, the Commonwealth Fund, and CMS for national evaluations of ACO programs. (Authors: Will Bleser, Michael E. Chernew, Mark McClellan, J. Michael McWilliams, Steven Shortell, Catalyst for Payment Reform) and search PubMed using the terms “accountable care organizations” or “ACOs.”

Section 2. Review of Measures and Benchmarks for Integrated Delivery Systems and Accountable Care Organizations

This section of the report on Integrated Delivery Systems and Accountable Care Organizations is the product of PricewaterhouseCooper's (PwC) detailed review of measures and benchmarks that can be used by Covered California to assess quality care is being delivered and that its contracted health plans use effective strategies to promote improvements in how care is delivered. The section includes a review of Covered California's current measurement strategy which is followed by considerations for revising those measures and specific recommendations for Covered California's consideration.[474]

Covered California's Current Required Measures

Takeaway: Despite mixed results of ACO models, increases in integration of care is generally believed to be a worthy goal, and tracking progress in the use and effectiveness of integrated models aligns with the strategies of other payers.

As shown below, Covered California has a range of measures pertaining to integrated delivery systems and accountable care organizations (see Table 1, Covered California Required Measures, Qualified Health Plan Performance Data and Sources of Potentially Relevant Comparisons). PwC has also summarized QHP performance data and sources of potentially relevant comparisons.

Table 1. Covered California Required Measures, Qualified Health Plan Performance Data, and Sources of Potentially Relevant Comparisons

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
Percentage of enrollees cared for in Integrated Healthcare Model (IHM)/ACO [§4.03]	Kaiser/Sharp: 100%; Non-Kaiser/Sharp: 25% (2017)	Medicare, Medicaid, Torch Insight™
To enable analysis of variation in performance of different ACO or IHM models, report for all lines of business the Integrated Healthcare Association (IHA) Commercial ACO measure set. [§4.03]	Data not currently available but expected fall 2019.	Healthcare Effectiveness Data Information Set (HEDIS) Quality Compass, IHA Align Measure Perform (AMP) benchmarks, Medicare Merit-based Incentive Payment System (MIPS) and Medicare Shared Savings Program (MSSP) benchmarks

[474] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures. To view the full list of measures recommended by PwC, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

Considerations for Revising Covered California's Measures

In developing measures and data recommendations, PwC considered the following:

- Several state Medicaid programs and commercial plans are setting targets for proportion of enrollees in an Integrated Delivery System (IDS) or ACO, (e.g. Blue Cross Blue Shield of North Carolina has set a target of 50% enrollment within 3 years).
- IDS or ACOs are not feasible in all geographies, such as rural areas. They require sufficient population size and density, as well as significant investments in infrastructure.
- ACO penetration rates vary significantly by location, with higher penetration and numbers of ACOs in Southern California than in Northern California, for example.
- Growth of IDS or ACO models tends to support increases in value-based payment adoption.
- ACO measure sets are not standardized across payers.
- ACOs have achieved mixed results achieving cost savings and quality improvements.

Measures and Data Recommendations

What follow are measures and data recommendations for Covered California:

1. Continue to monitor percentage of enrollees cared for in IDS or ACO models.
2. Continue requiring QHPs to report IHA ACO Commercial measures since they are consistent with the priorities of major purchasers and aligned with the existing IHA AMP Commercial HMO measure set and other national ACO initiatives and priorities (e.g., CMS CQMC).
3. Have plans report on shared saving parameters and correlate that with achievements in terms of cost and quality.
4. Monitor premium trends as IDS or ACO adoption continues to assess effectiveness.

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and industry articles, and assessed measures on several attributes, including strength of evidence, alignment with other purchasers and feasibility of reporting (see Table 2, PwC Recommended Measures for Integrated Delivery Systems and Accountable Care Organizations).[475]

[475] For the criteria used by PwC to assess measures, please see Table 3, Measure Assessment Structure Applied by PwC, in the chapter on Summary Recommendations on Measures and Benchmarks. For a detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Table 2. PwC Recommended Measures for Integrated Delivery Systems and Accountable Care Organizations

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Percentage of enrollees cared for in IHM/ACO	Existing	QHPs	CMS	Medium	High	Medium	High	Medium
Concurrent Use of Opioids and Benzodiazepines (COB)	Existing	QHPs	IHA, Medicaid Adult Core	High	High	High	High	Medium
Initiation & Engagement of Alcohol & Other Drug Abuse or Dependence Treatment (IET)	Existing	QHPs	IHA, QRS	High	High	High	High	High
Controlling High Blood Pressure	Existing	QHPs	HEDIS, IHA, QRS	High	High	High	High	High
Statin Therapy for Patients with Cardiovascular Disease (SPC)	Existing	QHPs	IHA, HEDIS, CMS, Washington State	High	High	High	High	High
Diabetes Care: Blood Pressure Control	Existing	QHPs	IHA	High	High	High	Medium	High
Comprehensive Diabetes Care: Eye Exam (Retinal) Performed	Existing	QHPs	IHA, QRS	High	High	High	High	High
Diabetes Care: HbA1c Poor Control > 9.0%	Existing	QHPs	IHA	High	High	High	Medium	High
Comprehensive Diabetes Care: Medical Attention for Nephropathy	Existing	QHPs	QRS	High	High	High	High	High
Statin Therapy for Patients with Diabetes (SPD)	Existing	QHPs	IHA, HEDIS	High	High	High	High	High
Prenatal Immunization Status	Existing	QHPs	IHA	High	High	High	Medium	Low

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Breast Cancer Screening (BCS)	Existing	QHPs	IHA, QRS	High	High	High	High	High
Cervical Cancer Overscreening	Existing	QHPs	IHA	High	High	High	High	High
Cervical Cancer Screening (CCS)	Existing	QHPs	IHA, QRS	High	High	High	High	High
Childhood Immunization Status (Combination 10)	Existing	QHPs	IHA	High	High	High	Medium	High
Chlamydia Screening in Women (CHL)	Existing	QHPs	IHA, QRS	High	High	High	High	High
Colorectal Cancer Screening (COL)	Existing	QHPs	IHA, QRS	High	High	High	High	High
Immunizations for Adolescents (IMA) (Combination 2)	Existing	QHPs	IHA, QRS	High	High	High	High	High
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents (WCC)	Existing	QHPs	IHA, QRS	High	High	High	High	High
Appropriate Testing for Children with Pharyngitis	Existing	QHPs	IHA, QRS	High	High	High	High	High
Asthma Medication Ratio	Existing	QHPs	IHA, HEDIS, EAS	High	High	High	High	Medium
Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis	Existing	QHPs	IHA, QRS	High	High	High	High	High
Plan All-Cause Readmissions (PCR)	Existing	QHPs	QRS, HEDIS	High	High	High	High	High

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Ambulatory Care - Emergency Dept. Visits/1000 MY (AMB)	Existing	QHPs	IHA, HEDIS, Medi-Cal	High	High	High	High	Medium
Emergency Department Utilization	Existing	QHPs	IHA	High	High	High	High	Low
Total Cost of Care, including service categories	Existing	QHPs	IHA	High	High	High	High	Low
Percent of Primary Care Physicians Who Successfully Meet Meaningful Use Requirements (CMS ACO #11)	Stretch: Requires Clinical Data	QHPs	MSSP	Medium	Medium	Medium	Low	Low

Note: "Stretch" measures are measures Covered California may consider promoting or tracking in the future. Since provider clinical data is required for reporting, it may be challenging unless mechanisms are put in place to support it.

To review the background research completed by PwC to inform these measures and data recommendations, please see Appendix 3, Bibliography Supporting Measures Review by PricewaterhouseCoopers.

Chapter 9: Appropriate Interventions

Appropriate Interventions include examining clinical interventions, such as prescription and non-prescription pharmaceutical treatments, procedures (like surgery), diagnostic tests (lab tests, X-rays, MRIs, etc.) and devices (like implants and pacemakers), to ensure they are rooted in the Institute of Medicine's six aims for ensuring every individual's care is safe, timely, effective, efficient, equitable, and patient-centered.[476] Equally important is effective consumer and patient engagement that (1) supports consumers in making decisions about health care services, treatments, and providers that are consistent with their values and preferences and (2) fosters access to care.

Appropriate Interventions is an expansive topic, but in this chapter, focuses on the following three categories: 1) consumer and patient engagement[477]; 2) appropriate use of services; and 3) pharmacy utilization management.

This chapter on Appropriate Intervention has a different organization compared to other chapters. When Covered California commissioned expert reviews with HMA and PwC, the *Covered California Quality Care and Delivery Reform Framework* was still in development. In the scope of work for HMA, Covered California only tasked HMA to complete an evidence review for consumer and patient engagement. As such, the evidence review does not cover appropriate use of services, diagnostics, devices and pharmacy utilization management. Covered California commissioned PwC to review measures and benchmarks for all three categories of Appropriate Interventions: 1) consumer and patient engagement; appropriate use of services; and 3) pharmacy utilization management.

Covered California acknowledges that further research is needed to identify the best evidence related to interventions that should be the focus of contracted QHPs for appropriate use of services, diagnostics, devices and pharmacy utilization management. These areas will require ongoing effort to identify potential areas of focus for Covered California and relevant performance measures.

This chapter on Appropriate Interventions is organized into two sections:

Section 1. Review of Evidence for Appropriate Interventions was prepared by Health Management Associates (HMA) and provides a review of the evidence related to health plan strategies for consumer and patient engagement, including (1) price and quality transparency tools; (2) the use of decision aids in shared decision-making programs; and (3) personal health records. The evidence review is followed by specific findings that represent opportunities or challenges for Covered California and then recommendations for how Covered California can monitor evidence on an ongoing basis.

---

[476] Committee on Quality Health Care in America, Institute of Medicine. (2001). Crossing the quality chasm: a new health system for the 21st century. Washington, D.C.: National Academy Press.

[477] In the final *Covered California Quality Care and Delivery Reform Framework,* the consensus was that consumer and patient engagement is a "key driver," i.e., an enabling tactic that promotes improved quality and delivery reform. The evidence for consumer and patient engagement is presented in this chapter, but Covered California will elaborate the role of key drivers in a forthcoming report, which will include consumer and patient engagement.

Section 2. Review of Measures and Benchmarks for Appropriate Interventions was prepared by PricewaterhouseCoopers (PwC) and provides a review of Covered California's current required measures, considerations and recommendations for revising its measures in this area.

Review of Evidence for Appropriate Interventions

Covered California contracted with HMA to conduct an evidence review in ten strategy areas that health insurance payers can utilize to drive value in health care. The results of this work are presented here.[478] This chapter includes direct citations of the best evidence within the discussion of this strategy; information from additional sources was also used for this report and is listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Background

There has been a growing effort to provide consumers with actionable information that assists in selecting high value providers, services and treatments based on the consumer's preferences and perspective. Here the review covers three consumer engagement strategies, the evidence associated with their effectiveness, and strategies to promote their use: transparency tools for provider/service selection, shared decision-making tools and personal health records.

While transparency tools do not demonstrate impacts on savings and quality on their own, they are tools for some of the network design strategies discussed, such as tiered networks and reference pricing where much of the onus is put on consumers to understand cost and quality implications of their decision-making. Tools and processes that promote shared decision-making between consumers and providers are used in a variety of settings for different conditions and demonstrate the most solid evidence of impact, but only for specific preference-sensitive services. Personal health records/patient portals appear to have the potential to result in far better informed and engaged patients, but they remain largely underutilized and of unclear value. Changes in technology standards and data sharing could improve their value over time.

Finding 1: Provider price and quality transparency tools are little used and are not alone associated with significant savings. Positive impacts require issuers to adopt strategies to encourage use including targeted engagement, member outreach and supporting provider engagement with their patients in using the tools.

Transparency tools are usually provided directly to consumers via a plan or vendor website allowing the consumer to compare providers and services based on price and/or quality metrics. Currently, transparency tools are widely available, with most large issuers providing access to such tools and multiple independent vendors also providing consumers' access to hospital, provider-level, or treatment-level cost and quality information.

[478] To view a more detailed description of HMA's approach, project team, and methods for literature review and evidence gathering, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Evidence Related to Savings[479]

Evidence shows these tools have been under-utilized and have generally not been associated with reductions in spending. For example, CalPERS offered a tool to beneficiaries in an Anthem PPO plan that provided customized price and select quality information, but use of the tool was not associated with lower spending on lab tests or office visits.[480] The majority of consumers believe price shopping is important, but in one study only 13 percent of respondents with out-of-pocket spending had sought information about expected spending and just three percent compared costs across providers prior to receiving care.[481]

Consumer Reports rated New York issuer websites and cost estimators and found the tools varied substantially. Many of the sites did not provide cost and quality data integrated in a way that was meaningful to the consumer. However, almost all of the consumers who tested the tools said the tools provided useful information so efforts to increase awareness of the tools may be fruitful.[482]

Given that simply providing the tool is insufficient; potential strategies in the literature to encourage use of the tools include:

- Targeted engagement of older and sicker patients who use the tool less than younger, healthier patients and who are likely to be high-volume users of care;[483]
- Outreach to members with information specific to their procedure type, with integrated cost and quality information;[484]
- Supporting providers in navigating patients to price shopping information based on their need for a service, to improve the timing of information delivery; and[485]
- Combining price transparency tools with benefit designs like reference pricing (in one case this resulted in a 27 percent reduction in the average price paid per laboratory test and a 13 percent reduction in price paid per imaging test) .[486]

---

[479] In each strategy section, HMA identified the evidence that supports potential impact on the following evaluation outcomes: savings; quality; population health; provider burden; administrative burden; and disparities reduction.

[480] Desai S, et al. Offering A Price Transparency Tool Did Not Reduce Overall Spending Among California Public Employees And Retirees. Health Affairs. 36 No. 8. 2017.

[481] Mehrotra A, et al. Americans Support Price Shopping For Health Care, But Few Actually Seek Out Price Information. Health Affairs. 36 No. 8. 2017.

[482] Nancy Metcalf, Getting Health Insurance Help in New York. Consumer Reports' new ratings offer an easier way to navigate the maze. Consumer Reports. November 2016.

[483] Sinaiko, A and Rosenthal M. Examining a Health Care Price Transparency Tool: Who Uses It, and How They Shop for Care. Health Affairs. 35,NO. 4 (2016): 662–670.

[484] Wu, S et al. Price Transparency For MRIs Increased Use Of Less Costly Providers And Triggered Provider Competition. Health Affairs 33 No. 8 (2014)

[485] Sinaiko and Rosenthal, 2016, op. cit.

[486] Whaley C et al. Consumer Responses to Price Transparency Alone Versus Price Transparency Combined With Reference Pricing. American Journal of Health Economics [Epub March 2018].

While these strategies seem promising, there is not clear evidence of their efficacy or how to implement them on a broad scale.

Evidence indicates that providers care about transparency, even when the impact on consumers is not clear. Providers have expressed concern about the accuracy of ratings and reviews, small sample sizes, and the impact of disclosing negotiated fees.[487]

Some vendors of price and quality transparency tools have begun to provide return-on-investment (ROI) guarantees, suggesting that their tools will lower costs for employer purchasers. Castlight introduced an ROI guarantee in 2018 for its Care Guidance and Complete solutions.[488] Alight offers a guaranteed 150 percent ROI for its Compass Navigator product.[489] It will be useful to monitor these initiatives to gauge whether ROI guarantees prove the value of the service.

Key Drivers and Enabling Tactics

High price variation. Higher rates of transparency tool use can be found in markets with greater price variation. High rates of tool use are also associated with younger ages, living in a higher income community and having a higher deductible.[490]

As noted above, combining price transparency with benefit designs that place more onus on the consumer to select low-cost providers is one way to encourage greater use of transparency tools.

Considerations for Covered California's Next Contract Period

While the review did not identify strong evidence to support price and quality transparency tools on their own, they are critical to other strategies included in this report, such as motivating providers to improve and tiered networks and reference pricing, where provider selection directly impacts the consumer's cost liability. Therefore, to the extent Covered California continues to promote those strategies, it will be important for plans to offer and promote price and quality information to consumers in a meaningful format. Covered California should monitor the outcome of transparency tool vendor ROI guarantees to determine whether these tools prove to be a beneficial investment.

Finding 2: Decision aids, while not in wide use, can be effective for fostering shared-decision making between consumers and providers and promoting appropriate utilization without adverse outcomes.

Decision aids are designed to help facilitate shared decision-making (SDM) between a consumer and provider about a specific treatment or screening. The Washington Health Care Authority certifies decision aids to assure their quality, guided by the work of the International

---

[487] Castellucci M and Livingston S. Achieving transparency in healthcare. Modern Healthcare. September 2, 2017.

[488] Castlight Press Release. July 11, 2018.

[489] Compass Navigator undated information brief. Accessed February 2019.

[490] Sinaiko and Rosenthal, 2016, op. cit.

Patient Decision Aid Standards (IPDAS) Collaborative.[491] An example of a decision aid for patients with osteoarthritis focuses on the question of whether to have hip replacement surgery or to use nonsurgical treatments (in any combination) to reduce pain and improve function in patients with osteoarthritis of the hip.

Evidence Related to Savings

Savings were identified in select use cases where decisions were highly sensitive to patient treatment preferences. For example, the introduction of a decision aid for hip and knee surgery at Group Health was associated with 12-21 percent lower costs over six months, 26 percent fewer hip replacement surgeries, and 38 percent fewer knee replacements.[492] Other studies showed reductions in utilization stemming from use of decision aids but did not address cost implications. For a group of patients presenting in the emergency department with a complaint of chest pain, 15 percent fewer decided to be admitted for cardiac testing than those without exposure to the decision aid.[493] A systematic review found decision aids were reported to reduce the number of people choosing major elective invasive surgery over more conservative options, reducing the number of people choosing prostate-specific antigen screening and increasing those choosing to start new medications for diabetes.[494]

Evidence Related to Quality

Evidence did not show that SDM had a direct impact on improving clinical outcomes. However, select studies show that reduced utilization driven by the aids did not worsen outcomes in the short term.[495,496] When patients participate in SDM they are likely to report better affective-cognitive outcomes, such as improved satisfaction and less decisional conflict, but evidence is lacking to associate empirical measures of SDM and patient behavioral and health outcomes.[497]

Evidence Related to Provider Burden

Clinician support for SDM is critical for its broad use. A study of physician attitudes towards SDM found physicians express positive attitudes towards SDM in clinical practice, although the level of support varies by clinical scenario, treatment decision and patient characteristics.[498] The

---

[491] Washington Health Care Authority. Patient Decision Aid Certification Criteria. 2017.

[492] Arteburn D, et al. Introducing Decision Aids at Group Health Was Linked to Sharply Lower Hip and Knee Surgery Rates and Costs. Health Affairs. 2012:31(9).

[493] Hess, E. Shared decision making in patients with low risk chest pain: prospective randomized pragmatic trial. BMJ 2016;355:i6165.

[494] Stacey D, et al. Decision aids for people facing health treatment or screening decisions. Cochrane Database of Systematic Reviews 2017, Issue 4. Art. No.: CD001431.

[495] Schaffer J, et al. Impact of a Shared Decision-Making Intervention on Health Care Utilization: A Secondary Analysis of the Chest Pain Choice Multicenter Randomized Trial. Academic Emergency Medicine. March 2018: 25 (3); 293-300.

[496] Stacey D, et al.,2017, op. cit.

[497] Shay, LA and Lafata JE. Where is the evidence? A systematic review of shared decision making and patient outcomes. Med Decis Making. 2015 Jan; 35(1): 114–131.

[498] Pollard S, Bansback N, and Bryan S. Physician attitudes toward shared decision making: A systematic review. Patient education and counseling. 2015. 98(9): 1046-1057

use of decision aids can increase the length of consultation (the median effect was 2.6 minutes longer).[499] There are currently no national standards or certification for decision aid tools, which may increase burden relative to tool selection.

Evidence Related to Disparities

Results of a systematic review indicate that SDM interventions significantly improve outcomes for disadvantaged populations, including increased knowledge, informed choice, participation in decision-making, decision self-efficacy, preference for collaborative decision making and reduced decisional conflict.[500] There is some evidence that special attention is required to ensure that patients with lower education, lower literacy levels and minorities can be effectively engaged in SDM. A systematic review suggested that patients with lower health literacy may be less able to use patient decision aids effectively and less able to engage in SDM without special attention paid to low literacy in the decision aid development process.[501] Another study reviewed the impact of perceived SDM on patient-reported outcomes, quality and utilization. The study found non-white race, lower educational level, low socioeconomic status, non-married status, and uninsured or underinsured status were all associated with higher incidence of poor perceived SDM, which was associated with increased odds of poor physical and mental health.[502]

Evidence Related to Patient Engagement

Evidence supports the use of decision aids to better inform and engage patients in their care. There is strong evidence that decision aid users improve their knowledge of treatment options and feel better informed about what matters to them. There is moderate quality evidence that consumers have more accurate expectations of treatment benefit and harms and that they will participate more in decision-making.[503]

Strong evidence, however, is lacking on the success of strategies to increase broad implementation and uptake of SDM.[504] Cited barriers to broader SDM use include lack of clinician motivation or supportive organizational culture, time constraints, lack of clinical applicability, lack of SDM-aligned funding models, and workflow disruption. CMS was planning to pilot payment incentives for SDM in ACOs but ultimately cancelled the pilot.[505] The model targeted patients with specific conditions: stable ischemic heart disease, hip or knee

---

[499] Stacey D, et al.,2017, op. cit.

[500] Durand MA, Carpenter L, Dolan H, et al. Do interventions designed to support shared decision-making reduce health inequalities? A systematic review and meta-analysis. PLoS One. 2014;9(4): e94670. Published 2014 Apr 15.

[501] McCaffery K. et al. Addressing health literacy in patient decision aids. MC Medical Informatics and Decision Making 2013 13 (Suppl 2): S10.

[502] Hughes T. et al. Association of shared decision-making on patient-reported health outcomes and healthcare utilization. The American Journal of Surgery, July 2018, Volume 216, Issue 1, 7 – 12.

[503] Stacey D, et al.,2017, op. cit.

[504] Légaré F, Adekpedjou R, Stacey D, et al. Interventions for increasing the use of shared decision making by healthcare professionals. Cochrane Database Syst Rev 2018;7:CD006732.

[505] CMS. Beneficiary Engagement and Incentives Models: Shared Decision-Making Model. Fact Sheet. December 8. 2016.

osteoarthritis, herniated disk or spinal stenosis, clinically localized prostate cancer and benign prostate hyperplasia and would reimburse $50 for each shared decision-making service provided.

Key Drivers and Enabling Tactics

Shared decision-making. Providers are more likely to use shared decision aid tools with their patients when a payor or accountable entity requires the use of shared decision-making.[506] According to a systematic review of physician attitudes towards shared decision-making, physician support is a necessary, if not sufficient, condition to facilitate meaningful shared decision making.[507]

Payer alignment on shared decision-making tools will decrease provider burden of tool selection and limit confusion from payers requiring or incentivizing multiple different tools for a given condition.

Considerations for Covered California's Next Contract Period

To achieve the potential benefits of the broader use of shared decision-making tools, Covered California could encourage contracted plans to assess how best to have providers and members use these tools where they have been shown to have an impact. Covered California could create a performance metric aligned with conditions that shared decision-making has been shown to impact (for example joint replacement) and consider requiring standard reporting on the numbers of patients eligible for receiving preference-sensitive care, and how many receive SDM with the results of the intervention reported in a standardized way. Another option would be to have plans select a condition where they will emphasize the use of shared decision-making and report on 1) the tool they selected, 2) the outcomes of using the tool, and 3) strategies to expand use across their provider network. Covered California could then support the sharing of promising strategies across their plans more broadly while more definitive empirical evidence is still being gathered.

Finding 3: Evidence on the efficacy of personal health records is limited but improved data sharing technology and patient-centered functionality may increase future value.

Access to patient medical records has the potential to enhance patient-provider communication, enhance knowledge of the patient's condition and self-care, and allow for greater patient participation in the quality of their care. However, patient access to and use of EHR via personal health records or a patient portal remains limited.

Until recently, technology has limited Personal Health Record (PHR) utility as vendors would have to negotiate with each individual health system to allow apps to connect their EHRs to extract data relevant to a given patient population. The 21st Century Cures Act of 2016 has set the stage for greater access to personal health information through open application programming interface (API) requirements for EHRs. In addition, new standards (Health Level

[506] Agency for Healthcare Research and Quality. Anthem Continues to Encourage Shared Decision-making Practices. April 2016.

[507] Pollard, Bansback, and Bryan, op. cit.

Seven Fast Health Interoperability Resources - HL7 FHIR) have been implemented by major EHR products to allow for greater interoperability with health apps. As the technology becomes available, leveraging these new standards, it will be important that the information provided within the apps is useful to patients and promotes engagement.

Evidence Related to Quality

A national survey conducted in 2010 by the California Health Care Foundation found that individuals who have access to their health information through PHRs report they know more about their health, ask more questions, and take better care of themselves than when their health information was less accessible to them in paper records.[508] However, systematic literature reviews picked up very few studies associating use of patient portals, or its features, to improved clinical outcomes. A small number of studies reported improvements in medication adherence, disease awareness, disease self-management, lower utilization of office visits, and an increase in preventive medicine but none of the studies involved a randomized controlled trial.[509]

Evidence Related to Provider Burden

Providers may need to learn new types of skills to communicate and partner with patients with open record sharing.[510] Some providers have expressed concern that patients will not fully understand the information in the portal, triggering additional requests for communication.[511] However, implementation studies show conflicting information about the impact of portal use on call volume or additional requests for information. [512,513]

Evidence Related to Administrative Burden

The infrastructure cost to set up a PHR is likely to be low given that most EHRs already have functionalities for sharing information built into their patient portals. However, there are costs associated with culture change and getting buy-in from clinicians to share the data.

Evidence Related to Disparities

Access to clinical notes appears to be of particular utility for underserved populations to build trust with their providers and greater engagement in their treatment. In one study, less educated patients were nearly three times as likely to report notes were extremely important to engage in

---

[508] California Health Care Foundation. New National Survey Finds Personal Health Records Motivate Consumers to Improve Their Health. April 13, 2010.

[509] Kruse CS, Bolton K, Freriks G. The Effect of Patient Portals on Quality Outcomes and Its Implications to Meaningful Use: A Systematic Review. J Med Internet Res 2015;17(2):e44.

[510] Woods SS et al. Patient Experiences with Full Electronic Access to Health Records and Clinical Notes Through the My HealtheVet Personal Health Record Pilot: Qualitative Study. J Med Internet Res 2013;15(3):e65.

[511] Miller DP, et al. Primary Care Providers' Views of Patient Portals: Interview Study of Perceived Benefits and Consequences. J Med Internet Res. 2016 Jan; 18(1): e8.

[512] Walker J, Meltsner M, Delbanco T. US experience with doctors and patients sharing clinical notes BMJ 2015; 350 :g7785.

[513] McNeill S.M. Lower Your Overhead with a Patient Portal. Fam Pract Manag. 2016 Mar-Apr;23(2):21-25.

care compared with the most educated patients.[514] Around 70 percent of African-American and Latino patients reported that seeing notes is important to feel informed about their care. However, despite strong interest, racial/ethnic minority groups and those with lower socioeconomic status are less likely to use portals. Some of the main drivers are accessibility challenges in that portals often feature small-font, English-only, text-based content written at a high literacy level.[515] Other research suggests that security concerns and a preference for in-person communication also play an important role.

One study pointed to in-person and online training programs and providing access in public places in rural and urban communities as leverage points to minimize health disparities in patient portal access.[516] Another study pointed to mobile device use as a potential opportunity for health care organizations to further engage African-American and Latino enrollees in online patient portal use.[517]

Evidence Related to Patient Engagement and Activation

Designing portals in a patient-centered manner to address patient needs and improve convenience will likely increase usage. One expert suggests the portal must include five functions to assist in patient activation:[518]

- The ability for patients to view their health data, such as immunizations, lab work and imaging results. Links that provide information on labs and other biometrics are of tremendous value for patients and families.
- Online appointment scheduling, which allows patients and families to schedule appointments when convenient.
- Online billing, which allows patients and families to add credit card information.
- Prescription refill requests, which can eliminate the need to make a phone call.
- Ability to integrate patient-centered data. This also makes it possible for patients to receive timely feedback.

Sharing clinical notes through the portal has also shown to enhance patient engagement, although this is not yet a common practice due to technical and cultural barriers. For example, one study surveyed patients who had access to an ambulatory note through their patient portal and found that reading notes helped patients follow through on tests and referrals.[519] A 12

---

[514] Macda G, et al. The Importance of Visit Notes on Patient Portals for Engaging Less Educated or Nonwhite Patients: Survey Study. J Med Internet Res. 2018 May; 20(5): e191.

[515] Lyles, C. Legal, Practical, and Ethical Considerations for Making Online Patient Portals Accessible for All. American Journal of Public Health. August 17, 2017.

[516] Arcury TA et al. Patient Portal Utilization Among Ethnically Diverse Low Income Older Adults: Observational Study. JMIR Med Informatics 2017;5(4):e47

[517] Change E et al.. Racial/ethnic variation in devices used to access patient portal. American Journal of Managed Care. 2018 Jan 1; 24(1): e1-e8.

[518] Ballou-Nelson P. Are portals a means to patient activation? MGMA. July 24, 2018.

[519] Fossa A et al. Journal of Patient Safety - Tackling Ambulatory Safety Risks Through Patient Engagement: What 10,000 Patients and Families Say About Safety-Related Knowledge, Behaviors, and Attitudes After Reading Visit Notes. Journal of Patient Safety: April 27, 2018.

month study of primary care practices participating in the U.S. OpenNotes Initiative that promotes sharing clinical notes through the patient portal found that over 80 percent of patients opened at least one note and over two thirds reported better understanding of their health and medical conditions, taking better care of themselves, doing better with taking their medications, or feeling more in control of their care.[520] Strategies that encourage a culture of providers sharing this information with patients will be useful now so that the information can be used in a meaningful way once the technology to extract it becomes more widely available.

Key Drivers and Enabling Factors

Clinical information access. Access to clinicians' notes can support SDM, which relies on efficient information exchange between clinicians and well-informed patients, as discussed in the previous section.[521]

Considerations for Covered California's Next Contract Period

To more quickly advance the utility of personal health records, Covered California could consider requiring its plans to encourage broad uptake of PHRs and to engage in clinical note-sharing as part of providers' standard practice. By fostering clinical note-sharing, plans can help foster a culture of sharing this information so that patient portals will include more valuable information and promote greater engagement in treatment and self-care decisions.

Key Resources for Monitoring New Research

The following are resources, organizations, and other references that Covered California should monitor to stay up to date on the evidence related to this strategy. Among the resources cited in this section and listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates, the following are two regularly updated systematic reviews highlighted above that can help Covered California monitor the evidence on SDM. HMA recommends annually checking for updates or follow-on work from the following:

- Stacey D, et al. Decision aids for people facing health treatment or screening decisions. Cochrane Database of Systematic Reviews 2017, Issue 4. Art. No.: CD001431.
- Légaré F, Adekpedjou R, Stacey D, et al. Interventions for increasing the use of shared decision making by healthcare professionals. Cochrane Database Syst Rev 2018;7:CD006732.

[520] Walker J, Meltsner M and Delbanco T. US experience with doctors and patients sharing clinical notes. BMJ 2015;350:g7785.

[521] Fossa A, Bell S and DesRoches C. OpenNotes and shared decision making: a growing practice in clinical transparency and how it can support patient-centered care. JAMIA. June 2018.

Section 2. Review of Measures and Benchmarks: Appropriate Interventions

This section of the report on Appropriate Interventions is the product of PricewaterhouseCooper's (PwC) detailed review of measures and benchmarks that can be used by Covered California to assess quality care is being delivered and that its contracted health plans use effective strategies to promote improvements in how care is delivered. The section includes a review of Covered California's current measurement strategy which is followed by considerations for revising those measures and specific recommendations for Covered California's consideration.[522]

Covered California's Current Required Measures

Takeaways

- **Increased consumer and patient engagement is desirable, but the definitions and measurement are not standardized, and the technologies used to drive and track these issues are under-developed.**
- **Preliminary analysis indicates that nationally Healthcare Effectiveness Data Information Set (HEDIS) scores at the 90th and 75th percentiles are comparable for Qualified Health Plans (QHP) and Commercial plans.**
- **Given the wide variations in pharmacy needs among different populations and fast pace of change, benchmarks from other sources may have limited relevance. Covered California should leverage its own drug data to understand its population's pharmacy characteristics and changes over time.**

As shown below, Covered California has a range of measures pertaining to appropriate interventions (see Table 1, Covered California Required Measures, Qualified Health Plan Performance Data and Sources of Potentially Relevant Comparisons). PwC has also summarized QHP performance data and sources of potentially relevant comparisons.

Table 1. Covered California Required Measures, Qualified Health Plan Performance Data, and Sources of Potentially Relevant Comparisons

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
Consumer and Patient Engagement		
Percent of unique Enrollees that used each of the consumer tools offered. [§7.01(2a)]	Limited Reporting	Academic studies using surveys

[522] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures. To view the full list of measures recommended by PwC, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
Percentage of enrollees with identified health conditions (breast cancer, prostate cancer, hip and knee replacement) engaged in shared decision-making. [§7.03]	Waived	PCORI
Participation rates and outcomes results of reward-based consumer incentive program, if offered. [§8.01]	Waived	PwC 2018 Touchstone Survey
Appropriate Use of Services		
Smart Care California Leverage Choosing Wisely decision aids to support efforts to drive appropriate use of: 1) C-sections for low risk (NTSV) deliveries; 2) Opioid overuse and misuse; and 3) Imaging for low back pain. [§7.04]	Addressed in other chapters.[523]	CA OSHPD, Health People 2020 Goal Quality Compass (Commercial, Medicaid) QRS National
QHP Quality Rating System (QRS) HEDIS measures	QRS submissions for the following: 1. Annual Monitoring for Patients on Persistent Medications (MPM) (HEDIS) 2. Appropriate Testing for Children with Pharyngitis (CWP) (HEDIS) 3. Appropriate Treatment for Children with Upper Respiratory Infection (URI) (HEDIS)	Quality Compass (Commercial, Medicaid) QRS National

[523] Unnecessary low-risk NTSV C-sections are discussed in "Chapter 10, Sites and Expanded Approaches to Care Delivery." Opioid overuse and misuse and imaging for low back pain are discussed in "Chapter 4, Acute, Chronic and Other Conditions."

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
	4. Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis (AAB) (HEDIS) 5. Use of Imaging Studies for Low Back Pain (LBP) (HEDIS)	
Pharmacy Utilization Management No measures currently required, qualitative descriptions only	N/A	N/A

Considerations for Revising Covered California's Measures

What follow are PwC's measures and data recommendations for Covered California:

Consumer and Patient Engagement

- Patient engagement is covered by a number of existing QRS measures.
- Research on condition shopping Cost and Price Comparison Tools is generally based on older data and shows low rates of employee and member utilization.
- A 2018 Cochrane systematic review[524] concluded that it is uncertain whether interventions for increasing the use of shared decision making are effective because the certainty of the evidence is low.
- Use of SDM is more effective for preference sensitive conditions and is affected by such factors as doctor-patient relation.
- CMS canceled the pilot of Shared Decision-Making Model for ACOs because of insufficient interest for participation.
- Most surveys of Health and Wellness programs focus on benefits offered by large employers. If offered, many employers use incentive reward programs for completion of Health Risk Assessments and biometric screening. Use of incentive rewards is less common for condition management programs.
- Use of wellness incentive rewards is less common in Medicaid programs and evidence is mixed on the success of such programs.

[524] Légaré F, Adekpedjou R, Stacey D, et al. Interventions for increasing the use of shared decision making by healthcare professionals. Cochrane Database Syst Rev 2018;7:CD006732.

- Employer derived benchmarks for wellness programs are influenced by the level of incentives and penalties, and results for Individual enrollees would be expected to differ.

Appropriate Use of Services: QRS HEDIS Measures

- HEDIS clinical data is generally high quality, collected, validated, and calculated using standardized methods, and is updated annually.
- HEDIS clinical measures can be readily compared across health plans, states, and lines of business, as well as over time to view changes in values.

Pharmacy Utilization Management

- It is challenging to remain current on developments and trends in pharmacy cost, utilization, specialty drugs, and other outpatient and retail pharmacy issues. Therefore, Covered California should analyze its prescription drug data to determine relevant measures and establish baselines of pharmacy utilization and expenditures.
- IHA recommended measures include overall generic prescription utilization rate and rates for antidepressants, diabetes, cardiac, and statins.
- HEDIS® measures in QRS provide some measures of value based on metrics such as medication adherence for chronic conditions.
- Pharmacy metrics that are based on specific lists of drugs (by brand/generic name/NDC) may be more difficult to define and measure over time as new drugs and formulations are introduced to the market. For example, the Medicare “brand” list will change as medications come off patent or multi-brand substitutions become available.
- Achieving improved value in pharmacy spend will require continued focus on existing strategies such as formulary tiering and copayment structure, patient tools and engagement, plus targeted programs, such as statin therapy for diabetics at risk of a heart attack or those with a mental health and comorbid condition.

Measures and Data Recommendations

What follow are measures and data recommendations for Covered California:

Consumer and Patient Engagement

1. Use QHP national benchmarks reported from QRS.
2. For measures that Covered California compares to Quality Compass commercial scores, set QHP benchmark at the 50th, 75th, or 90th percentiles for commercial and Medicaid.
3. Consider strategies to increase provider use of SDM and consumer tools. However, reporting of the use of these strategies is not well-developed and burdensome. Consider removing data reporting requirements while maintaining reporting of strategies employed by the QHPs to support and encourage the use of the tools.

Appropriate Use of Services: QRS HEDIS Measures

4. Recommend Covered California maintain its measures.

5. Use QHP national benchmarks reported from QRS.

6. For measures that Covered California compares to Quality Compass commercial scores, set QHP benchmark at the 50th, 75th, or 90th percentiles for commercial and Medicaid.

Pharmacy Utilization Management

7. Use QHP national benchmarks reported from QRS.

8. For measures that Covered California compares to Quality Compass commercial scores, set QHP benchmark at the 50th, 75th, or 90th percentiles for commercial and Medicaid.

9. Recommend new measures:

    a. Generic prescribing (% of scripts/dollars)
    b. Consider generic analysis for select therapeutic classes

10. Consider analyzing QHP data to develop baseline values:

    a. Develop baseline pharmacy cost and utilization metrics
    b. Analyze pharmaceutical spending associated with specific conditions and diseases (e.g., HIV, diabetes and other chronic conditions)
    c. Track the introduction of new specialty drugs and biologics
    d. Monitor impact of drug policy issues that emerge

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and industry articles, and assessed measures on several attributes, including strength of evidence, alignment with other purchasers and feasibility of reporting (see Table 2, PwC Recommended Measures for Appropriate Interventions).[525]

Table 2. PwC Recommended Measures for Appropriate Interventions

Consumer and Patient Engagement

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
QRS Survey Measure (Access to Information)	Existing	QHPs	QRS	High	High	High	High	High
QRS Survey Measure (Enrollee Experience with Health Plan)	Existing	QHPs	QRS	High	High	High	High	High

[525] For the criteria used by PwC to assess measures, please see Table 3, Measure Assessment Structure Applied by PwC, in the chapter on Summary Recommendations on Measures and Benchmarks. For a detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
QRS Survey Measure (Plan Administration)	Existing	QHPs	QRS	High	High	High	High	High
QRS Survey Measure (Rating of Health Plan)	Existing	QHPs	QRS	High	High	High	High	High
Participation rates and outcomes results of reward-based consumer incentive program, if offered.	Existing, but Difficult to Collect	QHPs	n/a	Low	Medium	Low	Low	Low
Percent of unique Enrollees that used each of the consumer tools offered.	Existing, but Difficult to Collect	QHPs	n/a	Low	Medium	Low	Low	Low
Percentage of enrollees with identified health conditions (breast cancer, prostate cancer, hip and knee replacement) engaged in shared decision-making.	Existing, but Difficult to Collect	QHPs	n/a	Low	Medium	Low	Low	Low

Appropriate Use of Services: QRS HEDIS Measures

Measure	New or Existing	Reported By	Alignment	Evidence	Impact	Reliability	Feasibility	Benchmark Availability
Annual Monitoring for Patients on Persistent Medications	Existing	QHPs	QRS	High	High	High	High	High
Appropriate Testing for Children with Pharyngitis	Existing	QHPs	IHA, QRS	High	High	High	High	High
Appropriate Treatment for Children with Upper Respiratory Infection	Existing	QHPs	QRS	High	High	High	High	High
Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis	Existing	QHPs	QRS	High	High	High	High	High

Measure	New or Existing	Reported By	Alignment	Evidence	Impact	Reliability	Feasibility	Benchmark Availability
Use of Imaging Studies for Low Back Pain	Existing	QHPs	QRS	High	High	High	High	High

Pharmacy Utilization Management

Measure	New or Existing	Reported By	Alignment	Evidence	Impact	Reliability	Feasibility	Benchmark Availability
Annual Monitoring for Patients on Persistent Medications	Existing	QHPs	QRS	High	High	High	High	High
Generic prescribing	New	Covered California	IHA	Medium	High	Medium	High	Medium

To review the background research completed by PwC to inform these measures and data recommendations, please see Appendix 3, Bibliography Supporting Measures Review by PricewaterhouseCoopers.

Chapter 10: Sites and Expanded Approaches to Care Delivery

Covered California supports expanding where and how people get health interventions and treatments: beyond hospitals, whether on an inpatient or outpatient basis; ambulatory settings (such as a doctor's office or urgent care facility or retail health such as a drop-in clinics, or at home or through various telehealth modalities); as well as who provides that care, including not only physicians but also other clinically appropriate providers such as registered nurses, pharmacists, midwives or other non-licensed providers such as community health workers.

This chapter on Sites and Expanded Approaches to Care Delivery has a different organization. "Sites" refer to the traditional medical care settings of hospitals and physician offices. Care in physician offices is covered in Chapter 1, Promotion of Effective Care, which reviews evidence on strengthening primary care and various primary care performance measures. Similarly, Chapter 9, Appropriate Interventions, examines various clinical interventions largely delivered in or ordered by physician offices, to ensure they are rooted in the Institute of Medicine's six aims for safe, timely, effective, efficient, equitable and patient-centered care. [526]

Hospital care is a broad topic and can include a range of system level reforms. This chapter focuses on Covered California current requirements pertaining to improving hospital quality and safety, which are (1) within a health plan's oversight authority, (2) help foster alignment across contracted issuers and their contracted hospitals; and (3) benefit from the availability of publicly reported hospital performance data, along with the availability of coaching programs and quality collaboratives. Covered California did not ask HMA to complete an evidence review for hospital quality and safety but notes future research should also address hospital outpatient departments, including clinics and surgery centers. Further research is needed to identify the best evidence related to interventions that should be the focus of contracted qualified health plans and performance measures for hospital outpatient care settings.

For expanded approaches to care delivery, HMA examined evidence for the following: 1) Site of Care Payment Neutrality; 2) Telehealth; 3) Retail Clinics; 4) Urgent Care; and 5) Birth Centers. PwC reviewed measures and benchmarks for hospital safety and quality and telehealth as an expanded approach to care delivery. Covered California acknowledges further research is needed to identify measures and benchmarks for the other sites of care identified by HMA.

This chapter on Sites and Expanded Approaches to Care Delivery is organized into two sections:

Section 1. Review of Evidence for Sites and Expanded Approaches to Care Delivery was prepared by Health Management Associates (HMA) and provides a review of the evidence related to health plan strategies for expanded approaches to care delivery.

Section 2. Review of Measures and Benchmarks for Sites and Expanded Approaches to Care Delivery was prepared by PricewaterhouseCoopers (PwC) and provides a review of Covered California's current required measures, considerations and recommendations for revising its measures in this area.

---

[526] Committee on Quality Health Care in America, Institute of Medicine. (2001). Crossing the quality chasm: a new health system for the 21st century. Washington, D.C.: National Academy Press.

Section 1. Review of Evidence for Sites and Expanded Approaches to Care Delivery

Covered California contracted with HMA to conduct an evidence review in ten strategy areas that health insurance payers can utilize to drive value in health care. The review's results are presented here.[527] This chapter includes direct citations of the best evidence within the discussion of this strategy; information from additional sources was also used for this report and is listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Background

Healthcare delivery is evolving beyond the traditional in-person office visit and hospital-based care in a variety of ways. Ambulatory care now includes a range of electronic alternatives under the rubric of telehealth which have been found to be as effective as in-person visits for a broad range of the conditions studied. While the emergency room used to be the only alternative to physician offices for urgent issues or convenience, retail and urgent care clinics now extend hours and access. Surgery is moving to hospital outpatient centers and ambulatory surgery centers and maternity care is being provided in birth centers. Primary and specialty care clinicians are using electronic means, most prominently eConsult and Project ECHO, to enhance access to specialty care. To support these innovations, new approaches to payment are being adopted including site of care payment neutrality under fee-for-service, and population-based payment within Integrated Delivery Systems and ACOs.

This review conducted a comprehensive evaluation of the evidence relating to the value of alternate sites of care in five main areas: 1) Site of Care Payment Neutrality, 2) Telehealth, 3) Retail Clinics, 4) Urgent Care, and 5) Birth Centers. Not included in this comprehensive review, but potentially worth future investigation, are advances in care at home, ambulatory surgery centers and various forms of telemonitoring.

Finding 1: Research has demonstrated significant variation in costs for the same services provided in different care settings.

Researchers have noted significant payment differentials for the same services provided in different care settings.[528,529] In 2017, for example, the MedPAC reiterated previous recommendations made in 2012 and 2014 to support "site neutral" payments for hospital outpatient departments and physician office settings.[530] The rationale for this policy is to reduce the incentive of shifting patient care to hospital outpatient facilities for services in which quality is

---

[527] To view a more detailed description of HMA's approach, project team, and methods for literature review and evidence gathering, please see Appendix 1, Background on Expert Review of Evidence and Measures.

[528] Cassidy, A. et al. (2014). Site-Neutral Payments. Medicare uses different payment systems depending on where care is delivered. Recent proposals to eliminate this differential. Health Affairs.

[529] Higgins, H., Veselovskiy, G., Schinkel, J., (2016). National Estimates of Primary Variation by Site of Care. The American Journal of Managed Care.

[530] Medicare Payment Advisory Commission. (2017). Hospital Inpatient and Outpatient Services.

equivalent across sites and there are not advantages to performing the service in a hospital setting.

Based on analysis conducted in 2013, MedPAC identified 24 Ambulatory Payment Classifications (APCs) that met five criteria for equal payment rates between hospital outpatient departments and freestanding physician offices.[531] The five criteria were:

1. Frequently performed in physicians' offices (more than 50 percent of the time), indicating that they are likely safe and appropriate to provide in a freestanding physician's office and the physician fee schedule payment rates for these services are sufficient to ensure access to care;
2. Have minimal packaging differences across payment systems (i.e., the payment rate includes a similar set of services);
3. Are infrequently provided with an ED visit when furnished in an outpatient department (such services are unlikely to have costs that are directly associated with operating an ED);
4. Have patient severity that is no greater in outpatient departments than in freestanding offices; and
5. Are not 90-day global surgical codes (CMS assumes that physicians' costs for these codes are higher when performed in a hospital than in a freestanding office).

Most of the APCs that met the above criteria were diagnostic tests such as level II echocardiogram without contrast (APC 269), level II extended electroencephalography (EEG), sleep, and cardiovascular studies (APC 209), bone density: axial skeleton (APC 288), and level II neuropsychological testing (APC 382). MedPAC also identified 42 APCs for which quality was comparable but for which hospital settings provided advantages that justified a higher fee, such as 24-hour operation or the availability of specialists. For these services, MedPAC recommended reducing the cost differential rather than equalizing payment.

Commercial payers have also found significant variation in costs for services across settings. A study of Humana medical claims for patients who initiated infusion therapy for five common cancer types found that costs in hospital outpatient departments were 15 percent higher than in a physician office.[532] Breast cancer patients treated with adjuvant trastuzumab in the hospital outpatient setting had a shorter duration of trastuzumab treatment and fewer trastuzumab infusions but costs in the hospital outpatient department were 54 percent higher than in a physician office. [533] Despite fewer administrations and lower weekly dose of treatment in hospital outpatient settings, adjusted total costs were 31 percent to 38 percent higher for metastatic colorectal cancer and lung cancer patients treated in the hospital outpatient setting.[534]

---

[531] Medicare Payment Advisory Commission. (2013). Medicare payment differences across ambulatory settings.

[532] Hopson, S. et al. (2018). Does site-of-care for oncology infusion therapy influence treatment patterns, cost, and quality in the United States? Journal of Medical Economics.

[533] Parthan A et al. (2014). Health care utilization and costs by site of service for nonmetastatic breast cancer patients treated with trastuzumab. Journal of Managed Care Specialty Pharmacy.

[534] Engel-Nitz, NM. et al. (2014). Service setting impact on costs for bevacizumab-treated oncology patients. American Journal of Managed Care.

This review also identified research demonstrating that models of care providing extended home visits and hospital-level care to the patient, referred to as Hospital at Home models, show improvement in outcomes, and significantly reduced cost. Research has suggested that a continuum of care can be offered to appropriately-identified patients whose home environments can support treatment.[535, 536]

Considerations for Covered California's Next Contract Period

Covered California could consider options to encourage plans to impose payment neutrality requirements for the same services provided in different care settings. In 2018, CMS proposed rule changes to require payment neutrality for certain types of visits to "off campus" hospital outpatient departments as paid for the same type of visit to a physician's office.[537] While the rule change applies only to physician office visits, it signals growing support for this type of strategy to address significant cost variation for the same services in different settings and may expand to a broader set of services as recommended by MedPAC in the future. HMA notes this strategy to raise Covered California's awareness and consideration for application to contracted plans.

Finding 2: Telehealth has been as effective as in-person visits for a broad range of the conditions studied. Impacts of telehealth on costs depend significantly on the nature of services provided and whether telehealth serves to deter costlier downstream care.

Evidence on the effectiveness of telehealth is broad, encompassing a diverse range of technologies, health conditions and patient populations (See Box, Telehealth Modalities – Four Primary Domains). Given the volume and variability of evidence, this review focused on systematic reviews synthesizing evidence for a range of telehealth modalities and health conditions. HMA then reviewed several individual studies or articles based on guidance from subject matter experts (see Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates).

---

[535] Levine, D.M., Ouchi, K., Blanchfield, B., Diamond, K., Licurse, A., Pu, C.T., Schnipper, J.L.. (2018). Hospital-Level Care at Home for Acutely Ill Adults: A Pilot Randomized Controlled Trial. Journal of General Internal Medicine.

[536] Zimbroff, R.M., Leff, B., Siu, A. (2018). Hospital at Home – Plus Reduces Days Spent in Hospitals and Other Inpatient Facilities. New England Journal of Medicine Catalyst.

[537] Adler, L. et al. (2018). CMS' positive step on site-neutral payments and the case for going further. University of Southern California-Brookings Schaeffer Initiative for Health Policy.

Telehealth Modalities – Four Primary Domains

The Center for Connected Health Policy has created a framework of four distinct domains of telehealth applications:

1. *Live Video (synchronous):* two-way interaction between a person (patient, caregiver, or provider) and a provider using audiovisual telecommunications technology. This type of service is also referred to as "real-time."
2. *Mobile health or mHealth:* provision of health care services and personal health data via mobile devices, such as cell phones and tablet computers.
3. *Remote patient monitoring (RPM):* uses digital technologies to collect medical and other forms of health data from individuals in one location and electronically transmit that information securely to health care providers in a different location for assessment and recommendations. Monitoring programs can collect a wide range of health data from the point of care, such as vital signs, weight, blood pressure, blood sugar, blood oxygen levels, heart rate, and electrocardiograms.
4. *Store-and-forward technologies (asynchronous):* allow for the electronic transmission of medical information, such as digital images, documents, and pre-recorded videos through secure email communication. This information can include X-rays, MRIs, photos, patient data, and even video-exam clips. Store-and-forward communications primarily take place among medical professionals to aid in diagnoses and medical consultations when live video or face-to-face contact is not necessary.

Source: Center for Connected Health Policy. 2018.

Evidence Related to Savings[538]

The impact of telehealth on costs depends significantly on the kinds of care provided. Researchers underscored three underlying factors that drive the impact of telehealth on total cost of care: 1) proportion of telehealth encounters that substitute for existing services versus add to health care use; 2) relevant cost differences between telehealth encounters and an equivalent in-person visit; and 3) whether the use of telehealth deters downstream care.[539] In considering whether telehealth visits are additive or substitutive, one study estimated that 90 percent of direct-to-consumer telehealth visits for low-acuity conditions such as sinusitis were new use (additive) and only 10 percent substituted for in person visits, resulting in increased health care costs.[540] By contrast, strategies that promote telehealth visits that substitute for in person visits may reduce costs. These strategies may include, for example, the use of value-based payment methodologies that incentivize providers to use telehealth visits in place of costlier alternatives;[541] increased patient cost sharing for direct-to-consumer telehealth visits

[538] In each strategy section, HMA identified the evidence that supports potential impact on the following evaluation outcomes: savings; quality; population health; provider burden; administrative burden; and disparities reduction.

[539] Licurse, A.M. & Mehrotra, A. The Effect of Telehealth on Spending. Thinking Through the Numbers. Annals of Internal Medicine. 2018.

[540] Ashwood, J.S. et al., (2017). Direct-to-consumer telehealth may increase access to care but does not decrease spending. Health Affairs.

[541] Shah, S.J. et al. Virtual Visits Partially Replaced In-Person Visits In An ACO-Based Medical Specialty Practice. Health Affairs. 2018.

that are patient initiated or offering telehealth for chronic conditions using clinical pathways that substitute telehealth visits for in-person care at agreed-upon intervals.[542]

Relevant cost differences between telehealth and in-person visits is another dimension of how telehealth can impact costs. If telehealth visits are less expensive than in-person visits, more telehealth visits may not increase payer costs. Approximately 13 states have passed private payer payment parity laws or other payment standards for telehealth reimbursement, that may in some cases limit opportunities to reduce spending.[543] In Arkansas, for example, the combined amount of reimbursement that a health benefit plan allows for a distant site and the originating site cannot be less than the total amount allowed for the services provided in-person.[544] Similarly, about 13 state Medicaid programs require that telehealth (live video) visits are reimbursed at the same level as in-person visits.[545] California, by contrast, does not set explicit telehealth coverage or payment parity requirements for private payers (See Box, California Telehealth Laws – Private Payers Coverage and Reimbursement).

California Telehealth Laws: Private Payer Coverage and Reimbursement

Telehealth Definition: Telehealth means the mode of delivering health care services and public health via information and communication technologies to facilitate the diagnosis, consultation, treatment, education, care management, and self-management of a patient's health care while the patient is at the originating site and the health care provider is at a distant site. Telehealth facilitates patient self-management and caregiver support for patients and includes synchronous interactions and asynchronous store-and-forward transfers. *CA Business & Professions Code Sec. 2290.5.*

Service Parity: Private payers cannot require that in-person contact occur before payment is made for covered telehealth services, subject to contract terms and conditions. Health plans cannot limit the settings where services are provided. Settings are still subject to contract terms and conditions. *CA Health & Safety Code Sec. 1374.13.*

Payment Parity: No explicit payment parity.

Source: Center for Connected Health Policy. State Telehealth Laws and Reimbursement Policies, A Comprehensive Scan of 50 States and D.C. 2018.

A third factor to consider in evaluating the impact of telehealth on costs is whether it prevents costlier care downstream, such as ED visits or specialty care. Virtual consults ("eConsults") between primary care physicians and specialists, for example, have the potential to reduce significantly the costs of specialty care. A recent study of an eConsult program in Connecticut found that patients who had an eConsult had average specialty-related episode-of-care costs of $84 per patient per month less than those sent directly for a face-to-face specialty visit.[546] The

[542] Licurse & Mehrotra, op. cit.

[543] Center for Connected Health Policy. State Telehealth Laws & Reimbursement Policies: A Comprehensive Scan of the 50 States and the District of Columbia. 2018. States with payment parity or other laws setting telehealth payment standards include: AR, DE, HI, KS, KY, LA, ME, MA, MN, NJ, ND, TN, TX. Note that "payment parity" is distinct from "coverage parity".

[544] Ibid.

[545] Trout, K.E., et al. (2017). Legal Mapping Analysis of State Telehealth Reimbursement Policies. Telemedicine and e-Health.

[546] Anderson, D., Villagra, V.G., Coman, E., Ahmed, T., Porto, A., Jepeal, N., Maci, G., & Teevan, B. (2018). Reduced Cost Of Specialty Care Using Electronic Consultations For Medicaid Patients. Health Affairs. 37(12):2031-6.

evaluation showed impact on costs for four specialties – dermatology ($14 per patient per month less), endocrinology ($63 per patient per month less), orthopedics ($85 per patient per month less), and gastroenterology ($59 per patient per month less). These specialties were chosen because data showed that they had the highest demand and longest wait times. Another evaluation of an eConsult program among Los Angeles County safety net providers showed that median time to an electronic response from a specialist was one day, and 25 percent of eConsults were resolved without a specialist visit.[547] These program results suggest that eConsults hold promise for reducing costs, while improving access to and timeliness of specialty care and strengthening primary care. Among Medicaid and rural populations, the model also addressed the challenge of limited access to providers and services. Project ECHO, another model that connects primary care physicians and specialists via audio-video conferencing, has also demonstrated positive outcomes for reducing costs and improving provider competency and patient outcomes.[548] The Project ECHO model has been very well received by providers and the original program at the University of New Mexico has expanded to 46 states and 34 countries, with continued growth. In California, there are currently

Electronic Consultations ("eConsults")

Electronic Consultations (eConsults) *between specialty and primary care providers are a promising telehealth practice to reduce costs and strengthen primary care, with safety-net providers in California and Connecticut leading the country in this area.* While there is no standard definition, eConsults generally involve a secure, asynchronous electronic exchange of clinical information between a primary care provider and a specialist, resulting in a consult note or document that becomes part of the patient's permanent record. Traditionally, eConsults have not been reimbursed because there is no direct interaction between the specialist and the patient. Only a few state Medicaid programs (Connecticut, California/LA County) have allowed reimbursement of eConsult interprofessional consultation codes, which have showed promising results as discussed in this review. More recently, the CMS 2019 Physician Fee Schedule includes significant changes to coverage of telehealth services, including coverage of interprofessional consultations (codes 99446-99449, 99451, 99452).

Source: Center for Connected Health Policy, 2018

Project ECHO

Project ECHO links specialty physicians at a "hub" site to nurses and other clinicians at "spoke" sites in the community through secure audio-video conferencing. The goal of Project ECHO is to reduce health disparities and improve access to care for rural residents by training PCPs to provide specialty care in their practices. Each teleECHO clinic focuses on a particular diagnosis, treatment or clinical area. For example, Project ECHO in New Mexico, where the program originated, runs successful programs helping PCPs treat hepatitis C, manage medication-assisted therapy for opioid addiction (buprenorphine), and manage chronic pain. Project ECHO programs have been developed to address a broad range of over 15 specialty care areas, including reproductive health, cardiology, dementia, palliative care, endocrinology, and other areas.

Source: University of New Mexico, Project ECHO.

[547] Barnett, M.L., et al., (2017). Los Angeles Safety-Net Program eConsult System Was Rapidly Adopted and Decreased Wait Times to See Specialists. Health Affairs.

[548] University of New Mexico. Project ECHO Bibliography. 2018.

12 ECHO Hubs focused on varied clinical areas throughout the state.[549] The most significant challenge for the Project ECHO model is financial sustainability. Project ECHO connects providers to providers and traditionally has not been reimbursed through a fee-for-service system since it doesn't involve direct patient contact.

In considering costs, experts have also noted the importance of considering the value of telehealth services. If telehealth leads to improved health or other benefits, then its value may be worth the increase in spending.[550]

Evidence Related to Quality

A recent review of the landscape of evidence on telehealth found that, in general, telehealth has been as effective as in person visits for a broad range of the conditions studied (See Figure 1, Effectiveness of Telehealth: Summary of Key Findings by Clinical Area).[551] The review encompassed 20 systematic reviews of telehealth in seven clinical areas published between 2004 and 2018, evaluating a range of telehealth modalities involving patient-provider interactions. Shigekawa et. al. evaluated the quality of systematic reviews included in the review, noting a range in the quality of evidence from "critically low" to "high" based on the AMSTAR grading system (see Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates). The review excluded studies of telehealth services primarily used for disease management in between visits, such as remote monitoring, mobile applications, and fully automated website interventions.

[549] University of New Mexico. ECHO Hubs & Superhubs: United States.

[550] Licurse & Mehrotra, 2018, op. cit.

[551] Shigekawa, E., Fix, M., Corbett, G., Roby, D.H., Coffman, J. (2018.) The Current State of Telehealth Evidence: A Rapid Review. Health Affairs.

Figure 1. Effectiveness of Telehealth: Summary of Key Findings by Clinical Area[552]

Clinical Areas	*Key Findings*	*Evidence Quality (AMSTAR 2 grades)*
Telemental health	*For assessment and treatment of a variety of mental health conditions, telemental health outcomes were equivalent to in person care.*	*Eight systematic reviews, quality grades:* • *Five: Critically Low* • *Two: Moderate* • *One: High*
Telerehabilitation	*Generally equivalent or yielded better outcomes than in person care.*	*Five systematic reviews, quality grades:* • *One: Critically Low* • *One: Low* • *Two: Moderate* • *One: High*
Teleconsultation	*Equivalence to in person care is unclear due to the varied conditions with which patients can present, making it difficult to measure diagnostic agreement between teleconsultation and in person consultation.*	*Two systematic reviews, quality grades:* • *One: Critically Low* • *One: Low Quality*
Teledermatology	*Mixed findings. One study reported consistent diagnosis and treatment between teledermatology and in person visits. Another study reported greater diagnostic accuracy with in person visits; for on-going management, teledermatology and in person dermatology were equivalent.*	*Two systematic reviews, quality grades:* • *One: Critically Low* • *One: Moderate*
Oral anticoagulation management	*Generally equivalent to in person care.*	*One systematic review, quality grade: Moderate*
Nutrition management	*Likely to yield clinical improvement compared to usual care or no intervention.*	*One systematic review, quality grade: Moderate*
Diabetic foot ulcer treatment	*Effective for diagnosing foot ulcers, but unclear if effective for treating.*	*One systematic review, quality grade: Critically Low*

In 2016, the Agency for Healthcare Research and Quality (AHRQ) conducted "evidence mapping" of telehealth evidence and patient outcomes, encompassing 58 systematic reviews of telehealth evidence.[553] This review found that there is sufficient evidence to support the effectiveness of telehealth for specific uses with some types of patients including:

- Remote patient monitoring for patients with chronic conditions;
- Communication and counseling for patients with chronic conditions; and
- Psychotherapy as part of behavioral health.

For other uses of telehealth, limited evidence was identified.

[552] Ibid.

[553] Agency for Healthcare Research and Quality. (2016). Telehealth: Mapping the Evidence for Patient Outcomes from Systematic Reviews. Technical Brief No. 26.

In 2016, the California Health Benefits Review Program, conducted a review of telehealth evidence for the California Legislature.[554,555] This 2016 evaluation of telehealth effectiveness was updated by Shigekawa et al. in 2018.

Evidence Related to Disparities

No measured outcomes. However, note discussion of eConsult programs above and promise for improving access and timeliness of specialty care among Medicaid and rural populations.

Key Drivers and Enabling Tactics

Organizational factors. Successful implementation of telehealth services requires attention to a number of key drivers beyond the telehealth technology or intervention itself. A number of key organizational factors that appear to influence success include:[556]

- Organizational leadership support;
- Alignment of telehealth services with strategic goals of the organization;
- Integration of telehealth services into existing clinical work flows and patient care;
- Staff training and education (including full range of administrative, management, and clinical staff interacting with the program); and
- Patient outreach and education regarding availability of telehealth services.

In addition to the organizational factors influencing successful telehealth adoption, reimbursement for telehealth services is critical to its sustainability. The Center for Connected Health Policy publishes an annual 50-state review of state Medicaid telehealth reimbursement policies and private payer coverage requirements.[557] The California Telehealth Resource Center has also produced a *Telehealth Reimbursement Guide for California* that details reimbursement policies by California's major payers, including Medicare, Medicaid and private plans.[558] There are recent changes to Medicare reimbursement for telehealth issued by CMS as part of the *2019 Physician Fee Schedule*. These policies expand Medicare coverage of telehealth services, including reimbursement for professional-to-professional consultation services (as noted previously in the discussion of eConsult services).[559]

Considerations for Covered California's Next Contract Period

Covered California could monitor how plans provide coverage for and promote telehealth services that foster access to specialty care and reduce costlier downstream care. As discussed in this review, programs like eConsults or Project ECHO, connecting primary care providers with

---

554 California Health Benefits Review Program. Analysis of California Assembly Bill 2507 Telehealth: Access. A report to the 2015-2016 California State Legislature. 2016.

555 California Health Benefits Review Program. California Assembly Bill 2861 Medi-Cal: Telehealth and Substance Use Disorder Services. Summary to the 2018–2019 California State Legislature. 2018.

556 Ellimoottil, C. et al., (2018). Challenges and Opportunities Faced By Large Health Systems Implementing Telehealth. Health Affairs.

557 Center for Connected Health Policy, 2018, op. cit.

558 California Telehealth Resource Center. (2018). Telehealth Reimbursement Guide for California.

559 Center for Connected Health Policy. (2018). Fact Sheet – Finalized CY 2019 Physician Fee Schedule.

specialists, have shown promising results with improved patient access and health outcomes, and lower spending. Medicare recently expanded coverage of eConsult codes (interprofessional consultation codes *99446-99449, 99451, 99452*) and Covered California can anticipate growing recognition and use of these services.

Finding 3: Retail clinics can provide effective, convenient options to patients for a limited range of services. For those services for which the quality of care has been assessed, retail clinics appear to be equivalent to other settings, at a lower cost per episode of care. Patients like the experience, though there may be a lack of continuity between the care they receive in a retail clinic and from a regular primary care provider. There is some evidence that retail clinics may increase utilization and spending slightly for low-acuity conditions when patients seek care they would not otherwise have received.

Retail clinics have been viewed by policy makers and insurers as a mechanism to increase access to care for low acuity conditions and to decrease health care spending by substituting less expensive clinic visits in place of more expensive ED, urgent care or physician visits. This review summarizes key findings about the evidence on the impact of retail clinics on costs, quality of care, provider burden, and other outcomes.

Definition: Retail Clinic

Retail clinics are medical clinics located in pharmacies, grocery stores, and "big box stores" These clinics offer extended weekend and evening hours, walk-in availability, and short wait times. Thus, many visits to retail clinics are in the evenings and weekends, when primary care offices are not open. The clinics treat a limited range of health conditions, such as minor infections and injuries, and provide vaccines and other preventive care. Usually, a nurse practitioner or physician assistant delivers this care; prices are typically fixed and transparent.

Source: Retail Clinics, Harvard University scholar.harvard.edu/mehrotra/retail-clinics

Evidence Related to Savings

Numerous studies have demonstrated that the costs of care for episodes initiated at retail clinics were substantially lower than matched episodes at physician offices, urgent care clinics, and emergency departments (note: studies do not address impact on hospital admissions).[560,561,562,563,564] At the same time, retail clinics may increase costs for low-acuity conditions when they drive new health care utilization because patients get care they would not have otherwise received and that added care may not improve health in the long

[560] Mehrotra, A. et al., (2009). The Costs and Quality of Care for Three Common Illnesses at Retail Clinics as Compared to Other Medical Settings. Annals of Internal Medicine.

[561] Patwardhan, A. et al. (2012). After-hours Access of Convenient Care Clinics and Cost Savings Associated with Avoidance of Higher-Cost Sites of Care. Journal of Primary Care and Community Health.

[562] Thygeson, M. et al. (2008). Use and Costs of Care in Retail Clinics versus Traditional Care Sites. Health Affairs.

[563] Sussman, A. et al. (2013). Retail Clinic Utilization Associated with Lower Total Cost of Care. American Journal of Managed Care.

[564] Duncan, I., Clark, K., Wang, S. (2016). Cost and Utilization of Retail Clinics vs. Other Providers for Treatment of Pediatric Acute Otitis Media. Population Health Management.

term.[565] However, one study found no greater likelihood of follow up visits after retail care than after a visit to a regular physician's office.[566]

Evidence Related to Quality

Research has demonstrated retail clinics can deliver high quality of care, although continuity of care may be compromised. One evaluation, for example, demonstrated that the convenient care clinic (CCC) achieved a ranking above the HEDIS 90th percentile for the pharyngitis measure and approximately midway between the 50th and 90th percentiles for the upper-respiratory infection measure.[567] Retail clinics are also playing a growing role in vaccination delivery, which constitutes a substantial share of retail clinic services.[568] However, some research has also shown that retail primary care clinics may reduce continuity of care.[569, 570]

Evidence Related to Access

Among commercially insured populations, research demonstrates continued growth in use of retail clinics, especially among young, healthy, and higher income patients who live close to retail clinics (most retail clinics are located in areas of higher income).[571] Clients with varied incomes and different ethnicities valued the same attributes of retail health clinic care: convenient location, no appointment necessary, short wait time, and low cost.[572] A significant portion of patients, in particular the uninsured, reported that they would have visited an ED if the retail clinic was not available.[573]

Key Drivers and Enabling Tactics

Limited evidence, but range of potential areas. There is little evidence about key drivers for retail clinic success. As described below in ideas for implementation, patient education, comprehensive provider directories and benefit designs that enable and encourage patients to use retail clinics appropriately rather than emergency departments may help continue to drive utilization of retail clinics over more expensive settings. Total cost of care contracts or shared savings and shared risk payment arrangements with ACOs may encourage ACOs to promote the utilization of lower cost, alternative sites of care. Contracting requirements for quality

---

565 Ashwood, S.J. et al. (2016). Retail Clinics Visits for Low-Acuity Conditions Increase Utilization and Spending. Health Affairs.

566 James E. Rohrer, PhD; Kurt B. Angstman, MD; Joseph W. Furst, MD. (2009) Impact of Retail Walk-In Care on Early Return Visits by Adult Primary Care Patients: Evaluation via Triangulation. Quality Management in Health Care.

567 Jacoby, R. et al. (2010). Quality of Care for 2 Common Pediatric Conditions Treated by Convenient Care Providers. American Journal for Medical Quality.

568 Uscher-Pines, L. et al. (2012). The Growth of Retail Clinics in Vaccination Delivery in the U.S. American Journal of Preventive Medicine.

569 Rohrer, J.E. et al. (2013). Family Medicine Patients Who Use Retail Clinics Have Lower Continuity of Care. Journal of Primary Care & Community Health.

570 Ashwood, J.S. et al.. (2013). Retail Clinic Visits and Receipt of Primary Care. Journal of General Internal Medicine.

571 Ashwood, J.S.et al. (2011). Trends in Retail Clinic Use Among the Commercially Insured. American Journal of Managed Care.

572 Hunter, L.P. et al. (2009). Patient Satisfaction with Retail Health Clinic Care. Journal of the American Association of Nurse Practitioners.

573 Wang, M.C. et al.. (2010). Why Do Patients Seek Care at Retail Clinics, and What Alternatives Did They Consider? American Journal of Medical Quality.

measurement and reporting, as well as communication with patients' primary care physicians, may ensure better quality and continuity of care.

Considerations for Covered California's Next Contract Period

The benefits of reducing some spending and enhancing access to care by facilitating the usage of retail clinics by its members, needs to be balanced against the risk of increasing unnecessary visits and negatively impacting continuity of care. It is possible that increased use of retail clinics could, over time, enable primary care physicians to focus more on care for complex patients, which could be a superior allocation of resources. The following strategies may facilitate appropriate use: ensuring retail clinics are included in plan provider directories, educating members about what services retail clinics can provide, and lowering cost sharing for visits to retail clinics over other settings. To mitigate the lack of continuity of care, Covered California could require participating issuers to require retail clinics to send documentation of the patient visit to the patient's primary care doctor, with the patient's permission. To enhance access to retail care further, Covered California may want to meet with major retail clinic companies to ascertain under what factors they would open clinics in underserved areas and determine if Covered California can help to enable those factors.

Finding 4: Like retail clinics, urgent care clinics provide an important alternative to the emergency room and enhance access to primary care. Urgent care clinics can handle a significant portion of emergency visits at a much lower cost. Limited studies on the quality of care and patient experience in urgent care clinics suggest it is on par with that in other settings.

Urgent care centers have emerged as a key strategy to reduce ED use for non-emergency care. This review summarizes the evidence on the impact of urgent care centers on cost, quality and access.

Definition: Urgent Care Clinic

Urgent care clinics are not emergency departments, but typically (a) provide care primarily on a walk-in basis; are open (b) every evening Monday through Friday and (c) at least one day over the weekend; (d) provide suturing for minor lacerations; and (e) provide onsite x-rays. They are typically staffed by physicians.

Source: The Journal for Urgent Care Medicine.

Evidence Related to Savings

Studies have found that up to 27 percent of ED visits could be handled in alternative settings, including half of those (13 percent) in urgent care. Urgent care settings are significantly less expensive than EDs in both the Medicaid and commercial markets; one commercial study, for example, demonstrated that costs in urgent care settings were 1/10 that of care in EDs.[574] Between 2008-2015, an evaluation of one national commercial plan showed there was increased utilization of urgent care centers for low-acuity conditions, while prices at these centers remained steady; this trend

[574] Ho, V. et al. (2017). Comparing Utilization and Costs of Care in Freestanding Emergency Departments, Hospital Emergency Departments, and Urgent Care Centers. Annals of Emergency Medicine.

corresponded with a decrease in low-acuity visits to emergency departments, while prices in ED care rose 79 percent.[575]

Evidence Related to Quality

The review did not find studies summarizing the overall impact of urgent care centers on outcomes. However, in a study of college students, primary care offices did better on most measures of patient perception of quality than did emergency departments.[576] Urgent care was either perceived as positively as primary care or in between primary care and EDs. Some providers in urgent care settings show discomfort with treating children if they are not well equipped and staffed.[577] There also may be a lack of follow up by urgent care centers with their patients' other health care providers.

Evidence Related to Access

The growth in the number of urgent care clinics is increasing access to care, although they tend to be located in more affluent areas where a greater percentage of residents have health insurance. Young adults (under 30) are more likely to use urgent care/retail care than children.[578]

Evidence Related to Disparities

No measured outcomes. Patients seeking urgent care may have limited health literacy which could pose problems given the lack of follow up urgent care centers typically provide.

Key Drivers and Enabling Tactics

Provider independence. The independence of urgent care clinics from hospitals or health systems may impact their ability to coordinate patient care, ensure continuity of care and communicate well with a patient's other health care providers.

Considerations for Covered California's Next Contract Period

Recommendations here overlap with those for retail clinics. Covered California may reduce spending and enhance access to care by facilitating the usage of urgent clinics by its members. The following strategies may facilitate use: ensuring urgent care clinics are included in health plan provider directories, educating members about what services urgent clinics provide, and continuing to monitor the lower cost sharing for visits to urgent care clinics over emergency rooms. To mitigate the lack of continuity of care, Covered California could require participating

---

[575] Poon, S., Schuur, J.D., & Mehrotra, A., Trends in Visits to Acute Care Venues for Treatment of Low-Acuity Conditions in the United States from 2008 to 2015. JAMA Internal Medicine.

[576] Qin, H. et al. (2015). Quantitative Comparisons of Urgent Care Service Providers. International Journal of Health Care Quality Assurance.

[577] Canares, T.L. et al. (2015). Treating Children at Urgent Care Centers: A Qualitative Study to Determine How Providers Perceive Managing Pediatric Patients. Rhode Island Medical Journal.

[578] Wong, C.A. et al. (2017). The Use and Out-of-Pocket Cost of Urgent Care Clinics and Retail-Based Clinics by Adolescents and Young Adults Compared with Children. Journal of Adolescent Health. Journal of Adolescent Health.

issuers to require retail clinics to send documentation of the patient visit to the patient's primary care doctor, with the patient's permission. To further enhance access to urgent care, Covered California may want to meet with major urgent care clinic companies to ascertain under what factors they would open clinics in underserved areas and determine if Covered California can help to enable those factors.

Finding 5: Birth Centers show promise for improving health outcomes, addressing disparities and lowering costs.

There has been increasing attention to freestanding birth centers as a source of care for women with low-risk pregnancies through pregnancy, delivery and post-partum care. Birth centers are generally directed by midwives and offer substantial education and psychosocial support along with low rates of unnecessary medical intervention. Women receiving care through birth centers may deliver their infants attended by a midwife in a birth center, hospital, or home setting. Approximately 85 percent of pregnancies supported by birth centers are low risk.

Many birth centers are accredited by the Commission for the Accreditation of Birth Centers. Although coverage of birth centers is currently required by the ACA, birth centers often face challenges with reimbursement if they are not part of managed care plan provider networks. Approximately 42 states license birth centers with varying state licensure requirements.

Medicaid and CHIP Strong Start Program: Final Evaluation Results

In 2013, CMMI launched the Strong Start Program, a five-year initiative (2013-2017) to test and evaluate enhanced prenatal care interventions for women enrolled in Medicaid or the Children's Health Insurance Program (CHIP). The final evaluation of the program (2018) found that women served by birth centers had better birth outcomes and lower costs relative to similar Medicaid beneficiaries not enrolled in Strong Start. These outcomes included lower rates of preterm birth (6.8 percent vs. 8.5 percent), lower rates of low birthweight (5.9 percent vs. 7.4 percent), and lower rates of cesarean section (17.5 percent vs. 29 percent). In addition, costs were more than $2,000 lower per mother-infant pair served by birth centers during birth and the following year. Overall birth centers produced better outcomes than the two other interventions: maternity care homes and group prenatal care.

Despite these significant positive impacts, researchers noted birth centers faced challenges in obtaining contracts with Medicaid managed care plans as well as inadequate reimbursement rates. These factors limit the number of Medicaid beneficiaries that birth centers serve.

Source: CMMI. 2018.

Evidence Related to Savings

The final evaluation of the Medicaid Strong Start Program, a five-year initiative supported by the Center for Medicare and Medicaid Innovation, found that birth centers led to higher quality outcomes and significantly lower costs compared to Medicaid women receiving care through traditional maternity care settings.[579] (See Box, Medicaid and CHIP Strong Start Program: Final Evaluation Results). A study of 15,574 low-risk women receiving care through a birth center found a significantly lower cesarean rate than for similar low-risk woman in hospital settings (6

[579] Center for Medicare and Medicaid Innovation. (2018). Strong Start for Mothers and Newborns Evaluation: 5-Year Project Synthesis. Volume 1 – Cross-Cutting Findings. Prepared by Urban Institute, Health Management Associates, American Institutes for Research, Briljent LLC.

percent vs. 25 percent). Researchers estimated a savings of about $30 million from reduced cesareans sections in the group cared for by birth centers.[580]

Evidence Related to Quality, Population Health, and Disparities

A 2016 synthesis of the literature on birth centers found consistent positive outcomes and higher quality care compared to care provided through traditional maternity settings. Birth centers had statistically significant lower rates of intervention in both vaginal birth and cesarean delivery. The birth centers examined in the studies in the synthesis experienced no serious negative maternal outcomes, including no maternal deaths. Utilization of pain control, oxytocin and episiotomy was lower in birth centers. Improved perinatal outcomes were also found in studies of birth centers that included or targeted women from marginalized racial groups.[581] These findings are consistent with the final evaluation for the Medicaid and CHIP Strong Start Program. This program demonstrated improved outcomes for Medicaid women receiving care at birth centers compared to traditional settings, underscoring the value of birth centers among low-income women representing a wide range of demographic groups (among 45,000 women participating in the initiative, 39.8 percent of women were black, 29.7 percent were Hispanic/Latinx and 25.6 percent were white).

Considerations for Covered California's Next Contract Period

Covered California may evaluate the extent to which covered populations are receiving pregnancy-related care. If significant, Covered California could consider encouraging plans to contract with birth centers as a promising source of high-quality and cost-effective care, particularly among low-income women with diverse racial backgrounds.

Key Resources for Monitoring New Research

The following are resources, organizations, and other references that Covered California should monitor to stay up to date on the evidence related to this strategy. Among the resources cited in this section and listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates), several stand out. HMA recommends annually checking for updates or follow-on work from the following sources:

- Agency for Healthcare Research and Quality.
- Ateev Mehrotra, Harvard University.
- California Health Benefits Review Program.
- California Telehealth Resource Center.
- Center for Connected Health Policy.
- Centers for Medicare & Medicaid Services, Site of Care Payment Neutrality.
- Medicare Payment Advisory Commission (MedPAC).

---

[580] Stapleton, S.R., Osborne, C., Illuzzi, J. (2013). Outcomes of Care in Birth Centers: Demonstration of a Durable Model. Journal of Midwifery & Women's Health.

[581] Alliman, J., Phillippi, J.C. (2016). Maternal Outcomes in Birth Centers: An Integrative Review of Literature. Journal of Midwifery & Women's Health.

- Health Affairs.
- RAND Corporation.

Section 2. Review of Measures and Benchmarks: Sites and Expanded Approaches to Care Delivery

This section of the report on Sites and Expanded Approaches to Care Delivery is the product of PricewaterhouseCooper's (PwC) detailed review of measures and benchmarks that can be used by Covered California to assess quality care is being delivered and that its contracted health plans use effective strategies to promote improvements in how care is delivered.[582] The section includes a review of Covered California's current measurement strategy which is followed by considerations for revising those measures and specific recommendations for Covered California's consideration.[583]

Covered California's Current Required Measures

Takeaways:

- **Current Covered California required reporting leverages federal and state surveillance systems to monitor the quality of QHP network hospitals without adding health plan data collection burden**

- **Telehealth and other alternative sites of care can fill some of the gaps driven by inadequate access to providers, and their use is growing rapidly for some services and populations. Covered California should continue to monitor their use and effectiveness.**

As shown below, Covered California has a range of measures pertaining to quality and safety at hospital sites and expanded approaches to care delivery (see Table 1, Covered California Required Measures, Qualified Health Plan Performance Data and Sources of Potentially Relevant Comparisons). PwC has also summarized QHP performance data and sources of potentially relevant comparisons.

[582] Covered California commissioned a separate, companion report entitled, *Health Purchaser Strategies for Improving Quality of Care and Delivery System Reform*, that describes strategies of employers, employer coalitions, health plans, Medicaid and Medicare plans to ensure quality care and effective care delivery. please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

[583] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures. To view the full list of measures recommended by PwC, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

Table 1. Covered California Required Measures, Qualified Health Plan Performance Data, and Sources of Potentially Relevant Comparisons

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
Sites: Hospital Quality and Safety		
C-section rate for NTSV deliveries [§5.03(2)]	Data is obtained from government agencies	CA OSHPD, Health People 2020 Goal
Healthcare acquired infections (HAI) rates [§5.02(4)]	Data is obtained from government agencies	CDC, HAI National Action Plan Targets and Metrics for 2020
Additional HAC: Sepsis mortality, hypoglycemia, inappropriate use of blood thinners [§5.02(5)]	Data is obtained from government agencies	National Action Plan for Adverse Drug Event (ADE), Sepsis literature
Expanded Approaches to Care Delivery		
Telemedicine utilization rates and, if any, measures of efficacy of use of telemedicine. [§4.05]	Most of the ten issuers that offered a telehealth service in 2017 used a vendor. Two issuers offered telehealth visits only through contracted medical groups and not as a free-standing program. Data for telehealth visits is incomplete. Based on the five issuers that reported data, about 2% of the 2017 Covered California population had a telehealth visit. No data available on remote home monitoring. No data or measures reported on efficacy.	CMS; MedPAC; NBGH Survey; research literature; States' with all payer claims databases; Truven MarketScan; American Telemedicine Association's Telehealth Data Clearinghouse; Center for Connected Health Policy

Considerations for Revising Covered California's Measures

In developing measures and data recommendations, PwC considered the following:

Sites: Hospital Quality and Safety

Based on interviews with two key hospital quality improvement organizations and PwC's subject matter experts, PwC considering the following when developing measures and data recommendations:

- Many existing measures are no longer driving change because either little improvement is left, or the underperforming hospitals are simply absorbing the penalties as the cost of doing business.

- There is a need to push forward with developing new measures and the data to support those measures, which will require collaboration among stakeholders.
- Measures must be specific and actionable.
- Collaboration among major stakeholders is needed to exert pressure on underperforming hospitals and drive quality improvement.
- Composite measures are not effective because they are too complex and non-specific, and tend to elicit criticisms from stakeholders, which detract from overall quality improvement efforts.
- Covered California should focus on a small number of measures, which have substantial support from stakeholders and for which specific action plans for improvement can be put in place for the hospitals that need it. Conversations with stakeholders are necessary to agree on these measures.

Expanded Approaches to Care Delivery

- Telehealth services and other alternative sites of care can expand access, increase convenience, improve quality, and reduce cost. There is also evidence that they can increase use and total spending.

- Overall utilization of telehealth services remains low. There are significant differences in telehealth use by age, geography, income, and other factors. Utilization of these services can increase when the benefit is promoted by plan/employer.

- According to the National Business Group on Health, employer offer of telehealth is surging, with 96% of large employers making telehealth services available and 56% plan to offer telehealth for behavioral health services, more than double the percentage this year.

- Telehealth licensing and laws in California are rated B by the American Telehealth Association. Due to telehealth licensing and laws in California, there are limits to the services that can be offered, since telemedicine must be performed by a California licensed physician.

- Telehealth can be used by health plans to meet network adequacy requirements in Medicare and Medicaid.

Measures and Data Recommendations

What follow are PwC's measures and data recommendations for Covered California:

Sites: Hospital Quality and Safety

1. Consider setting HAC performance targets for absolute infection rates in addition to the relative performance represented in the current SIR-based measures. Most hospitals in California are below 1.0 on most HAC measures indicating they are performing better than predicted. Focus on absolute rates could lead to additional hospital quality improvements in these areas.

2. Consider the total number of "harms" when selecting future measures or when setting targets. For example, for low-risk C-sections, target reductions in the total number of NTSV C-sections for hospitals with high volumes of deliveries, where the most potential harms can be avoided.

3. Consider adding the following measures:

    a. Sepsis CMS Core SEP-1 quality measure, which evaluates timeliness of blood cultures, lactate measurement, early antibiotics and fluid resuscitation, and vasopressors for persistent hypotension. A violation in any one component is a SEP-1 failure, irrespective of the number of components completed successfully.

    b. Hospital readmission rates, which measures unplanned readmissions to an acute care hospital within 30 days after discharge from a hospital.

    c. Excess Days in Acute Care (EDAC), which measures the quality of care transitions based on emergency department (ED) visits, observation stays, and unplanned readmissions that occur during the 30 days after discharge from a hospital. Post-discharge care provided in these settings are considered adverse outcomes and reducing the number of EDAC days would be expected to improve quality and outcomes while reducing costs.

    d. Influenza Vaccination Coverage Among Healthcare Personnel (NQF# 0431). Covered California should monitor whether California hospitals are on track to achieve the Healthy People goal of 90% coverage by 2020.

4. Monitor OSHPD's development of the all-payer version of the patient safety indicators (PSI) based on data from California hospitals. Until that data is available despite being a composite measure, Covered California could consider evaluating hospitals based on Patient Safety and Adverse Events Composite (NQF# 0531). It is an endorsed measure that is a weighted average of several PSI indicators as shown in the AHRQ PSI discussion above. This measure is a component of CMS's Hospital-Acquired Condition Reduction Program (HACRP), but the hospital-level data available on CMS Hospital Compare is based solely on the Medicare fee-for-service population.

5. Adverse drug events (ADEs) are an important source of patient harm, however there is no easy access to clinical ADE data at the hospital level and there are no national measurement standards. OSHPD is currently working with Hospital Quality Institute (HQI) on this issue. Covered California should monitor OSHPD's progress and assess whether these measures should be considered in the future. At the national level, the Medicare Patient Safety Monitoring System (MPSMS) tracks ADEs through a sample of clinical charts. Figure 1 below shows the ADE measure baseline data for 2014 developed from the samples and the goal for 20% improvement in 2019.

Figure 1. National Action Plan for ADE Prevention 2014 Baseline Data and 2019 Goal[584]

Measure	Total 2014 Rate per 1,000 Discharges	2019 Goal (20% Reduction)
ADE Associated with Digoxin	0.21	n/a
ADE Associated with Hypoglycemic Agents	17.27	n/a
ADE Associated with IV Heparin	4.7	n/a
ADE Associated with LMWH and Factor Xa Inhibitor	8.28	n/a
ADE Associated with Warfarin	2.96	n/a
Total ADE (sum of 5 above)	**33.42**	**26.7**

6. Promote the use of the Patient Health Questionnaire (PHQ), and specifically the PHQ-9 depression module of the questionnaire, to increase the number of maternal mental health screenings that are performed to reduce the gaps in diagnosis and treatment of postpartum depression. Interviewees recommended that Covered California place the burden on hospitals to ensure the PHQ-9 is administered to all new mothers and that appropriate referrals to mental health professionals are made. Additional processes will need to be put in place to ensure that primary care physicians (PCPs) are informed about mental health referrals by hospitals and that mental health provider contact information is available to them. Behavioral health workforce shortages are a barrier to timely access to these services, which needs to be separately addressed.

Expanded Approaches to Care Delivery

7. Recommend limiting definition of telemedicine measure to include only patient-provider interactions

8. Recommend expanding data request to break out utilization by type of service or condition (e.g., mental health, dermatology) and by geographic area (e.g., rural, urban)

9. Consider strategies to increase provider and member use of telemedicine

10. Continue to monitor telehealth adoption and utilization, particularly within Covered California's population. IBM Watson can leverage existing telemedicine CPT/HCPCS codes to understand the extent to which Covered California's population is utilizing these services and under what circumstances.

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and

[584] AHRQ National Scorecard on Hospital-Acquired Conditions Updated Baseline Rates and Preliminary Results 2014–2016. (2018, 6). Agency for Healthcare Research and Quality (AHRQ). www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/pfp/natlhacratereport-rebaselining2014-2016_0.pdf

industry articles, and assessed measures on several attributes, including strength of evidence, alignment with other purchasers and feasibility of reporting (see Table 2, PwC Recommended Measures for Sites and Expanded Approaches to Care Delivery).[585]

Table 2. PwC Recommended Measures for Sites and Expanded Approaches to Care Delivery

Sites: Hospital Quality and Safety

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Catheter-associated Urinary Tract Infection (CAUTI)	Existing	Hospitals	CMS	High	High	High	High	High
Central line-associated Bloodstream Infection (CLABSI)	Existing	Hospitals	CMS	High	High	High	High	High
Surgical site infections from colon surgery (SSI: Colon)	Existing	Hospitals	CMS	High	High	High	High	High
Methicillin-resistant Staphylococcus Aureus (MRSA) Infections	Existing	Hospitals	CMS	High	High	High	High	High
Clostridium difficile (C.diff.) Infections	Existing	Hospitals	CMS	High	High	High	High	High
Nulliparous, Term, Singleton, Vertex (NTSV) C-Section rate	Existing	Hospitals	Smart Care California	High	High	High	High	High
Excess days in acute care (EDAC) after hospitalization for heart failure (HF)	New	Hospitals	CMS	High	High	High	High	High
Excess days in acute care (EDAC) after hospitalization for acute myocardial infarction (AMI)	New	Hospitals	CMS	High	High	High	High	High

[585] For the criteria used by PwC to assess measures, please see Table 3, Measure Assessment Structure Applied by PwC, in the chapter on Summary Recommendations on Measures and Benchmarks. For a detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Excess days in acute care (EDAC) after hospitalization for pneumonia	New	Hospitals	CMS	High	High	High	High	High
Severe Sepsis and Septic Shock: Management Bundle	New	Hospitals	CMS	High	High	High	High	High
Influenza Vaccination Coverage Among Healthcare Personnel	New	Hospitals	CMS	High	High	High	High	High
30-day, all-cause, risk-standardized readmission rate following heart failure (HF) hospitalization	New	Hospitals	CMS	High	High	High	High	High
30-day, all-cause risk-standardized readmission rate following acute myocardial infarction (AMI) hospitalization	New	Hospitals	CMS	High	High	High	High	High
30-day, all-cause, risk-standardized readmission rate following pneumonia hospitalization	New	Hospitals	CMS	High	High	High	High	High
30-day risk-standardized readmission rate following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)	New	Hospitals	CMS	High	High	High	High	High
30-day, all-cause, risk-standardized readmission rate following chronic obstructive pulmonary disease (COPD) hospitalization	New	Hospitals	CMS	High	High	High	High	High
30-day, all-cause, unplanned, risk-standardized readmission rate following coronary artery bypass graft (CABG) surgery	New	Hospitals	CMS	High	High	High	High	High

Expanded Approaches to Care Delivery

Measure	New or Existing	Reported By	Alignment	Evidence	Impact	Reliability	Feasibility	Benchmark Availability
Telemedicine (patient interactive only) utilization rate per thousand by service category: primary care, mental health, other	Existing	QHPs	CMS	Medium	Medium	Medium	Medium	Medium

To review the background research completed by PwC to inform these measures and data recommendations, please see Appendix 3, Bibliography Supporting Measures Review by PricewaterhouseCoopers.

APPENDICES

Appendix 1: Background on Expert Review of Evidence and Measures

Covered California has specific requirements for its contracted health plans related to improving quality, lowering costs, promoting better health and reducing health care disparities, benefitting the over 2 million Californians served by these plans in the individual market and likely having spillover effects in the broader health care system. Covered California's focus has been on prices, benefits, networks, quality, and other factors that would assure those with coverage through Covered California and enrolled directly with its plans "off-exchange" get the right care at the right time. At the same time, Covered California believes it is important to promote policies and practices of contracted health plans that, when aligned with actions of other payers and purchasers, promote delivery system reforms to improve health care for all Californians.

As Covered California assessed the performance of its qualified health plans QHP) under current contract terms and plans for updating its standards and requirements, it wanted to be sure its efforts are informed by a clear picture of evidence about potential impacts, measures, data, and benchmarks for evaluating performance and alignment with the strategies of major national and California purchasers. To this end, Covered California selected Health Management Associates (HMA) and PricewaterhouseCoopers (PwC) to provide expert consulting services to support three related and complementary, but independent, efforts:

1. **Evidence Review:** HMA was engaged to review relevant published literature, health services literature, large employer published case studies, insurer or actuarial research and other well-formulated theories articulated by industry experts or purchasers to compile evidence for the speccified strategies. Given that evidence, HMA was charged with evaluating the potential effectiveness of each strategy in terms of cost, quality of care, improved health, and provider burden. For each strategy, HMA assessed the relative importance of the specified key drivers and enabling tactics. In addition, HMA identified value-enhancing strategies not included in contract requirements that Covered California could consider adopting based on evidence of effectiveness or value of potential impact.

2. **Measures and Benchmarks:** PwC was engaged to identify measures and benchmarks at the 50th, 75th, and 90th percentile (whenever available), relevant state and national comparison points, and data sources for current expectations and performance standards for Covered California QHPs and its populations.

3. **Review of Purchaser Strategies:** PwC was also engaged to review activities and initiatives of other large health purchasers to identify key areas of focus, strategies and performance measures that Covered California could consider for potential adoption or alignment.

This report reflects the findings of HMA's Evidence Review project and PwC's Measures and Benchmarks project. A separate, companion report by PwC entitled, *Health Purchaser Strategies for Improving Quality of Care and Delivery System Reform*, describes strategies of

employers, employer coalitions, health plans, Medicaid and Medicare plans to ensure quality care and effective care delivery. [586]

Health Management Associates: Evidence Review

Covered California contracted with HMA to conduct a detailed evidence review of ten strategies that health insurance payers can utilize to assure patients receive quality care and drive value in health care. Covered California and HMA organized the strategies according to an early draft version of the *Covered California Quality of Care and Delivery Reform Framework*. That framework divided the strategies into two broad domains, Assuring Quality Care and Effective Care Delivery.

Assuring Quality Care Strategies

The concept of *Assuring Quality Care* reflects strategies that assure Qualified Health Plan (QHP)[587] enrollees are getting the right care at the right time and place, and that evaluation occurs to ensure quality. This framework is consistent with the Institute for Healthcare Improvement's Triple Aim of simultaneously improving health, improving patient experience and outcomes, and reducing the per capita cost of care.[588] The Assuring Quality Care Strategies[589] chosen through discussion between Covered California and the HMA Project Team included:

1. Health Disparities: Reducing Disparities in Health Care
2. Health Promotion and Prevention
3. Mental Health and Substance Use Disorder Treatment

Recognizing that during the project period PwC was concurrently focused on recommending measures to Covered California, HMA focused its evidence review and recommendations on steps Covered California and its issuers can take to improve coverage and care for all enrollees.

Effective Care Delivery Strategies

The *Effective Care Delivery Strategies* have the potential to improve the health care delivery system. HMA identified three sub-categories (Network, Clinical, and Population Health) that allowed the team to consider related topic areas together and efficiently obtain subject matter expert input. The Effective Care Delivery Strategies were organized as follows:

---

[586] Please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

[587] A QHP is a health insurance plan approved (certified) by the Health Insurance Marketplace to be offered for sale on the Marketplace. To be certified, a QHP must provide essential health benefits, conform to established limits on cost sharing, and meet other requirements established by the Marketplace, Affordable Care Act and applicable federal regulations.

[588] Institute for Healthcare Improvement, Triple Aim for Populations.

[589] At the launch of the consulting engagement with HMA, the *Covered California Quality Care and Delivery Reform Framework did* not include Acute, Chronic and Other Conditions as one of the five domains. As the framework evolved, Covered California focused on standard measures for Acute, Chronic and Other Conditions, which was in the scope of work for PwC. Since this domain encompasses a broad array of conditions and populations, HMA did review evidence on the efficacy of specific treatment interventions or health plan strategies for certain populations and/or conditions: 1) care for those experiencing mental health and substance use disorders, which is discussed in "Chapter 3: Mental Health and Substance Use Disorder Treatment"; and (2) complex care patients that account for the top 1 to 5 percent of health care costs and require specialized care management, which are addressed in "Chapter 5: Complex Care."

Effective Care Delivery Strategies: Networks

1. Networks Based on Value
2. Promotion of Integrated Delivery Systems and Accountable Care Organizations
3. Consumer and Patient Engagement

Effective Care Delivery Strategies: Clinical

1. Promotion of Effective Primary Care
2. Sites and Expanded Approaches to Care Delivery

Effective Care Delivery Strategies: Population Health

1. Population-based and Community Health Promotion Beyond Enrolled Population

In researching the evidence and developing findings, HMA found significant overlap between the strategies. HMA identified where crossover exists by noting connections in the text. HMA noted where a finding has relevance for more than one strategy rather than repeating findings in multiple report sections.

HMA built an evidence template based on initial research and consultation with the subject matter experts to help the team develop policy-relevant findings to ultimately share with Covered California. The team used the template to target their reviews and collect standard information on each piece of report, study or other information.

In each strategy section, the team identified the evidence that supports potential impact on the following evaluation outcomes:

- Savings;
- Quality of care;
- Health of the population;
- Limits new or existing burden on providers;
- Administrative burden on issuers or others; and
- Potential to reduce health disparities.

While evaluating the evidence for each strategy, the team also considered the relative importance and impact of “key drivers” that may result in the strategy being more or less effective. Key drivers considered include:

- Payment (e.g., higher or lower payment, risk-based payments, bonuses or withholds, which may include payment that directly supports greater integration and coordination including budgets to support team-based care and payments that reflect accountability across specialist and institutional boundaries);
- Channeling of members or patients (e.g., exclusive or preferential);
- Measurement and data to inform impact;
- Data exchange to support improved clinical care and care coordination;
- Provider-level coaching or quality improvement efforts to support the strategy;
- Alignment across payers or purchasers to provide better “signal strength” to providers;
- Benefit Design or other consumer-facing incentives or mechanisms; and
- Other factors identified in the evidence.

Project Team Experience

Project and Section Leadership

Nora Leibowitz and Lauren Ohata provided leadership for the project as Project Director and Project Manager, respectively. Writer leads Alana Ketchel, Nora Leibowitz and Nicola Pinson were assisted by Barry Jacobs, Aimee Lashbrook, Monica Trevino and Lori Weiselberg. Writers were supported by a strong panel of HMA and external subject matter experts. In addition to working with Mark Fendrick (University of Michigan, Center for Value-Based Insurance Design) across the strategies, Figure 1 (HMA Evidence Review Subject Matter Experts and Lead Writers) presents the experts who contributed to the project shown by the strategies to which they contributed.

Distinguished Panel of Subject Matter Experts

This project drew upon the experience and knowledge of 22 HMA and external subject matter experts who informed the research, provide insights into best practices, and identify gaps or areas for further exploration. In developing the project team, HMA called on its deep bench of subject matter experts across the strategy topics. The HMA subject matter experts each have between 10 and 30 years of experience in their areas of expertise. HMA team members have served in the leadership of state and federal agencies, run public sector health plans, administered public and private health care programs, and conducted research and analysis of health care programs. Several of the providers on the team maintain clinical practices in addition to working as consultants.

In addition to HMA's in-house team of experts, HMA partnered with several additional experts for this project. HMA subcontracted with the Catalyst for Payment Reform (CPR) to bolster the team's private sector insurance market expertise and capitalize on CPR's deep knowledge of purchaser efforts to improve the health care market. The CPR team contributed to multiple strategy sections, providing valuable insights and depth of knowledge across subjects.

HMA also subcontracted with Mark Fendrick, MD, Director of the Center for Value-Based Insurance Design at University of Michigan. Dr. Fendrick is also a Professor of Internal Medicine in the University of Michigan School of Medicine and a Professor of Health Management and Policy in the School of Public Health. He has authored over 250 articles and book chapters and received numerous awards for the creation and implementation of value-based insurance design. He has used his understanding of clinical and economic issues to assist numerous government agencies, issuers, professional societies, and health care companies.

In addition to the cross-section assistance provided by the CPR team and Dr. Fendrick, HMA also received subject matter support from José Escarce, MD, PhD (UCLA) and Catherine DesRoches, DrPH (Harvard University). Dr. Escarce is Professor of Medicine in the David Geffen School of Medicine at UCLA, Professor of Health Policy and Management in the UCLA Fielding School of Public Health, and Senior Natural Scientist at RAND. Dr. Escarce has published extensively on numerous topics, including physician behavior, medical technology adoption, racial and socioeconomic differences in health care, and the effects of market forces on access, costs, and quality of care. His research interests and expertise include health economics, managed care, physician behavior, racial and ethnic disparities in medical care, and technological change in medicine. Dr. Escarce has studied racial differences in the utilization of surgical procedures and diagnostic tests by elderly Medicare beneficiaries, and was lead investigator of a study of racial differences in medical care utilization among older persons. Dr.

Escarce is currently working on several projects that address socio-demographic barriers to access in managed care organizations and is principal investigator of a program project entitled "Health Care Markets and Vulnerable Populations," which addresses racial and ethnic differences in access to and quality of medical care. He was member of the Institute of Medicine Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care.

Dr. DesRoches is Associate Professor of Medicine at Harvard Medical School and Executive Director of OpenNotes, an organization dedicated to expanding the use of open visit notes and studying the effects. She is a health services researcher with expertise in emerging trends in health care delivery. She was previously a Senior Fellow at Mathematica, where she studied the use of electronic health records by hospitals and physicians, the effect of health care organizations on physician clinical practice, physician capacity to provide coordinated patient-centered care, and primary care workforce issues. Dr. DesRoches also has extensive experience running interdisciplinary research aimed at improving health system performance and quality of care.

Several subject matter experts provided content expertise on more than one strategy, and across strategy areas. HMA has identified each team member's credentials. Where the team member is not an HMA employee their affiliation is noted.

Figure 1. HMA Evidence Review Subject Matter Experts and Lead Writers

Assuring Quality of Care Strategies		
Aimee Lashbrook, JD, MHSA Alejandra Vargas-Johnson (CPR) Barry Jacobs, Psy.D. Jeffrey Ring, PhD José Escarce, MD, PhD (UCLA)	Jeanene Smith, MD, MPH Linda Lee, MPH Lori Raney, MD Lori Weiselberg, MPH Maclaine Lehan (CPR)	Maddy Shea, PhD Monica Trevino, MA Nora Leibowitz, MPP* Rich VandenHeuvel, MSW Suzanne Daub, LCSW
Effective Care Delivery Strategies – Networks		
Alana Ketchel, MPP/MPH* Andréa Caballero, MPA (CPR) Art Jones, MD	Catherine DesRoches, DrPH (Harvard) Craig Thiele, MD Jeanene Smith, MD, MPH	Roslyn Murray (CPR) Steve Soto Tom Friedman, MPA
Effective Care Delivery Strategies – Clinical		
Alejandra Vargas-Johnson (CPR) Jean Glossa, MD, MBA, FACP	Nicola Pinson, JD* Jeanene Smith, MD, MPH	Maddy Shea, PhD Suzanne Delbanco, PhD, MPH (CPR)
Effective Care Delivery Strategies – Population Health		
Maddy Shea, PhD	Nora Leibowitz, MPP*	

Methods for Literature Review and Evidence Gathering

At the project's initiation, the HMA team identified individuals to lead the review of each of the main strategies. The HMA team leads and subject matter experts then proceeded to conduct a literature review and gather evidence to lay the foundation for a robust report.

Team Leads and Subject Matter Experts Determined Scope of Each Domain and Associated Strategies

To collect evidence, the team conducted a preliminary review of existing literature guided by a panel of internal and external subject matter experts. For each strategy the team leads met with subject matter experts to define and align on the scope of the team's search. To guide the evidence review, each strategy's team also discussed associated sub-strategies, search methods, key search terms, core sources of literature, known studies, and other identified promising practices that were not documented in peer-reviewed literature.

Literature and Best Practices Review Based on Subject Matter Expert Direction and Support

Team leads conducted thorough searches of available documents and evidence for each strategy. Sources reviewed include published literature of health services research, policy papers, large employer published case studies including issuer and actuarial studies, studies conducted by issuers, state materials on purchaser quality improvement activities, etc. Where information was not publicly available, the team leads worked with their strategy's subject matter experts to gather non-published documentation, including content gathered from discussions with outside experts and others with insight into related ongoing or completed projects. Team leads collected the search results in an evidence template the team created explicitly for the project, recording the project or article publication information, study design, strength of evidence, population, intervention, and outcomes or impacts. All references reviewed in the evidence tables are listed in Appendix 2 (Bibliography Supporting Evidence Review by Health Management Associates). Given the breadth of potential sources, the teams put particular emphasis on identifying and using well done meta-analyses and reports that reflected rigorous reviews of multiple underlying original source studies or research. For each of the strategy areas reviewed by HMA, between 30 to 110 individual studies or reports are referenced. The report includes direct citations of the best evidence within the discussion of each strategy; information from additional sources was also used for this report and is listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Expert Consultation and Drafting

Subject Matter Expert Consultation on Search Findings and Key Drivers

After conducting a thorough literature review, the team leads shared findings with internal and external subject matter experts for review and consultation. Subject matter experts reviewed findings, identified gaps, and discussed additional sources of information to pursue following the initial review. The team leads and subject matter experts discussed, developed, and aligned on a common understanding of issues based on the literature review for the report. Team leads conducted additional research and analysis based on subject matter expert input and recommendations to add to the evidence base. The team leads and subject matter experts discussed key drivers. Our subject matter experts used their real-world expertise to identify and define key drivers that will impact the success of various evidence-based strategies.

Synthesis of Information on Strategies and Initial Draft of Findings

The team leads then synthesized the research gathered and highlighted strategies based on the evidence. In many cases, HMA and external subject matter experts provided additional review

and feedback to ensure research was accurately reflected and to highlight strategies that seem particularly feasible based on the team's experience and expertise in the field. The team's primary focus was to document evidence of useful strategies, however based on iterative conversations with Covered California throughout the project engagement period, the team also developed recommendations for Covered California's consideration.

References. HMA references representative studies in the body of the report; a more comprehensive list of the sources used to develop the findings is included in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Marking areas lacking measured outcomes. For each strategy (e.g., Networks Based on Value) HMA sought to assess the evidence in each of six outcomes (savings, quality of care; health of the population; limiting new or existing burden on providers; administrative burden on issuers or others; and potential to reduce health disparities). Where available research did not produce significant information on the impact of a finding on one of the outcomes, HMA noted this with the phrase "no measured outcomes" in drafts provided to Covered California. This designation does not imply that the finding has no benefit in a given area, just that research on such benefit was not available. For example, in Networks Based on Value, HMA did not find impacts on administrative burden from using tiered networks. There may be such impacts, but HMA does not speak to this possibility due to the lack of research in this area.

Recommendations for Monitoring for New Research

At the end of each strategy section HMA identified recommended resources for Covered California to continue to monitor to get updated information and new evidence as it develops.

Finalization of Report

After submitting a draft report for Covered California review and receiving Covered California feedback the team assessed the findings across all domains and developed overall recommendations for Covered California based on the following criteria:

- Relevance within and across the strategies; and
- Feasibility of recommended activity or program achieving articulated goal.

The team included the recommendations determined to have the most potential value to Covered California based on the above criteria at the start of the report in the Recommendations section. In response to Covered California feedback, the team also identified and included operational considerations for Covered California on several findings. These operational notes are based on the findings in each domain and are provided to help Covered California take the next steps in its issuer oversight and quality program. The team also included recommendations, considerations and key resources for Covered California as it continually monitors and updates evidence moving forward. The core project team sought additional consultation from subject matter experts to finalize the report.

PricewaterhouseCoopers: Measures and Benchmarks Review

Covered California contracted with PwC to conduct a detailed review of measures and benchmarks and the strategies used by healthcare purchasers to drive value in health care. The results of the analysis of measures and benchmarks are presented here, while the results of the purchaser strategy review are presented separately.

PwC leveraged the early draft version of the *Covered California Quality of Care and Delivery Reform Framework* for healthcare domains and strategies developed by Covered California to organize its analysis. Covered California asked PwC to identify measures, data sources, and benchmarks at the 50th, 75th, and 90th percentile (for standardized measures where available) and relevant state and national comparison points to assist Covered California in assessing Qualified Health Plan (QHP) performance and setting future expectations for Covered California QHP issuers and California's population overall.

Approach

PwC performed an extensive and systematic survey of available data sources to identify the most relevant and useful metrics for each measure. PwC focused not only on a benchmark's validity and relevance (e.g., whether it pertains to the actual experience of 2016 and 2017), but also whether the measure has demonstrated a meaningful relationship to healthcare cost and quality and will foster continued quality and value improvement.

Through an extensive review of existing measurement literature and leveraging its broad-based expertise in health benefits and across the healthcare and insurance industries, PwC performed a rigorous assessment of available measures for assessing the performance of QHP issuers and promoting the "Triple Aim" framework of 1) improving the patient experience of care, including quality and satisfaction, 2) improving the health of populations, and 3) reducing the per capita cost of health care. Measures were evaluated on key dimensions such as evidence, impact, and feasibility, with special attention paid to the alignment of measures with other important purchasers and common measure sets, such as those used by the Centers for Medicare and Medicaid Services (CMS) and California's Integrated Healthcare Association (IHA).

The contractual reporting requirements in the current Attachment 7 are organized into thirteen strategies that are aligned with the Quality of Care and Delivery Reform Framework. For each domain and strategy, PwC evaluated each current measure in terms of the availability of relevant benchmarks and data sources and made recommendations for potential additional measures and sources for a future Attachment 7.

Project Team

Pete Davidson FSA, MAAA, was the overall engagement lead with Susan Maerki, MHSA, MAE, leading the Measures and Benchmarks analysis and Greg Mansur, MPH, leading the Purchaser Strategy review. Roger Yang, ASA, MAAA provided project management, research, analysis, and development of report content, supported by Jasmine Macies, MPH, Rohan Shah, Shiow Shin Heong, Hamna Hasan, Janet Rubin and Carolyn Steger. PwC leveraged a number of internal subject matter experts to contribute content, including Eric Michael, PharmD.

Methods for Identifying Measures and Benchmarks

First, PwC developed a measure and benchmark assessment framework tailored to Covered California's vision of quality performance and accountability standards, by assimilating key

insights distilled from thought-leaders of quality measurement such as the Robert Wood Johnson Foundation, American College of Physicians, and CMS's Meaningful Measures Framework.

The assessment consisted of extensive and systematic survey of available public and proprietary data and information and a rigorous evaluation of available measures in accordance with the healthcare quality measurement literature. PwC's recommendations were developed through an iterative process that incorporated feedback from Covered California, information from the review of Purchaser Strategies, and evidence review by HMA.

Below are some of the measurement programs that PwC considered and served to inform PwC's assessment of available measures:

- Health Insurance Exchange Quality Rating System (QRS)
- NCQA Healthcare Effectiveness Data and Information Set (HEDIS)
- Integrated Healthcare Association (IHA)
- California Medi-Cal External Accountability Sets (EAS)
- CMS Medicare Shared Savings Program (MSSP)
- CMS Core Quality Measures Collaborative (CQMC)

Additional considerations were informed by information summarized by HMA and research literature and industry articles encountered during the analysis.

The framework for evaluating potential measures considered the following attributes:

- Reporting responsibility: who would be responsible for tracking and reporting the measure (QHP issuers, Covered California, other public reporting sources)
- Alignment with Other Purchasers: are other healthcare purchasers tracking the measure such that a Covered California requirement would potentially increase the impact
- Evidence / Industry / Endorsed: how well accepted is the measure by industry and researchers
- High impact / High priority: does the measure relate to an area of high importance to Covered California's enrollees
- Specification / Well Defined / Reliability: can the measure be consistently and accurately reported
- Ease / feasibility of reporting: what is the burden for reporting the measure
- Benchmark / Reference Points: are there relevant comparisons that can be used to evaluate QHP and overall population performance and progress towards established goals

Report Deliverables

Deliverables discussing findings related to the Measures and Benchmarks were organized by the *Covered California Quality Care and Delivery Reform Framework's* domains and strategies. Supplemental appendices were prepared for the Measures and Benchmarks report to identify information regarding potential measures and data sources that are not currently incorporated in current contract requirements, including detailed descriptions, references, considerations, and recommendations.

Appendix 2: Bibliography Supporting Evidence Review by Health Management Associates

Health Equity: Reducing Disparities

Alexander, G. C., Lin, S., Sayla, M. A., & Wynia, M. K. (2008). Development of a measure of physician engagement in addressing racial and ethnic health care disparities. *Health services research*, *43*(2), 773-784. Permanente, Kaiser. "Making the Business Case for Culturally and Linguistically Appropriate Services in Health Care." (2011).

Alliance of Community Health Plans Foundation. (2007). Making the Business Case for Culturally and Linguistically Appropriate Services in Health Care. Case Studies from the Field 2007. Retrieved from https://minorityhealth.hhs.gov

American Diabetes Association. (2019). 12. Older adults: standards of medical care in diabetes—2019. *Diabetes Care*, *42*(Supplement 1), S139-S147.

America's Health Insurance Plans. (2017). Beyond the Boundaries of Health Care: Addressing Social Issues. Retrieved from https://www.ahip.org

American Hospital Association. (2017). Steps to Health Equity. Retrieved from http://www.equityofcare.org

Anderson-Loftin, W., Barnett, S., Bunn, P., Sullivan, P., Hussey, J., & Tavakoli, A. (2005). Culturally competent diabetes education. *The Diabetes Educator*, *31*(4), 555-563.

Bailey, E. J., Cates, C. J., Kruske, S. G., Morris, P. S., Brown, N., & Chang, A. B. (2009). Culture-specific programs for children and adults from minority groups who have asthma. *COCHRANE DATABASE OF SYSTEMATIC REVIEWS*, *2009*(2), i-33.

Balicer, R. D., Hoshen, M., Cohen-Stavi, C., Shohat-Spitzer, S., Kay, C., Bitterman, H., ... & Shadmi, E. (2015). Sustained Reduction in Health Disparities Achieved through Targeted Quality Improvement: One-Year Follow-up on a Three-Year Intervention. *Health services research*, *50*(6), 1891.

Beach, M. C., Gary, T. L., Price, E. G., Robinson, K., Gozu, A., Palacio, A., ... & Powe, N. R. (2006). Improving health care quality for racial/ethnic minorities: a systematic review of the best evidence regarding provider and organization interventions. *BMC Public Health*, *6*(1), 104.

Betancourt, J. R. (2006). *Improving quality and achieving equity: the role of cultural competence in reducing racial and ethnic disparities in health care*. New York, NY: Commonwealth Fund.

Betancourt, J. R., Renfrew, M. R., Green, A. R., Lopez, L., & Wasserman, M. (2012). Improving patient safety systems for patients with limited English proficiency: a guide for hospitals. *Rockville, MD: Agency for Healthcare Research and Quality*, 12-0041.

Betancourt, J. R., Green, A. R., King, R. R., Tan-McGrory, A., Cervantes, M., & Renfrew, M. (2015). Improving quality and achieving equity: A guide for hospital leaders. *Boston: Disparities Solutions Center and Institute for Health Policy, Massachusetts General Hospital*.

Brach, C., & Fraserirector, I. (2000). Can cultural competency reduce racial and ethnic health disparities? A review and conceptual model. *Medical Care Research and Review*, *57*(1_suppl), 181-217.

Brown, A. F., Ma, G. X., Miranda, J., Eng, E., Castille, D., Brockie, T., ... & Trinh-Shevrin, C. (2019). Structural Interventions to Reduce and Eliminate Health Disparities. *American journal of public health*, *109*(S1), S72-S78.

California Department of Health Care Services. (2018). 2015–16 Disparities Focused Study, 12-Measure Report. Retrieved from https://www.dhcs.ca.gov

California Pan-Ethnic Health Network. (2018). California Reducing Disparities Project: Strategic Plan to Reduce Mental Health Disparities. Retrieved from https://cpehn.org

Centers for Medicare and Medicaid Services. (2018). Office of Minority Health. *2018 CMS Health Equity Award.* Retrieved from
https://www.cms.gov

Centers for Medicare and Medicaid Services. (2018). Office of Minority Health. *CMS Equity Plan for Medicare.* Retrieved from https://www.cms.gov

Centers for Medicare and Medicaid Services. (n.d.). Office of Minority Health. Disparities Solution Center – Tools for Health Equity. *Guide to reducing disparities in readmissions.* Retrieved from https://mghdisparitiessolutions.org

Centers for Medicare and Medicaid Services. (2018). Office of Minority Health and the RAND Corporation. *Racial, Ethnic, and Gender Disparities in Health Care in Medicare Advantage*. Retrieved from https://www.cms.gov

Cheney, C. (2018). Novant Dissolves Disparity in Pneumonia Readmissions. *HealthLeaders.* Retrieved from https://www.healthleadersmedia.com

Chin, M. H., Clarke, A. R., Nocon, R. S., Casey, A. A., Goddu, A. P., Keesecker, N. M., & Cook, S. C. (2012). A roadmap and best practices for organizations to reduce racial and ethnic disparities in health care. *Journal of general internal medicine*, *27*(8), 992-1000.

Chin, M. H., Walters, A. E., Cook, S. C., & Huang, E. S. (2007). Interventions to reduce racial and ethnic disparities in health care.

Community Preventive Services Task Force. (2018). AMIGAS: Promoting Cervical Cancer Screening Among Hispanic Women. *The Community Guide in Action*. Retrieved from
https://www.thecommunityguide.org

Community Preventive Services Task Force. (2017). Diabetes Management: Interventions Engaging Community Health Workers. *Task Force Finding and Rationale Statement, Ratified April 2017*.
https://www.thecommunityguide.org

Cook, S., Durkin, E., Nathan, A., Nocon, R., and Chin, M. (2018). Integrating Payment and Delivery System Reforms to Solve Disparities: Recommendations from Finding Answers Grantees. Retrieved from http://www.solvingdisparities.org

Cook, S., Mahadevan, R., Clarke, A., & El-Shamaa, M. (2015). *Reducing Health and Health Care Disparities: Implementation Lessons and Best Practices for Health Care Organizations*. Aligning Forces for Quality, Robert Wood Johnson Foundation.

Cooper, L. A., Roter, D. L., Johnson, R. L., Ford, D. E., Steinwachs, D. M., & Powe, N. R. (2003). Patient-centered communication, ratings of care, and concordance of patient and physician race. *Annals of internal medicine*, *139*(11), 907-915.

Crumley, D., Lloyd, J., Pucciarello, M., and Stapelfeld, B. (2018). Addressing Social Determinants of Health via Medicaid Managed Care Contracts and Section 1115 Demonstrations. *Center for Health Care Strategies.* Retrieved from https://www.chcs.org

Diamond, L. C., & Jacobs, E. A. (2010). Let's not contribute to disparities: the best methods for teaching clinicians how to overcome language barriers to health care. *Journal of general internal medicine*, *25*(2), 189-193.

Escarce, J. J. (2007). Racial and ethnic disparities in access to and quality of health care.

Feagin, J., & Bennefield, Z. (2014). Systemic racism and US health care. *Social science & medicine*, *103*, 7-14.

Fernandez, A., Schillinger, D., Warton, E. M., Adler, N., Moffet, H. H., Schenker, Y., ... & Karter, A. J. (2011). Language barriers, physician-patient language concordance, and glycemic control among insured Latinos with diabetes: the Diabetes Study of Northern California (DISTANCE). *Journal of general internal medicine*, *26*(2), 170-176.

Fishman, P. A., Khan, Z. M., Thompson, E. E., & Curry, S. J. (2003). Health care costs among smokers, former smokers, and never smokers in an HMO. *Health services research*, *38*(2), 733-749.

Flores, G. (2005). The impact of medical interpreter services on the quality of health care: a systematic review. *Medical care research and review*, *62*(3), 255-299.

Franks, P., & Fiscella, K. (2008). Reducing disparities downstream: prospects and challenges. *Journal of general internal medicine*, *23*(5), 672-677.

Freudenberg, N., & Olden, K. (2010). Finding synergy: reducing disparities in health by modifying multiple determinants. *American journal of public health*, *100*(S1), S25-S30.

Georgetown University Center for an Aging Society, Institute for Health Care Research and Policy. Screening for Chronic Conditions, online resource. Retrieved from https://hpi.georgetown.edu/screening/

Gorin, S. S., Badr, H., Krebs, P., & Das, I. P. (2012). Multilevel interventions and racial/ethnic health disparities. *Journal of the National Cancer Institute Monographs*, *2012*(44), 100-111.

Institute for Healthcare Improvement. (n.d.). Clinician Engagement– Dealing with Burnout. *IHI Open School.* Retrieved from http://www.ihi.org

Jetty, A., Petterson, S., Rabin, D. L., & Liaw, W. (2018). Privately insured adults in HDHP with higher deductibles reduce rates of primary care and preventive services. *Translational behavioral medicine*, *8*(3), 375-385.

Joseph, D. A. (2016). Use of evidence-based interventions to address disparities in colorectal cancer screening. *MMWR supplements*, *65*.

Mate, K.S., and Wyatt, R. (2017). Health Equity Must Be a Strategic Priority. *NEJM Catalyst*. Retrieved from https://catalyst.nejm.org/health-equity-must-be-strategic-priority/

MacColl Institute for Healthcare Innovation. (2011). Reducing Care Fragmentation: A Toolkit for Coordinating Care. Retrieved from http://www.improvingchroniccare.org

Kwon, S. (2018). Community health workers improve outcomes, reduce costs. *Managed care (Langhorne, Pa.)*, *27*(11), 20-21.

King, R. K., Green, A. R., TAN-McGRORY, A. S. W. I. T. A., Donahue, E. J., KIMBROUGH-SUGICK, J. E. S. S. I. E., & Betancourt, J. R. (2008). A plan for action: key perspectives from the racial/ethnic disparities strategy forum. *The Milbank Quarterly*, *86*(2), 241-272.

LaVeist, T. A., & Nuru-Jeter, A. (2002). Is doctor-patient race concordance associated with greater satisfaction with care?. *Journal of health and social behavior*, 296-306.

LaVeist, T. A., Gaskin, D. J., & Richard, P. (2009). The economic burden of health inequalities in the United States.

Levine, D. M., Landon, B. E., & Linder, J. A. (2019). Quality and experience of outpatient care in the United States for adults with or without primary care. *JAMA internal medicine*, *179*(3), 363-372.

Millery, M., & Kukafka, R. (2010). Health information technology and quality of health care: strategies for reducing disparities in underresourced settings. *Medical Care Research and Review*, *67*(5_suppl), 268S-298S.

National Institutes of Health. Asthma Care Quick Reference Guide. Retrieved from https://www.nhlbi.nih.gov/files/docs/guidelines/asthma_qrg.pdf

Nelson, A. (2002). Unequal treatment: confronting racial and ethnic disparities in health care. *Journal of the National Medical Association*, *94*(8), 666.

Ngo-Metzger, Q., Sorkin, D. H., Phillips, R. S., Greenfield, S., Massagli, M. P., Clarridge, B., & Kaplan, S. H. (2007). Providing high-quality care for limited English proficient patients: the importance of language concordance and interpreter use. *Journal of general internal medicine*, *22*(2), 324-330.

Park, H. L. (2006). *Enabling services at health centers: Eliminating disparities and improving quality*. New York (NY): New York Academy of Medicine.

Partin, M. R., & Burgess, D. J. (2012). Reducing health disparities or improving minority health? The end determines the means. *Journal of general internal medicine*, *27*(8), 887-889.

Peek, M. E., Cargill, A., & Huang, E. S. (2007). Diabetes health disparities. *Medical Care Research and Review*, *64*(5_suppl), 101S-156S.

Penner, L. A., Gaertner, S., Dovidio, J. F., Hagiwara, N., Porcerelli, J., Markova, T., & Albrecht, T. L. (2013). A social psychological approach to improving the outcomes of racially discordant medical interactions. *Journal of General Internal Medicine*, *28*(9), 1143-1149.

Perri-Moore, S., Kapsandoy, S., Doyon, K., Hill, B., Archer, M., Shane-McWhorter, L., ... & Zeng-Treitler, Q. (2016). Automated alerts and reminders targeting patients: A review of the literature. *Patient education and counseling*, *99*(6), 953-959.

Piette, J. D., Weinberger, M., McPhee, S. J., Mah, C. A., Kraemer, F. B., & Crapo, L. M. (2000). Do automated calls with nurse follow-up improve self-care and glycemic control among vulnerable patients with diabetes?. *The American journal of medicine*, *108*(1), 20-27.

Ramon, I., Chattopadhyay, S. K., Barnett, W. S., & Hahn, R. A. (2018). Early childhood education to promote health equity: a community guide economic review. *Journal of public health management and practice: JPHMP*, *24*(1), e8.

Reed, M. E., Graetz, I., Fung, V., Newhouse, J. P., & Hsu, J. (2012). In consumer-directed health plans, a majority of patients were unaware of free or low-cost preventive care. *Health Affairs*, *31*(12), 2641-2648.

Saha, S., Komaromy, M., Koepsell, T. D., & Bindman, A. B. (1999). Patient-physician racial concordance and the perceived quality and use of health care. *Archives of internal medicine*, *159*(9), 997-1004.

Samieri, C., Sun, Q., Townsend, M. K., Chiuve, S. E., Okereke, O. I., Willett, W. C., ... & Grodstein, F. (2013). The association between dietary patterns at midlife and health in aging: an observational study. *Annals of internal medicine*, *159*(9), 584-591.

Sassi, F., Luft, H. S., & Guadagnoli, E. (2006). Reducing racial/ethnic disparities in female breast cancer: screening rates and stage at diagnosis. *American journal of public health*, *96*(12), 2165-2172.

Seligman, H. K., Wang, F. F., Palacios, J. L., Wilson, C. C., Daher, C., Piette, J. D., & Schillinger, D. (2005). Physician notification of their diabetes patients' limited health literacy: A randomized, controlled trial. *Journal of general internal medicine*, *20*(11), 1001-1007.

Sorkin, D. H., Ngo-Metzger, Q., & De Alba, I. (2010). Racial/ethnic discrimination in health care: impact on perceived quality of care. *Journal of general internal medicine*, *25*(5), 390-396.

Spitzer-Shohat, S., Shadmi, E., Goldfracht, M., Key, C., Hoshen, M., & Balicer, R. D. (2018). Evaluating an organization-wide disparity reduction program: Understanding what works for whom and why. *PloS one*, *13*(3), e0193179Stepanikova, I. (2006). Patient–physician racial and ethnic concordance and perceived medical errors. *Social science & medicine*, *63*(12), 3060-3066.

Street, R. L., O'Malley, K. J., Cooper, L. A., & Haidet, P. (2008). Understanding concordance in patient-physician relationships: personal and ethnic dimensions of shared identity. *The Annals of Family Medicine*, *6*(3), 198-205.

Substance Abuse and Mental Health Services Administration. Evidence-based Practice Guide. Retrieved from https://www.samhsa.gov/ebp-web-guide

Thorlby, R., Jorgensen, S., Ayanian, J. Z., & Sequist, T. D. (2011). Clinicians' views of an intervention to reduce racial disparities in diabetes outcomes. *Journal of the National Medical Association*, *103*(9-10), 968-978.

Thornton, R. L., Glover, C. M., Cené, C. W., Glik, D. C., Henderson, J. A., & Williams, D. R. (2016). Evaluating strategies for reducing health disparities by addressing the social determinants of health. *Health Affairs*, *35*(8), 1416-1423.

UCLA Center for Health Services and Society and California Behavioral Health Center of Excellence. (2016). Health Neighborhood Initiative. Preliminary report to Los Angeles County Department of Mental Health. Retrieved from http://hss.semel.ucla.edu

U.S. Department of Health and Human Services. (2011). Health Resources and Services Administration. Quality Improvement Guide. Plan, Do, Study, Act. Retrieved from https://www.hrsa.gov

U.S. Department of Health and Human Services. Million Hearts – Heart Health. Centers for Disease Control and Prevention and Centers for Medicare and Medicaid Services. Retrieved from https://millionhearts.hhs.gov/index.html

U.S. Department of Health and Human Services. (2013). Office of Minority Health. Crosswalk of the National CLAS Standards and the Communication Climate Assessment Toolkit; Crosswalks of the National CLAS Standards and the Joint Commission Hospital Program and Ambulatory Program. Retrieved from https://www.thinkculturalhealth.hhs.gov/clas/crosswalks

U.S. Department of Health and Human Services. (2013). Office of Minority Health. National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care. Retrieved from https://www.thinkculturalhealth.hhs.gov/assets/pdfs/EnhancedNationalCLASStandards.pdf

U.S. Department of Health and Human Services. (2017). National Viral Hepatitis Action Plan: 2017-2020. Office of HIV/AIDS and Infectious Disease Policy, Office of the Assistant Secretary for Health. Retrieved from https://www.hhs.gov/sites/default/files/National Viral Hepatitis Action Plan 2017-2020.pdf

Wallerstein, N. (2006). What is the evidence on effectiveness of empowerment to improve health?

Weinick, R. M., & Hasnain-Wynia, R. (2011). Quality improvement efforts under health reform: how to ensure that they help reduce disparities—not increase them. *Health affairs*, *30*(10), 1837-1843.

White, R. O., Beech, B. M., & Miller, S. (2009). Health care disparities and diabetes care: practical considerations for primary care providers. *Clinical diabetes*, *27*(3), 105-112.

Williams, D. R., & Mohammed, S. A. (2013). Racism and health I: Pathways and scientific evidence. *American behavioral scientist*, *57*(8), 1152-1173.

Woods, E. R. (2016). Community asthma initiative to improve health outcomes and reduce disparities among children with asthma. *MMWR supplements*, *65*.

Health Promotion and Prevention

Agency for Healthcare Research and Quality. Five Major Steps to Intervention (The “5 A’s”). Retrieved from https://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/tobacco/5steps.html

Aldridge, A., Linford, R., & Bray, J. (2017). Substance use outcomes of patients served by a large US implementation of Screening, Brief Intervention and Referral to Treatment (SBIRT). *Addiction*, *112*, 43-53.

American Cancer Society. Key Statistics for Colorectal Cancer. Retrieved from https://www.cancer.org/cancer/colon-rectal-cancer/about/key-statistics.html

Baker, D. W., Brown, T., Buchanan, D. R., Weil, J., Balsley, K., Ranalli, L., ... & Goldman, S. N. (2014). Comparative effectiveness of a multifaceted intervention to improve adherence to annual colorectal cancer screening in community health centers: a randomized clinical trial. *JAMA internal medicine*, *174*(8), 1235-1241.

Bloomfield, H. E., & Wilt, T. J. (2011). Evidence brief: role of the annual comprehensive physical examination in the asymptomatic adult. In *VA Evidence-based Synthesis Program Evidence Briefs [Internet]*. Department of Veterans Affairs (US).

Brown, A. F., Ma, G. X., Miranda, J., Eng, E., Castille, D., Brockie, T., ... & Trinh-Shevrin, C. (2019). Structural Interventions to Reduce and Eliminate Health Disparities. *American journal of public health*, *109*(S1), S72-S78.

Cawley, J., & Meyerhoefer, C. (2012). The medical care costs of obesity: an instrumental variables approach. *Journal of health economics*, *31*(1), 219-230.

Centers for Disease Control and Prevention. Quitting Smoking. *Fast Facts and Fact-Sheets. Retrieved from* https://www.cdc.gov/tobacco/data_statistics/fact_sheets/cessation/quitting/index.htm

Centers for Disease Control and Prevention. Tobacco-Related Disparities. Retrieved from https://www.cdc.gov/tobacco/disparities/index.htm

Community Preventive Services Task Force. (2013). Reducing Tobacco Use and Secondhand Smoke Exposure: Reducing Out-of-Pocket Costs for Evidence-based Cessation Treatments. *Task Force Finding and Rationale Statement, June 24, 2013.* Retrieved from https://www.thecommunityguide.org

Fiore, M. C., Jaén, C. R., Baker, T. B., Bailey, W. C., Benowitz, N. L., Curry, S. J., ... & Henderson, P. N. (2008). Treating tobacco use and dependence: 2008 update. *Rockville, MD: US Department of Health and Human Services*.

Garvey, W., Garber, A., Mechanick, J., Bray, G., Dagogo-Jack, S., Einhorn, D., & McGill, J. (2014). American Association of Clinical Endocrinologists and American College of Endocrinology position statement on the 2014 advanced framework for a new diagnosis of obesity as a chronic disease. *Endocrine Practice*.

Haire-Joshu, D. L. (2015). Next steps: eliminating disparities in diabetes and obesity. *Preventing chronic disease*, *12*.

HealthErx. Provider Referral Program for Obesity Resources. Retrieved from http://healtherx.org/about/program-description

Hoerger, T. J., Zhang, P., Segel, J. E., Kahn, H. S., Barker, L. E., & Couper, S. (2010). Cost-effectiveness of bariatric surgery for severely obese adults with diabetes. *Diabetes care*, *33*(9), 1933-1939.

Keener, D., Goodman, K., Khan, L. K., Lowry, A., & Zaro, S. (2009). Recommended community strategies and measurements to prevent obesity in the United States; implementation and measurement guide.

Lansdorp-Vogelaar, I., Knudsen, A. B., & Brenner, H. (2010). Cost-effectiveness of colorectal cancer screening–an overview. *Best Practice & Research Clinical Gastroenterology*, *24*(4), 439-449.

Liu, G., & Perkins, A. (2015). Using a lay cancer screening navigator to increase colorectal cancer screening rates. *J Am Board Fam Med*, *28*(2), 280-282.

Manley, M. W., Griffin, T., Foldes, S. S., Link, C. C., & Sechrist, R. A. (2003). The role of health plans in tobacco control. *Annual Review of Public Health*, *24*(1), 247-266.

McPhillips-Tangum, C., Cahill, A., Bocchino, C., & Cutler, C. M. (2002). Addressing tobacco in managed care: results of the 2000 survey. *Preventive Medicine in Managed Care*, *3*, 85-94.

Paltzer, J., Brown, R. L., Burns, M., Moberg, D. P., Mullahy, J., Sethi, A. K., & Weimer, D. (2017). Substance use screening, brief intervention, and referral to treatment among medicaid patients in wisconsin: impacts on Healthcare Utilization and Costs. *The journal of behavioral health services & research*, *44*(1), 102-112.

Pignone, M., Saha, S., Hoerger, T., & Mandelblatt, J. (2002). Cost-effectiveness analyses of colorectal cancer screening: a systematic review for the US Preventive Services Task Force. *Annals of internal medicine*, *137*(2), 96-104.

Pi-Sunyer, X., Blackburn, G., Brancati, F. L., Bray, G. A., Bright, R., Clark, J. M., ... & Haffner, S. M. (2007). Reduction in weight and cardiovascular disease risk factors in individuals with type 2 diabetes: one-year results of the look AHEAD trial. *Diabetes care*, *30*(6), 1374-1383.

Prevention Institute and the California Endowment. (2008). Prevention for a Healthier California: Investments in Disease Prevention Yield Significant Savings, Stronger Communities. *Trust for America's Health*. Retrieved from https://www.preventioninstitute.org

Pronk, N. P., Goodman, M. J., O'Connor, P. J., & Martinson, B. C. (1999). Relationship between modifiable health risks and short-term health care charges. *Jama*, *282*(23), 2235-2239.

Ross, R. K., Baxter, R. J., Standish, M., Solomon, L. S., Jhawar, M. K., Schwartz, P. M., ... & Nudelman, J. (2010). Community approaches to preventing obesity in California.

United States Preventive Services Task Force. Recommendations for Primary Care Practice. Retrieved from https://www.uspreventiveservicestaskforce.org/

Wells, K. J., Luque, J. S., Miladinovic, B., Vargas, N., Asvat, Y., Roetzheim, R. G., & Kumar, A. (2011). Do community health worker interventions improve rates of screening mammography in the United States? A systematic review. *Cancer Epidemiology and Prevention Biomarkers*, *20*(8), 1580-1598.

Mental Health and Substance Use Disorder Treatment

Abraham, A. J., Andrews, C. M., Yingling, M. E., & Shannon, J. (2018). Geographic disparities in availability of opioid use disorder treatment for Medicaid enrollees. *Health services research*, *53*(1), 389-404.

Abraham, A. J., Rieckmann, T., Andrews, C. M., & Jayawardhana, J. (2016). Health insurance enrollment and availability of medications for substance use disorders. *Psychiatric services*, *68*(1), 41-47.

Agency for Healthcare Research and Quality. A Framework for Measuring Integration of Behavioral Health and Primary Care. Retrieved from https://integrationacademy.ahrq.gov/products/ibhc-measures-atlas/framework-measuring-integration-behavioral-health-and-primary-care

Alegría, M., Alvarez, K., Ishikawa, R. Z., DiMarzio, K., & McPeck, S. (2016). Removing obstacles to eliminating racial and ethnic disparities in behavioral health care. *Health Affairs*, *35*(6), 991-999.

Altschul, D. B., Bonham, C. A., Faulkner, M. J., Pearson, A. W. F., Reno, J., Lindstrom, W., ... & Larson, R. (2018). State legislative approach to enumerating behavioral health workforce shortages: Lessons learned in New Mexico. *American journal of preventive medicine*, *54*(6), S220-S229.

Andrews, C. M. (2014). The relationship of state Medicaid coverage to Medicaid acceptance among substance abuse providers in the United States. *The journal of behavioral health services & research*, *41*(4), 460-472.

Arora, S., Kalishman, S., Thornton, K., Dion, D., Murata, G., Deming, P., ... & Bankhurst, A. (2010). Expanding access to hepatitis C virus treatment—Extension for Community Healthcare Outcomes (ECHO) project: disruptive innovation in specialty care. *Hepatology*, *52*(3), 1124-1133.

Asarnow, J. R., Rozenman, M., Wiblin, J., & Zeltzer, L. (2015). Integrated medical-behavioral care compared with usual primary care for child and adolescent behavioral health: a meta-analysis. *JAMA pediatrics*, *169*(10), 929-937.

Au, M. (2016). Integrating Behavioral and Physical Health Care in Medicaid: Lessons from State Experiences. *Mathematica Policy Research*. Retrieved from http://www.mahp.org

Bachrach, D., Boozang, P. M., & Davis, H. E. (2017). How Arizona Medicaid Accelerated the Integration of Physical and Behavioral Health Services. *Issue brief (Commonwealth Fund)*, *14*, 1-11.

Balasubramanian, B. A., Cohen, D. J., Jetelina, K. K., Dickinson, L. M., Davis, M., Gunn, R., ... & Green, L. A. (2017). Outcomes of integrated behavioral health with primary care. *J Am Board Fam Med*, *30*(2), 130-139.

Barrett, K., & Chang, Y. P. (2016). Behavioral interventions targeting chronic pain, depression, and substance use disorder in primary care. *Journal of Nursing Scholarship*, *48*(4), 345-353.

Beidas, R. S., Stewart, R. E., Benjamin Wolk, C., Adams, D. R., Marcus, S. C., Evans Jr, A. C., ... & Rubin, R. (2016). Independent contractors in public mental health clinics: Implications for use of evidence-based practices. *Psychiatric Services*, *67*(7), 710-717.

Bishop, T. F., Seirup, J. K., Pincus, H. A., & Ross, J. S. (2016). Population of US practicing psychiatrists declined, 2003–13, which may help explain poor access to mental health care. *Health Affairs*, *35*(7), 1271-1277.

Blackmore, M. A., Carleton, K. E., Ricketts, S. M., Patel, U. B., Stein, D., Mallow, A., ... & Chung, H. (2018). Comparison of Collaborative Care and Colocation Treatment for Patients With Clinically Significant Depression Symptoms in Primary Care. *Psychiatric Services*, *69*(11), 1184-1187.

Block, R. (2018). Behavioral Integration and Workforce Development. *Milibank Memorial Fund.* Retrieved from https://www.milbank.org

Boden, M. T., Smith, C. A., Klocek, J. W., & Trafton, J. A. (2018). Mental Health Treatment Quality, Access, and Satisfaction: Optimizing Staffing in an Era of Fiscal Accountability. *Psychiatric Services*, *70*(3), 168-175.

Broffman, L., Spurlock, M., Dulacki, K., Campbell, A., Rodriguez, F., Wright, B., ... & Davis, M. M. (2017). Understanding treatment gaps for mental health, alcohol, and drug use in South Dakota: a qualitative study of rural perspectives. *The Journal of Rural Health*, *33*(1), 71-81.

Brown, C. M., Bignall, W. J. R., & Ammerman, R. T. (2018). Preventive behavioral health programs in primary care: a systematic review. *Pediatrics*, *141*(5), e20170611.

Browne, T., Priester, M. A., Clone, S., Iachini, A., DeHart, D., & Hock, R. (2016). Barriers and facilitators to substance use treatment in the rural south: A qualitative study. *The Journal of Rural Health*, *32*(1), 92-101.

Bruns, E. J., Kerns, S. E., Pullmann, M. D., Hensley, S. W., Lutterman, T., & Hoagwood, K. E. (2015). Research, data, and evidence-based treatment use in state behavioral health systems, 2001–2012. *Psychiatric Services*, *67*(5), 496-503.

California Future Health Workforce Commission. (2019). Meeting the Demand for Health. Retrieved from https://futurehealthworkforce.org

Campbell, A. N., Nunes, E. V., Matthews, A. G., Stitzer, M., Miele, G. M., Polsky, D., ... & Wahle, A. (2014). Internet-delivered treatment for substance abuse: a multisite randomized controlled trial. *American Journal of Psychiatry*, *171*(6), 683-690.

Campo, J. V., Geist, R., & Kolko, D. J. (2018). Integration of pediatric behavioral health services in primary care: Improving access and outcomes with collaborative care. *The Canadian Journal of Psychiatry*, *63*(7), 432-438.

Chang, E. T., Rose, D. E., Yano, E. M., Wells, K. B., Metzger, M. E., Post, E. P., ... & Rubenstein, L. V. (2013). Determinants of readiness for primary care-mental health integration (PC-MHI) in the VA health care system. *Journal of general internal medicine*, *28*(3), 353-362.

Chinman, M., George, P., Dougherty, R. H., Daniels, A. S., Ghose, S. S., Swift, A., & Delphin-Rittmon, M. E. (2014). Peer support services for individuals with serious mental illnesses: assessing the evidence. *Psychiatric Services*, *65*(4), 429-441

Cifuentes, M., Davis, M., Fernald, D., Gunn, R., Dickinson, P., & Cohen, D. J. (2015). Electronic health record challenges, workarounds, and solutions observed in practices integrating behavioral health and primary care. *J Am Board Fam Med*, *28*(Supplement 1), S63-S72.

Clarke, R. M., Jeffrey, J., Grossman, M., Strouse, T., Gitlin, M., & Skootsky, S. A. (2016). Delivering on accountable care: lessons from a behavioral health program to improve access and outcomes. *Health Affairs*, *35*(8), 1487-1493.

Clemans-Cope, L., Benatar, S., Epstein, M. & Holla, N. (2018). Potential Cost Savings Associated with Providing Screening, Brief Intervention, and Referral to Treatment for Substance Use Disorder in Emergency Departments. *Urban Institute. Retrieved from* https://www.urban.org

Cohen, D. J., Davis, M., Balasubramanian, B. A., Gunn, R., Hall, J., deGruy, F. V., ... & Levy, S. (2015). Integrating behavioral health and primary care: consulting, coordinating and collaborating among professionals. *The Journal of the American Board of Family Medicine*, *28*(Supplement 1), S21-S31.

Crowley, R. A., & Kirschner, N. (2015). The integration of care for mental health, substance abuse, and other behavioral health conditions into primary care: executive summary of an American College of Physicians position paper. *Annals of Internal Medicine*, *163*(4), 298-299.

Dalzell, M. D. (2012). Under ACA, is it better to carve in or to carve out?. *Managed care (Langhorne, Pa.)*, *21*(12), 29.

Daumit, G. L., Stone, E. M., Kennedy-Hendricks, A., Choksy, S., Marsteller, J. A., & McGinty, E. E. (2019). Care Coordination and Population Health Management Strategies and Challenges in a Behavioral Health Home Model. *Medical care*, *57*(1), 79-84.

Druss, B. G., von Esenwein, S. A., Compton, M. T., Rask, K. J., Zhao, L., & Parker, R. M. (2009). A randomized trial of medical care management for community mental health settings: the Primary Care Access, Referral, and Evaluation (PCARE) study. *American Journal of Psychiatry*, *167*(2), 151-159.

Edelman, E. J., Oldfield, B. J., & Tetrault, J. M. (2018). Office-based addiction treatment in primary care: approaches that work. *Medical Clinics*, *102*(4), 635-652.

Fleury, M. J., Grenier, G., Bamvita, J. M., & Chiocchio, F. (2017). Variables associated with work performance in multidisciplinary mental health teams. *SAGE open medicine*, *5*, 2050312117719093.

Fortney, J., Sladek, R., & Unutzer, J. (2015). Fixing Behavioral Health Care in America: A National Call for Integrating and Coordinating Specialty Behavioral Health Care with the Medical System. *The Kennedy Forum*. Retrieved from https://thekennedyforum.org

Friedman, S. A., Azocar, F., Xu, H., & Ettner, S. L. (2018). The Mental Health Parity and Addiction Equity Act (MHPAEA) evaluation study: Did parity differentially affect substance use disorder and mental health benefits offered by behavioral healthcare carve-out and carve-in plans? *Drug and alcohol dependence*, *190*, 151-158.

Gerrity, M. (2016). Evolving models of behavioral health integration: Evidence update 2010–2015. *New York, NY: Milbank Memorial Fund*.

Gerrity, M., Zoller, E., & Pinson, N. (2016). Integrating Primary Care into Behavioral Health Settings: What Works for Individuals with Serious Mental Illness. 2015.

Giannitrapani, K. F., Glassman, P. A., Vang, D., McKelvey, J. C., Day, R. T., Dobscha, S. K., & Lorenz, K. A. (2018). Expanding the role of clinical pharmacists on interdisciplinary primary care teams for chronic pain and opioid management. *BMC family practice*, *19*(1), 107.

Grazier, K. L., Smiley, M. L., & Bondalapati, K. S. (2016). Overcoming barriers to integrating behavioral health and primary care services. *Journal of primary care & community health*, *7*(4), 242-248.

Goldman, M. L., Spaeth-Rublee, B., Nowels, A. D., Ramanuj, P. P., & Pincus, H. A. (2016). Quality measures at the interface of behavioral health and primary care. *Current psychiatry reports*, *18*(4), 39.

Goodman, D. (2015). Improving access to maternity care for women with opioid use disorders: colocation of midwifery services at an addiction treatment program. *Journal of midwifery & women's health*, *60*(6), 706-712.

Guerrero, E. G., He, A., Kim, A., & Aarons, G. A. (2014). Organizational implementation of evidence-based substance abuse treatment in racial and ethnic minority communities. *Administration and Policy in Mental Health and Mental Health Services Research*, *41*(6), 737-749.

Hall, J., Cohen, D. J., Davis, M., Gunn, R., Blount, A., Pollack, D. A., ... & Miller, B. F. (2015). Preparing the workforce for behavioral health and primary care integration. *J Am Board Fam Med*, *28*(Supplement 1), S41-S51.

Han, B., Compton, W. M., Blanco, C., & Colpe, L. J. (2017). Prevalence, treatment, and unmet treatment needs of US adults with mental health and substance use disorders. *Health affairs*, *36*(10), 1739-1747.

Hodgkin, D., Horgan, C. M., Quinn, A. E., Merrick, E. L., Stewart, M. T., & Leslie, L. K. (2014). Management of Newer Medications for Attention-Deficit/Hyperactivity Disorder in Commercial Health Plans. *Clinical therapeutics*, *36*(12), 2034-2046.

Hodgkin, D., Horgan, C. M., Stewart, M. T., Quinn, A. E., Creedon, T. B., Reif, S., & Garnick, D. W. (2018). Federal parity and access to behavioral health care in private health plans. *Psychiatric Services*, *69*(4), 396-402.

Horgan, C. M., Stewart, M. T., Reif, S., Garnick, D. W., Hodgkin, D., Merrick, E. L., & Quinn, A. E. (2016). Behavioral health services in the changing landscape of private health plans. *Psychiatric Services*, *67*(6), 622-629.

Howe, G., Hamblin, A., & Moran, L. (2017). Financing Project ECHO: Options for State Medicaid Programs.

Hunt, J. B., Curran, G., Kramer, T., Mouden, S., Ward-Jones, S., Owen, R., & Fortney, J. (2012). Partnership for implementation of evidence-based mental health practices in rural federally qualified health centers: theory and methods. *Progress in community health partnerships: research, education, and action*, *6*(3), 389.

Ilangasekare, S. L., Burke, J. G., Chander, G., & Gielen, A. C. (2014). Depression and social support among women living with the substance abuse, violence, and HIV/AIDS syndemic: a qualitative exploration. *Women's health issues*, *24*(5), 551-557.

Jolly, J. B., Fluet, N. R., Reis, M. D., Stern, C. H., Thompson, A. W., & Jolly, G. A. (2016, April). Review of behavioral health integration in primary care at Baylor Scott and White Healthcare, Central Region. In *Baylor University Medical Center Proceedings* (Vol. 29, No. 2, pp. 131-136). Taylor & Francis.

Katon, W., Russo, J., Lin, E. H., Schmittdiel, J., Ciechanowski, P., Ludman, E., ... & Von Korff, M. (2012). Cost-effectiveness of a multicondition collaborative care intervention: a randomized controlled trial. *Archives of general psychiatry*, *69*(5), 506-514.

Kessler, R., Miller, B. F., Kelly, M., Graham, D., Kennedy, A., Littenberg, B., ... & Morton, S. (2014). Mental health, substance abuse, and health behavior services in patient-centered medical homes. *J Am Board Fam Med*, *27*(5), 637-644.

Khusid, M. A., & Vythilingam, M. (2016). The emerging role of mindfulness meditation as effective self-management strategy, part 1: clinical implications for depression, post-traumatic stress disorder, and anxiety. *Military medicine*, *181*(9), 961-968.

Komaromy, M., Duhigg, D., Metcalf, A., Carlson, C., Kalishman, S., Hayes, L., ... & Arora, S. (2016). Project ECHO (Extension for Community Healthcare Outcomes): A new model for educating primary care providers about treatment of substance use disorders. *Substance abuse*, *37*(1), 20-24.

Krupski, A., West, I. I., Scharf, D. M., Hopfenbeck, J., Andrus, G., Joesch, J. M., & Snowden, M. (2016). Integrating primary care into community mental health centers: impact on utilization and costs of health care. *Psychiatric Services*, *67*(11), 1233-1239.

Lewis, V. A., Colla, C. H., Tierney, K., Van Citters, A. D., Fisher, E. S., & Meara, E. (2014). Few ACOs pursue innovative models that integrate care for mental illness and substance abuse with primary care. *Health Affairs*, *33*(10), 1808-1816.

Lord, S., Moore, S. K., Ramsey, A., Dinauer, S., & Johnson, K. (2016). Implementation of a substance use recovery support mobile phone app in community settings: qualitative study of clinician and staff perspectives of facilitators and barriers. *JMIR mental health*, *3*(2), e24.

Maglione, M. A., Raaen, L., Chen, C., Azhar, G., Shahidinia, N., Shen, M., ... & Hempel, S. (2018). Effects of medication assisted treatment (MAT) for opioid use disorder on functional outcomes: A systematic review. *Journal of substance abuse treatment*, *89*, 28-51.

Manuel, J. I., Yuan, Y., Herman, D. B., Svikis, D. S., Nichols, O., Palmer, E., & Deren, S. (2017). Barriers and facilitators to successful transition from long-term residential substance abuse treatment. *Journal of substance abuse treatment*, *74*, 16-22.

Markon, M. P., Chiocchio, F., & Fleury, M. J. (2017). Modelling the effect of perceived interdependence among mental healthcare professionals on their work role performance. *Journal of interprofessional care*, *31*(4), 520-528.

Mattson, M.E., and Lynch, S. *The CBHSQ Report: Medication Prescribing and Behavioral Treatment for Substance Use Disorders in Physician Office Settings*. Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. Rockville, MD.

Melek, S. P., Norris, D. T., Paulus, J., Matthews, K., Weaver, A., & Davenport, S. (2018). *Potential economic impact of integrated medical-behavioral healthcare: Updated projections for 2017*. Milliman Research Report.

Melek, S. P., Perlman, D., & Davenport, S. (2017). Addiction and mental health vs. physical health: Analyzing disparities in network use and provider reimbursement rates. *Seattle, Milliman*.

Mitchell, S. G., Gryczynski, J., Gonzales, A., Moseley, A., Peterson, T., O'Grady, K. E., & Schwartz, R. P. (2012). Screening, brief intervention, and referral to treatment (SBIRT) for substance use in a school-based program: services and outcomes. *The American journal on addictions*, *21*, S5-S13.

Mohlman, M. K., Tanzman, B., Finison, K., Pinette, M., & Jones, C. (2016). Impact of medication-assisted treatment for opioid addiction on Medicaid expenditures and health services utilization rates in Vermont. *Journal of substance abuse treatment*, *67*, 9-14.

Morasco, B. J., Duckart, J. P., & Dobscha, S. K. (2011). Adherence to clinical guidelines for opioid therapy for chronic pain in patients with substance use disorder. *Journal of general internal medicine*, *26*(9), 965.

Murphy, S. M., Campbell, A. N., Ghitza, U. E., Kyle, T. L., Bailey, G. L., Nunes, E. V., & Polsky, D. (2016). Cost-effectiveness of an internet-delivered treatment for substance abuse: Data from a multisite randomized controlled trial. *Drug and alcohol dependence*, *161*, 119-126.

National Council for Behavioral Health. (2017). National Council Medical Director Institute. The psychiatric shortage: causes and solutions. https://www.thenationalcouncil.org

Nelson, E. L., & Sharp, S. (2016). A review of pediatric telemental health. *Pediatric Clinics*, *63*(5), 913-931.

Odom, S., & Willeumier, K. (2018). Attitudes and Perceptions of Behavioral Health Clinicians on Electronic Health Record Adoption: Overcoming Obstacles to Improve Acceptance and Utilization. *Perspectives in Health Information Management*.

Padwa, H., Teruya, C., Tran, E., Lovinger, K., Antonini, V. P., Overholt, C., & Urada, D. (2016). The implementation of integrated behavioral health protocols in primary care settings in Project Care. *Journal of substance abuse treatment*, *62*, 74-83.

Palabindala, V., Pamarthy, A., & Jonnalagadda, N. R. (2016). Adoption of electronic health records and barriers. *Journal of community hospital internal medicine perspectives*, *6*(5), 32643.

Palfrey, N., Reay, R. E., Aplin, V., Cubis, J. C., McAndrew, V., Riordan, D. M., & Raphael, B. (2018). Achieving service change through the implementation of a trauma-informed care training program within a mental health service. *Community mental health journal*, 1-9.

Peters. R. and Wengle, E. (2016). Coverage of Substance Use Disorder Treatments in Marketplace Plans in Six Cities. *Urban Institute.* Retrieved from https://www.urban.org

Priester, M. A., Browne, T., Iachini, A., Clone, S., DeHart, D., & Seay, K. D. (2016). Treatment access barriers and disparities among individuals with co-occurring mental health and substance use disorders: an integrative literature review. *Journal of substance abuse treatment*, *61*, 47-59.

Ramos, C., Clemans-Cope, L., Samuel-Jakubos, H. & Basurto, L. (2018). *Urban Institute.* Retrieved from https://www.urban.org

Ratzliff, A., Phillips, K. E., Sugarman, J. R., Unützer, J., & Wagner, E. H. (2017). Practical approaches for achieving integrated behavioral health care in primary care settings. *American Journal of Medical Quality*, *32*(2), 117-121.

Ray, B., Grommon, E., Buchanan, V., Brown, B., & Watson, D. P. (2017). Access to Recovery and recidivism among former prison inmates. *International journal of offender therapy and comparative criminology*, *61*(8), 874-893.

Reif, S., Creedon, T. B., Horgan, C. M., Stewart, M. T., & Garnick, D. W. (2017). Commercial health plan coverage of selected treatments for opioid use disorders from 2003 to 2014. *Journal of psychoactive drugs*, *49*(2), 102-110.

Reiss-Brennan, B., Brunisholz, K. D., Dredge, C., Briot, P., Grazier, K., Wilcox, A., ... & James, B. (2016). Association of integrated team-based care with health care quality, utilization, and cost. *Jama*, *316*(8), 826-834.

Richard, D. (2017). What Is Next for Behavioral Health in Managed Care?. *North Carolina medical journal*, *78*(1), 30-32.

Rieckmann, T., Moore, L., Croy, C., Aarons, G. A., & Novins, D. K. (2017). National overview of medication-assisted treatment for American Indians and Alaska Natives with substance use disorders. *Psychiatric Services*, *68*(11), 1136-1143.

Roberge, P., Marchand, A., Reinharz, D., Cloutier, K., Mainguy, N., Miller, J. M., ... & Turcotte, J. (2005). Healthcare utilization following cognitive-behavioral treatment for panic disorder with agoraphobia. *Cognitive behaviour therapy*, *34*(2), 79-88.

Ross, K. M., Gilchrist, E. C., Melek, S. P., Gordon, P. D., Ruland, S. L., & Miller, B. F. (2018). Cost savings associated with an alternative payment model for integrating behavioral health in primary care. *Translational Behavioral Medicine*, *9*(2), 274-281.

Ross, K. M., Klein, B., Ferro, K., McQueeney, D. A., Gernon, R., & Miller, B. F. (2018). The Cost Effectiveness of Embedding a Behavioral Health Clinician into an Existing Primary Care Practice to Facilitate the Integration of Care: A Prospective, Case–Control Program Evaluation. *Journal of clinical psychology in medical settings*, 1-9.

Saloner, B., Bandara, S., Bachhuber, M., & Barry, C. L. (2017). Insurance coverage and treatment use under the Affordable Care Act among adults with mental and substance use disorders. *Psychiatric services*, *68*(6), 542-548.

Scharf, D. M., Eberhart, N. K., Hackbarth, N. S., Horvitz-Lennon, M., Beckman, R., Han, B., ... & Burnam, M. A. (2014). Evaluation of the SAMHSA primary and behavioral health care integration (PBHCI) grant program. *Rand health quarterly*, *4*(3).

Schmidt, E. M., Krahn, D. D., McGuire, M. H., Tavakoli, S., Wright, D. M., Solares, H. E., ... & Trafton, J. (2017). Using organizational and clinical performance data to increase the value of mental health care. *Psychological services*, *14*(1), 13.

Smith, T. E., Stein, B. D., Donahue, S. A., Sorbero, M. J., Karpati, A., Marsik, T., ... & Essock, S. M. (2014). Reengagement of high-need individuals with serious mental illness after discontinuation of services. *Psychiatric Services*, *65*(11), 1378-1380.

Sterling, S., Chi, F., Weisner, C., Grant, R., Pruzansky, A., Bui, S., ... & Pearl, R. (2018). Association of behavioral health factors and social determinants of health with high and persistently high healthcare costs. *Preventive medicine reports*, *11*, 154-159.

Stewart, M. T., Horgan, C. M., Quinn, A. E., Garnick, D. W., Reif, S., Creedon, T. B., & Merrick, E. L. (2017). The Role of Health Plans in Supporting Behavioral Health Integration. *Administration and Policy in Mental Health and Mental Health Services Research*, *44*(6), 967-977.

Stewart, R. E., Marcus, S. C., Hadley, T. R., Hepburn, B. M., & Mandell, D. S. (2018). State Adoption of Incentives to Promote Evidence-Based Practices in Behavioral Health Systems. *Psychiatric Services*, *69*(6), 685-688.

Substance Abuse and Mental Health Services Administration. (2013). Center for Integrated Health Solutions. A Standard Framework for Levels of Integrated Healthcare. Retrieved from https://www.integration.samhsa.gov

Substance Abuse and Mental Health Services Administration. (2016). Rural Behavioral Health: Telehealth Challenges and Opportunities. Retrieved from https://store.samhsa.gov/system/files/sma16-4989.pdf

Tehrani, A. B., Henke, R. M., Ali, M. M., Mutter, R., & Mark, T. L. (2018). Trends in average days' supply of opioid medications in Medicaid and commercial insurance. *Addictive behaviors*, *76*, 218-222.

Thomas, K. C., Ellis, A. R., Konrad, T. R., Holzer, C. E., & Morrissey, J. P. (2009). County-level estimates of mental health professional shortage in the United States. *Psychiatric Services*, *60*(10), 1323-1328.

Tierney, K. I., Saunders, A. L., & Lewis, V. A. Creating connections: an early look at the integration of behavioral health and primary care in accountable care organizations. 2014.

Totten, A. M., Womack, D. M., Eden, K. B., McDonagh, M. S., Griffin, J. C., Grusing, S., & Hersh, W. R. (2016). Telehealth: mapping the evidence for patient outcomes from systematic reviews.

Tyler, E. T., Hulkower, R. L., & Kaminski, J. W. (2017). Behavioral health integration in pediatric primary care: Considerations and opportunities for policymakers, planners, and providers. *New York: Milbank Memorial Fund*.

Unützer, J., Katon, W. J., Fan, M. Y., Schoenbaum, M. C., Lin, E. H., Della Penna, R. D., & Powers, D. (2008). Long-term cost effects of collaborative care for late-life depression. *The American journal of managed care*, *14*(2), 95.

van den Berk-Clark, C., & Patterson Silver Wolf, D. (2017). Mental health help seeking among traumatized individuals: A systematic review of studies assessing the role of substance use and abuse. *Trauma, Violence, & Abuse*, *18*(1), 106-116.

Watkins, K. E., Ober, A. J., Lamp, K., Lind, M., Setodji, C., Osilla, K. C., ... & Diamant, A. (2017). Collaborative care for opioid and alcohol use disorders in primary care: the SUMMIT randomized clinical trial. *JAMA internal medicine*, *177*(10), 1480-1488.

Weilburg, J. B., Wong, H. J., Sistrom, C. L., Benzer, T. I., Taylor, J. B., Rockett, H., ... & Herman, J. B. (2018). Behavioral Health Factors as Predictors of Emergency Department Use in the High-Risk, High-Cost Medicare Population. *Psychiatric Services*, *69*(12), 1230-1237.

Wittchen, H. U., Kessler, R. C., Beesdo, K., Krause, P., Höfler, M., & Hoyer, J. (2002). Generalized anxiety and depression in primary care: prevalence, recognition, and management. *The Journal of clinical psychiatry*.

Zivin, K., Miller, B. F., Finke, B., Bitton, A., Payne, P., Stowe, E. C., ... & Sessums, L. L. (2017). Behavioral Health and the Comprehensive Primary Care (CPC) Initiative: findings from the 2014 CPC behavioral health survey. *BMC health services research*, *17*(1), 612.

Complex Care

Anthem. (2018). CalPERS PPO Members. *OnHealth pamphlet.* Retrieved from https://www11.anthem.com

Burton, R. (2012). Improving care transitions. *RWJ Health Policy Brief*.

Capp, R., Misky, G. J., Lindrooth, R. C., Honigman, B., Logan, H., Hardy, R., ... & Wiler, J. L. (2017). Coordination program reduced acute care use and increased primary care visits among frequent emergency care users. *Health Affairs*, *36*(10), 1705-1711.

Coleman, E. A., Parry, C., Chalmers, S., & Min, S. J. (2006). The care transitions intervention: results of a randomized controlled trial. *Archives of internal medicine*, *166*(17), 1822-1828.

Dreyer, T. (2014). Care transitions: best practices and evidence-based programs. *Home Healthcare Now*, *32*(5), 309-316.

Hayes, S. L., Salzberg, C. A., McCarthy, D., Radley, D. C., Abrams, M. K., Shah, T., & Anderson, G. F. (2016). High-need, high-cost patients: who are they and how do they use health care. *A population-based comparison of demographics, health care use, and expenditures Issue Brief (Commonw Fund)*, *26*, 1-14.

Health Care Transformation. (2016). Task Force. Developing Care Management Programs to Serve High-Need, High-Cost Populations. Retrieved from https://hcttf.org

Health Care Transformation Task Force. (2015). Proactively Identifying the High Cost Population. https://hcttf.org

Hong, C. S., Siegel, A. L., & Ferris, T. G. (2014). Caring for high-need, high-cost patients: what makes for a successful care management program. *Issue Brief (Commonw Fund)*, *19*(1), 1-19.

Humowiecki, M., Kuruna, T., Sax, R., Hawthorne, M., Hamblin, A., Turner, S., ... & Cullen, K. (2018). Blueprint for complex care: Advancing the field of care for individuals with complex health and social needs. *National Center for Complex Health and Social Needs, Center Health Care Strategies, and Institute for Healthcare Improvement*.

Jean-Baptiste, D., O'Malley, A., & Shah, T. (2017). *Population Segmentation and Targeting of Health Care Resources: Findings from a Literature Review* (No. 909d9f2a5fc14f3fad63fa9d70deb7b2). Mathematica Policy Research.

Kangovi, S., Mitra, N., Norton, L., Harte, R., Zhao, X., Carter, T., ... & Long, J. A. (2018). Effect of community health worker support on clinical outcomes of low-income patients across primary care facilities: a randomized clinical trial. *JAMA internal medicine*, *178*(12), 1635-1643.

Konrad, W. (2010, July 23). For Chronic Care, Try Turning to Your Employer. *The New York Times*. Retrieved from http://www.nytimes.com

Long, P., M. Abrams, A. Milstein, G. Anderson, K. Lewis Apton, M. Lund Dahlberg, and D. Whicher, Editors. (2017). *Effective Care for High-Need Patients: Opportunities for Improving Outcomes, Value, and Health*. Washington, DC: National Academy of Medicine.

Lorig, K. R., Sobel, D. S., Stewart, A. L., Brown Jr, B. W., Bandura, A., Ritter, P., ... & Holman, H. R. (1999). Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: a randomized trial. *Medical care*, 5-14.

McCall, N., Cromwell, J., & Urato, C. (2010). Evaluation of Medicare Care Management for High Cost Beneficiaries (CMHCB) Demonstration: Massachusetts General Hospital and Massachusetts General Physicians Organization (MGH). *Research Triangle Park, NC: RTI International*.

Michigan Department of Health and Human Services. (2018). Healthy Michigan Demonstration Section 1115 Quarterly Report (March 15, 2018). Retrieved from https://www.medicaid.gov

Milstein, A. and Kothari P.P. (2009). Are Higher-Value Care Models Replicable? *Health Affairs Blog*. Retrieved from https://www.healthaffairs.org

Moore, R. (2018). A Different Goal for Employers to Offer Wellness Programs. *Plan Sponsor.* Retrieved from https://www.plansponsor.com

National Quality Forum. (n.d.). NQF #0648: Timely Transmission of Transition Record (Discharges from an Inpatient Facility to Home/Self Care or Any Other Site of Care). Retrieved from http://www.qualityforum.org

National Quality Forum. (2018). Improving Attribution Models, Final Report August 31, 2018. Retrieved from https://www.qualityforum.org

Nelson, A. (2002). Unequal treatment: confronting racial and ethnic disparities in health care. *Journal of the National Medical Association*, *94*(8), 666.

North Carolina Department of Health and Human Services. (2018). Using Standardized Social Determinants of Health Screening Questions to Identify and Assist Patients with Unmet Health-related Resource Needs in North Carolina. Retrieved from https://files.nc.gov

Okunogbe, A., Meredith, L. S., Chang, E. T., Simon, A., Stockdale, S. E., & Rubenstein, L. V. (2018). Care coordination and provider stress in primary care management of high-risk patients. *Journal of general internal medicine*, *33*(1), 65-71.

O'Malley, A. S., Rich, E. C., Sarwar, R., Schultz, E., Warren, W. C., Shah, T., & Abrams, M. K. (2019). How Accountable Care Organizations Use Population Segmentation to Care for High-Need, High-Cost Patients. *Issue brief (Commonwealth Fund)*, *2019*, 1-17.

O'Malley, A. S., Sarwar, R., Keith, R., Balke, P., Ma, S., & McCall, N. (2017). Provider experiences with chronic care management (CCM) services and fees: a qualitative research study. *Journal of general internal medicine*, *32*(12), 1294-1300.

Philip, S. and Miller, S. (2013). Complex Puzzle: How Payers are Managing Complex and Chronic Care. California HealthCare Foundation. Retrieved from https://www.chcf.org

Raven, M. C., Kushel, M., Ko, M. J., Penko, J., & Bindman, A. B. (2016). The effectiveness of emergency department visit reduction programs: a systematic review. *Annals of emergency medicine*, *68*(4), 467-483.

The SCAN Foundation. (n.d.). University of California, Los Angeles: Community Based Care Transitions Program. Retrieved from https://www.thescanfoundation.org

Shah, T., Lewis, C., Tsega, M., and Abrams, M. (2019). Quick Reference Guide to Promising Care Models for Patients with Complex Needs. *Commonwealth Fund*. Retrieved from https://www.pcpcc.org

Schurrer, J., O'Malley, A., Wilson, C., McCall, N., & Jain, N. (2017). *Evaluation of the Diffusion and Impact of the Chronic Care Management (CCM) Services* (No. c219754a6edb4f7193fe92b9e2ba94d7). Mathematica Policy Research.

Sebelius, K. (2011). U.S. Department of Health and Human Services. Report to Congress Approaches for Identifying, Collecting, and Evaluating Data on Health Care Disparities in Medicaid and CHIP. Retrieved from https://www.medicaid.gov

New Mexico Human Services Department. Centennial Care, Medicaid Managed Care Services Agreement, RFP Amendment 2, 2017. Retrieved from http://www.hsd.state.nm.us

Stremikis, K., Connors, C., & Hoo, E. (2017). Intensive outpatient care program: A care model for the medically complex piloted by employers. *Commonwealth Fund*.

Networks Based on Value

Academy Health. (2015). Health Plan Features: Implications of Narrow Networks and the Trade-Off between Price and Choice. Retrieved from https://www.academyhealth.org

Adler, L., Fiedler, M., Ginsburg, P. B., Hall, M., Trish, E., Young, C. L., & Duffy, E. L. (2019). State Approaches to Mitigating Surprise Out-of-Network Billing. *USC-Brookings Schaeffer Initiative for Health Policy*.

American Academy of Actuaries. (2018). Estimating the Potential Health Care Savings of Reference Pricing. Retrieved from https://www.actuary.org

Avalere Health LLC. (2015). Network Design: Trends in Tiered and Narrow Insurance Networks. Retrieved from https://avalere.com/

Berenson, R.A., Upadhyay, D., Delbanco, S.F., & Murray, R. (2016). Payment Methods and Benefit Designs. How They Work and How They Work Together to Improve Health Care. *Urban Institute*. Retrieved from https://www.urban.org

Brennan, T. A., Spettell, C. M., Fernandes, J., Downey, R. L., & Carrara, L. M. (2008). Do managed care plans' tiered networks lead to inequities in care for minority patients? *Health Affairs*, *27*(4), 1160-1166.

Caballero, A.E., Murray, R. & Delbanco, S.F. (2018). Are Limited Networks What We Hope And Think They Are? *Health Affairs Blog.* Retrieved from https://www.healthaffairs.org

Catalyst for Payment Reform. (n.d.) Case study: Centers of Excellence for Spine Surgery at Walmart Stores Inc.

Chernew, M. (2015). The Impact of a Tiered Network on Hospital Choice. *The Commonwealth Fund.* Retrieved from https://www.commonwealthfund.org

Colvin, J. D., Hall, M., Thurm, C., Bettenhausen, J. L., Gottlieb, L., Shah, S. S., ... & Chung, P. J. (2018). Hypothetical Network Adequacy Schemes For Children Fail To Ensure Patients' Access To In-Network Children's Hospital. *Health Affairs*, *37*(6), 873-880.

Corlette, S. (2014). Implementation of the Affordable Care Act: cross-cutting issues: six-state case study on network adequacy.

Dafny, L. S., Hendel, I., Marone, V., & Ody, C. (2017). Narrow networks on the health insurance marketplaces: prevalence, pricing, and the cost of network breadth. *Health Affairs*, *36*(9), 1606-1614.

Dzau, V. J., Cho, A., ElLaissi, W., Yoediono, Z., Sangvai, D., Shah, B., ... & Udayakumar, K. (2013). Transforming academic health centers for an uncertain future. *New England Journal of Medicine*, *369*(11), 991-993.

Families USA. (2014). How to Make Reference Pricing Work for Consumers. Retrieved from https://familiesusa.org

Findlay, S. (2018). In Search Of Insurance Savings, Consumers Can Get Unwittingly Wedged Into Narrow-Network Plans. *Kaiser Family Foundation*. Retrieved from https://khn.org

Fronstin, P., & Roebuck, M. C. (2014). Reference pricing for health care services: a new twist on the defined contribution concept in employment-based health benefits. *EBRI Issue Brief*, (398).

Gruber, J., & McKnight, R. (2016). Controlling health care costs through limited network insurance plans: Evidence from Massachusetts state employees. *American Economic Journal: Economic Policy*, *8*(2), 219-50.

Haeder, S. F., Weimer, D. L., & Mukamel, D. B. (2015). California hospital networks are narrower in Marketplace than in commercial plans, but access and quality are similar. *Health Affairs*, *34*(5), 741-748.

Haeder, S. F., Weimer, D. L., & Mukamel, D. B. (2016). Secret shoppers find access to providers and network accuracy lacking for those in marketplace and commercial plans. *Health Affairs*, *35*(7), 1160-1166.

Herman, B. (2015). Network squeeze. Controversies continue over narrow health plans. *Modern healthcare*, *45*(13), 14.

Ho, K., & Lee, R. S. (2019). Equilibrium provider networks: Bargaining and exclusion in health care markets. *American Economic Review*, *109*(2), 473-522.

Hoadley, J. (2015). Maintaining access to medications when plans implement tiered pharmacy networks. *JAMA internal medicine*, *175*(11), 1853-1854.

Livingston, S., (2019, March 2). Montana's experiment in reference-based pricing has saved $13.6M so far. Modern Healthcare. Retrieved from https://www.modernhealthcare.com

Liu, H., Mattke, S., & AB Predmore, Z. S. (2015). Association Between Narrow Pharmacy Networks and Medication Adherence.

Mehrotra, A., Sloss, E. M., Hussey, P. S., Adams, J. L., Lovejoy, S., & SooHoo, N. F. (2013). Evaluation of a center of excellence program for spine surgery. *Medical care*, *51*(8), 748.

New York State Health Foundation. (2019). Issue Brief: New York's Efforts to Reform Surprise Medical Billing. Retrieved from https://nyshealthfoundation.org

Nicholas, L. H., & Dimick, J. B. (2013). Bariatric surgery in minority patients before and after implementation of a centers of excellence program. *Jama*, *310*(13), 1399-1400.

Ndumele, C. D., Staiger, B., Ross, J. S., & Schlesinger, M. J. (2018). Network Optimization And The Continuity Of Physicians In Medicaid Managed Care. *Health Affairs*, *37*(6), 929-935.

O'Connor, J. and Spector, J. (2014). High-Value Healthcare Networks. Milliman Report for AHIP. Retrieved from https://www.ahip.org

Pham, H., & Ginsburg, P. B. (2018). Payment and Delivery-System Reform—The Next Phase. *New England Journal of Medicine*, *379*(17), 1594-1596.

Polinski, J. M., Matlin, O. S., Sullivan, C., Gagnon, M., Brennan, T. A., & Shrank, W. H. (2015). Association between narrow pharmacy networks and medication adherence. *JAMA internal medicine*, *175*(11), 1850-1853.

Robinson, J. C., Brown, T., & Whaley, C. (2015). Reference-based benefit design changes consumers' choices and employers' payments for ambulatory surgery. *Health Affairs*, *34*(3), 415-422.

Robinson, J. C., Brown, T. T., & Whaley, C. (2017). Reference Pricing Changes The 'Choice Architecture'Of Health Care For Consumers. *Health Affairs*, *36*(3), 524-530.

Robinson, J. C., & MacPherson, K. (2012). Payers test reference pricing and centers of excellence to steer patients to low-price and high-quality providers. *Health Affairs*, *31*(9), 2028-2036.

Sen, A. P., Chen, L. M., Cox, D. F., & Epstein, A. M. (2017). Most Marketplace Plans Included At Least 25 Percent Of Local-Area Physicians, But Enrollment Disparities Remained. *Health Affairs*, *36*(9), 1615-1623.

Sinaiko, A. D., Landrum, M. B., & Chernew, M. E. (2017). Enrollment in a health plan with a tiered provider network decreased medical spending by 5 percent. *Health Affairs*, *36*(5), 870-875.

Slotkin, J. R., Ross, O. A., Coleman, M. R., & Ryu, J. (2017). Why GE, Boeing, Lowe's, and Walmart are directly buying health care for employees. *Harvard Business Review*, 1-7.

Washington State Health Care Authority. Centers of Excellence via Uniform Medical Plan. Retrieved from https://www.hca.wa.gov

Yong PL, Olsen LA, McGinnis JM, editors. (2010). Value in Health Care: Accounting for Cost, Quality, Safety, Outcomes, and Innovation. Institute of Medicine (US) Roundtable on Value & Science-Driven Health Care. Approaches to Improving Value—Consumer Incentives. *National Academies Press.* https://www.ncbi.nlm.nih.gov/books/NBK50927/

Zhang, H., Cowling, D. W., & Facer, M. (2017). Comparing the effects of reference pricing and centers-of-excellence approaches to value-based benefit design. *Health Affairs*, *36*(12), 2094-2101.

Zhu, J. M., Zhang, Y., & Polsky, D. (2017). Networks in ACA marketplaces are narrower for mental health care than for primary care. *Health Affairs*, *36*(9), 1624-1631.

Promotion of Effective Primary Care

Bailit, M. H., Friedberg, M. W., & Houy, M. L. (2017). Standardizing the measurement of commercial health plan primary care spending. *New York: Milbank Memorial Fund, July*, *25*.

Bailit M.H., Meyers D., LeRoy L., Kanneganti D., Schaefer J., Wagner E., & Zhan C. (2018). New Models of Primary Care Workforce and Financing: Costs Associated with High Quality Comprehensive Primary Care. *Patient-Centered Primary Care Collaborative*. Retrieved from https://www.pcpcc.org

Baum, A., Song, Z., Landon, B. E., Phillips, R. S., Bitton, A., & Basu, S. (2019). Health Care Spending Slowed After Rhode Island Applied Affordability Standards To Commercial Insurers. *Health Affairs*, *38*(2), 237-245.

Bazemore, A., Petterson, S., Peterson, L. E., Bruno, R., Chung, Y., & Phillips, R. L. (2018). Higher primary care physician continuity is associated with lower costs and hospitalizations. *The Annals of Family Medicine*, *16*(6), 492-497.

Berenson, R. A., Burton, R. A., & McGrath, M. (2016, September). Do accountable care organizations (ACOs) help or hinder primary care physicians' ability to deliver high-quality care? In *Healthcare* (Vol. 4, No. 3, pp. 155-159). Elsevier.

Bodenheimer, T., Ghorob, A., Willard-Grace, R., & Grumbach, K. (2014). The 10 building blocks of high-performing primary care. *The Annals of Family Medicine*, *12*(2), 166-171.

Bresnick, J. (2015, September 23). Patient-Centered Medical Home Upkeep Costs $8000 per month. *Health IT Analytics*. Retrieved from https://healthitanalytics.com/

Bujold, E. (2015). When practice transformation impedes practice improvement. *The Annals of Family Medicine*, *13*(3), 273-275.

Catalyst for Payment Reform. (2018). Farzad Mostashari shares why PCPs are set up to succeed as ACOs. Podcast: Listen In (With Permission). Retrieved from https://www.catalyze.org.

Centers for Disease Control and Prevention. (2017). State Law Fact Sheet: A Summary of State Patient-Centered Medical Home Laws, In Effect May 2016. Retrieved from https://www.cdc.gov/dhdsp/pubs/docs/SLFS-PCHM-508.pdf

Cohen, M., Russo, A., Kennell, D., Irie, S., Derzon, J., Smith, K., ... & Kandilov, A. (2018). Systematic Review of CMMI Primary Care Initiatives Final Report. *Falls Church, VA: Kennell and Associates, Inc*.

Delaware General Assembly. (2019). Primary Collaborative Report 2019. Retrieved from https://www.pcpcc.org

Epperly, T., Bechtel, C., Sweeney, R., Greiner, A., Grumbach, K., Schilz, J., ... & O'Connor, M. (2019). The shared principles of primary care: a multistakeholder initiative to find a common voice. *Family medicine*, *51*(2), 179-184.

Friedberg, M. W., Hussey, P. S., & Schneider, E. C. (2010). Primary care: a critical review of the evidence on quality and costs of health care. *Health Affairs*, *29*(5), 766-772.

Friedberg, M. W., Martsolf, G., Tomoaia-Cotisel, A., Mendel, P., McBain, R. K., Raaen, L., ... & Hussey, P. S. (2018). *Practice Expenses Associated with Comprehensive Primary Care Capabilities*. RAND.

Gans, D. N. (2014). A Comparison of the National Patient-Centered Medical Home Accreditation and Recognition Programs.

Gelmon, S., Wallace, N., Sandberg, B., Petchel, S., & Bouranis, N. (2016). *Implementation of Oregon's PCPCH Program: Exemplary Practice and Program Findings*. Portland State University.

Gold, S. B., & Park, B. (2016). Effective payment for primary care. An annotated bibliography. *Draft Report distributed at Starfield Summit*.

Halpern, M. T., Smith, K. W., McCall, N., Liu, Y., & Wensky, S. G. (2017). *Measuring Medical Homeness Using the Medical Home Attributes Scale (MHAS)* (No. 79152e3ebcf84c489577e2019b3f32a3). Mathematica Policy Research.

Health Care Cost Institute. (2016). 2016 Health Care Cost and Utilization Report. Retrieved from https://www.healthcostinstitute.org

Higgins, T. C., Crosson, J., Peikes, D., McNellis, R., Genevro, J., & Meyers, D. (2015). Using health information technology to support quality improvement in primary care (No. aad2d999a1ec484b873fa85d57540fc1). Mathematica Policy Research.

Hutchison, B., LEVESQUE, J. F., Strumpf, E., & Coyle, N. (2011). Primary health care in Canada: systems in motion. *The Milbank Quarterly*, *89*(2), 256-288.

Hynes, D. (2018). Bringing Care to Patients: A Patient-Centered Medical Home for Kidney Disease. *Patient-Centered Outcomes Research Institute.* Retrieved from https://clinicaltrials.gov/ct2/show/NCT02270515

Jabbarpour, Y., DeMarchis, E., Bazemore, A., & Grundy, P. (2017). The Impact of Primary Care Practice Transformation on Cost, Quality, and Utilization. *Patient-Centered Primary Care Collaborative*. Retrieved from https://www.pcpcc.org

Jabbarpour, Y., Coffman, M., Habib, A., Chung, Y., Liaw, W., Gold, S., Jackson, H., Bazemore, A., & Marder, W.D. (2018). Advanced Primary Care: A Key Contributor to Successful ACOs. *Patient-Centered Primary Care Collaborative*. Retrieved from https://www.pcpcc.org

Koller C.F. (2017). Getting More Primary Care-Oriented: Measuring Primary Care Spending. *Milbank Memorial Fund*. Retrieved from https://www.milbank.org

Koller, C. F., & Khullar, D. (2017). Primary care spending rate—a lever for encouraging investment in primary care. *New England Journal of Medicine*, *377*(18), 1709-1711.

Laberge, M., Wodchis, W. P., Barnsley, J., & Laporte, A. (2017). Costs of health care across primary care models in Ontario. *BMC health services research*, *17*(1), 511.

Levine, D. M., Landon, B. E., & Linder, J. A. (2019). Quality and experience of outpatient care in the United States for adults with or without primary care. *JAMA internal medicine*, *179*(3), 363-372.

Magill, M. K., Ehrenberger, D., Scammon, D. L., Day, J., Allen, T., Reall, A. J., ... & Kim, J. (2015). The cost of sustaining a patient-centered medical home: experience from 2 states. *The Annals of Family Medicine*, *13*(5), 429-435.

Marsteller, J. A., Hsu, Y. J., Gill, C., Kiptanui, Z., Fakeye, O. A., Engineer, L. D., ... & Harris, I. (2018). Maryland multipayor patient-centered medical home program: a 4-year quasiexperimental evaluation of quality, utilization, patient satisfaction, and provider perceptions. *Medical care*, *56*(4), 308.

Martsolf, G. R., Kandrack, R., Gabbay, R. A., & Friedberg, M. W. (2016). Cost of transformation among primary care practices participating in a medical home pilot. *Journal of general internal medicine*, *31*(7), 723-731.

Milbank Memorial Foundation. (2015). Rocky Mountain Health Plans, Issue Brief, Ten lessons for the path forward: What fosters sustainable primary care transformation? What stands in the way? Retrieved from https://www.milbank.org.

Oregon Health Authority. (2016). Primary Care Spending in Oregon. Retrieved from https://www.oregon.gov

Oregon Primary Care Payment Reform Collaborative. (2016). Recommendations to the Oregon Health Policy Board. Retrieved from https://www.oregon.gov

Peikes, D., Dale, S., Ghosh, A., Taylor, E. F., Swankoski, K., O'Malley, A. S., ... & Sessums, L. L. (2018). The comprehensive primary care initiative: effects on spending, quality, patients, and physicians. *Health Affairs*, *37*(6), 890-899.

Peikes, D. N., Swankoski, K., Hoag, S. D., Duda, N., Coopersmith, J., Taylor, E. F., ... & Sessums, L. L. (2019). The effects of a primary care transformation initiative on primary care physician burnout and workplace experience. *Journal of general internal medicine*, *34*(1), 49-57.

Patient Centered Primary Care Collaborative. (2018). Consensus Recommendations on Increasing Primary Care Investment. Retrieved from https://www.pcpcc.org

Rhode Island Health Insurance Advisory Council. (2018). 2017 Annual Report. Retrieved from http://www.ohic.ri.gov

Shi, L. (2012). The impact of primary care: a focused review. *Scientifica*, *2012*.

Shonk, R.F & Sessums, L.L. (2018). The Comprehensive Primary Care Initiative: Another Side of the Story. Retrieved from https://www.healthaffairs.org

Shortell, S. M., Poon, B. Y., Ramsay, P. P., Rodriguez, H. P., Ivey, S. L., Huber, T., ... & Summerfelt, T. (2017). A multilevel analysis of patient engagement and patient-reported outcomes in primary care practices of accountable care organizations. *Journal of general internal medicine*, *32*(6), 640-647.

Sinaiko, A. D., Landrum, M. B., Meyers, D. J., Alidina, S., Maeng, D. D., Friedberg, M. W., ... & Peele, P. (2017). Synthesis of research on patient-centered medical homes brings systematic differences into relief. *Health Affairs*, *36*(3), 500-508.

Starfield, B., Shi, L., & Macinko, J. (2005). Contribution of primary care to health systems and health. *The milbank quarterly*, *83*(3), 457-502.

State of Rhode Island, Office of Health Insurance Commissioner. (2014). Primary Care Spending in Rhode Island – Commercial Health Insurer Compliance. Retrieved from http://www.ohic.ri.gov

Stewart, K. A., Zickafoose, J. S., Wu, B., Brown, R. S., & Ireys, H. T. (2014). *Association between NCQA Patient-Centered Medical Home Recognition for Primary Care Practices and Quality of Care for Children with Disabilities and Special Health Care Needs* (No. 0ba6ce2e27774094b3a5c15564bc03f3). Mathematica Policy Research.

Promotion of Integrated Delivery Systems and Accountable Care Organizations

Anderson, D., Villagra, V., Coman, E. N., Zlateva, I., Hutchinson, A., Villagra, J., & Olayiwola, J. N. (2018). A cost-effectiveness analysis of cardiology eConsults for Medicaid patients. *Am J Manag Care*, *24*(1), e9-16.

Anderson, D., Villagra, V. G., Coman, E., Ahmed, T., Porto, A., Jepeal, N., ... & Teevan, B. (2018). Reduced Cost Of Specialty Care Using Electronic Consultations For Medicaid Patients. *Health Affairs*, *37*(12), 2031-2036.

Anthem. (2015, June 1). Anthem ACOs Targeting Chronically-Ill PPO Population Improve Patient Health, Save $7.9 Million in 1 Year. Retrieved from https://www.anthem.com

Bleser, W., Muhlestein, D., Saunders, R., and McClellan, M. (2018). Half A Decade In, Medicare Accountable Care Organizations Are Generating Net Savings: Part 1. *Health Affairs Blog*. Retrieved from https://www.healthaffairs.org

Brown & Toland. (2014, September 19). Brown & Toland Physicians Helps Generate Savings, Improve Quality for Medicare's Pioneer Accountable Care Program. Retrieved from https://www.brownandtoland.com

Catalyst for Payment Reform. (n.d.) Accountable Care Program: Washington State Health Care Authority. Retrieved from https://www.catalyze.org

Cigna. (2015). Connecticut Medical Practices Collaborating with Cigna Are Having Success Improving Quality and Lowering Medical Costs. Retrieved from https://www.cigna.com

Blue Shield of California. (2015, December 8). Blue Shield of California's Accountable Care Organizations Achieve More Than $325 Million in Healthcare Cost Savings in First Five Years. Retrieved from https://news.blueshieldca.com

Businesswire. (2015, April 29). Brown & Toland Physicians Continues to Improve Quality and Lower Costs Through Cigna Collaborative Care Program. Retrieved from https://www.businesswire.com

Colla, C. H., Lewis, V. A., Kao, L. S., O'Malley, A. J., Chang, C. H., & Fisher, E. S. (2016). Association between Medicare accountable care organization implementation and spending among clinically vulnerable beneficiaries. *JAMA internal medicine*, *176*(8), 1167-1175.

Colorado Department of Health Care Policy and Financing. (2013). Legislative Request for Information #2 Accountable Care Collaborative. Retrieved from https://www.colorado.gov

Colorado Department of Health Care Policy and Financing. (2014). Creating a Culture of Change: Accountable Care Collaborative 2014 Annual Report. https://www.colorado.gov

Costich, J. F., Scutchfield, F. D., & Ingram, R. C. (2015). Population health, public health, and accountable care: emerging roles and relationships. *American journal of public health*, *105*(5), 846-850.

Crumley, D. and Pierre-Wright, M. (2018). Addressing Social Determinants of Health through Medicaid Accountable Care Organizations. Center for Health Care Strategies. Retrieved from https://www.chcs.org

Damore, J. and Hardaway, B. (2017). Ready, Risk, Reward: Building Successful Two-Sided Risk Models. Retrieved from https://www.premierinc.com

Dobson, A., Pal, S., Hartzman, A., Arzaluz, L., Rhodes, K., & DaVanzo, J.E. (2018). Estimates of Savings by Medicare Shared Savings Program ACOs: Program Financial Performance 2013-2015. *National Association of Accountable Care Organizations.* Retrieved from https://www.naacos.com

Drobac, K. and Gaus, C. (2014). Connected Care is Key to Accountable Care: The Case for Supporting Telehealth in ACOs. *American Journal of Accountable Care*. Retrieved from https://www.ajmc.com

Fullerton, C. A., Henke, R. M., Crable, E. L., Hohlbauch, A., & Cummings, N. (2016). The impact of Medicare ACOs on improving integration and coordination of physical and behavioral health care. *Health Affairs*, *35*(7), 1257-1265.

Gee, E. and Gurwitz E. (2018). Provider Consolidation Drives Up Health Care Costs. *Center for American Progress*. Retrieved from https://www.americanprogress.org

Glass, D., McClendon, S. and Stensland, J. (2018). Long-term issues confronting Medicare Accountable Care Organizations (ACOs). M*edPAC*. Retrieved from http://www.medpac.gov

Han, M. A., Clarke, R., Ettner, S. L., Steers, W. N., Leng, M., & Mangione, C. M. (2016). Predictors of out-of-ACO care in the medicare shared savings program. *Medical care*, *54*(7), 679.

Herbold, J., Larson, A., and Gusland. C. (2017). What predictive analytics can tell us about key drivers of MSSP results. *Milliman White Paper*. Retrieved from http://www.milliman.com

Hofler, R. A., & Ortiz, J. (2016). Costs of accountable care organization participation for primary care providers: early stage results. *BMC health services research*, *16*(1), 315.

Hsu, J., Price, M., Vogeli, C., Brand, R., Chernew, M. E., Chaguturu, S. K., ... & Ferris, T. G. (2017). Bending the spending curve by altering care delivery patterns: the role of care management within a pioneer ACO. *Health Affairs*, *36*(5), 876-884.

Independence Blue Cross Newsroom. (2014, July 14). Independence Blue Cross announces results of its accountable care organization (ACO) payment model. Retrieved from https://news.ibx.com/

Jabbarpour, Y., Coffman, M., Habib, A., Chung, Y., Liaw, W., Gold, S., Jackson, H., Bazemore, A., & Marder, W.D. (2018). Advanced Primary Care: A Key Contributor to Successful ACOs. *Patient-Centered Primary Care Collaborative*. Retrieved from https://www.pcpcc.org

Kroening-Roche, J., Hall, J. D., Cameron, D. C., Rowland, R., & Cohen, D. J. (2017). Integrating behavioral health under an ACO global budget: barriers and progress in Oregon. *The American journal of managed care*, *23*(9), e303-e309.

Lausch, L. and Shigekawa, E. (2014). Commercial ACO Products: Market Leaders and Trends. *Center for Healthcare Research & Transformation*. Retrieved from https://www.chrt.org

Leavitt Partners. (2015). Dental Care in ACOs: Insights from 5 Case Studies. Retrieved from https://leavittpartners.com

Leavitt Partners. (2016). Defining Behavioral Health Providers for ACO Partnerships. Retrieved from https://leavittpartners.com

Leavitt Partners and AMA. (2018). Preventing Chronic Disease in the Rising-Risk Population. Retrieved from https://leavittpartners.com/

Levinson, D., Nudelman, J., & Kellis, J. (2017). Medicare Shared Savings Program Accountable Care Organizations Have Shown Potential For Reducing Spending and Improving Quality. *Department of Health and Human Services Office of Inspector General*.

Lewis, V. A., Fraze, T., Fisher, E. S., Shortell, S. M., & Colla, C. H. (2017). ACOs serving high proportions of racial and ethnic minorities lag in quality performance. *Health affairs*, *36*(1), 57-66.

Mahajan, A., Skinner, L., Auerbach, D. I., Buerhaus, P. I., & Staiger, D. O. (2018). Association Between the Growth of Accountable Care Organizations and Physician Work Hours and Self-employment. *JAMA network open*, *1*(3), e180876-e180876.

Martin, L., Acosta, J., Ruder, T., Schonlau, M., and Fremont, A. (2011). Patient Incentives to Motivate Doctor Visits and Reduce Hypertension Disparities. *RAND Corporation*. Retrieved from https://www.rand.org

Maine Department of Health and Human Services. (2019). Accountable Communities Initiative. Retrieved from https://www.maine.gov/dhhs/oms/vbp/accountable.html

MarketWatch. (2015, August 31). Tenet's Detroit Medical Center Recognized for Top Performance Among Medicare Pioneer ACOs. Retrieved from https://www.marketwatch.com

Matulis, R., & Lloyd, J. (2018). The history, evolution, and future of Medicaid accountable care organizations. *Center for Health Care Strategies website. https://www. chcs. org/resource/historyevolution-future-medicaid-accountable-care-organizations/. Published February*.

McConnell, K. J., Renfro, S., Lindrooth, R. C., Cohen, D. J., Wallace, N. T., & Chernew, M. E. (2017). Oregon's Medicaid reform and transition to global budgets were associated with reductions in expenditures. *Health Affairs*, *36*(3), 451-459.

McConnell, K. J., Charlesworth, C. J., Meath, T. H., George, R. M., & Kim, H. (2018). Oregon's emphasis on equity shows signs of early success for black and American Indian Medicaid enrollees. *Health Affairs*, *37*(3), 386-393.

McGinnis, T., & Van Vleet, A. (2012). Core considerations for implementing Medicaid accountable care organizations. *Center for Health Care Strategies, Inc [Internet]*.

McWilliams, J. M. (2016). Changes in Medicare shared savings program savings from 2013 to 2014. *Jama*, *316*(16), 1711-1713.

McWilliams, J. M., Chernew, M. E., & Landon, B. E. (2017). Medicare ACO program savings not tied to preventable hospitalizations or concentrated among high-risk patients. *Health Affairs*, *36*(12), 2085-2093.

McWilliams, J. M., Hatfield, L. A., Landon, B. E., Hamed, P., & Chernew, M. E. (2018). Medicare spending after 3 years of the Medicare Shared Savings Program. *New England Journal of Medicine*, *379*(12), 1139-1149.

Medicare Payment Advisory Commission (MedPAC). (2018). Report to the Congress: Medicare and the Health Care Delivery System. Retrieved from http://medpac.gov

Minkoff, N. D., & Gordon, D. (2016). Treating Behavioral Health Disorders in an Accountable Care Organization. *The American Journal of Accountable Care. Retrieved from* https://www.ajmc.com

Montefiore Medical Center. (2014, September 16). Montefiore Medical Center Reports Continued Success as a Pioneer ACO, Remains Committed to Program. Patient-Centered Primary Care Collaborative. Retrieved from https://www.montefiore.org/

Muhlestein, D., Saunders, R., Richards, R., & McClellan, M. (2018). Recent progress in the value journey: growth of ACOs and value-based payment models in 2018. *Health Affairs Blog*.

Narayan, A. K., Harvey, S. C., & Durand, D. J. (2016). Impact of Medicare Shared Savings Program accountable care organizations at screening mammography: a retrospective cohort study. *Radiology*, *282*(2), 437-448.

National Association of State Mental Health Program Directors. (2016). Integrating Behavioral Health into Accountable Care Organizations: Challenges, Successes, and Failures at the Federal and State levels. Retrieved from https://www.nasmhpd.org

Neprash, H. T., Chernew, M. E., & McWilliams, J. M. (2017). Little evidence exists to support the expectation that providers would consolidate to enter new payment models. *Health Affairs*, *36*(2), 346-354.

NORC at the University of Chicago. (2018). Next Generation Accountable Care Organization (NGACO) Model Evaluation. First Annual Report. Retrieved from https://innovation.cms.gov/

O'Malley, A. S., Rich, E. C., Sarwar, R., Schultz, E., Warren, W. C., Shah, T., & Abrams, M. K. (2019). How Accountable Care Organizations Use Population Segmentation to Care for High-Need, High-Cost Patients. *Issue brief (Commonwealth Fund)*, *2019*, 1-17.

Peck, K. et. al. (2018, December 11). How ACOs Are Caring for People with Complex Needs. *Commonwealth Fund*. Retrieved from https://www.commonwealthfund.org/

Peiris, D., Phipps-Taylor, M. C., Stachowski, C. A., Kao, L. S., Shortell, S. M., Lewis, V. A., ... & Colla, C. H. (2016). ACOs holding commercial contracts are larger and more efficient than noncommercial ACOs. *Health Affairs*, *35*(10), 1849-1856.

Pham, H., & Ginsburg, P. B. (2018). Payment and Delivery-System Reform—The Next Phase. *New England Journal of Medicine*, *379*(17), 1594-1596.

Physician News Network. (2014, January 12). OC's Monarch HealthCare ACO Model Gets High Marks for First Year. Retrieved from http://www.physiciansnewsnetwork.com/

Rodin, D. I. A. N. A., & Silow-Carroll, S. (2013). Medicaid payment and delivery reform in Colorado: ACOs at the regional level. *The Commonwealth Fund*, *11*, 1-16.

Sandberg, S. F., Erikson, C., Owen, R., Vickery, K. D., Shimotsu, S. T., Linzer, M., ... & DeCubellis, J. (2014). Hennepin Health: a safety-net accountable care organization for the expanded Medicaid population. *Health Affairs*, *33*(11), 1975-1984.

Saunders, R., Muhlestein, D., & McClellan, M. (2017). Medicare accountable care organization results for 2016: seeing improvement, transformation takes time. *Health Affairs blog. https://www. healthaffairs. org/do/10.1377/hblog20171120*, *211043*.

Shah, S. J., Schwamm, L. H., Cohen, A. B., Simoni, M. R., Estrada, J., Matiello, M., ... & Rao, S. K. (2018). Virtual Visits Partially Replaced In-Person Visits In An ACO-Based Medical Specialty Practice. *Health Affairs*, *37*(12), 2045-2051.

Shortell, S. M., Ramsay, P. P., Baker, L. C., Pesko, M. F., & Casalino, L. P. (2018). The characteristics of physician practices joining the early ACOs: looking back to look forward. *The American journal of managed care*, *24*(10), 469-474.

Shortell, S. M., Poon, B. Y., Ramsay, P. P., Rodriguez, H. P., Ivey, S. L., Huber, T., ... & Summerfelt, T. (2017). A multilevel analysis of patient engagement and patient-reported outcomes in primary care practices of accountable care organizations. *Journal of general internal medicine*, *32*(6), 640-647.

Song, Z., Rose, S., Chernew, M. E., & Safran, D. G. (2017). Lower-versus higher-income populations in the alternative quality contract: improved quality and similar spending. *Health Affairs*, *36*(1), 74-82.

Song, Z., Rose, S., Safran, D. G., Landon, B. E., Day, M. P., & Chernew, M. E. (2014). Changes in health care spending and quality 4 years into global payment. *New England Journal of Medicine*, *371*(18), 1704-1714.

Stuart, E. A., Barry, C. L., Donohue, J. M., Greenfield, S. F., Duckworth, K., Song, Z., ... & Huskamp, H. A. (2017). Effects of accountable care and payment reform on substance use disorder treatment: evidence from the initial 3 years of the alternative quality contract. *Addiction*, *112*(1), 124-133.

Thompson, F. J., Cantor, J. C., & Houston, R. (2018). Control Versus Administrative Discretion in Negotiating Voluntary P4P Networks: The Case of Medicaid Accountable Care Organizations. *Administration & Society*, 0095399718775320.

UnitedHealthcare Inc. (2015). UnitedHealthcare Case Study: Results from Monarch HealthCare's Accountable Care Organization. Retrieved from https://www.uhc.com/

UnitedHealthcare Inc. (2015). UnitedHealthcare Case Study: Results from WESTMED's Accountable Care Organization. Retrieved from https://www.uhc.com

U.S. Department of Health and Human Services. (2016). Office of the Assistant Secretary for Planning and Evaluation. Social Risk Factors and Performance Under Medicare's Value-Based Purchasing Programs: A Report Required by the Improving Medicare Post-Acute Care Transformation (IMPACT) Act of 2014. Retrieved from https://aspe.hhs.gov/

Vermont Health Care Innovation Project. (2016). Vermont's Year 2 Medicaid and Commercial ACO Shared Savings Program Results. Retrieved from https://healthcareinnovation.vermont.gov

Wicklund, E. (2018, August 10). CMS Overhaul of ACO Rules Includes a Nod to Telehealth's Value. Retrieved from https://mhealthintelligence.com/news

Winblad, U., Mor, V., McHugh, J. P., & Rahman, M. (2017). ACO-affiliated hospitals reduced rehospitalizations from skilled nursing facilities faster than other hospitals. *Health Affairs*, *36*(1), 67-73.

Ylada Jabbarpour et al. (2018, August), Advanced Primary Care: A Key Contributor to Successful ACOs. Patient-Centered Primary Care Collaborative and the Robert Graham Center.

Consumer and Patient Engagement

Agency for Healthcare Research and Quality. (2018). Building the Science of Public Reporting. Retrieved from https://www.ahrq.gov

Bell, S. K., Folcarelli, P., Fossa, A., Gerard, M., Harper, M., Leveille, S., ... & Bourgeois, F. (2018). Tackling Ambulatory Safety Risks Through Patient Engagement: What 10,000 Patients and Families Say About Safety-Related Knowledge, Behaviors, and Attitudes After Reading Visit Notes. *Journal of patient safety*.

Castellucci, M and Livingston, S. (2017). Achieving transparency in healthcare. *Modern Healthcare*. Retrieved from https://www.modernhealthcare.com

Catalyst for Payment Reform. (2016). Analysis of price transparency tools in Pennsylvania (2016). Retrieved from https://www.catalyze.org/

Catalyst for Payment Reform. Reviewed data from Sept 2018 health plan user group meetings on transparency tools.

Catalyst for Payment Reform. (2018). Scorecard on Payment Reform 2.0- Results from Colorado, New Jersey, and Virginia Pilots. Retrieved from https://www.catalyze.org

Delbanco, S., & Delbanco, T. (2018). Technology and transparency: empowering patients and clinicians to improve health care value. *Annals of internal medicine*, *168*(8), 585-586.

Desai, S., Hatfield, L. A., Hicks, A. L., Sinaiko, A. D., Chernew, M. E., Cowling, D., ... & Mehrotra, A. (2017). Offering a price transparency tool did not reduce overall spending among California public employees and retirees. *Health affairs*, *36*(8), 1401-1407.

Gerard, M., Chimowitz, H., Fossa, A., Bourgeois, F., Fernandez, L., & Bell, S. K. (2018). The Importance of Visit Notes on Patient Portals for Engaging Less Educated or Nonwhite Patients: Survey Study. *Journal of medical Internet research*, *20*(5), e191.

Gourevitch, R. A., Desai, S., Hicks, A. L., Hatfield, L. A., Chernew, M. E., & Mehrotra, A. (2017). Who Uses a Price Transparency Tool? Implications for Increasing Consumer Engagement. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, *54*, 0046958017709104.

Higgins, A., Brainard, N., & Veselovskiy, G. (2016). Characterizing health plan price estimator tools: findings from a national survey. *Am J Manag Care*, *22*(2), 126-131.

Mafi, J. N., Gerard, M., Chimowitz, H., Anselmo, M., Delbanco, T., & Walker, J. (2018). Patients contributing to their doctors' notes: insights from expert interviews. *Annals of internal medicine*, *168*(4), 302-305.

Mehrotra, A., Dean, K. M., Sinaiko, A. D., & Sood, N. (2017). Americans support price shopping for health care, but few actually seek out price information. *Health Affairs*, *36*(8), 1392-1400.

Mehrotra, A., Chernew, M. E., & Sinaiko, A. D. (2018). Promise and reality of price transparency.

Metcalf, N. (2016). Getting Health Insurance Help in New York. Consumer Reports' new ratings offer an easier way to navigate the maze. *Consumer Reports.* Retrieved from https://www.consumerreports.org

Pronovost, et al. (2016). Fostering Transparency in Outcomes, Quality, Safety, and Costs: A Vital Direction for Health and Health Care. *National Academy of Medicine*. Retrieved from https://nam.edu

Roberts, K. (2016). Four steps for improving the consumer healthcare experience across the continuum of care. *The American journal of managed care*, *22*(4), e122-4.

Sadigh, G., Carlos, R. C., Krupinski, E. A., Meltzer, C. C., & Duszak Jr, R. (2017). Health care price transparency and communication: implications for radiologists and patients in an era of expanding shared decision making. *American Journal of Roentgenology*, *209*(5), 959-964.

Sinaiko, A. D., & Rosenthal, M. B. (2016). Examining a health care price transparency tool: who uses it, and how they shop for care. *Health Affairs*, *35*(4), 662-670.

Stacey, D., Bennett, C., & Barry, M. (2012). Decision aids to help people who are facing health treatment or screening decisions. *Cochrane Database of Systematic Reviews*.

Whaley, C., Brown, T., & Robinson, J. (2019). Consumer responses to price transparency alone versus price transparency combined with reference pricing. *American Journal of Health Economics*, *5*(2), 227-249.

Wong, C. A., Polsky, D. E., Jones, A. T., Weiner, J., Town, R. J., & Baker, T. (2016). For third enrollment period, marketplaces expand decision support tools to assist consumers. *Health Affairs*, *35*(4), 680-687.

Examples of Publicly Available Consumer and Patient Engagement Tools

California Hospital Compare
http://calhospitalcompare.org/

Compass/Alight
https://alight.com/

Healthcare BlueBook
https://www.healthcarebluebook.com/

Healthcare.gov (Medicare)
- https://www.healthcare.gov/ind-provider-information/
- https://www.medicare.gov/physiciancompare/#about/aboutphysiciancompare
- https://www.healthcare.gov/using-marketplace-coverage/getting-medical-care/
- https://www.healthcare.gov/blog/how-to-find-a-doctor/
    - Marketplace website references Physician Compare tool (Medicare-based)

California Office of the Patient Advocate
- HMO and PPO Ratings: http://reportcard.opa.ca.gov/rc/pporating.aspx
- HMO Medical Groups: http://reportcard.opa.ca.gov/rc/medicalgroupcounty.aspx

Share Decision-Making

Agency for Healthcare Research and Quality. (2016). Anthem Continues to Encourage Shared Decision-making Practices. Retrieved from https://www.ahrq.gov

Alegria, M., Nakash, O., Johnson, K., Ault-Brutus, A., Carson, N., Fillbrunn, M., ... & Lincoln, A. (2018). Effectiveness of the DECIDE interventions on shared decision making and perceived quality of care in behavioral health with multicultural patients: A randomized clinical trial. *JAMA psychiatry*, *75*(4), 325-335.

Arterburn, D., Wellman, R., Westbrook, E., Rutter, C., Ross, T., McCulloch, D., ... & Jung, C. (2012). Introducing decision aids at Group Health was linked to sharply lower hip and knee surgery rates and costs. *Health Affairs*, *31*(9), 2094-2104.

Durand, M. A., Carpenter, L., Dolan, H., Bravo, P., Mann, M., Bunn, F., & Elwyn, G. (2014). Do interventions designed to support shared decision-making reduce health inequalities? A systematic review and meta-analysis. *PloS one*, *9*(4), e94670.

Gionfriddo, M. R., Leppin, A. L., Brito, J. P., LeBlanc, A., Shah, N. D., & Montori, V. M. (2013). Shared decision-making and comparative effectiveness research for patients with chronic conditions: an urgent synergy for better health. *Journal of comparative effectiveness research*, *2*(6), 595-603.

Hess, E. P., Hollander, J. E., Schaffer, J. T., Kline, J. A., Torres, C. A., Diercks, D. B., ... & Leblanc, A. (2016). Shared decision making in patients with low risk chest pain: prospective randomized pragmatic trial. *bmj*, *355*, i6165.

Hoffmann, T. C., & Del Mar, C. (2015). Patients' expectations of the benefits and harms of treatments, screening, and tests: a systematic review. *JAMA internal medicine*, *175*(2), 274-286.

Hughes, T. M., Merath, K., Chen, Q., Sun, S., Palmer, E., Idrees, J. J., ... & Pawlik, T. M. (2018). Association of shared decision-making on patient-reported health outcomes and healthcare utilization. *The American Journal of Surgery*, *216*(1), 7-12.

Légaré, F., Adekpedjou, R., Stacey, D., Turcotte, S., Kryworuchko, J., Graham, I. D., ... & Donner-Banzhoff, N. (2018). Interventions for increasing the use of shared decision making by healthcare professionals. *Cochrane Database of Systematic Reviews*, (7).

McCaffery, K. J., Holmes-Rovner, M., Smith, S. K., Rovner, D., Nutbeam, D., Clayman, M. L., ... & Sheridan, S. L. (2013). Addressing health literacy in patient decision aids. *BMC medical informatics and decision making*, *13*(2), S10.

Pennington, L. (2018). Developing a Process to Certify Patient Decision Aids in Washington State. *Washington State Health Care Authority. Retrieved from* https://www.slideshare.net/petrieflom/laura-pennington-practice-transformation-manager-washington-state-health-care-authority

Pollard, S., Bansback, N., & Bryan, S. (2015). Physician attitudes toward shared decision making: A systematic review. *Patient education and counseling*, *98*(9), 1046-1057.

Schaffer, J. T., Hess, E. P., Hollander, J. E., Kline, J. A., Torres, C. A., Diercks, D. B., ... & Leblanc, A. (2018). Impact of a Shared Decision Making Intervention on Health Care Utilization: A Secondary Analysis of the Chest Pain Choice Multicenter Randomized Trial. *Academic Emergency Medicine*, *25*(3), 293-300.

Sepucha, K., Atlas, S. J., Chang, Y., Dorrwachter, J., Freiberg, A., Mangla, M., ... & Cha, T. (2017). Patient decision aids improve decision quality and patient experience and reduce surgical rates in routine orthopaedic care: a prospective cohort study. *JBJS*, *99*(15), 1253-1260..

Shay, L. A., & Lafata, J. E. (2015). Where is the evidence? A systematic review of shared decision making and patient outcomes. *Medical Decision Making*, *35*(1), 114-131.

Tan, A. S., Mazor, K. M., McDonald, D., Lee, S. J., McNeal, D., Matlock, D. D., & Glasgow, R. E. (2018). Designing Shared Decision-Making Interventions for Dissemination and Sustainment: Can Implementation Science Help Translate Shared Decision Making Into Routine Practice?. *MDM policy & practice*, *3*(2), 2381468318808503.

Veroff, D., Marr, A., & Wennberg, D. E. (2013). Enhanced support for shared decision making reduced costs of care for patients with preference-sensitive conditions. *Health Affairs*, *32*(2), 285-293.

Wu, S. J., Sylwestrzak, G., Shah, C., & DeVries, A. (2014). Price transparency for MRIs increased use of less costly providers and triggered provider competition. *Health Affairs*, *33*(8), 1391-1398.

Personal Health Records/Patient Portals

Agarwal, R., Anderson, C., Zarate, J., & Ward, C. (2013). If we offer it, will they accept? Factors affecting patient use intentions of personal health records and secure messaging. *Journal of medical Internet research*, *15*(2), e43.

Anthony, D. L., Campos-Castillo, C., & Lim, P. S. (2018). Who isn't using patient portals and why? Evidence and implications from a national sample of US adults. *Health Affairs*, *37*(12), 1948-1954.

Arcury, T. A., Quandt, S. A., Sandberg, J. C., Miller Jr, D. P., Latulipe, C., Leng, X., ... & Bertoni, A. G. (2017). Patient portal utilization among ethnically diverse low income older adults: observational study. *JMIR medical informatics*, *5*(4), e47.

Ballou-Nelson, P. (2018, July 24). Are portals a means to patient activation? MGMA. https://www.mgma.com/data/data-stories/are-portals-a-means-to-patient-activation?

Bouayad, L., Ialynytchev, A., & Padmanabhan, B. (2017). Patient health record systems scope and functionalities: literature review and future directions. *Journal of medical Internet research*, *19*(11), e388.

California HealthCare Foundation. (2010). New National Survey Finds Personal Health Records Motivate Consumers to Improve Their Health. Retrieved from https://www.chcf.org

Chang, E., Blondon, K., Lyles, C. R., Jordan, L., & Ralston, J. D. (2018). Racial/ethnic variation in devices used to access patient portals. *The American journal of managed care*, *24*(1), e1-e8.

Delbanco, T., Walker, J., Bell, S. K., Darer, J. D., Elmore, J. G., Farag, N., ... & Ross, S. E. (2012). Inviting patients to read their doctors' notes: a quasi-experimental study and a look ahead. *Annals of internal medicine*, *157*(7), 461-470.

Fossa, A. J., Bell, S. K., & DesRoches, C. (2018). OpenNotes and shared decision making: a growing practice in clinical transparency and how it can support patient-centered care. *Journal of the American Medical Informatics Association*, *25*(9), 1153-1159.

Gerard, M., Chimowitz, H., Fossa, A., Bourgeois, F., Fernandez, L., & Bell, S. K. (2018). The Importance of Visit Notes on Patient Portals for Engaging Less Educated or Nonwhite Patients: Survey Study. *Journal of medical Internet research*, *20*(5), e191.

Goldzweig, C. L., Towfigh, A. A., Paige, N. M., Orshansky, G., Haggstrom, D. A., Beroes, J. M., ... & Shekelle, P. G. (2012). Systematic Review: Secure Messaging Between Providers and Patients, and Patients' Access to Their Own Medical Record: Evidence on Health Outcomes, Satisfaction, Efficiency and Attitudes.

Government Accountability Office. (2017). HHS Should Assess the Effectiveness of Its Efforts to Enhance Patient Access to and Use of Electronic Health Information. Retrieved from https://www.gao.gov

Krist, A. H., Woolf, S. H., Bello, G. A., Sabo, R. T., Longo, D. R., Kashiri, P., ... & Cohn, J. (2014). Engaging primary care patients to use a patient-centered personal health record. *The Annals of Family Medicine*, *12*(5), 418-426.

Kruse, C. S., Bolton, K., & Freriks, G. (2015). The effect of patient portals on quality outcomes and its implications to meaningful use: a systematic review. *Journal of medical Internet research*, *17*(2), e44.

Lye, C. T., Forman, H. P., Daniel, J. G., & Krumholz, H. M. (2018). The 21st Century Cures Act and electronic health records one year later: will patients see the benefits? *Journal of the American Medical Informatics Association*, *25*(9), 1218-1220.

Lyles, C.R. (2018). An RCT of an Online Training for Vulnerable Patients to Use an Online Patient Portal Website. *US National Library of Medicine.* Retrieved from https://clinicaltrials.gov/ct2/show/study/NCT03354000

Lyles, C. R., Fruchterman, J., Youdelman, M., & Schillinger, D. (2017). Legal, practical, and ethical considerations for making online patient portals accessible for all. *American journal of public health*, *107*(10), 1608-1611.

McNeill, S. M. (2016). Lower your overhead with a patient portal. *Family practice management*, *23*(2), 21-25.

Miller Jr, D. P., Latulipe, C., Melius, K. A., Quandt, S. A., & Arcury, T. A. (2016). Primary care providers' views of patient portals: interview study of perceived benefits and consequences. *Journal of medical Internet research*, *18*(1), e8.

Patel, V., & Johnson, C. (2018). Individuals' use of online medical records and technology for health needs. *ONC Data Brief*, (40), 2018-03.

Riippa, I., Linna, M., Rönkkö, I., & Kröger, V. (2014). Use of an electronic patient portal among the chronically ill: an observational study. *Journal of medical Internet research*, *16*(12), e275.

Toscos, T., Daley, C., Heral, L., Doshi, R., Chen, Y. C., Eckert, G. J., ... & Mirro, M. J. (2016). Impact of electronic personal health record use on engagement and intermediate health outcomes among cardiac patients: a quasi-experimental study. *Journal of the American Medical Informatics Association*, *23*(1), 119-128.

Walker, J., Meltsner, M., & Delbanco, T. (2015). US experience with doctors and patients sharing clinical notes. *Bmj*, *350*, g7785.

Wells, S., Rozenblum, R., Park, A., Dunn, M., & Bates, D. W. (2014). Organizational strategies for promoting patient and provider uptake of personal health records. *Journal of the American Medical Informatics Association*, *22*(1), 213-222.

Woods, S. S., Schwartz, E., Tuepker, A., Press, N. A., Nazi, K. M., Turvey, C. L., & Nichol, W. P. (2013). Patient experiences with full electronic access to health records and clinical notes through the My HealtheVet Personal Health Record Pilot: qualitative study. *Journal of medical Internet research*, *15*(3), e65.

Wright, E., Darer, J., Tang, X., Thompson, J., Tusing, L., Fossa, A., ... & Walker, J. (2015). Sharing physician notes through an electronic portal is associated with improved medication adherence: quasi-experimental study. *Journal of medical Internet research*, *17*(10), e226.

Zhao, J. Y., Song, B., Anand, E., Schwartz, D., Panesar, M., Jackson, G. P., & Elkin, P. L. (2017). Barriers, facilitators, and solutions to optimal patient portal and personal health record use: a systematic review of the literature. In *AMIA Annual Symposium Proceedings* (Vol. 2017, p. 1913). American Medical Informatics Association.

Sites and Expanded Approaches to Care Delivery

Adler, L., de Loera-Brust, A., Fiedler, M., Ginsburg, P., Palmisano, W. (2018). CMS' positive step on site-neutral payments and the case for going further. University of Southern California-Brookings Schaeffer Initiative for Health Policy. https://www.brookings.edu

Albritton, J., Maddox, L., Dalto, J., Ridout, E., & Minton, S. (2018). The effect of a newborn telehealth program on transfers avoided: A multiple-baseline study. Health Affairs, 37(12), 1990-1996.

American Academy of Pediatrics Policy Statement. (2014). Pediatric Care Recommendations for Freestanding Urgent Care Facilities. Retrieved from https://pediatrics.aappublications.org

Anderson, D., Villagra, V. G., Coman, E., Ahmed, T., Porto, A., Jepeal, N., ... & Teevan, B. (2018). Reduced Cost Of Specialty Care Using Electronic Consultations For Medicaid Patients. Health Affairs, 37(12), 2031-2036.

Angstman, K. B., Garrison, G. M., Rohrer, J. E., Dupras, D. M., & O'Grady, J. S. (2012). Are Resident Paneled Patients More Likely to Make Multiple Visits?. *Family medicine*, *44*(4), 235-9.

Alberti, T. L., & Morris, N. J. (2017). Health literacy in the urgent care setting: What factors impact consumer comprehension of health information?. Journal of the American Association of Nurse Practitioners, 29(5), 242-247.

Alliman, J., & Phillippi, J. C. (2016). Maternal outcomes in birth centers: an integrative review of the literature. *Journal of midwifery & women's health*, *61*(1), 21-51.

Ashwood, J. S., Gaynor, M., Setodji, C. M., Reid, R. O., Weber, E., & Mehrotra, A. (2016). Retail clinic visits for low-acuity conditions increase utilization and spending. *Health Affairs*, *35*(3), 449-455.

Ashwood, J. S., Mehrotra, A., Cowling, D., & Uscher-Pines, L. (2017). Direct-to-consumer telehealth may increase access to care but does not decrease spending. *Health Affairs*, *36*(3), 485-491.

Ashwood, J. S., Reid, R. O., Setodji, C. M., Weber, E., Gaynor, M., & Mehrotra, A. (2011). Trends in retail clinic use among the commercially insured. The American journal of managed care, 17(11), e443.

Barnett, M. L., Yee Jr, H. F., Mehrotra, A., & Giboney, P. (2017). Los Angeles safety-net program eConsult system was rapidly adopted and decreased wait times to see specialists. *Health affairs*, *36*(3), 492-499.

Brunett, P. H., DiPiero, A., Flores, C., Choi, D., Kum, H., & Girard, D. E. (2015). Use of a voice and video internet technology as an alternative to in-person urgent care clinic visits. Journal of telemedicine and telecare, 21(4), 219-226

California Health Benefits Review Program. (2016). Analysis of California Assembly Bill 2507 Telehealth: Access. A report to the 2015-2016 California State Legislature. Retrieved from http://chbrp.com

California Health Benefits Review Program. (2018). Literature Review of California Assembly Bill 2861. Medi-Cal: Telehealth and Substance Use Disorder Services. Summary to the 2018–2019 California State Legislature. Retrieved from http://analyses.chbrp.com

California Telehealth Resource Center. (2019). Telehealth Reimbursement Guide for California. Retrieved from http://www.caltrc.org Canares, T. L., Brown, L., Slotkin, R. M., & Garro, A. (2014). Treating children at Urgent Care Centers: a qualitative study to determine how providers perceive managing pediatric patients. Rhode Island Medical Journal, 97(1).

Carney Moore, J. M., Dolansky, M., Hudak, C., & Kenneley, I. (2015). Care coordination between convenient care clinics and healthcare homes. Journal of the American Association of Nurse Practitioners, 27(5), 262-269.

Cassidy, A., Hall, K., Wynn, B.O., & Lott, R. (2014). Site-Neutral Payments. Medicare uses different payment systems depending on where care is delivered. Recent proposals to eliminate this differential. *Health Affairs*.

Center for Connected Health Policy. (2018). Fact Sheet – Finalized CY 2019 Physician Fee Schedule. Retrieved from https://www.cchpca.org

Center for Connected Health Policy. (2017). State Telehealth Laws and Reimbursement Policies: A Comprehensive Scan of the 50 States and District of Columbia. Retrieved from https://www.cchpca.org

Chen, C. E., Chen, C. T., Hu, J., & Mehrotra, A. (2017). Walk-in clinics versus physician offices and emergency rooms for urgent care and chronic disease management. Cochrane Database of Systematic Reviews, (2).Comín-Colet, J., Enjuanes, C., Verdú-Rotellar, J. M., Linas, A., Ruiz-Rodriguez, P., González-Robledo, G., ... & Bruguera, J. (2016). Impact on clinical events and healthcare costs of adding telemedicine to multidisciplinary disease management programmes for heart failure: Results of a randomized controlled trial. *Journal of telemedicine and telecare*, *22*(5), 282-295.

Dang, J., Okurowski, E., Gelburd, R., Limpahan, L., & Iny, N. (2015). Urgent Care Facilities: Geographic Variation in Utilization and Charges for Common Lab Tests, Office Visits, and Flu Vaccines. Connecticut medicine, 79(6), 325-334

Duncan, I., Clark, K., & Wang, S. (2016). Cost and utilization of retail clinics vs. other providers for treatment of pediatric acute otitis media. Population health management, 19(5), 341-348.

Ellimoottil, C., An, L., Moyer, M., Sossong, S., & Hollander, J. E. (2018). Challenges And Opportunities Faced By Large Health Systems Implementing Telehealth. *Health Affairs*, *37*(12), 1955-1959.

Engel-Nitz, N. M., Yu, E. B., Becker, L. K., & Small, A. (2014). Service setting impact on costs for bevacizumab-treated oncology patients. *The American journal of managed care*, *20*(11), e515-22.

Garbutt, J. M., Mandrell, K. M., Allen, M., Sterkel, R., Epstein, J., Kreusser, K., ... & Strunk, R. C. (2013). Parents' experiences with pediatric care at retail clinics. JAMA pediatrics, 167(9), 845-850.

Grabowski, D. C., & O'Malley, A. J. (2014). Use of telemedicine can reduce hospitalizations of nursing home residents and generate savings for medicare. *Health Affairs*, *33*(2), 244-250.

Higgins, A., Veselovskiy, G., & Schinkel, J. (2016). National estimates of price variation by site of care. *Am J Manag Care*, *22*(3), e116-e121.

Hill, I., Dubay, L., Courtot, B., Benatar, S., Garrett, B., Blavin, F., ... & Markell, J. (2018). *Strong start for mothers and newborns evaluation: Year 5 project synthesis*. Technical report. Centers for Medicare & Medicaid Services (CMS).

Ho, V., Metcalfe, L., Dark, C., Vu, L., Weber, E., Shelton Jr, G., & Underwood, H. R. (2017). Comparing utilization and costs of care in freestanding emergency departments, hospital emergency departments, and urgent care centers. Annals of emergency medicine, 70(6), 846-857.

Hopson, S., Casebeer, A., Stemkowski, S., Antol, D. D., Tao, Z., Howe, A., ... & Masaquel, A. (2018). Does site-of-care for oncology infusion therapy influence treatment patterns, cost, and quality in the United States?. *Journal of medical economics*, *21*(2), 152-162.

Hunter, L. P., Weber, C. E., Morreale, A. P., & Wall, J. H. (2009). Patient satisfaction with retail health clinic care. Journal of the American Academy of Nurse Practitioners, 21(10), 565-570.

Huskamp, H. A., Busch, A. B., Souza, J., Uscher-Pines, L., Rose, S., Wilcock, A., ... & Mehrotra, A. (2018). How Is Telemedicine Being Used In Opioid And Other Substance Use Disorder Treatment?. *Health Affairs*, *37*(12), 1940-1947.

Jacoby, R., Crawford, A. G., Chaudhari, P., & Goldfarb, N. I. (2011). Quality of care for 2 common pediatric conditions treated by convenient care providers. American Journal of Medical Quality, 26(1), 53-58.

Levine, D. M., Ouchi, K., Blanchfield, B., Diamond, K., Licurse, A., Pu, C. T., & Schnipper, J. L. (2018). Hospital-level care at home for acutely ill adults: A pilot randomized controlled trial. *Journal of general internal medicine*, *33*(5), 729-736.

Licurse, A. M., & Mehrotra, A. (2018). The effect of telehealth on spending: thinking through the numbers. *Annals of internal medicine*, *168*(10), 737-738.

Martinez, K. A., Rood, M., Jhangiani, N., Kou, L., Rose, S., Boissy, A., & Rothberg, M. B. (2018). Patterns of use and correlates of patient satisfaction with a large nationwide direct to consumer telemedicine service. *Journal of general internal medicine*, *33*(10), 1768-1773.

Martsolf, G., Fingar, K. R., Coffey, R., Kandrack, R., Charland, T., Eibner, C., ... & Mehrotra, A. (2017). Association between the opening of retail clinics and low-acuity emergency department visits. Annals of emergency medicine, 69(4), 397-403.

Medicare Payment Advisory Commission. (2013). Medicare Payment Differences Across Ambulatory Settings. In *Report to the Congress: Medicare and the Health Care Delivery System*(pp. 27-30).

Medicare Payment Advisory Commission. (2017). Hospital Inpatient and Outpatient Services. Retrieved from http://medpac.gov

Mehrotra, A., Liu, H., Adams, J., Wang, M. C., Lave, J., Thygeson, N. M., ... & McGlynn, E. A. (2009). The costs and quality of care for three common illnesses at retail clinics as compared to other medical settings. Annals of internal medicine, 151(5), 321.

Montalbano, A., Rodean, J., Kangas, J., Lee, B., & Hall, M. (2016). Urgent care and emergency department visits in the pediatric Medicaid population. Pediatrics, 137(4), e20153100.

Parthan, A., Santos, E., Becker, L., Small, A., Lalla, D., Brammer, M., & Teitelbaum, A. (2014). Health care utilization and costs by site of service for nonmetastatic breast cancer patients treated with trastuzumab. *Journal of Managed Care Pharmacy*, *20*(5), 485-493.

Patwardhan, A., Davis, J., Murphy, P., & Ryan, S. F. (2012). After-hours access of convenient care clinics and cost savings associated with avoidance of higher-cost sites of care. Journal of primary care & community health, 3(4), 243-245.

Pekmezaris, R., Tortez, L., Williams, M., Patel, V., Makaryus, A., Zeltser, R., ... & Lesser, M. (2018). Home Telemonitoring In Heart Failure: A Systematic Review And Meta-Analysis. *Health Affairs*, *37*(12), 1983-1989.

Player, M., O'Bryan, E., Sederstrom, E., Pinckney, J., & Diaz, V. (2018). Electronic Visits For Common Acute Conditions: Evaluation Of A Recently Established Program. *Health Affairs*, *37*(12), 2024-2030.

Poon, S. J., Schuur, J. D., & Mehrotra, A. (2018). Trends in visits to acute care venues for treatment of low-acuity conditions in the United States From 2008 to 2015. JAMA internal medicine, 178(10), 1342-1349.

Qin, H., Prybutok, V., & Prybutok, G. (2016). Quantitative comparison of measurements of urgent care service quality. Health marketing quarterly, 33(1), 59-77.

Qin, H., Prybutok, G. L., Prybutok, V. R., & Wang, B. (2015). Quantitative comparisons of urgent care service providers. International journal of health care quality assurance, 28(6), 574-594.

Reid, R. O., Ashwood, J. S., Friedberg, M. W., Weber, E. S., Setodji, C. M., & Mehrotra, A. (2013). Retail clinic visits and receipt of primary care. Journal of general internal medicine, 28(4), 504-512.

Rohrer, J. E., Angstman, K. B., & Bartel, G. A. (2009). Impact of retail medicine on standard costs in primary care: a semiparametric analysis. Population Health Management, 12(6), 333-335.

Rohrer, J. E., Angstman, K. B., & Garrison, G. (2012). Early return visits by primary care patients: A retail nurse practitioner clinic versus standard medical office care. Population health management, 15(4), 216-219.

Rohrer, J. E., Angstman, K. B., & Furst, J. W. (2009). Impact of retail walk-in care on early return visits by adult primary care patients: evaluation via triangulation. Quality Management in Healthcare, 18(1), 19-24.

Rohrer, J. E., Angstman, K. B., Garrison, G. M., Maxson, J. A., & Furst, J. W. (2013). Family medicine patients who use retail clinics have lower continuity of care. Journal of primary care & community health, 4(2), 150-153.

Rohrer, J. E., Garrison, G. M., & Angstman, K. B. (2012). Early return visits by pediatric primary care patients with otitis media: a retail nurse practitioner clinic versus standard medical office care. Quality Management in Healthcare, 21(1), 44-47.

Saidinejad, M., Paul, A., Gausche-Hill, M., Woolridge, D., Heins, A., Scott, W. R., ... & Horeczko, T. (2019). Consensus Statement on Urgent Care Centers and Retail Clinics in Acute Care of Children. *Pediatric emergency care*, *35*(2), 138-142.

Shah, S. J., Schwamm, L. H., Cohen, A. B., Simoni, M. R., Estrada, J., Matiello, M., ... & Rao, S. K. (2018). Virtual Visits Partially Replaced In-Person Visits In An ACO-Based Medical Specialty Practice. *Health Affairs*, *37*(12), 2045-2051.

Sax, D. R., Vinson, D. R., Yamin, C. K., Huang, J., Falck, T. M., Bhargava, R., ... & Reed, M. E. (2018). Tele-Triage Outcomes For Patients With Chest Pain: Comparing Physicians And Registered Nurses. *Health Affairs*, *37*(12), 1997-2004.

Schoenfeld, A. J., Davies, J. M., Marafino, B. J., Dean, M., DeJong, C., Bardach, N. S., ... & Mei, Y. J. (2016). Variation in quality of urgent health care provided during commercial virtual visits. *JAMA internal medicine*, *176*(5), 635-642.

Shamji, H., Baier, R. R., Gravenstein, S., & Gardner, R. L. (2014). Improving the quality of care and communication during patient transitions: Best practices for urgent care centers. *The Joint Commission Journal on Quality and Patient Safety*, *40*(7), 319-324.

Shi, Z., Mehrotra, A., Gidengil, C. A., Poon, S. J., Uscher-Pines, L., & Ray, K. N. (2018). Quality Of Care For Acute Respiratory Infections During Direct-To-Consumer Telemedicine Visits For Adults. *Health Affairs*, *37*(12), 2014-2023.

Shigekawa, E., Fix, M., Corbett, G., Roby, D. H., & Coffman, J. (2018). The Current State Of Telehealth Evidence: A Rapid Review. *Health Affairs*, *37*(12), 1975-1982.

Schleiter, K. E. (2009). Retail Medical Clinics: Increasing Access to Low Cost Medical Care Amongst a Developing Legal Environment. Annals Health L., 19, 527.

Shrank, W. H., Krumme, A. A., Tong, A. Y., Spettell, C. M., Matlin, O. S., Sussman, A., ... & Choudhry, N. K. (2014). Quality of care at retail clinics for 3 common conditions. Am J Manag Care, 20(10), 794-801.

Spetz, J., Parente, S. T., Town, R. J., & Bazarko, D. (2013). Scope-of-practice laws for nurse practitioners limit cost savings that can be achieved in retail clinics. Health Affairs, 32(11), 1977-1984.

Stapleton, S. R., Osborne, C., & Illuzzi, J. (2013). Outcomes of care in birth centers: demonstration of a durable model. *Journal of Midwifery & Women's Health*, *58*(1), 3-14.

Sussman, A., Dunham, L., Snower, K. A., Hu, M., Matlin, O. S., Shrank, W. H., ... & Brennan, T. (2013). Retail clinic utilization associated with lower total cost of care. The American journal of managed care, 19(4), e148-57.

Thygeson, M., Van Vorst, K. A., Maciosek, M. V., & Solberg, L. (2008). Use and costs of care in retail clinics versus traditional care sites. Health Affairs, 27(5), 1283-1292.

Totten, A. M., Womack, D. M., Eden, K. B., McDonagh, M. S., Griffin, J. C., Grusing, S., & Hersh, W. R. (2016). Telehealth: mapping the evidence for patient outcomes from systematic reviews.

Trout, K. E., Rampa, S., Wilson, F. A., & Stimpson, J. P. (2017). Legal mapping analysis of state telehealth reimbursement policies. *Telemedicine and e-Health*, *23*(10), 805-814.

University of New Mexico. ECHO Hubs & Programs: United States. Retrieved from https://echo.unm.edu.

University of New Mexico. (2018). Project ECHO Bibliography. Retrieved from https://echo.unm.edu

Uscher-Pines, L., Harris, K. M., Burns, R. M., & Mehrotra, A. (2012). The growth of retail clinics in vaccination delivery in the US. American journal of preventive medicine, 43(1), 63-66.

Villaseñor, S., & Krouse, H. J. (2016). Can the use of urgent care clinics improve access to care without undermining continuity in primary care? Journal of the American Association of Nurse Practitioners, 28(6), 335-341.

Wang, M. C., Ryan, G., McGlynn, E. A., & Mehrotra, A. (2010). Why do patients seek care at retail clinics, and what alternatives did they consider?. American Journal of Medical Quality, 25(2), 128-134.

Weinick, R. M., Bristol, S. J., & DesRoches, C. M. (2009). The quality of care at urgent care centers. Journal of urgent care medicine, 3(5), 27-30.

Weinick, R. M., Bristol, S. J., & DesRoches, C. M. (2009). Urgent care centers in the US: findings from a national survey. *BMC health services research*, *9*(1), 79.

Weinick, R. M., Burns, R. M., & Mehrotra, A. (2010). Many emergency department visits could be managed at urgent care centers and retail clinics. *Health affairs*, *29*(9), 1630-1636.

Weddle, G., Goldman, J., Myers, A., & Newland, J. (2017). Impact of an educational intervention to improve antibiotic prescribing for nurse practitioners in a pediatric urgent care center. Journal of Pediatric Health Care, 31(2), 184-188.

Wong, C. A., Bain, A., Polsky, D., Merchant, R. M., Antwi, Y. A., Slap, G., ... & Ford, C. A. (2017). The use and out-of-pocket cost of urgent care clinics and retail-based clinics by adolescents and young adults compared with children. *Journal of Adolescent Health*, *60*(1), 107-112.

Zimbroff, R.M., Leff, B., & Siu, A. (2018). Hospital at Home – Plus Reduces Days Spent in Hospitals and Other Inpatient Facilities. *New England Journal of Medicine Catalyst.* Retrieved from https://catalyst.nejm.org

Population-Based and Community Health Promotion Beyond Enrolled Population

Attena, F. (2014). Complexity and indeterminism of evidence-based public health: an analytical framework. *Medicine, Health Care and Philosophy*, *17*(3), 459-465.

California HealthCare Foundation. (2018). The ROI for Addressing Social Needs in Health Care. *California Improvement Network Webinar Series.* Retrieved from https://www.chcf.org

California Hospital Association. Community Benefit Programs. Retrieved from https://www.calhospital.org

California Pan-Ethnic Health Network. (2018). California Reducing Disparities Project: Strategic Plan to Reduce Mental Health Disparities. Retrieved from https://cpehn.org

Castellucci, M. (2018, December 14). Berwick to hospitals: Focus more on health, less on reimbursement. *Modern Healthcare.* Retrieved from https://www.modernhealthcare.com

Centers for Disease Control and Prevention. (2018). The 6 | 18 Initiative: Accelerating Evidence into Action. Retrieved from https://www.cdc.gov/sixeighteen/index.html

Centers for Disease Control and Prevention. (n.d.). Executive Summary: Control High Blood Pressure. *The 6 | 18 Initiative*. Retrieved from https://www.cdc.gov/sixeighteen/docs/6-18-evidence-summary-blood-pressure.pdf

Centers for Disease Control and Prevention. (2017). Executive Summary: Reduce Tobacco Use. *The 6 | 18 Initiative*. Retrieved from https://www.cdc.gov/sixeighteen/docs/6-18-evidence-summary-blood-pressure.pdf

Centers for Medicare and Medicaid Services. Accountable Health Communities Model. Retrieved from https://innovation.cms.gov/initiatives/ahcm/

Community Preventive Services Task Force. (2002). Recommendations to increase physical activity in communities. Retrieved from https://www.thecommunityguide.org

Community Preventive Services Task Force. (2013). Dental Caries (Cavities): School-Based Dental Sealant Delivery. *The Community Guide.* Retrieved from https://www.thecommunityguide.org

Community Preventive Services Task Force. (2013). Reducing Tobacco Use and Secondhand Smoke Exposure: Reducing Out-of-Pocket Costs for Evidence-based Cessation Treatments. *Task Force Finding and Rationale Statement, June 24, 2013.* Retrieved from https://www.thecommunityguide.org

Community Preventive Services Task Force. (2015). Increasing Appropriate Vaccination: Health Care System-Based Interventions Implemented in Combination. *Task Force Finding and Rationale Statement.* Retrieved from https://www.thecommunityguide.org

Community Preventive Services Task Force. (2016). School-based health centers to promote health equity: Recommendation of the Community Preventive Services Task Force. *American journal of preventive medicine*, *51*(1), 127-128.

Community Preventive Services Task Force. (2017). Health Information Technology: Comprehensive Telehealth Interventions to Improve Diet Among Patients with Chronic Diseases. *Task Force Finding and Rationale Statement, Ratified August 2017.* Retrieved from https://www.thecommunityguide.org

Community Preventive Services Task Force. (2017). Health Information Technology: Text Messaging Interventions for Medication Adherence Among Patients with Chronic Diseases. *Task Force Finding and Rationale Statement, Ratified August 2017.* Retrieved from https://www.thecommunityguide.org

Community Preventive Services Task Force. (2016). Interventions to Promote Seasonal Influenza Vaccinations among Non-Health Care Workers. *Task Force Finding and Rationale Statement.* Retrieved from https://www.thecommunityguide.org

Community Preventive Services Task Force. (2012). Preventing Skin Cancer: Multicomponent Community-Wide Interventions. *Task Force Finding and Rationale Statement.* Retrieved from https://www.thecommunityguide.org

Feeding America. (2014). Hunger in America 2014 National Report. *Westat and the Urban Institute*. Retrieved from http://help.feedingamerica.org

Gale, R. (2018). Housing Mobility Programs and Health Outcomes. *Health Affairs.* Retrieved from https://www.healthaffairs.org

Gundersen, C., & Ziliak, J. P. (2015). Food insecurity and health outcomes. *Health affairs*, *34*(11), 1830-1839.

Health Research & Educational Trust. (2017). Social determinants of health series: Food insecurity and the role of hospitals. Retrieved from https://www.aha.org Hester, J., Auerbach, J., Seeff, L., Wheaton, J., Brusuelas, K., & Singleton, C. (2016). CDC's 6| 18 Initiative: accelerating evidence into action. *Washington (DC): National Academy of Medicine*.

James, J. (2016). Health policy brief: nonprofit hospitals' community benefit requirements. *Health Affairs*, 1-5.

Kahn, E. B., Ramsey, L. T., Brownson, R. C., Heath, G. W., Howze, E. H., Powell, K. E., ... & Corso, P. (2002). The effectiveness of interventions to increase physical activity: a systematic review. *American journal of preventive medicine*, *22*(4), 73-107.

Knopf, J. A., Finnie, R. K., Peng, Y., Hahn, R. A., Truman, B. I., Vernon-Smiley, M., ... & Hunt, P. C. (2016). School-based health centers to advance health equity: a Community Guide systematic review. *American journal of preventive medicine*, *51*(1), 114-126.

Land, T., Warner, D., Paskowsky, M., Cammaerts, A., Wetherell, L., Kaufmann, R., ... & Keithly, L. (2010). Medicaid coverage for tobacco dependence treatments in Massachusetts and associated decreases in smoking prevalence. *PloS one*, *5*(3), e9770.

Nelson, K., Cunningham, W., Andersen, R., Harrison, G., & Gelberg, L. (2001). Is food insufficiency associated with health status and health care utilization among adults with diabetes? *Journal of General Internal Medicine*, *16*(6), 404-411.

Ran, T., Chattopadhyay, S. K., Hahn, R. A., & Community Preventive Services Task Force. (2016). Economic evaluation of school-based health centers: a Community Guide systematic review. *American journal of preventive medicine*, *51*(1), 129-138.

Robert Wood Johnson Foundation. (2011). Housing and Health. *Exploring the Social Determinants of Health*. RWJF. May 2011. Retrieved from https://tinyurl.com/y7reydle.

Song, C., Li, J., Leng, J., Ma, R. C., & Yang, X. (2016). Lifestyle intervention can reduce the risk of gestational diabetes: a meta-analysis of randomized controlled trials. *Obesity reviews*, *17*(10), 960-969.

Susman, K. (2016). Food Insecurity, Health Equity, and Essential Hospitals. *Essential Hospitals Institute*. Retrieved from https://tinyurl.com/yb7r947w

Taylor, L. (2018). Housing And Health: An Overview Of The Literature. *Health Affairs Health Policy Brief (Health Affairs*.

Truman, B. I., Smith-Akin, C. K., Hinman, A. R., Gebbie, K. M., Brownson, R., Novick, L. F., ... & Guerra, F. A. (2000). Developing the Guide to Community Preventive Services—overview and rationale. *American journal of preventive medicine*, *18*(1), 18-26.

U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion. Healthy People 2020 Compendium of Evidence-Based Interventions. Retrieved from https://www.healthypeople.gov/2020/tools-resources/Evidence-Based-Resources

Wright, B., Li, G., Vartanian, K., & Weller, M. (2016). Health in housing: Exploring the intersection between housing & health care. *The Center for Outcomes Research & Education. Retrieved from https://oregon. providence. org/~/media/Files/Providence% 20OR% 20PDF/core_he alth_in_housing_full_report_feb_2016. pdf*.

Wyatt, R., Laderman, M., Botwinick, L., Mate, K., & Whittington, J. (2016). Achieving health equity: a guide for health care organizations. *IHI White Paper. Cambridge: Institute for Healthcare Improvement*.

Young, G. J., Chou, C. H., Alexander, J., Lee, S. Y. D., & Raver, E. (2013). Provision of community benefits by tax-exempt US hospitals. *New England Journal of Medicine*, *368*(16), 1519-1527.

Appendix 3: Bibliography Supporting Measures Review by PricewaterhouseCoopers

Health Equity: Reducing Disparities

Agency for Healthcare Research and Quality. National Healthcare Quality and Disparities Reports: California Quality Measures Compared to Achievable Benchmarks. Retrieved from https://nhqrnet.ahrq.gov

California Department of Public Health (CDPH). CDPH Programs Focused on Disparities. Retrieved from https://www.cdph.ca.gov

Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System. Retrieved from https://www.cdc.gov/brfss/index.html

Centers for Disease Control and Prevention. Center for State, Tribal, Local and Territorial Support. Retrieved from https://www.cdc.gov/publichealthgateway/about-cstlts/index.html

Centers for Disease Control and Prevention. National Center for Health Statistics. Retrieved from https://www.cdc.gov/nchs/index.htm

Centers for Disease Control and Prevention. National Center for HIV/AIDS, Viral Hepatitis, Sexually Transmitted Diseases and Tuberculosis Prevention. Retrieved from https://www.cdc.gov/nchhstp/default.htm

Centers for Disease Control and Prevention. Office of Minority Health and Health Equity. Retrieved from https://www.cdc.gov/minorityhealth/index.html

Centers for Disease Control and Prevention. National Health and Nutrition Examination Survey. Retrieved from https://www.cdc.gov/nchs/nhanes/index.htm

Centers for Medicare and Medicaid Services. Marketplace Products. Retrieved from https://www.cms.gov

Centers for Medicare and Medicaid Services. (2018). Demographic and Plan Characteristics of Consumers with 2018 OEP Plan Selections on HealthCare.gov. Retrieved from https://www.cms.gov

New York State. (2016). New York State of Health: The Official Health Plan Marketplace 2016 Open Enrollment Report. Retrieved from https://info.nystateofhealth.ny.gov

New York State. (2017). New York State of Health: The Official Health Plan Marketplace 2017 Open Enrollment Report. Retrieved from https://info.nystateofhealth.ny.gov

New York State. (2018). New York State of Health: The Official Health Plan Marketplace 2018 Open Enrollment Report. Retrieved from https://info.nystateofhealth.ny.gov

Health Promotion and Prevention

California Health Interview Survey. Ask CHIS. Retrieved from http://ask.chis.ucla.edu

Centers for Medicare and Medicaid Services. (2018). Quality Rating System and Qualified Health Plan Enrollee Experience Survey: Technical Guidance for 2018. Retrieved from https://www.cms.gov

National Committee for Quality Assurance. Quality Compass. Retrieved from https://www.ncqa.org

PricewaterhouseCoopers. 2018. 2018 Health and Well-being Touchstone Survey. Retrieved from https://www.pwc.com

Mental Health and Substance Use Disorder Treatment

Archer, J., Bower, P., Gilbody, S., Lovell, K., Richards, D., Gask, L. ... & Coventry, P. (2012). Collaborative care for depression and anxiety problems. *Cochrane Database of Systematic Reviews*, (10). Retrieved from https://www.cochranelibrary.com

Barnett, M. L., Ray, K. N., Souza, J., & Mehrotra, A. (2018). Trends in telemedicine use in a large commercially insured population, 2005-2017. *Jama*, *320*(20), 2147-2149.

Bishop, T. F., Ramsay, P. P., Casalino, L. P., Bao, Y., Pincus, H. A., & Shortell, S. M. (2016). Care management processes used less often for depression than for other chronic conditions in US primary care practices. *Health Affairs*, *35*(3), 394-400.

California Department of Health Care Services. (2017). Medicaid Managed Care Final Rule: Network Adequacy Standards. Retrieved from https://www.dhcs.ca.gov

Carlo, A. D., Unützer, J., Ratzliff, A. D., & Cerimele, J. M. (2018). Financing for Collaborative Care—a Narrative Review. *Current treatment options in psychiatry*, 5(3), 334-344.

Centers for Medicare and Medicaid Services. (2018). Behavioral Health Integration Fact Sheet. Retrieved from https://www.cms.gov

Centers for Medicare and Medicaid Services. (2018). Behavioral Health Integration Frequently Asked Questions. Retrieved from https://www.cms.gov

Center for Workplace Mental Health. (n.d.) Recommendations for Improving Access to Mental Health and Substance Use Care. *American Psychiatric Association.* Retrieved from http://workplacementalhealth.org

Consumer Assessment of Health Care Providers (CAHPS) Experience of Care and Health Outcomes (ECHO). Agency for Healtcare Research and Quality. Retrieved from https://www.ahrq.gov

Department of Managed Health Care. Annual Provider Networks Reporting. Retrieved from https://www.dmhc.ca.gov

Department of Managed Health Care. Timely Access Report: Measurement Year 2017. Retrieved from https://www.dmhc.ca.gov

Druss, B. G., & Goldman, H. H. (2018). Integrating health and mental health services: a past and future history. *American Journal of Psychiatry*, 175(12), 1199-1204.

Garfield, R., Hinton, E., Cornachione, E., Hall, C. (2018). Medicaid Managed Care Plans and Access to Care: Results from the Kaiser Family Foundation 2017 Survey of Medicaid Managed Care Plans. *Kaiser Family Foundation*. Retrieved from https://www.kff.org

Garrison, G. M., Angstman, K. B., O'Connor, S. S., Williams, M. D., & Lineberry, T. W. (2016). Time to remission for depression with collaborative care management (CCM) in primary care. *The Journal of the American Board of Family Medicine*, 29(1), 10-17.

Heath, B., Reynolds, K., Romero, P.W. (2013). A Review and Proposed Standard Framework for Levels of Integrated Healthcare. *SAMHSA-HRSA Center for Integrated Health Solutions.* Retrieved from https://napavintners.com

Jones, J. M., Ali, M. M., Mutter, R., Henke, R. M., Gokhale, M., Marder, W., & Mark, T. (2018). Factors that affect choice of mental health provider and receipt of outpatient mental health treatment. *The journal of behavioral health services & research*, 45(4), 614-626.

Knickman, J., Krishnan, R., & Pincus, H. (2016). Improving access to effective care for people with mental health and substance use disorders. *Jama*, 316(16), 1647-1648.

Melek, S. P., Perlman, D., & Davenport, S. (2017). Addiction and mental health vs. physical health: Analyzing disparities in network use and provider reimbursement rates. *Milliman*. Retrieved from http://us.milliman.com

Moise, N., Shah, R. N., Essock, S., Jones, A., Carruthers, J., Handley, M. A., ... & Sederer, L. (2018). Sustainability of collaborative care management for depression in primary care settings with academic affiliations across New York State. *Implementation Science*, *13*(1), 128.

Liao, J. M., Navathe, A. S., & Press, M. J. (2019). Medicare's approach to paying for services that promote coordinated care. *Jama*, 321(2), 147-148.

O'Malley, A. S., Sarwar, R., Keith, R., Balke, P., Ma, S., & McCall, N. (2017). Provider experiences with chronic care management (CCM) services and fees: a qualitative research study. *Journal of general internal medicine*, 32(12), 1294-1300.

Pai, A. (2015, April 30). UnitedHealthcare now covers Doctor On Demand, American Well video visits too. *MobiHealthNews.* Retrieved from https://www.mobihealthnews.com

Park, J., Erikson, C., Han, X., & Iyer, P. (2018). Are state telehealth policies associated with the use of telehealth services among underserved populations? *Health Affairs*, 37(12), 2060-2068.

Patel, M. M., Brown, J. D., Croake, S., Lewis, R., Liu, J., Patton, L., ... & Scholle, S. H. (2015). The current state of behavioral health quality measures: where are the gaps?. *Psychiatric Services*, 66(8), 865-871.

Pincus, H. A., Scholle, S. H., Spaeth-Rublee, B., Hepner, K. A., & Brown, J. (2016). Quality measures for mental health and substance use: gaps, opportunities, and challenges. *Health Affairs*, *35*(6), 1000-1008.

Pittman, D. (2016, January 11). Major insurer adds telemedicine in Medicare Advantage plans. *Politico.* https://www.politico.com.

Purington, K., Townley, C. (2017). Measuring Physical and Behavioral Health Integration: State Policy Approaches to Support Key Infrastructure. NASHP Issue Brief. *National Academy for State Health Policy,* 1-7. Retrieved from https://nashp.org

Purington, K., Yalowich, R. (2017). Measuring Physical and Behavioral Health Integration: A Look at State Approaches in the Context of Value Based Purchasing. NASHP Issue Brief. *National Academy for State Health Policy,* 1-17. Retrieved from https://nashp.org

Ramanuj, P., Ferenchik, E., Docherty, M., Spaeth-Rublee, B., & Pincus, H. A. (2019). Evolving Models of Integrated Behavioral Health and Primary Care. *Current psychiatry reports*, *21*(1), 4.

Reiter, J. T., Dobmeyer, A. C., & Hunter, C. L. (2018). The primary care behavioral health (PCBH) model: An overview and operational definition. *Journal of clinical psychology in medical settings*, *25*(2), 109-126.

Heath, B. W. R. P., Wise Romero, P., & Reynolds, K. (2013). A standard framework for levels of integrated healthcare. *Washington, DC: SAMHSA-HRSA Center for Integrated Health Solutions*.

Soper, M. H., Matulis, R., & Menschner, C. (2017). Moving Toward Value-Based Payment for Medicaid Behavioral Health Services. *Center for Health Care Strategies*. Retrieved from https://www.chcs.org

Sunderji, N., Ion, A., Ghavam-Rassoul, A., & Abate, A. (2017). Evaluating the implementation of integrated mental health care: a systematic review to guide the development of quality measures. *Psychiatric Services*, *68*(9), 891-898.

National Alliance of Healthcare Purchaser Coalitions. (2018). Achieving Value in Mental Health Support: A Deep Dive Powered by eValue8. Retrieved from http://aims.uw.edu

Vanderlip, E. R., Rundell, J., Avery, M., Alter, C., Engel, C., Fortney, J., & Williams, M. (2016). Dissemination of integrated care within adult primary care settings: the collaborative care model. *Washington DC: American Psychiatric Association and Academy of Psychosomatic Medicine*.

Waitzfelder, B., Stewart, C., Coleman, K. J., Rossom, R., Ahmedani, B. K., Beck, A., ... & Simon, G. E. (2018). Treatment initiation for new episodes of depression in primary care settings. *Journal of general internal medicine*, *33*(8), 1283-1291.

Williams, M. D., Asiedu, G. B., Finnie, D., Neely, C., Egginton, J., Rutten, L. J. F., & Jacobson, R. M. (2019). Sustainable care coordination: a qualitative study of primary care provider, administrator, and insurer perspectives. *BMC health services research*, *19*(1), 92.

Zhu, J. M., Zhang, Y., & Polsky, D. (2017). Networks in ACA marketplaces are narrower for mental health care than for primary care. *Health Affairs*, *36*(9), 1624-1631.

Acute, Chronic and other Conditions

California Health and Human Services Agency. Open Data Portal. Retrieved from https://data.chhs.ca.gov/healthcare

California Health Interview Survey. Ask CHIS. Retrieved from http://ask.chis.ucla.edu

Centers for Disease Control and Prevention. BRFSS Prevalence & Trends Data. Retrieved from https://www.cdc.gov/brfss/brfssprevalence/index.html

Centers for Disease Control and Prevention. Data and Statistics. Retrieved from https://www.cdc.gov/DataStatistics/

Centers for Disease Control and Prevention, National Center for Health Statistics. Data Finder. Retrieved from https://www.cdc.gov/nchs/hus/contents2017.htm#053

Centers for Disease Control and Prevention. (2017). National Diabetes Statistics Report, 2017. Retrieved from https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf

Centers for Disease Control and Prevention. U.S. Diabetes Surveillance System, Division of Diabetes Translation. Retrieved from www.cdc.gov/diabetes/data

Centers for Medicare and Medicaid Services. (2018). Quality Rating System and Qualified Health Plan Enrollee Experience Survey: Technical Guidance for 2018. Retrieved from https://www.cms.gov

Department of Health Care Services. (2017). ALL PLAN LETTER 17-014. Retrieved from https://www.dhcs.ca.gov

Department of Health Care Services. (2018). External Accountability Set for MCPs - MY2018/RY2019. Retrieved from https://www.dhcs.ca.gov

National Committee for Quality Assurance. Adults' Access to Preventive/Ambulatory Health Services (AAP). Retrieved from https://www.ncqa.org/hedis/measures/adults-access-to-preventive-ambulatory-health-services/

National Committee for Quality Assurance. Adult BMI Assessment (ABA). Retrieved from https://www.ncqa.org/hedis/measures/adult-bmi-assessment/

National Committee for Quality Assurance. Antidepressant Medication Management (AMM). Retrieved from https://www.ncqa.org/hedis/measures/antidepressant-medication-management/

National Committee for Quality Assurance. Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis (AAB). Retrieved from https://www.ncqa.org/hedis/measures/avoidance-of-antibiotic-treatment-in-adults-with-acute-bronchitis/

National Committee for Quality Assurance. Children and Adolescents' Access to Primary Care Practitioners (CAP). Retrieved from https://www.ncqa.org/hedis/measures/children-and-adolescents-access-to-primary-care-practitioners-cap/

National Committee for Quality Assurance. Follow-Up Care for Children Prescribed ADHD Medication (ADD). Retrieved from https://www.ncqa.org/hedis/measures/follow-up-care-for-children-prescribed-adhd-medication/

National Committee for Quality Assurance. Healthcare Effectiveness Data Information Set Measures. Retrieved from https://www.ncqa.org/hedis/

National Committee for Quality Assurance. Medication Management for People with Asthma and Asthma Medication Ratio (MMA, AMR). Retrieved from https://www.ncqa.org/hedis/measures/medication-management-for-people-with-asthma-and-asthma-medication-ratio/

National Committee for Quality Assurance. Prenatal and Postpartum Care (PPC). Retrieved from https://www.ncqa.org/hedis/measures/prenatal-and-postpartum-care-ppc/

National Committee for Quality Assurance. Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics (APP). Retrieved from https://www.ncqa.org/hedis/measures/use-of-first-line-psychosocial-care-for-children-and-adolescents-on-anti-psychotics/

Complex Care

Accolade. (2018, December 12). Accolade Introduces Centers of Excellence Solution through New Partnership with Health Design Plus. Retrieved from https://www.accolade.com

Alonso-Morán, E., Nuño-Solinis, R., Onder, G., & Tonnara, G. (2015). Multimorbidity in risk stratification tools to predict negative outcomes in adult population. *European journal of internal medicine*, *26*(3), 182-189.

American College of Surgeons. (n.d.). National Cancer Database. Retrieved from https://www.facs.org/quality-programs/cancer/ncdb

Centers for Medicare and Medicaid Services. (2013). Decision Memo for Bariatric Surgery for the Treatment of Morbid Obesity - Facility Certification Requirement (CAG-00250R3). Retrieved from https://www.cms.gov

Cigna. (2018). Cigna Centers of Excellence 2019 Methodology. Retrieved from https://cignaforhcp.cigna.com

Close, L. (n.d.). Lowe's Eliminated Out of Pocket Medical Expenses. *Boss Magazine.* Retrieved from https://thebossmagazine.com

Curran, E. (2018, 12). Large Employer Strategies to Combat Increasing Healthcare Costs: Trends in Direct Contracting, On-Site Clinics and More. *Center on Health Insurance Reforms (CHIR).* Retrieved from http://chirblog.org/large-employer-strategies-combat-increasing-healthcare-costs-trends-direct-contracting-site-clinics/

Dr. Robert Bree Collaborative. (2018). Total Knee and Total Hip Replacement Bundle and Warranty. *The Bree Collaborative.* http://www.breecollaborative.org/wp-content/uploads/TKRTHR-Bundle-Warranty-Final-Updated-072018.pdf

Japsen, B. (2018, December 20). Employer Health System Networks to Become More Exclusive. *Health Leaders Media*. Retrieved from https://www.healthleadersmedia.com

Johnson, T. L., Rinehart, D. J., Durfee, J., Brewer, D., Batal, H., Blum, J., ... & Gabow, P. (2015). For many patients who use large amounts of health care services, the need is intense yet temporary. *Health Affairs*, *34*(8), 1312-1319.

National Business Group on Health (NBGH). (2018). Large U.S. Employers Eye Changes to Health Care Delivery System as Cost to Provide Health Benefits Nears $15,000 per Employee. *National Business Group on Health (NBGH).* Retrieved from https://www.businessgrouphealth.org

Peck, K.A., Usadi, B., Mainor, A., Newton, H., Meara, E. (2018, 12). How ACOs are Caring for People with Complex Needs. *The Commonwealth Fund.* Retrieved from https://www.commonwealthfund.org

Peterson, M., Rolph, S. (2018). Improving Care by Redesigning Payment. *NEJM Catalyst.* Retrieved from https://catalyst.nejm.org

Scientific Registry of Transplant Receipients. Find and Compare Transplant Programs. Retrieved from https://www.srtr.org/

Slotkin, J. R., Ross, O. A., Coleman, M. R., & Ryu, J. (2017). Why GE, Boeing, Lowe's, and Walmart are directly buying health care for employees. *Harvard Business Review*, 1-7.

Valderas, J. M., Gangannagaripalli, J., Nolte, E., Boyd, C. M., Roland, M., Sarria-Santamera, A., ... & Rijken, M. (2019). Quality of care assessment for people with multimorbidity. *Journal of internal medicine*, *285*(3), 289-300.

Valuck, T., Blaisdell, D., Dugan, D. P., Westrich, K., Dubois, R. W., Miller, R. S., & McClellan, M. (2017). Improving oncology quality measurement in accountable care: filling gaps with cross-cutting measures. *Journal of managed care & specialty pharmacy*, *23*(2), 174-181.

Woods, L. (2019). Lisa Woods on Walmart's Center of Excellence Strategy. *Catalyst for Payment Reform*. Retrieved from https://www.catalyze.org/lisa-woods-walmart-strategy/

Wu, SJ., Ma, Q., Martin, P., Devries, A. (2016). Finding the Value in Value-Designation: Evidence and Opportunity in the United States. *Managed Care Magazine.* Retrieved from https://www.managedcaremag.com

Xu, X., Mishra, G. D., & Jones, M. (2017). Evidence on multimorbidity from definition to intervention: an overview of systematic reviews. *Ageing Research Reviews*, *37*, 53-68.

Zullig, L. L., Whitson, H. E., Hastings, S. N., Beadles, C., Kravchenko, J., Akushevich, I., & Maciejewski, M. L. (2016). A systematic review of conceptual frameworks of medical complexity and new model development. *Journal of general internal medicine*, *31*(3), 329-337.

Networks Based on Value

Ahluwalia, S. C., Damberg, C. L., Silverman, M., Motala, A., & Shekelle, P. G. (2017). What defines a high-performing health care delivery system: a systematic review. *The Joint Commission Journal on Quality and Patient Safety*, *43*(9), 450-459.

American Medical Group Management Association. (2017). Taking Risk, 3.0: Medical Groups Are Moving to Risk…Is Anyone Else? AMGA's Third Annual Survey on Taking Risk. *American Medical Group Association (AMGA).* Retrieved from http://www.amga.org

Business Wire. (2019, February 7). Cigna Transition to Value-Based Health Care Results in $600 Million in Medical Cost Savings. Retrieved from https://www.businesswire.com

Burwell, S. M. (2015). Setting value-based payment goals—HHS efforts to improve US health care. *N Engl J Med*, *372*(10), 897-899.

California Code of Regulations, Title 10, §2240.1. Adequacy and Accessibility of Provider Services. Retrieved from https://govt.westlaw.com

California Department of Health Care Services. (2017). California Medicaid Managed Care Final Rule: Network Adequacy Standards. Retrieved from https://www.dhcs.ca.gov

California Department of Health Care Services. (2017). Knox-Keene and Other Network Adequacy Standards. Retrieved from https://www.dhcs.ca.gov

Chen, L. M., Epstein, A. M., Orav, E. J., Filice, C. E., Samson, L. W., & Maddox, K. E. J. (2017). Association of practice-level social and medical risk with performance in the Medicare Physician Value-Based Payment Modifier Program. *Jama*, *318*(5), 453-461.

Cigna. (2019). Corporation Investor Presentation. Retrieved from https://www.cigna.com.

Dafny, L., Lee, T.H. (2016). New marketplace survey: physicians and hospitals differ on how to reduce costs. *NEJM Catalyst.* Retrieved from https://catalyst.nejm.org

Drake, C. (2019). What are consumers willing to pay for a broad network health plan?: Evidence from covered California. *Journal of health economics*, *65*, 63-77.

Feeley, T. W., & Mohta, N. S. (2018). Transitioning Payment Models: Fee-for-Service to Value-Based. Retrieved from https://catalyst.nejm.org

Friedberg, M. W., Chen, P. G., Simmons, M., Sherry, T., Mendel, P., Raaen, L., ... & Botts, C. (2018). *Effects of Health Care Payment Models on Physician Practice in the United States*. RAND Corporation and American Medical Association. Retrieved from https://www.rand.org

Health Care Payment Learning & Action Network. (2018). Measuring Progress: Adoption of Alternative Payment Models in Commercial, Medicaid, Medicare Advantage, and Medicare Fee-for-Service Programs. https://hcp-lan.org/2018-apm-measurement/

Heider, F., Kartika, T., & Rosenthal, J. (2017). Exploration of the Evolving Federal and State Promise of Delivery System Reform Incentive Payment and Similar Programs. *National Academy for State Health Policy, August.* Retrieved from https://www.macpac.gov

Hu, J., Schreiber, M., Jordan, J., George, D. L., & Nerenz, D. (2018). Associations between community sociodemographics and performance in HEDIS quality measures: a study of 22 medical centers in a primary care network. *American Journal of Medical Quality*, *33*(1), 5-13.

Japsen, B. (2017, February 2). UnitedHealth, Aetna, Anthem near 50% value-based care spending. *Forbes*. Retrieved from https://www.forbes.com

Japsen,B. (2017, April 27). Anthem Blue Cross nears 60% Value-Based Care Spend. *Forbes.* Retrieved from https://www.forbes.com

Levin, R. (2016). Journey to value: the state of value-based reimbursement in 2016. *McKesson*. Retrieved from http://mhsdialogue.com

Joynt Maddox, K. E., Epstein, A. M., Samson, L. W., & Chen, L. M. (2017). Performance and participation of physicians in year one of Medicare's value-based payment modifier program. *Health Affairs*, *36*(12), 2175-2184.

Polsky, D., Candon, M. K., Chatterjee, P., & Chen, X. (2018). Scope of primary care physicians' participation in the health insurance marketplaces. *Health Affairs*, *37*(8), 1252-1256.

Roberts, E. T., Zaslavsky, A. M., & McWilliams, J. M. (2018). The value-based payment modifier: program outcomes and implications for disparities. *Annals of internal medicine*, *168*(4), 255-265.

Ryan, A. M., Shortell, S. M., Ramsay, P. P., & Casalino, L. P. (2015). Salary and quality compensation for physician practices participating in accountable care organizations. *The Annals of Family Medicine*, *13*(4), 321-324.

Sharp, J. P., Conway, P. H., and Rajkumar, R. (2019, January 23). Engineering a Rapid Shift to Value-Based Payment in North Carolina: Goals and Challenges for a Commercial ACO Program. *NEJM Catalyst*. https://catalyst.nejm.org

Hawkins, M. (2016). Survey of America's physicians. *Practice patterns & perspectives. The Physicians Foundation, Memphis*. Retrieved from https://physiciansfoundation.org

Washington State Health Care Authority. (2018). HCA's Value Based Roadmap 2018-2021 & Beyond. Retrieved from https://www.hca.wa.gov

Washington State Health Care Authority. (2018). Value Based Purchasing Survey Results 2017 VBP Experience. Retrieved from: https://www.hca.wa.gov

Promotion of Effective Primary Care

American Academy of Family Physicians. (2018). Vision and Principles of a Quality Measurement Strategy for Primary Care (Position Paper). Retrieved from https://www.aafp.org

Almalki, Z. S., Karami, N. A., Almsoudi, I. A., Alhasoun, R. K., Mahdi, A. T., Alabsi, E. A., ... & Alotaib, T. M. (2018). Patient-centered medical home care access among adults with chronic conditions: National Estimates from the medical expenditure panel survey. *BMC health services research*, *18*(1), 744.

Bailit, M. H., Friedberg, M. W., & Houy, M. L. (2017). Standardizing the measurement of commercial health plan primary care spending. *New York: Milbank Memorial Fund. Retrieved from* https://www.milbank.org

Bannow, T. (2019, January 30). UnitedHealth pulling out of HCCI may mean no new data after 2017. *Modern Healthcare.* Retrieved from: https://www.modernhealthcare.com

Barnett, M. L., Ray, K. N., Souza, J., & Mehrotra, A. (2018, November 27). Trends in telemedicine use in a large commercially insured population, 2005-2017. *Jama*, *320*(20), 2147-2149.

Child and Adolescent Health Measurement Initiative. 2016-2017 National Survey of Children's Health (NSCH) data query. Data Resource Center for Child and Adolescent Health supported by Cooperative Agreement U59MC27866 from the U.S. Department of Health and Human Services, Health Resources and Services Administration's Maternal and Child Health Bureau (HRSA MCHB). Retrieved February 1, 2019 from http://childhealthdata.org

Hargraves, J., and Frost, A. (2018). Trends In Primary Care Visits. *Health Care Cost Institute.* Retrieved from https://www.healthcostinstitute.org

Koller, C. F., & Khullar, D. (2017, November 2). Primary care spending rate—a lever for encouraging investment in primary care. *New England Journal of Medicine*, *377*(18), 1709-1711.

Oregon Health Authority. (2018). Primary Care Spending in Oregon: A Report to the Oregon State Legislature. Retrieved from https://www.oregon.gov

Pai, A. (2015, April 30). UnitedHealthcare now covers Doctor On Demand, American Well video visits too. MobiHealthNews. Retrieved from https://www.mobihealthnews.com

Patient Centered Primary Care Collaborative (PCPCC). (2019, January 11). PCPCC Applauds Delaware Report Recommending Increased Investment in Primary Care. Retrieved from https://www.pcpcc.org

Patient Centered Primary Care Collaborative (PCPCC). Primary Care Innovations and PCMH Map by State. Retrieved February 2, 2019 from https://www.pcpcc.org

Pittman, D. (2016, January 11). Major insurer adds telemedicine in Medicare Advantage plans. *Politico*. Retrieved from https://www.politico.com

Promotion of Integrated Delivery Systems and Accountable Care Organizations

Agency for Healthcare Research and Quality. (2017). Compendium of U.S. health systems, 2016. Rockville, MD. Retrieved from http://www.ahrq.gov/chsp/compendium/index.html

Baker, L. C., Bundorf, M. K., & Kessler, D. P. (2014). Vertical integration: hospital ownership of physician practices is associated with higher prices and spending. *Health Affairs*, *33*(5), 756-763.

Baker, L. C., Bundorf, M. K., & Kessler, D. P. (2016). The effect of hospital/physician integration on hospital choice. *Journal of health economics*, *50*, 1-8.

Budetti, P. P., Shortell, S. M., Waters, T. M., Alexander, J. A., Burns, L. R., Gillies, R. R., & Zuckerman, H. (2002). Physician and health system integration. *Health Affairs*, *21*(1), 203-210.

Burns, L. R., Goldsmith, J. C., & Sen, A. (2014). Horizontal and vertical integration of physicians: a tale of two tails. In *Annual review of health care management: Revisiting the evolution of health systems organization* (pp. 39-117). Emerald Group Publishing Limited.

Casalino, L. P. (2017). The Medicare Access and CHIP Reauthorization Act and the corporate transformation of American medicine. *Health Affairs*, *36*(5), 865-869.

Casalino, L. P., Wu, F. M., Ryan, A. M., Copeland, K., Rittenhouse, D. R., Ramsay, P. P., & Shortell, S. M. (2013). Independent practice associations and physician-hospital organizations can improve care management for smaller practices. *Health Affairs*, *32*(8), 1376-1382.

Centers for Medicare & Medicaid Services (CMS), HHS (2015) Medicare Program: Medicare Shared Savings Program: Accountable Care Organizations. Retrieved from https://www.federalregister.gov/d/2015-14005/p-1574

Centers for Medicare and Medicaid Services. (2017). Fast Facts: All Medicare Shared Savings Program (Shared Savings Program) Accountable Care Organizations (ACOs). Retrieved from https://www.cms.gov

Enthoven, A. C. (2009). Integrated delivery systems: the cure for fragmentation. *American Journal of Managed Care*, *15*(12), S284.

Glied, S. A., & Altman, S. H. (2017). Beyond antitrust: health care and health insurance market trends and the future of competition. *Health Affairs*, *36*(9), 1572-1577

Huberfeld, N. (2004). Be not afraid of change: time to eliminate the corporate practice of medicine doctrine. *Health Matrix*, *14*, 243.

Kaufman, B. G., Spivack, B. S., Stearns, S. C., Song, P. H., & O'Brien, E. C. (2019). Impact of accountable care organizations on utilization, care, and outcomes: a systematic review. *Medical Care Research and Review*, *76*(3), 255-290.

Landman, J. H., Moore, K. D., & Muhlestein, D. (2018). what is driving total cost of care? Providing stronger incentives for adoption of value-based payment models and encouraging competition among well-integrated delivery systems are two strategies that hold significant promise for reducing the nation's total cost of care. *Healthcare Financial Management*, *72*(5), 72-77.

Machta, R. M., Maurer, K. A., Jones, D. J., Furukawa, M. F., & Rich, E. C. (2019). A systematic review of vertical integration and quality of care, efficiency, and patient-centered outcomes. *Health care management review*, *44*(2), 159-173.

Muhlestein, D., Saunders, R., Richards, R., & McClellan, M. (2018). Recent progress in the value journey: growth of ACOs and value-based payment models in 2018. *Health Affairs Blog*. Retrieved from https://www.healthaffairs.org

National Association of Accountable Care Organizations. (2016). *ACOs at a Crossroads: Cost, Risk and MACRA White Paper*. Retrieved from https://www.naacos.com

Reschovsky, J. D., & Rich, E. (2015). Hospital acquisition of physician groups: on the road to value-based or higher-priced care?. *JAMA internal medicine*, *175*(12), 1939-1941.

Rodriguez, H. P., McClellan, S. R., Bibi, S., Casalino, L. P., Ramsay, P. P., & Shortell, S. M. (2016). Increased use of care management processes and expanded health information technology functions by practice ownership and Medicaid revenue. *Medical Care Research and Review*, *73*(3), 308-328.

Safran, D. G., Wilson, I. B., Rogers, W. H., Montgomery, J. E., & Chang, H. (2002). Primary care quality in the Medicare Program: comparing the performance of Medicare health maintenance organizations and traditional fee-for-service medicare. *Archives of Internal Medicine*, *162*(7), 757-765.

Scheffler, R. M., Arnold, D. R., & Whaley, C. M. (2018 September). Consolidation trends in California's health care system: impacts on ACA premiums and outpatient visit prices. *Health Affairs*, *37*(9), 1409-1416.

Short, M. N., & Ho, V. (2019, February 9). Weighing the effects of vertical integration versus market concentration on hospital quality. *Medical Care Research and Review*, 1077558719828938.

Scott, K. W., Orav, E. J., Cutler, D. M., & Jha, A. K. (2017, January 3). Changes in hospital–physician affiliations in US hospitals and their effect on quality of care. *Annals of internal medicine*, *166*(1), 1-8.

Sharp, J.P., Conway, P.H., Rajkumar, R. (2019, January 23). Engineering a Rapid Shift to Value-Based Payment in North Carolina: Goals and Challenges for a Commercial ACO Program. *NEJM Catalyst*. Retrieved from https://catalyst.nejm.org

Appropriate Interventions

Burns, J. (2018, July 31). The Few. The Effective. The Cheapest. The Waste-Free Formulary. *Managed care (Langhorne, Pa.)*, *27*(8), 17-18. Retrieved from: https://www.managedcaremag.com

Express Scripts. (2018). 2018 Drug Trend Report. Retrieved from http://lab.express-scripts.com/lab/drug-trend-report

Centers for Medicare and Medicaid Services. State Drug Utilization Data. https://www.medicaid.gov/medicaid/prescription-drugs/state-drug-utilization-data/index.html

Physician Quality Alliance. (n.d.). PQA Quality Measures. Retrieved from https://www.pqaalliance.org/pqa-measures

Sites and Expanded Approaches to Care Delivery

Hospital Care

Agency for Healthcare Research and Quality. (2018). National Scorecard on Hospital-Acquired Conditions Updated Baseline Rates and Preliminary Results 2014–2016. Retrieved from https://www.ahrq.gov

Agency for Healthcare Research and Quality. Patient Safety Indicators. Retrieved from https://www.qualityindicators.ahrq.gov/Modules/psi_resources.aspx

All Payer Claims Datawarehouse Council. State Data Access. Retrieved from https://www.apcdcouncil.org/state-data-access

California Department of Public Health. Hospital level data on maternity procedures, in-hospital breastfeeding, and hospital acquired conditions.

California Department of Public Health. (2018). Annual Report of Healthcare-Associated Infections in California Hospitals, 2017. Retrieved from www.cdph.ca.gov

California Health Care Foundation. (2017). Small Numbers Can Have Big Consequences: Many California Hospitals Perform Dangerously Low Numbers of Cancer Surgeries. Retrieved from www.chcf.org

California Hospital Compare. Retrieved from https://www.calhospitalcompare.org/

California Hospital Compare. Honor Roll. Retrieved from http://calhospitalcompare.org/features/third-annual-c-section-honor-roll-hospitals-annouced/

California Joint Replacement Registry. (2018). Annual Report 2018: California State Registry Digital Supplement. Retrieved from http://www.ajrr.net/images/annual_reports/AAOS-AJRR-2018-Annual-CA-Supplement-final.pdf

California Maternal Quality Care Collaborative. Maternal Data Center. Retrieved from https://www.cmqcc.org/maternal-data-center

Centers for Disease Control and Prevention. National Healthcare Safety Network (NHSN) healthcare-associated infection measures. Retrieved from https://www.cdc.gov/nhsn/datastat/index.html

Centers for Medicare and Medicaid Services. Hospital-Acquired Condition Reduction Program. Retrieved from https://www.qualitynet.org

Centers for Medicare and Medicaid Services. Hospital Compare. Retrieved from https://www.medicare.gov/hospitalcompare/search.html

Centers for Medicare and Medicaid Services. Hospital Compare Overall Hospital Ratings. Retrieved from https://www.medicare.gov/hospitalcompare/About/Hospital-overall-ratings.html .

Centers for Medicare and Medicaid Services. Comprehensive Care for Joint Replacement (CJR) Model. Retrieved June 19, 2019 innovation.cms.gov/Files/x/cjr-py1-2-npra.xlsx

The Leapfrog Group. Hospital Safety Grade. Retrieved from https://www.hospitalsafetygrade.org/

Office of Statewide Health Planning and Development. (2013-15). Volume of Cancer Surgeries Performed in California Hospitals. Retrieved from https://oshpd.ca.gov/data-and-reports/healthcare-quality/volume-cancer-surgery-reports/

Office of Statewide Health Planning and Development. Hospital Volume and Utilization Indicators for California. Retrieved from https://oshpd.ca.gov/data-and-reports/healthcare-quality/ahrq-quality-indicators/#volume-indicators

Office of Statewide Health Planning and Development. (2015). Number of Selected Inpatient Medical Procedures in California Hospitals. Retrieved from https://data.chhs.ca.gov/dataset/number-of-selected-inpatient-medical-procedures-in-california-hospitals

PricewaterhouseCoopers. (2019, June 11). Interview with Bruce Spurlock, MD, Executive Director, Cal Hospital Compare.

PricewaterhouseCoopers. (2019, June 19). Interview with Chris Krawczyk, PhD., Chief Analytics Office, Office of Statewide Health Planning and Development.

ProPublica's Surgeon Scorecard. (2015). Retrieved from https://projects.propublica.org/surgeons/

Expanded Approaches to Care Delivery (Non-Hospital Sites)

Bachrach D, Frohlich J, Garcimonde A, and Nevitt, K. (2015). The Value Proposition of Retail Clinics. *Robert Wood Johnson Foundation*. Retrieved from https://www.rwjf.org

Barnett, M. L., Ray, K. N., Souza, J., & Mehrotra, A. (2018, 11). Trends in Telemedicine Use in a Large Commercially Insured Population, 2005-2017. JAMA, 320 (20), 2147.

Centers for Medicare and Medicaid Services. (2018). Report to Congress on Telehealth Utilization and Future Opportunities. Retrieved from https://www.cms.gov

Douglas, M. D., Xu, J., Heggs, A., Wrenn, G., Mack, D. H., & Rust, G. (2017). Assessing Telemedicine Utilization by Using Medicaid Claims Data. Psychiatric Services , 68 (2), 173–178.

Harvey, J. B., Valenta, S., Simpson, K., Lyles, M., & McElligott, J. (2019). Utilization of Outpatient Telehealth Services in Parity and Nonparity States 2010–2015. Telemedicine and E-Health, 25 (2), 132–136.

Medicare Payment Advisory Commission. (2018). Report to the Congress: Medicare Payment Policy. Chapter 16: Mandated report: Telehealth services and the Medicare program. Retrieved from http://www.medpac.gov

Park, J., Erikson, C., Han, X., & Iyer, P. (2018, 11). Are State Telehealth Policies Associated With The Use Of Telehealth Services Among Underserved Populations? Health Affairs, 37 (12), 2060–2068.

Totten AM, Womack DM, Eden KB, McDonagh MS, Griffin JC, Grusing S, Hersh WR. (2016). Telehealth: Mapping the Evidence for Patient Outcomes From Systematic Reviews. *Agency for Healthcare Research and Quality*. Retrieved from https://effectivehealthcare.ahrq.gov

Wu, C., Wu, Z., Yang, L., Zhu, W., Zhang, M., Zhu, Q., … Pan, Y. (2018, 10). Evaluation of the clinical outcomes of telehealth for managing diabetes. Medicine , 97 (43), e12962.

Yu, J., Mink, P. J., Huckfeldt, P. J., Gildemeister, S., & Abraham, J. M. (2018). Population-Level Estimates Of Telemedicine Service Provision Using An All-Payer Claims Database. *Health Affairs*, *37*(12), 1931-1939.

Consumer and Engagement Patient

Adashi, E. Y., & Tang, K. S. (2019). Consumer-Directed Health Care: The Uncertain Future of Price Transparency Initiatives. *The American journal of medicine*.

Aliferis, L. (2015, January). Variation in prices for common medical tests and procedures. *JAMA internal medicine*, *175*(1), 11-12.

Carman, K. L., Dardess, P., Maurer, M., Sofaer, S., Adams, K., Bechtel, C., & Sweeney, J. (2013, February). Patient and family engagement: a framework for understanding the elements and developing interventions and policies. *Health Affairs*, *32*(2), 223-231.

Claxton, G., Rae, M., Long, M., Damico, A., Whitmore, H. (2018). Employer Health Benefits 2018 Annual Survey. Kaiser Family Foundation. Retrieved from https://www.kff.org

Betts, D. and Korenda, L. (2018). Actual vs. likely use of quality and price-searching tools. *Deloitte Insights.* Retrieved from https://www2.deloitte.com

De Mik, S. M. L., Stubenrouch, F. E., Balm, R., & Ubbink, D. T. (2018). Systematic review of shared decision-making in surgery. *British Journal of Surgery*, *105*(13), 1721-1730.

Desai, S., Hatfield, L. A., Hicks, A. L., Chernew, M. E., & Mehrotra, A. (2016, May). Association between availability of a price transparency tool and outpatient spending. *Jama*, *315*(17), 1874-1881.

Desai, S., Hatfield, L. A., Hicks, A. L., Sinaiko, A. D., Chernew, M. E., Cowling, D., ... & Mehrotra, A. (2017). Offering a price transparency tool did not reduce overall spending among California public employees and retirees. *Health affairs*, *36*(8), 1401-1407.

Frostin,P. (2018). Consumer Engagement in Health Care Among Millennials, Baby Boomers, and Generation X: Findings from the 2017 Consumer Engagement in Health Care Survey. *EBRI Issue Brief,* (444). Retrieved from: https://www.ebri.org

Frost, A., & Newman, D. (2016, March). Spending on shoppable services in health care. *Health Care Cost Institute Issue Brief*, (11). Retrieved from https://www.healthcostinstitute.org

Gourevitch, R. A., Desai, S., Hicks, A. L., Hatfield, L. A., Chernew, M. E., & Mehrotra, A. (2017, May 19). Who uses a price transparency tool? Implications for increasing consumer engagement. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, *54*, 0046958017709104.

Hibbard, J. H., Stockard, J., Mahoney, E. R., & Tusler, M. (2004). Development of the Patient Activation Measure (PAM): conceptualizing and measuring activation in patients and consumers. *Health services research*, *39*(4p1), 1005-1026.

Hibbard, J. H., Greene, J., & Overton, V. (2013, February). Patients with lower activation associated with higher costs; delivery systems should know their patients''scores'. *Health affairs*, *32*(2), 216-222.

Hibbard, J. H., Greene, J., Sacks, R. M., Overton, V., & Parrotta, C. (2017, July 19). Improving population health management strategies: identifying patients who are more likely to be users of avoidable costly care and those more likely to develop a new chronic disease. *Health services research*, *52*(4), 1297-1309.

Higgins, A., Brainard, N., & Veselovskiy, G. (2016, February 16). Characterizing health plan price estimator tools: findings from a national survey. *The American journal of managed care*, *22*(2), 126-131.

Jacobs, L. M., Brindis, C. D., Hughes, D., Kennedy, C. E., & Schmidt, L. A. (2018). Measuring consumer engagement: a review of tools and findings. *The Journal for Healthcare Quality (JHQ)*, *40*(3), 139-146.

Kaiser Family Foundation (KFF). (2018). 2018 Employer Health Benefits Survey. Kaiser Family Foundation (KFF). Retrieved from https://www.kff.org

Kullgren, J. T., Duey, K. A., & Werner, R. M. (2013). A census of state health care price transparency websites. *Jama*, *309*(23), 2437-2438.

Kullgren, J. T., Cliff, E. Q., Krenz, C., West, B. T., Levy, H., Fendrick, A. M., & Fagerlin, A. (2018, March). Consumer behaviors among individuals enrolled in high-deductible health plans in the United States. *JAMA internal medicine*, *178*(3), 424-426.

Kratka, A., Wong, C. A., Herrmann, R., Hong, K., Karediya, A., Yang, I., & Ubel, P. A. (2018, March). Finding Health Care Prices Online—How Difficult Is It to Be an Informed Health-Care Consumer? *JAMA internal medicine*, *178*(3), 423-424.

Légaré, F., Adekpedjou, R., Stacey, D., Turcotte, S., Kryworuchko, J., Graham, I. D., ... & Donner-Banzhoff, N. (2018). Interventions for increasing the use of shared decision making by healthcare professionals. *Cochrane Database of Systematic Reviews*, (7).

Medicaid and CHIP Payment and Access Commission (MACPAC). (2016). The use of healthy behavior incentives in Medicaid. *Medicaid and CHIP Payment and Access Commission (MACPAC).* Retrieved from https://www.macpac.gov

Medicaid and CHIP Payment and Access Commission (MACPAC). (2018). Medicaid Work and Community Engagement Requirements. Medicaid and CHIP Payment and Access Commission (MACPAC). Retrieved from https://www.macpac.gov

Mehrotra, A., Brannen, T., & Sinaiko, A.D. (2014). Use patterns of a state health care price transparency. *The Journal of Health Care Organization, Provision, and Financing*.

Mehrotra, A., Dean, K. M., Sinaiko, A. D., & Sood, N. (2017). Americans support price shopping for Health care, but few actually seek out price information. *Health Affairs*, 36 (8), 1392–1400.

Mehrotra, A., Chernew, M. E., & Sinaiko, A. D. (2018). Promise and reality of price transparency. *New England Journal of Medicine,* 378 (14), 1348–1354.

National Business Group on Health (NBGH). (2018). Making Well-Being Work Ninth Annual Employer-Sponsored Health and Well-Being Survey. Fidelity. https://workplace.fidelity.com

National Committee for Quality Assurance (NCQA). (2019). Proposed Retirement of Selected Items in HEDIS® CAHPS® 2020. *NCQA*. Retrieved from https://www.ncqa.org

Saunders, R., Vulimiri, M., Japinga, M., Blesser, W., & Wong, C. (2018). Are carrots good for your health? Current evidence on health behavior incentives in the Medicaid program. *Duke Margolis Center for Health Policy.* Retrieved from https://healthpolicy.duke.edu

Schleifer, D., Silliman, R., & Rinehart, C. (2017). Still searching: How people use health care price information in the United States, New York State, Florida, Texas and New Hampshire. *Public Agenda*. Retrieved from https://nyshealthfoundation.org

Shih, Y.-C. T., Nasso, S. F., & Zafar, S. Y. (2018). Price transparency for whom? In search of out-of-pocket cost estimates to facilitate cost communication in cancer care. *PharmacoEconomics*, 36 (3), 259–261.

Sinaiko, A. D., & Rosenthal, M. B. (2016). Examining a health care price transparency tool: who uses it, and how they shop for care. *Health Affairs*, 35 (4), 662–670.

Volpp, K.G., & Mohta, N.S., (2017). Patient Engagement Survey: Technology tools gain support - but cost is a hurdle. *NEJM Catalyst*. Retrieved from https://catalyst.nejm.org

Population-Based and Community Health Promotion Beyond Enrolled Population

Wesson, D., Kitzman, H., Halloran, K. H., & Tecson, K. (2018). Innovative population health model associated with reduced emergency department use and inpatient hospitalizations. *Health Affairs*, *37*(4), 543-550.

Appendix 4: Principles to Guide Measures and Benchmarks Selection

Covered California has articulated both key factors it considers in its measure selection (e.g., the evidence and endorsement of the measure, burden, or availability of benchmarks) and the critical importance of aligning its measure with those required by other purchasers. To inform its review and update of its criteria and principles for measure and benchmark selection, Covered California should consider nationally adopted standards.

Principles to Guide Measure Selection

PwC identified the following general principles for Covered California to consider when selecting measures:[590]

Table 1. Potential Covered California General Principles to Guide Measure Selection

Preferred Measure Criterion	Preferred Measure Attributes
Evidence Based	Developed/evaluated by recognized national or regional organization (e.g., National Quality Forum (NQF) endorsed)
Outcomes-based where possible	Defined from a range of outcome perspectives: patient reported, functional status, appropriate/inappropriate use of services, care coordination
Address high impact measure areas	Conditions and services representative of the diversity of members in the program: High prevalence, high severity of illness, high morbidity/ mortality
Consistent with program requirements and goals	Matched to program priorities and populations
Specification	*Clarity*: definitions of numerators and denominators *Validity*: assesses what is intended to be measured *Reliable*: repeatable, population is of sufficient size to be credible and minimize random and year-over-year measure variation *Risk adjustment*: applied as appropriate
Feasible to collect/minimize reporting burden	*Attribution*: Level is appropriate to health plan and/or provider Accessible data sources, limited number of measures
Useable and relevant	Understandable to intended users and helpful for quality improvement and decision-making

[590] These principles were adapted by PwC using the following sources: The Robert Wood Johnson Foundation Buying Value Toolkit, Centers for Medicaid and Medicare Services Meaningful Measures Framework, and American College of Physicians Performance Measurement Committee.

Aligned with other measure sets	Consensus adoption of measure leverages potential for improvement and reduces reporting burden

Principles to Guide Benchmark Selection

PwC identified the following general principles for Covered California to consider following when selecting benchmarks:[591]

Table 2. Potential Covered California General Principles to Guide Benchmark Selection

Criterion	Description/Attributes
Useable and relevant	Understandable to intended users and helpful for quality improvement and decision-making
Has a benchmark/performance target to identify minimum "floor" and best practice	National, state, regional measurement data are available for comparison
Measurement is updated and collected over time	Consistent reporting to assess changes in performance
Adoption and promotion will increase value	Improvement will contribute to change in outcomes: • Costs • Improve appropriate care: target both underuse and overuse • Reduce gap between baseline and best-practice
Appropriate for use in Pay for Performance and Alternative Payment Models	Contractually tied to payment incentives and/or penalties • Clearly defined for measurement • Sufficient size to motivate improvement

Varying Benchmarks for Different Purposes

Based on PwC's review of current practices in the use and application of measure benchmarks, Covered California's selection of benchmarks should vary with benchmark purpose and how results will be evaluated. For example, to achieve certain objectives, it may be appropriate for

[591] These principles were adapted by PwC using the following sources: The Robert Wood Johnson Foundation Buying Value Toolkit, Centers for Medicaid and Medicare Services Meaningful Measures Framework, and American College of Physicians Performance Measurement Committee.

Covered California to vary measures and benchmarks depending on plan or region-specific circumstances or on the use of the measure.

Table 3. Potential Covered California General Principles for Varying Benchmarks According to Purpose

Benchmark Purpose	Recommended Principles
Aspirational benchmark	Compare to: • National QHP 90th percentile as measured in QRS • QHP average performance in high performing states • National or California Commercial population 75th-90th percentile
Minimum performance benchmark	Compare to: • National QHP averages/50th percentile as measured in QRS • National or California Commercial population 50th percentile
Incentivize performance improvement	Close the Gap: Measure annual % improvement between QHP performance and benchmark
Non-standard measures and measures without benchmarks	• Report QHP current baseline performance Consider state and national average as minimum performance benchmark • Consider target benchmarks adopted by professional organizations and "high performing" health care providers and systems as aspirational benchmark
Benchmark for monetary incentives/sanctions	• Use well-defined measures supported by accurate, complete, and timely data • Leverage Covered California health plan claims and encounter analysis to establish baselines and monitor trends for additional measures

Even when measures are standardized, benchmark results may vary depending on the selected comparison group (see Table 4, Comparison of Covered California's QHP and Commercial HEDIS Scores - Selected Measures). For the selected measures above, California QHPs on average:

- Perform better than the 50th percentile of QHPs nationally
- Show mixed results compared to the 50th percentile commercial plans in the US and California, and when compared to the high performing states of Massachusetts and Minnesota:
    - Similar or better on Diabetes Care and Controlling High Blood Pressure; and
    - Worse on Colorectal Cancer Screening.

Table 4. Comparison of Covered California's QHP and Commercial HEDIS Scores - Selected Measures

	2018 QHP					2018 Commercial HEDIS (All Lines of Business; Non-QHP)							
	California			US		US		California		Massachusetts		Minnesota	
Measure	Best	Worst	Avg	90 Pctl	50 Pctl	90 Pctl	50 Pctl	90 Pctl	50 Pctl	90 Pctl	50 Pctl	90 Pctl	50 Pctl
Diabetes Care: HbA1c <8.0%	73	52	64	69	59	66	57	68	64	71	61	66	62
Controlling High Blood Pressure	82	43	63	77	61	75	58	78	56	79	63	75	50
Colorectal Cancer Screening	78	34	53	68	54	73	61	74	64	79	71	70	62

The variation in measure references to the QHP performance illustrates that there is no "perfect" consistent benchmark that Covered California should use. Rather, Covered California should select the reference point(s) it considers most appropriate and make the performance results public in such a way as to enable others to make alternate comparisons.

Throughout this report, PwC recommends, where available, Covered California consider using two consistent benchmarks to frame the performance of its QHPs: (1) comparison to QHP national benchmarks and (2) comparison to Quality Compass or other consistent national measures for commercial and Medicaid performance nationally at the 50th, 75th and 90th percentiles.

Appendix 5: Population-Based & Community Health Promotion Beyond Enrolled Population

This appendix on Population-Based and Community Health Promotion Beyond Enrolled Population is presented in the appendix because Covered California is reevaluating this contract requirement considering the current best evidence. In the evidence review commissioned by Covered California, Health Management Associates (HMA) found significant public health evidence about effective strategies for promoting population-based and community health, their review did not find research on specific interventions that health plans have taken to positively impact population health for non-enrolled populations. As such, the evidence review in this appendix focuses on areas where public health strategies have been shown to have benefit.

Appendix 5, Population-Based and Community Health Promotion Beyond Enrolled Population, is organized into two sections:

Section 1. Review of Evidence for Population-Based and Community Health Promotion Beyond Enrolled Population was prepared by Health Management Associates (HMA) and provides a review of the evidence related to health plans' activities and interventions to address population health beyond that of enrolled populations.

Section 2. Review of Measures and Benchmarks for Population-Based and Community Health Promotion Beyond Enrolled Population was prepared by PricewaterhouseCoopers (PwC) and provides a review of Covered California's current required measures, considerations, and recommendations for revising its measures in this area.

Section 1. Review of Evidence for Population-Based and Community Health Promotion Beyond Enrolled Population

Covered California contracted with HMA to conduct an evidence review in ten strategy areas that health insurance payers can utilize to drive value in health care. The review's results are presented here.[592] This appendix includes direct citations of the best evidence within the discussion of this strategy; information from additional sources was also used for this report and is listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates.

Background

A groundbreaking study produced by a partnership of leading research and policy groups in California validates what those in the field have known intuitively: community-based prevention improves lives and saves money for government, business, health care, families and individuals. The study, *Prevention for a Healthier California: Investments in Disease Prevention Yield Significant Savings, Stronger Communities* demonstrates that many effective prevention programs have resulted in lowering rates of diseases that are related to physical activity, nutrition, and smoking. The evidence shows that implementing these programs in communities in California could reduce rates of type 2 diabetes and high blood pressure by 5 percent within 2 years; reduce heart disease, kidney disease, and stroke by 5 percent within 5 years; and reduce

[592] To view a more detailed description of HMA's approach, project team, and methods for literature review and evidence gathering, please see Appendix 1, Background on Expert Review of Evidence and Measures.

some forms of cancer, arthritis, and chronic obstructive pulmonary disease by 2.5 percent within 10 to 20 years.

The study demonstrated that prevention can produce significant health care savings in California, that an investment of $10 per person per year in programs to prevent tobacco use, increase physical activity, and improve nutrition could save the state more than $1.7 billion in annual health care costs within five years, and that the savings would accrue to both public and private health care payers. Out of the $1.7 billion, Medicare could save more than $468 million, Medi-Cal could save more than $168 million, and private payers could save almost $1.1 billion. Targeting prevention investments in communities with health disparities could potentially lead to even greater returns. If investments were targeted toward communities with the highest rates of identified conditions, the return on investment would likely be much greater. Finally, the study identified economic consequences of improved health beyond direct financial savings, including improved productivity, reduced disability, and increased school attendance.[593]

To move in the direction of achieving these types of gains in population health and this magnitude of cost savings, multiple sectors in California would need to work together to invest and align efforts to implement evidence-based prevention practices. On a local level, Covered California issuers and related networks of clinical provider organizations, along with local government including health department partners, community-based organizations, schools, business and others could achieve significant improvements in population health and resulting cost savings.

Current Covered California contractual requirements include an expectation that contracted issuers will participate in activities and interventions to address population health beyond that of enrolled populations. While HMA found significant public health evidence about effective strategies for promoting population-based and community health, the review did not find research on specific interventions that health plans have taken to impact population health beyond the enrolled population. Many examples of issuers' activities to address non-medical needs for enrolled populations were identified.

HMA has identified three key initiatives that disseminate evidence-based guidelines, provide implementation support, or set public health goals grounded in evidence on value:

- The CDC's 6|18 Initiative lays out eighteen proven strategies to respond to six common, high cost health conditions.[594]
- The Community Preventive Services Task Force (CPSTF) presents its collected evidence-based findings and recommendations in the *Guide to Community Preventive Services* (Community Guide).[595] The *Community Guide* provides information on community preventive services, programs, and other population health.
- The HHS Office of Disease Prevention and Health Promotion's (ODPHP) decennial Healthy People framework is a science-based set of objectives to be achieved over a

[593] Prevention Institute and the California Endowment. Prevention for a Healthier California: Investments in Disease Prevention Yield Significant Savings, Stronger Communities. Trust for America's Health. October 2008.

[594] Centers for Disease Control and Prevention. July 2018.

[595] The Community Guide's findings and recommendations are accessible online at https://www.thecommunityguide.org/

decade.[596] *Healthy People 2020*'s benchmarks are monitored for progress over the current decade with a goal of meeting what the ODPHP considers its ambitious yet achievable agenda.

Covered California's challenge in supporting population and community health beyond its enrolled population is not a lack of evidence-based public health practices, but rather matching up the areas where issuers can play a role using their contractual relationships with providers and their community engagement efforts. By their nature, health plan issuers are focused on their covered population, seeking to reduce the overall risk and improving the health of that population. Improving the health of all community members in their service areas may feel like a reach for some issuers. For Covered California, the goal is to identify the overlap in the Venn diagram of helping members and making a positive impact on the community. One step in that direction is to require issuers to identify public health strategies that align with benefits or services they are providing to their members and extend those activities to the non-covered population in the communities they serve. Issuers can be given some flexibility in implementation but can be required to show community-level action based on evidence-based public health practices.

As HMA was not able to identify research showing positive impacts from issuer-administered public health efforts for non-enrolled populations, the findings focus on areas where public health strategies have been shown to have benefit.

Finding 1: Large-scale, evidence-based information dissemination and implementation support provide actionable resources for issuers and states.

Evidence Related to Population Health[597]

The project team investigated several large-scale population health focused projects that collect evidence-based information, organize the information for consumption by multiple stakeholders, and disseminate the information along with implementation guidelines and support. All three of the efforts described below rely on large volumes of evidence; their recommendations are embedded in research findings and they offer implementation guidance intended to help insurers, health systems and providers drive change based on this evidence.

While this makes them valuable tools for Covered California's issuers and providers working across the state, it is important to note that none of these efforts have been the subject of rigorous research into their national or regional impact. Given the scope of these projects and lack of control they have over how their findings and guidance are implemented, it is not clear how such research would be conducted. For this reason, this section provides information on these initiatives because the efforts are grounded in research, but HMA did not find and does not present information on their outcomes.

---

[596] Healthy People 2020 Compendium of Evidence-Based Interventions. Office of Disease Prevention and Health Promotion.

[597] In each strategy section, HMA identified the evidence that supports potential impact on the following evaluation outcomes: savings; quality; population health; provider burden; administrative burden; and disparities reduction.

CDC 6|18 Initiative. The CDC's 6|18 Initiative (the Initiative) collects and displays evidence-based interventions shown to impact six high cost conditions: tobacco use; high blood pressure; unintended pregnancy; uncontrolled asthma; poor antibiotic use; and type 2 diabetes.[598] The Initiative works with a range of partners including health care providers, public health workers, issuers, and employers who purchase insurance to widely disseminate information on the interventions that have been shown to be effective. The Initiative supports efforts to align clinical practice with value-based payments, a resource with particular relevance to Covered California and its issuers. One of the Initiative's stated purposes is to help private insurance payers identify interventions that will help their beneficiaries.

Each of the six high cost conditions included in the Initiative have been the subject of significant research. Not only are the conditions assessed as having a high cost, the Initiative has identified savings or other impacts associated with treatment.

Evidence Related to Savings

The Initiative's Evidence Summary on preventing unintended pregnancy identifies the following evidence-based interventions for payers:

- Reimburse providers for the full range of contraceptive services for women of childbearing age.
- Reimburse for immediate postpartum insertion of long-acting reversible contraceptives (LARC) by unbundling payment for LARC from other postpartum services.
- Remove administrative and logistical barriers to LARC contraception.

In addition, the Initiative provides health and cost evidence messaging for payer and providers and provides online access to data and research on evidence supporting each recommendation. For example, the Initiative cites research showing that immediate postpartum LARC placement averted more than 88 unintended pregnancies per 1,000 women over 2 years, which saved approximately $282,540 per 1,000 women over the period (more than $3,200 for each unintended pregnancy).

The Community Guide to Preventive Services (the Community Guide) is produced by the CPSTF, an independent group of public health and prevention experts first convened by HHS in 1996. The *Community Guide* draws on CPSTF members' research, practice, and policy expertise in community preventive services, public health, health promotion, and disease prevention. The 32 liaison organizations represent federal agencies and private national organizations; the CDC provides scientific and administrative support to the group. The *Community Guide* web site includes systematic evidence reviews and recommendations based on their reviews.

The CPSTF reviews intervention approaches in a wide range of public health topics:

[598] Centers for Disease Control and Prevention, 6|18 Initiative. https://www.cdc.gov/sixeighteen/index.html. Accessed January 2019.

- Adolescent Health
- Asthma
- Birth Defects
- Cancer
- Cardiovascular Disease
- Diabetes
- Emergency Preparedness
- Excessive Alcohol Consumption
- Health Communication and Health IT
- Health Equity
- HIV/AIDS, STIs and Pregnancy
- Mental Health
- Motor Vehicle Injury
- Nutrition
- Obesity
- Oral Health
- Physical Activity
- Tobacco
- Vaccination
- Violence
- Worksite Health

For example, the CDC promotes the following evidence-based population health interventions for tobacco cessation:

- Comprehensive smoke-free policies that prohibit smoking in all indoor workplaces and public places, including bars and restaurants, to prevent secondary smoke exposure.
- Increases in the unit price for tobacco products, which prevent young people from initiating tobacco use, decrease the number of people using tobacco, and reduce the amount of tobacco consumed.
- Health communication campaigns that use multiple-media formats; include graphic or hard-hitting images; are intended to change knowledge, attitudes, beliefs and behaviors affecting tobacco use; and provide tobacco users with information on resources to help them quit.[599]

Comprehensive tobacco prevention and control efforts involve the coordinated implementation of population-based interventions to prevent tobacco initiation among youth and young adults, eliminate exposure to secondhand smoke, promote tobacco cessation among adults and youth, and identify and eliminate tobacco-related disparities among sub-populations. The Prevention section of this report details additional research supporting the benefits of recommended interventions to reduce tobacco use.

Evidence Related to Quality and Outcomes

The *Community Guide* presents Interventions with relevance to groups, communities, and other populations. Recommendations include strategies such as health care system changes, laws, workplace and school programs and policies, and community-based programs. All interventions are designed to directly improve health; prevent or reduce risky behaviors, disease, injuries, complications, or detrimental environmental or social factors; or promote healthy behaviors and environments.

For each *Community Guide* systematic review, the researchers identify all relevant studies, assess their quality and summarize the evidence across studies. Studies are conducted by a coordination team under the guidance of a CDC coordinating scientist and with support from

[599] Office of the Associate Director for Policy, CDC, Tobacco Control Interventions. Reviewed June 2017.

Community Guide staff. Team members include topic areas experts, a CPSTF member, a Liaison, an economist, and one or more research fellows. The coordination team develops the review's conceptual framework and analytic framework, collects and analyzes data, and presents findings. Expert consultants provide advice to the team throughout the process. Once a review is complete, a dissemination team (CPSTF members, Liaisons and *Community Guide* staff) widely share the review and any new CPSTF recommendations and findings. This team includes translating science-based findings and recommendations into operational applications that can be used in public health strategies and programs.

CPSTF recommendations are based on:

- Evaluation of the strength and limits of published studies about community-based health promotion and disease prevention programs, services, and other approaches;
- Assessment of whether the intervention approaches effectively promoting health and preventing disease, injury and disability;
- Examination of the applicability of intervention approaches to a range of populations and settings; and
- Economic analyses of recommended intervention approaches.

In addition, the *Community Guide* provides examples of how the CPSTF's information has been used to promote community health and offer materials for further distributing the information to others. CPSTF classifies its findings as Recommended (where it finds strong or sufficient evidence that the intervention is effective), Recommended Against (where findings show evidence the intervention is harmful or not effective), and Insufficient Evidence (where studies do not provide sufficient evidence to determine if the intervention is or is not effective).

An example of a CPSTF review is *Lifestyle Interventions to Reduce the Risk of Gestational Diabetes*, one of 10 reviews on diabetes.[600] Each review includes a summary of the recommendation, definition of details on the interventions, findings, a rationale statement and communications materials. For the review on lowering the risk of gestational diabetes, the CPSTF indicated that relevant interventions include "lifestyle interventions delivered during the first two trimesters of pregnancy" intended to prevent gestational diabetes by actively encouraging women to eat a healthy diet and be physically active. This includes one or more of the following: supervised exercise classes; diet education and counseling; physical activity education and counseling; and diet activities. The CPSTF finding is:

> The Community Preventive Services Task Force (CPSTF) recommends lifestyle interventions delivered during the first two trimesters of pregnancy to reduce the risk of gestational diabetes. The CPSTF finds strong evidence of effectiveness for lifestyle interventions that provide supervised exercise classes, either alone or in combination with other components to reduce the risk of gestational diabetes. The CPSTF finds sufficient evidence of effectiveness for lifestyle interventions that

[600] Community Preventive Services Task Force, Diabetes Prevention: Lifestyle Interventions to Reduce the Risk of Gestational Diabetes. Finding and Rationale Statement, Ratified December 2017.

provide education and counseling for diet or physical activity, diet activities, or a combination of these components to reduce the risk of gestational diabetes.[601]

The finding is followed by a rationale that includes an overview of the studies reviewed showing impacts. For this finding, 29 studies included in a 2016 review article were assessed, which together found that compared to usual care, lifestyle interventions that included supervised exercise classes alone or together with other components reduced the risk of developing gestational diabetes by 32 percent.[602] Compared to usual care, education and counseling for diet and physical activity reduced the risk of gestational diabetes by 31 percent. This is followed by a discussion of applicability and generalizability and implementation considerations.

Evidence Related to Population Health, Disparities, and Quality

Healthy People provides science-based, national objectives for improving the health of all Americans over ten years.[603] The 2020 agenda, launched in December 2010, provides evidence-based resources on 42 topic areas and can be searched by topic area, objective, quality of evidence, demographics (e.g., race/ethnicity, sex, and age, as well as population sub-group), and type of outcome (e.g., system change, eliminating health disparities, and reducing disease risk).[604] Healthy People uses a smaller set of 12 Leading Health Indicators (LHIs) to communicate high-priority health issues and identify actions that can be taken to address them. The 2020 LHIs are: [605]

- Access to Health Services
- Clinical Preventive Services
- Environmental Quality
- Injury and Violence
- Maternal, Infant, and Child Health
- Mental Health
- Nutrition, Physical Activity, and Obesity
- Oral Health
- Reproductive and Sexual Health
- Social Determinants of Health
- Substance Abuse
- Tobacco

The development of LHIs was led by the Healthy People 2020 Federal Interagency Workgroup, which included approximately 50 members from across federal HHS and other federal departments. The workgroup developed its final set of LHIs using information from National Academy of Sciences Institute of Medicine reports and recommendations from the HHS Secretary's Advisory Committee on National Health Promotion and Disease Prevention. In addition, other indicator sets such as the ACA mandated National Prevention Strategy and key priorities of the secretary and the assistant secretary for health were considered in order to ensure alignment among federal prevention initiatives. The LHIs incorporate both individual and societal determinants that affect the public's health and contribute to health disparities from

---

601 Ibid.

602 Included articles were reviewed by Song C, Li J, Leng J, Ma R C, and Yang X. in the article Lifestyle intervention can reduce the risk of gestational diabetes: a meta-analysis of randomized controlled trials. Obesity Reviews 2016; 17: 960–9.

603 Healthy People 2020, online resource. https://www.healthypeople.gov/

604 Healthy People 2020, Alphabetical list of topics and objectives

605 2020 Leading Health Indicators, Healthy People 2020.

infancy through old age, which helps highlight strategic opportunities to promote health and improve quality of life for all Americans.

Healthy People publishes information on baseline and interim progress toward ten-year goals. The status of the progress on each objective is labeled, noting the status of the measure as "target met or exceeded," "improving," "little or no detectable change," or "getting worse." Links provide definitions of measures, baseline and goal standards, and additional research related to the measure.

Key Drivers and Enabling Tactics

Universal screening. While most issuers already employ algorithms to identify patients in need of care, these automated assessments can leave gaps. Universal population screenings of all relevant individuals (for example, universal SBIRT screenings for all emergency department visitors) can identify need as the first step to addressing gaps in care. In the SBIRT example, hospitals already have staff trained to do those screenings. If issuers required this to happen for all patients and paid for it for their members, this would greatly increase access.

Cross-market alignment. Alignment with Medi-Cal wherever possible can reduce provider burden and maximize compliance with population health activities. This includes alignment in measurement. Further, a good data platform and clinical staff trained to conduct screenings will also support screenings, performance tracking and improved understanding of where need exists. Where the issuer has comprehensive data, it can identify where screenings are not happening and target its efforts to improve performance of providers in those areas. As addressed elsewhere in the report, this requires the collection of data and issuer assessment of stratified data.

Considerations for Covered California's Next Contract Period

Informing partners of existing projects and resources

All three large-scale, government supported efforts discussed above provide implementation assistance to issuers and providers. For example, the *Community Guide* has identified practices that engage different players who touch the patient – clinically, in the community, and elsewhere. The goal of each effort is to allow stakeholders to operationalize the information, taking the evidence and turning it into policy and practice.

Rather than try to re-invent the wheel in public health, Covered California could amplify the CDC 6|18 Initiative's work, particularly the aspects relevant to issuers. For example, each *6|18 Initiative Evidence Summary* leads with one or more recommended interventions for payers to implement. Covered California can take the following steps to improve the use of these evidence-based interventions:

Ensure Alignment with 6|18 Focus Areas that also reflect Medi-Cal Performance Measures.

Covered California can work with California Department of Health Care Services to identify how Medi-Cal plans are incorporating Initiative interventions and develop ways for Covered California and its issuers to align these efforts. Use contract to require issuers to align with public sector efforts at the regional or state levels as appropriate. For example, many Medi-Cal plans participate in a pay for performance (P4P) program that utilizes ten measures to assess

and reward performance.[606] The following Medi-Cal P4P measures are National Quality Forum (NQF) measures aligned with 6|18 Initiative focus areas on diabetes care (HbA1c Testing; HbA1c Control; Eye Exam) and respiratory care (Asthma Medication Ratio). Covered California currently requires reporting on HbA1c control and asthma medication ratio but could add the other diabetes measures. Performance measurement in Medi-Cal is still in development; using the same measures to assess the commercial population will increase understanding of health system performance across programs without overly taxing providers already providing this information on their public-sector patients.[607] To increase issuers understanding of the rationale for new measures, share the 6|18 Initiative evidence summaries to ensure QHP issuers are aware of the Initiative and recommended interventions.

In a similar fashion, Covered California can identify the extent of its current alignment with *Healthy People 2020* objectives, as well as that of the Medi-Cal program. Where reporting requirements do not match Healthy People objectives (especially where there is alignment between Healthy People and Medi-Cal requirements), Covered California can make changes to increase alignment.

Make regional and statewide results public, including interim results compared to state or national benchmarks or goals. Where feasible, show results by issuer or QHP. Allow the public and issuers to see how issuers are doing toward agreed upon goals. One way to make this information public is to add information to the shopping portion of the Marketplace web site, giving issuers credit for plans that meet the benchmarks. This information, which would be in addition to the Quality Rating System (QRS) performance, could give an issuer credit for performance beyond the QRS metrics. Using nationally recognized standards will allow Covered California to justify adding information, as the issuer recognition will be based on objective performance rather than subjective analysis.

Selecting Interventions. Part of the 6|18 Initiative is advice for issuers on how to implement changes in the high burden conditions on which it focuses. In choosing the six conditions and 18 interventions, CDC engaged in extensive research and consulted with experts in insurance, health care and health administration.[608] Rather than advising Covered California to replicate this extremely labor-intensive process, HMA suggests that Covered California utilize the Initiative's learnings and employ the Initiative's *Steps Toward Engagement Model* to implement change that works for the Marketplace consumers. This model is offered as a method for working with partners responsible for insured members in order to focus on areas of greatest impact. The Initiative's store of evidence provides the meat for discussions with Marketplace issuers seeking to implement population health requirements.

---

606 Integrated Healthcare Association, Medi-Cal P4P Core Measure Set.

607 Sarah Lally, Jennifer Wong, Aligning Performance Measures Across Medi-Cal Managed Care Pay-for-Performance Programs. Integrated Healthcare Association Issue Brief, No 24, March 2018.

608 James Hester, et al., CDC's 6|18 Initiative: Accelerating Evidence into Action. National Academy of Medicine Discussion Paper. February 8, 2016.

Finding 2: Supporting health-improving efforts beyond the clinic doors promotes population health.

It is well understood that health outcomes are influenced by factors outside of the medical setting, including demographic, social, economic, psychological and environmental factors.[609] Over the past decade, researchers have been increasing our collective understanding of some of the ways to impact health by pressing on social and environmental levers. Research on education, urban planning and community development, housing, income enhancements and supplements, and employment. One area that has shown significant promise is education.

Evidence Related to Cost-Benefit Ratio

In addition to promoting equity and economic efficiency, early childhood education (ECE) programs result in health care cost savings.[610] ECE programs have demonstrated consistent improvements in long-term health outcomes for disadvantaged children and their families. A review of ECE cost-benefit analyses shows that early childhood education has an overall median cost-benefit ratio of 1:4.19.[611]

Evidence Related to Savings

Another child-focused intervention that has shown significant health benefits and savings is school-based health centers (SBHCs). Research on SBHCs has found net savings of $30-969 per visit, better health care utilization (improved use of immunization and preventive services; reduce hospital costs) and improved health outcomes for participants.[612] The societal cost-benefit ratio is between 1:1.38 and 1:3.05.

Promising Practices: L.A. Care Health Plan committed $20 million over five years to fund an initiative aimed at securing permanent supportive housing for homeless individuals in Los Angeles County as part of the Whole Person Care pilot (under California's Section 1115 Medi-Cal Waiver). The funds support the L.A. County Housing for Health program, which offers permanent supportive housing, housing navigation and tenancy supports, access to primary care, intensive care management services and other resources for people experiencing homelessness who have complex physical and behavioral health conditions. Using funding from the Blue Shield of California Foundation, L.A. Care lead a planning grant and conducted two consumer listening sessions with formerly homeless individuals to improve outreach and engagement efforts, care coordination, and patient experience. Findings were shared with key partners and L.A. Care continues to facilitate discussions with the L.A. County Health Agency, community-based organizations, hospitals, clinics, sheriff's office, probation, and other entities serving vulnerable populations, such as the homeless and those reentering their communities from jail.

Source: *AHIP, Beyond the Boundaries of Health Care: Addressing Social Issues. July 2017.*

While the above examples are focused on children, a range of community organizations work with, and in the range of, populations covered by commercial insurance including Marketplace

[609] Braverman, P. and Gottlieb, L. The social determinants of health: it's time to consider the causes of the causes.. Public health reports. 2014 Jan-Feb; 129(Suppl 2): 19–31.

[610] Thornton RL et al. Evaluating Strategies For Reducing Health Disparities By Addressing The Social Determinants Of Health. (Millwood). 2016;35(8):1416-23.

[611] Ramon I, et al., Early childhood education to promote health equity: A Community Guide economic review, Community Preventive Services Task Force. Journal of Public Health Management and Practice 2018;24(1):e8-15.

[612] Economic evaluation of school-based health centers: a Community Guide systematic review. Ran T, et al., Community Preventive Services Task Force. American Journal of Preventive Medicine 2016;51(1):129–38.

coverage. A primary driver of improved health related to community-based interventions is increased individual and community empowerment.[613] Rather than try to standardize such interventions, an analysis of multiple such interventions notes that efforts that are adapted to the population's self-identified needs and build on community strengths are effective at increasing participants' skills and control. This has relevance for Covered California as the research recognizes that to be most effective the programs should engage the community and increase their engagement and self-efficacy. The next section further discusses the findings on patient-centered approaches to reducing health disparities.

Housing is an area that has received significant attention in terms of its impact on health. Research on housing has shown its positive impacts on health and health care costs, especially for low-income individuals.[614] Research on low income Oregonians with unstable housing found that gaining affordable housing decreased Medicaid expenditures by 12 percent.[615] The benefits of affordable housing include changes in care patterns, improved quality of care and reduced costs. Access to stable housing was found to improve health and reduce health care costs for a population of over 1,600 Medicaid enrollees who moved from unstable or no housing to stable situations in family housing, permanent supportive housing or housing for seniors and people with disabilities. The 12 percent decrease in Medicaid expenditures in the year after moving into affordable housing was compared to the year prior, during which time outpatient primary care use increased by 20 percent and emergency department use dropped 18 percent. Utilization changes were the most pronounced for housing that offered integrated health services and staff on site.

Evidence Related to Outcomes and Utilization

Review of the literature on food insecurity (lacking reliable access to sufficient affordable, nutritious food) finds a negative association between food insecurity and health.[616] In a study of 1,503 adults with diabetes, food insufficient adults were more likely to report fair or poor health status than those who were not (63 percent vs 43 percent; odds ratio, 2.2; P =.05). Diabetic adults who were food insufficient reported more physician encounters than those who were food secure (12 vs 7 P <.05). Linear regression found food insufficiency independently associated with increased physician utilization among adults with diabetes, but not with hospitalization. In another study, controlling for other risk factors, food-insecure children were at least twice as likely to report being in fair or poor health and at least 1.4 times more likely to have asthma, compared to food-secure children. Studies have found that food insecurity increases children's risk of some birth defects, anemia, lower nutrient intakes, cognitive problems, and aggression and anxiety. [617] In other studies it was also associated with higher risk of hospitalization and

[613] N. Wallerstein, What is the evidence on effectiveness of empowerment to improve health? Health Evidence Network Report. World Health Organization, Regional Office for Europe, Health Evidence Network, 2006 Feb.

[614] Taylor, L. Housing and Health: An Overview of the Literature. Health, June 7, 2018.

[615] Bill Wright, et al., Health In Housing: Exploring the Intersection Between Housing & Health Care. The Center for Outcomes Research and Education, February 2016.

[616] Gundersen, C. and Ziliak, J.P. Food Insecurity And Health Outcomes. Health Affairs, November 2015.

[617] Ibid.

poorer general health, along with behavioral problems, depression, suicide ideation, and poorer oral health.

Less research exists on the health impacts of food insecurity in non-senior adults. However, studies have shown links between food insecurity and a range of health issues, including: depression and other mental health issues; diabetes; hypertension; and poorer overall health.[618] Food-insecure seniors have poorer health than their food-secure peers and are more likely to be depressed and have limitations in activities of daily living. Despite the consequences, only 61 percent of food-insecure households apply for assistance from the Supplemental Nutrition Assistance Program (SNAP) or Woman, Infants and Children (WIC). The 2014 Hunger in America report notes that 55 percent of households had unpaid medical bills and 66 percent of households had to decide whether to pay only for food or for medicine or medical care, or to pay for both.[619] Because the research was conducted in Canada, it examined health care costs from a central data source (Canada's single-payer health insurance system) that reduced selection bias related to coverage type or status.

Evidence Related to Savings

Hunger also impacts health care costs. Research on food security and health in Canada found 49 percent higher health care costs for households with low food security compared to those with sufficient food quality.[620] Among those with very low food security, health care costs were 121 percent higher.

Hospitals are starting to see the connection between health and food insecurity and some are taking steps to improve access to food in their communities. For example, Arkansas Children's Hospital, Boston Medical Center and ProMedica have each developed partnerships and upstream interventions to reduce food insecurity in their regions.[621]

Regional Hospital Coordination

There is evidence of hospitals coordinating to support public health in the wake of a future natural disaster, although little research on the impact of such efforts. HMA was not able to locate research on the impact of hospital coordination for other public health activities.

Considerations for Covered California's Next Contract Period

Issuers and Social Needs that Impact Health

Covered California could evaluate issuers' current methods for ensuring patients' issues with environmental and social factors such as food security and housing are identified in the clinical setting or through issuer-based mechanisms such as health risk assessments. Risk assessments should include the two-question *Children's HealthWatch Hunger Vital Sign*™

---

[618] Food Insecurity & Hunger in the U.S.: New Research (tri-annual newsletter), Children's HealthWatch and the Food Research and Action Center. The newsletter summarizes recent and important food insecurity and hunger research from academia, government agencies, think tanks and health and policy organizations for advocates, policymakers, researchers, journalists, nutrition program providers, educators, and health professionals.

[619] Hunger in America 2014. Westat and the Urban Institute for Feeding America. August 2014. https://tinyurl.com/y8t76sjw

[620] Tarasuk, V., et al., Association between household food insecurity and annual health care costs, CMAJ, Oct. 6, 2015.

[621] Westat, op. cit.

survey. Many U.S. hospitals have adopted these questions, which are based on the U.S. Household Food Security Scale, as part of their efforts to identify households or individuals experiencing food insecurity. The questions are:

- Within the past 12 months, we worried whether our food would run out before we got money to buy more. Was that often true, sometimes true or never true for your household?
- Within the past 12 months, the food we bought just didn't last and we didn't have money to get more. Was that often true, sometimes true or never true for your household?

In addition, where they are not already asked, the questions should be included in hospitals' and other annual community health needs assessments. This will help providers identify ongoing and changing community needs as well as prepare to support individual patients facing food insecurity.

Recognizing the desire to not additionally burden providers, providers can leverage the trust they develop with patients to help reduce the stigma associated with food insecurity by encouraging patients to pursue food assistance. Issuers have an ongoing relationship with their members and an incentive to improve their health, including through mechanisms outside of the clinic setting. In addition, ACA-approved coverage includes "healthy diet and physical activity counseling" which includes access to nutrition counseling by dieticians and nutritionists. To that end, issuers and/or providers could screen members/patients for food insecurity. On identifying food insecure members/patients, issuers can provide materials directly or through providers to encourage food-insecure individuals and families to access resources available in their communities and could increase access to those resources by providing information on them and helping plan members/patients access needed assistance.

Finding 3: Expanded efforts to address population health in the health insurance model can impact health beyond health care.

It is well understood that factors beyond medical care have a great impact on health. As much as 80 percent or more of health is believed to be the result of social determinants, including the conditions in which people are born, grow, live, work and age.[622] How to incorporate these factors in health insurance coverage is less settled, although some efforts are underway.

Evidence Related to Expanded Service Offerings

While there is more evidence on the impact that demographic and social factors play on health than on how efforts to respond to these issues have worked, some efforts are underway and there is clearly more room to try. With the increasing use of accountable care models and other value-based payments, issuers and affiliated or contracted health systems are becoming more financially invested in (and more broadly responsible for) social determinants of health.[623] Medicaid programs in Oregon, New York, and Massachusetts are structured to support social determinants of health, requiring participating managed care organizations to invest in social

[622] Magnan, S. 2017. Social Determinants of Health 101 for Health Care: Five Plus Five. NAM Perspectives. Discussion Paper, National Academy of Medicine.

[623] Taylor, op. cit.

determinants of health and allowing premiums to be used for these purposes. In Oregon, Coordinated Care Organizations (Medicaid managed care plans) continue to perform well on incentive metrics and other measures. While research is limited on what non-medical services each CCO is providing to members or the specific impact of those services, since 2014 the plans have been incorporating services based on community needs assessments, and range from paying for community health workers helping pregnant and parenting adolescents access well-care visits, to distributing books for young children at food banks and community events, and leveraging Meals on Wheels to deliver food to any Medicaid member in need, without regard to age.[624] Some health systems have acquired housing-related capabilities through partnerships with community-based organizations. Large health care systems can use community benefit dollars and other institutional resources to invest in SDOH, for example by providing financing for affordable housing units in their communities.

Key Drivers and Enabling Tactics

Provider engagement and partnerships. To support issuers' and providers' community and population health focused efforts, two related factors stand out as likely to impact success: gaining the involvement and engagement of providers in the community, and forging partnerships with public health and human services organizations.

Provider Involvement. Much of the research reviewed for this portion of the project focused on how community or population health factors impact health rather than on how to effect change. Where solutions were researched, providers were often central to identified outcomes. Hospitals and other larger providers have particular ability to impact the community, due to their size and role in local communities. In addition, non-profit hospitals are required to provide community benefits in exchange for preferential tax status. Population health and health promotion activities are key to hospital community benefit programs, and this is even more true since the implementation of the ACA reduced the need for charity care. The extent to which hospitals use community benefit funds for population health is not aligned with level of community need, although it is associated with state-level requirements for broad community benefit reporting.[625] Covered California and issuers can maximize benefit by encouraging coordination by hospitals in overlapping service areas.

As part of the ACA-required changes to community benefits requirements, every nonprofit hospital must conduct a community health needs assessment (CHNA) and associated implementation strategy.[626] At least every three years, the hospital must conduct a community needs assessment that identifies financial and other barriers to care and issues including illness, nutrition, and social, behavioral and environmental factors impacting community health and emergency preparedness. The process must include broad community input that includes participation by public health officials. Based on the results, the hospital must develop plans to meet identified needs. Nonprofit hospitals are now implementing the CHNA requirement and

---

[624] Chris DeMars, Oregon Bridges The Gap Between Health Care And Community-Based Health, Health Affairs Blog, February 12, 2015. DOI: 10.1377/hblog20150212.044497

[625] Young, G. et al., "Provision of Community Benefits by Tax-Exempt U.S. Hospitals," New England Journal of Medicine 368, no. 16 (2013):1519-27.

[626] James, J. Health Policy Brief: Nonprofit Hospitals' Community Benefit Requirements. Health Affairs, February 25, 2016.

planning how to better align their community benefit spending with identified needs. The more fully that hospitals commit to the strategies identified to meet community health needs, the better the state will fare in improving population health.

Adapting what hospitals routinely do, Covered California could require issuers to participate in regional CHNAs or administer their own. While there could be benefit in the issuer's engagement in this process, the goal would be for the issuer to establish and direct public health strategies in the areas they serve, with the community at large benefitting from the effort.

Strength in Partnerships. A second related success factor is the development and strengthening of partnerships between medical providers and human services and community organizations. The very nature of population and community health makes it multi-faceted. Pairing the strengths of organizations focused on health with those trying to alleviate hunger or secure stable housing in the community will support the range of community health needs. Obligations such as the ACA requirement that nonprofit hospitals secure input from the public health community and other stakeholders provide opportunities to develop strategies that build on the strengths of all partners. Health issuers contracting with local hospitals have the chance to participate in this process as well and can use their own data to see where gaps exist between identified need and the services utilized by plan members.

Considerations for Covered California's Next Contract Period

HMA recognizes that issuers collect and analyze data on their membership, but to better understand the gaps between need and good outcomes for members and others in the community, HMA recommends that Covered California uses its contractual power to require issuers to:

Collect and analyze stratified data to understand what populations are not doing well and in what ways. This includes identifying data by race, ethnicity, language, gender, geography and other demographic factors. To the extent possible, collect and assess data on non-medical needs, such as housing, food, transportation or community safety.

Review and understand Community Health Needs Assessment data beyond the headline level. In addition to understanding where plan membership has unaddressed needs, issuers could understand what is needed at the community level. This will allow issuers to assess root causes, including community level drivers.

Include population health goals in quality improvement efforts. Having assessed their data and the results of regional CHNAs, issuers can use the root cause analysis to develop goals that incorporate population health. While this may seem separate from clinical goals, to a great extent the issues impacting communities are the chronic diseases, injuries and other conditions seen in the clinic setting. The issuer could identify focus populations, select measures to track and identify a process for collecting and analyzing results that can then feed into the next round of analysis. Some target measures should be drawn from the CHNAs done by local health departments, to maximize the interventions' impacts on the community as well as the covered plan membership. For example, if a CHNA identifies that the state standard for avoidable ED use for uncontrolled asthma is not being met, the issuer can put an action plan in place based on evidence-based interventions. The process would include identifying a specific measure, setting a goal for that measure, reporting on change and annually reviewing data to determine

whether the measure should continue to be a focus or can be replaced with another measure or topic area.

Utilize a strategy that engages issuers, providers and patients. The large-scale population health projects discussed in Finding 1 of this chapter each explicitly design their projects to speak to issuers, providers and patients. The projects recognize that successful implementation of population health efforts requires participation by a range of stakeholders. *Healthy People 2020* offers information on using the data, provides tools and resources to understand the project and information, implementation stories, and contact information for state coordinators. Organizations may sign up to be Healthy People Consortium organizations committed to promoting and implementing *Healthy People 2020* across the country.

CDC 6|18 is explicitly about using evidence to support action. By focusing on six high impact, high cost areas, the effort targets its work while not limiting how the 18 interventions can be used. The site is organized by stakeholder so that payers can access health and cost information relevant to them, while providers can do the same. The *Community Guide* provides "stories from the field," which provide examples of how organizations across the country have used The *Community Guide*. It includes an interactive map allowing searches by topic area.

For issuers this means engaging providers (including through contractual requirements) as well as involvement in the issuer's assessment of member and community needs, root cause analysis and development of responsive strategies. It also means actively partnering with local public health on their needs assessments and community engagement work, as well as partnering with stakeholders addressing identified community needs that impact health. It means investing in becoming an informed partner who participates in community-level efforts beyond providing financial support.

For Covered California, in addition to explicitly incorporating community and population health goals in its own quality work, HMA recommends making issuer expectations clear in contracts and providing technical assistance (either directly or by helping issuers to identify appropriate resources such as the ones described in this section).

Key Resources for Monitoring New Research

The following are resources, organizations, and other references that Covered California should monitor to stay up to date on the evidence related to this strategy.

Among the resources cited in this section and listed in Appendix 2, Bibliography Supporting Evidence Review by Health Management Associates, several stand out. HMA recommends annually checking for updates or follow-on work from:

- 6|18 Initiative, CDC: Includes clinical practice guidelines, case studies and evidence tables. Available online at https://www.cdc.gov/sixeighteen/tobacco/index.htm.
- *Healthy People 2020 Compendium of Evidence-Based Interventions*. Office of Disease Prevention and Health Promotion. https://www.healthypeople.gov/.
- *Healthy People 2020*, online resource. https://www.healthypeople.gov/.
- Integrated Healthcare Association, *Medi-Cal P4P Core Measure Set.*
- *Community Guide* systematic reviews.

- *Food Insecurity & Hunger in the U.S.: New Research* (tri-annual newsletter), Children's HealthWatch and the Food Research and Action Center.

Section 2. Review of Measures and Benchmarks for Population-Based and Community Health Promotion Beyond Enrolled Population

This section of the report on Population-Based and Community Health Promotion Beyond Enrolled Population is the product of PricewaterhouseCooper's (PwC) detailed review of measures and benchmarks that can be used by Covered California to assess quality is being delivered and that its contracted health plans are representing effective strategies to promote improvements in how care is delivered. The section includes a review of Covered California's current measurement strategy which is followed by considerations for revising those measures and specific recommendations for Covered California's consideration.[627]

Covered California's Current Required Measures

Takeaway: Plans could continue to participate in broader community health promotion efforts and include programs that are expected to reduce health disparities identified in their enrolled population.

Covered California currently requires a range of measures for, Qualified Health Plan (QHP) performance data, and sources of potentially relevant comparisons. (see Table 1, Covered California Required Measures, Qualified Health Plan Performance Data and Sources of Potentially Relevant Comparisons).

Table 1. Covered California Required Measures, Qualified Health Plan Performance Data, and Sources of Potentially Relevant Comparisons

Covered California Required Measures	QHP Performance Data	Sources of Potentially Relevant Comparisons
Report on programs and projects to address health disparities and improve community health [§6.02]	Reported by Internal-Member efforts and External- Health/Non-Health, Community Risk Assessments, Funded programs	CHIS, County Health Rankings & Roadmaps program by RWJF and University of Wisconsin

Considerations for Revising Covered California's Measures

In developing measures and data recommendations for Covered California, PwC considered the following:

- NCQA added a Population Health Management Accreditation category to its standards and guidelines in 2018.[628] It uses NCQA measures and many of the measures in Attachment 7.
- Aggregate data can obscure state and local level differences; national and state-level disparities statistics may not be effective for securing stakeholder engagement.

[627] To view a more detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures. To view the full list of measures recommended by PwC, please refer to the 2021-2023 Attachment 7 Refresh section of the Covered California Plan Management stakeholders webpage.

[628] https://www.ncqa.org/news/ncqa-release-new-standards-category-population-health-management/

- Stratify health care quality measures by race, ethnicity, primary language, and socioeconomic status (SES).

Measures and Data Recommendations

What follow are PwC's measures and data recommendations for Covered California:

1. Focus on identified health disparities, and to the extent possible, coordinate and partner with community organizations that promote activities that lead to improvements in those areas.

2. Monitor population health measures for each QHP's service areas and compare to relevant benchmarks.

To identify specific measures Covered California should continue collecting or consider adopting, PwC used the evidence review completed by HMA, reviewed research literature and industry articles, and assessed measures on several attributes, including strength of evidence, alignment with other purchasers and feasibility of reporting (see Table 2, PwC Recommended Measures for Health Equity: Reducing Disparities).[629]

Table 2. PwC Recommended Measures for Population-Based and Community Health Promotion Beyond Enrolled Population

Measure	New or Existing	Reported By	Alignment	NQF Endorsed or Industry Accepted	Impact	Reliability	Feasibility	Benchmark Availability
Health Factors (Health Behaviors, Clinical Care, Social & Economic Factors, Physical Environment)	New	Covered California	n/a	High	High	High	High	High
Health Outcomes (Length and Quality of Life)	New	Covered California	n/a	High	High	High	High	High

To review the background research completed by PwC to inform these measures and data recommendations, please see Appendix 3, Bibliography Supporting Measures Review by PricewaterhouseCoopers.

[629] For the criteria used by PwC to assess measures, please see Table 3, Measure Assessment Structure Applied by PwC, in the chapter on Summary Recommendations on Measures and Benchmarks. For a detailed description of PwC's approach, project team, and methods for identifying measures and benchmarks, please see Appendix 1, Background on Expert Review of Evidence and Measures.

Appendix 6: List of Abbreviations and Acronyms

ACA	Affordable Care Act
ACO	Accountable Care Organization
AHRQ	Agency for Healthcare Research and Quality
AMP	Align Measure Perform
APCs	Ambulatory Payment Classifications
APM	Alternative Payment Method
AUDIT	Alcohol Use Disorders Identification Test
BFRSS	Behavioral Risk Factor Surveillance System
BH	Behavioral Health
CAHPS	Consumer Assessment of Healthcare Providers and Systems
CoCM	Collaborative Care Model
CHNA	Community Health Needs Assessment
CIHS	Center for Integrated Health Solutions
CMMI	Centers for Medicare and Medicaid Services Innovation
CMS	Centers for Medicare and Medicaid Services
CHIS	California Health Interview Survey
CLAS	Culturally and Linguistically Appropriate Services
COE	Center of Excellence
CPC+	Comprehensive Primary Care Plus
CPSTF	Community Preventive Services Task Force
CQMC	Core Quality Measures Collaborative
CRC	Colorectal Cancer
CRDP	California Reducing Disparities Project

CTI	Care Transitions Intervention
DATA-2000	Drug Addiction and Treatment Act of 2000
DHCS	Department of Health Care Services
DMHC	Department of Managed Health Care
DSM	Diagnostic and Statistical Manual for Mental Disorders
eCQM	Electronic Clinical Quality Measures
ED	Emergency Department
EHR	Electronic Health Record
EPSDT	Early and Periodic Screening, Diagnostic, and Treatment
EDIE	Emergency Department Information Exchange
FFM	Federally Facilitated Marketplace
GAD-7	Generalized Anxiety Disorder 7-Item Scale
HCP-LAN	Health Care Payment Learning and Action Network
HEDIS	Healthcare Effectiveness Data and Information Set
HHP	Health Homes Program
HRA	Health Risk Assessment
IDS	Integrated Delivery System
IHA	Integrated Healthcare Association
IHI	Institute for Healthcare Improvement
IMPaCT	Individualized Management for Patient-Centered Targets
IOCP	Intensive Outpatient Care Program
JAMA	Journal of the American Medical Association
LHI	Leading Health Indicators
MAT	Medication-Assisted Treatment
MEPS	Medical Expenditure Panel Survey

MedPAC	Medicare Payment Advisory Commission
MH	Mental Health
MHPAEA	Mental Health Parity and Addition Equity Act
MSSP	Medicare Shared Savings Program
NCQA	National Committee on Quality Assurance
NHLBI	National Heart Lung and Blood Institute
NQF	National Quality Forum
NQS	National Quality Strategy
NSDUH	National Survey on Drug Use and Health
OPA	Office of the Patient Advocate
OSHPD	Office of Statewide Health Planning and Development
PCBH	Primary Care Behavioral Health
PCI	Primary Cares Initiative
PCMH	Patient-Centered Medical Home
PCPCH	Patient-Centered Primary Care Home
PHQ	Patient Health Questionnaire
PSI	Patient Safety Indicator
PQA	Pharmacy Quality Alliance
PQI	Prevention Quality Indicator
PVBM	Physician Value-Based Payment Modifier
QALY	Quality-Adjusted Life Year
QHP	Qualified Health Plan
QRS	Quality Rating System
SAMHSA	Substance Abuse and Mental Health Services Administration
SBE	State Based Exchange
SBIRT	Screening, Brief Intervention and Referral to Treatment

SCC	Smart Care California
SDM	Shared Decision-Making
SDOH	Social Determinants of Health
SSP	Strong Start Program
SUD	Substance Use Disorder
TCM	Transitional Care Model
USPSTF	United States Preventive Services Task Force
VBP	Value Based Payment

Appendix 7: Glossary

Accountable Care Organization (ACO): A healthcare organization characterized by a payment and care delivery model that seeks to tie provider reimbursements to quality metrics and reductions in the total cost of care for an assigned population of patients. An ACO is intended to provide incentives for participating providers (i.e. clinics, hospitals and physicians) to collectively share financial risk, working towards common goals to: 1) reduce medical costs; 2) reduce waste and redundancy; 3) adhere to best care practices (i.e. evidence-based care guidelines; and 4) improve care quality. Care Management and Population Health Management are critical program components that are intended to enable ACOs to achieve favorable financial outcomes as the result of improved care outcomes.

Affordable Care Act (ACA): Federal health care reform law passed in 2010 which set minimum standards for health insurance coverage and benefits and overhauled the individual market for health insurance in the United States.

Agency for Healthcare Research and Quality (AHRQ): The lead federal agency charged with improving the safety and quality of America's health care system. AHRQ develops the knowledge, tools, and data needed to improve the health care system and help Americans, health care professionals, and policymakers make informed health decisions.

Alcohol Use Disorders Identification Test (AUDIT): 10-item screening tool developed by the World Health Organization (WHO) to assess alcohol consumption, drinking behaviors, and alcohol-related problems.

Align Measure Perform (AMP): Integrated Healthcare Association (IHA)-developed physician organization level performance measurement programs which create comprehensive benchmarks and performance assessments for medical groups, independent practice associations (IPAs), and accountable care organizations (ACOs) across health plans in California.

Alternative Payment Model (APM): Clinical payment models which deviate from traditional fee-for-service (FFS) payment, insofar as they adjust FFS payments to account for performance on cost and quality metrics, or insofar as they use population-based payments that are linked to quality performance.

Ambulatory Payment Classifications (APCs): The United States government's method of paying for facility outpatient services for the Medicare (United States) program.

Behavioral Risk Factor Surveillance System (BFRSS): Nationwide health-related telephone surveys that collect state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services.

Bundled Payments (also known as Global Payment Bundles, episode-of-care payment, or global case rates): An alternative payment method to reimburse healthcare providers for services that provides a single payment for all physician, hospital, and ancillary services that a patient uses in the course of an overall treatment for a specific, defined condition, or care episode. These services may span multiple providers in multiple settings over a period of time, and are reimbursed individually under typical fee-for-service models. The payment bundle may cover all inpatient/outpatient costs related to the care episode, including physician services, hospital services, ancillary services, procedures, lab tests, and medical devices/implants. Using

payment bundles, providers assume financial risk for the cost of services for a particular treatment or condition, as well as costs associated with preventable complications, but not the insurance risk (that is, the risk that a patient will acquire that condition, as is the case under capitation).

California Reducing Disparities Project (CRDP): A project of the California Department of Public Health to reduce disparities in health outcomes among particular populations.

California Health Interview Survey (CHIS): State health survey and a critical source of data on Californians as well as on the state's various racial and ethnic groups.

Care Transitions Intervention (CTI): A 4-week care transition program in which patients with complex care needs and family caregivers receive specific tools and work with a Transitions Coach, to learn self-management skills that will ensure their needs are met during the transition from hospital to home.

Center for Integrated Health Solutions (CIHS): SAMHSA-funded institution which promotes the development of integrated primary and behavioral health services to better address the needs of individuals with mental health and substance use conditions, whether seen in specialty behavioral health or primary care provider settings.

Centers for Medicare and Medicaid Services (CMS): Federal agency within the United States Department of Health and Human Services (HHS) that administers the Medicare program and works in partnership with state governments to administer Medicaid, the Children's Health Insurance Program (CHIP), and health insurance portability standards.

Center for Medicare & Medicaid Innovation (CMMI): Center within the Centers for Medicare and Medicaid Services which supports the development and testing of innovative health care payment and service delivery models.

Center of Excellence (COE): A Center of Excellence is “a program within a healthcare institution which is assembled to supply an exceptionally high concentration of expertise and related resources centered on a particular area of medicine, delivering associated care in a comprehensive, interdisciplinary fashion to afford the best patient outcomes possible. A type of integrated practice unit and integrated healthcare delivery model, centers of excellence are essentially places where excellence on a particular medical front is delivered in a unique, focused manner to patients. Specialty areas frequently housed in centers of excellence include cardiology, orthopedics, oncology, ophthalmology, bariatric surgery, and neurology” (Elrod and Fortenberry, 2017).

Collaborative Care Model (CoCM): Model of behavioral health integration in which Collaborative Care team is led by a primary care provider (PCP) and includes behavioral health care managers, psychiatrists and frequently other mental health professionals all empowered to work at the top of their license.

Community Health Needs Assessment (CHNA): Assessments and strategies for improving the health of communities which non-profit tax-exempt hospitals are required to conduct annually under the ACA.

Community Preventive Services Task Force (CPSTF): The CPSTF is an independent, nonfederal panel of public health and prevention experts which provides evidence-

based findings and recommendations about community preventive services, programs, and other interventions aimed at improving population health. These findings are listed on The Community Guide.

Complex Care Management: Also referred to as Care Management or Case Management, aims to improve an individual's health status, foster access to appropriate care and reduce utilization of inappropriate or expensive health care services such as hospital admissions. It is an umbrella term that includes programs and interventions developed to better manage and coordinate care for high-risk or high-cost populations. Complex Care Management may include the provision of Disease Management services, but it is distinguished from traditional Disease Management programs which typically target a single condition and deliver less intense interventions. Many payers include Complex Care Management as part of their overall population health management approach.

Complex Conditions: Clinical conditions that are of a complex nature that typically involve ongoing case management support from appropriately trained clinical staff. Frequently, individuals have multiple chronic clinical conditions that complicate management ("polychronic") or may have a complex, infrequent specialty condition that requires specialized expertise for optimal management.

Comprehensive Primary Care Plus (CPC+): National advanced primary care medical home model that aims to strengthen primary care through regionally-based multi-payer payment reform and care delivery transformation.

Consumer Assessment of Healthcare Providers and Systems (CAHPS): A survey designed to advance scientific understanding of patient experience with health care.

Core Quality Measures Collaborative (CQMC): coalition of health care leaders convened by America's Health Insurance Plans (AHIP) starting in 2015 to recommend core sets of measures by clinical area to assess the quality of American health care.

Culturally and Linguistically Appropriate Services (CLAS): Set of national standards developed by the Department of Health and Human Services' Office of Minority Health intended to advance health equity, improve quality and help eliminate health care disparities by establishing a blueprint for organizations to deliver effective, understandable and respectful services at every point of patient contact.

Delivery System Reform: A set of initiatives taken by purchasers, employers, health plans, or Providers, together or individually, to drive the creation and preferred use of care delivery models that are designed to deliver higher value aligned with the "Triple Aim" goals of patient care experience including quality and satisfaction, improve the health of the populations, and reduce the per capita cost of Covered Services. Generally these models require improved care coordination, provider and payer information sharing, and programs that identify and manage populations of individuals through care delivery and payment models.

Drug Addiction and Treatment Act of 2000 (DATA-2000): Federal law which enables qualified physicians to prescribe and/or dispense narcotics for the purpose of treating opioid dependency.

Department of Health Care Services (DHCS): Safety-net health care agency which provides health care coverage to 13.5 million low-income Californians through the Medi-Cal program and other health care delivery systems.

Department of Managed Health Care (DMHC): Consumer protection and regulatory body governing managed health care plans in California.

Diagnostic and Statistical Manual for Mental Disorders (DSM): A publication of the American Psychiatric Association offering a common language and standard criteria for the diagnosis and classification of mental disorders.

Early and Periodic Screening, Diagnostic, and Treatment (EPSDT): Federal Medicaid benefit which provides comprehensive and preventive health care services for children under age 21 and is key to ensuring that children and adolescents receive appropriate preventive, dental, mental health, and developmental, and specialty services.

Emergency Department Information Exchange (EDIE): Software tool for proactively notifying EDs when high-utilization or special needs patients register in the ED. The information includes those patients' prior ED visit history, primary care provider information, and associated care plans.

Federally Facilitated Marketplace (FFM): Federally managed health exchange for the individual market for health insurance created by the Affordable Care Act.

eConsult: Web-based system that allows PCPs and specialists to securely share health information and discuss patient care.

Generalized Anxiety Disorder 7-Item Scale (GAD-7): A screening and diagnostic tool which measures severity of anxiety, mainly in outpatient settings.

Health Care Payment Learning and Action Network (HCP-LAN): public-private partnership formed to accelerate the health care system's transition away from the fee-for-service (FFS) payment model toward alternative payment models (APMs) that pay providers for quality care, improved health, and lower costs.

Healthcare Effectiveness Data and Information Set (HEDIS): A widely used set of health care performance measures, developed and maintained by the National Council on Quality Assurance (NCQA).

HD-NoHSA: A high deductible health plan for which a tax-preferred Health Savings Account is not available

Health Disparities: Healthy People 2020 defines a health disparity as "a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion." Racial and ethnic disparities populations include persons with Limited English Proficiency (LEP).

Health Equity: Healthy People 2020 defines health equity as the "attainment of the highest level of health for all people. Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and health care disparities."

Health Homes Program (HHP): Program designed to serve eligible Medi-Cal beneficiaries with complex medical needs and chronic conditions who may benefit from enhanced care management and coordination. The HHP coordinates the full range of physical health, behavioral health, and community-based long-term services and supports (LTSS) needed by eligible beneficiaries.

Health Risk Assessment (HRA): Instrument used to collect health information, typically coupled with a process that includes biometric testing to assess an individual's health status, risks, and habits.

Healthy People 2020: Healthy People 2020 is the federal government's prevention agenda for building a healthier nation. It is a statement of national health objectives designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats. The vision of Healthy People 2020 is to have a society in which all people live long, healthy lives. The overarching goals of Healthy People 2020 are to: attain high-quality, longer lives free of preventable disease, disability, injury, and premature death; achieve health equity, eliminate disparities, and improve the health of all groups; create social and physical environments that promote good health for all; and promote quality of life, healthy development, and healthy behaviors across all life stages.

Individualized Management for Patient-Centered Targets (IMPaCT): Model of care in which community health workers (CHWs) provide tailored support to help high-risk patients achieve individualized health goals.

Institute for Healthcare Improvement (IHI): Independent non-profit organization which partners with health care leaders to promote optimizing health care delivery systems and achieving the triple aim of lower costs, increased access and improved health outcomes.

Integrated Delivery System (IDS): A network of healthcare facilities under a parent holding company. The term is used broadly to define an organization that provides a continuum of healthcare services.

Integrated Healthcare Association (IHA): Non-profit which convenes diverse stakeholders, including physician organizations, hospitals and health systems, health plans, purchasers and consumers committed to high-value integrated care that improves quality and affordability for patients across California and the nation.

Intensive Outpatient Care Program (IOCP): Care model in which care coordinators are embedded in physician practices, where coordinators teach medically complex patients how to manage their conditions and also ensure seamless transitions among multiple providers and services.

Journal of the American Medical Association (JAMA): A peer-reviewed medical journal published by the American Medical Association including original research, reviews, and editorials covering all aspects of biomedicine.

LACE Index (Length of stay, Acuity of the admission, Co-morbidity of the patient, and Emergency Department utilization): Clinical tool for identifying patients that are at risk for readmission or death within thirty days of discharge.

Leading Health Indicators (LHI): A set of Healthy People 2020 objectives, selected to communicate high-priority health issues and actions that can be taken to address them.

Medicare Payment Advisory Commission (MedPAC): Nonpartisan legislative branch agency that provides the U.S. Congress with analysis and policy advice on the Medicare program.

Medical Expenditure Panel Survey (MEPS): A set of large-scale surveys of families and individuals, their medical providers, and employers across the United States on the cost and use of health care and health insurance coverage.

Medicare Shared Savings Program (MSSP): An alternative payment model in which eligible providers, hospitals, and suppliers are rewarded for achieving better health for individuals, improving population health, and lowering growth in healthcare expenditures.

Medication Assisted Treatment (MAT): The use of medications with counseling and behavioral therapies to treat substance use disorders and prevent opioid overdose.

Mental Health Parity and Addiction Equity Act (MHPAEA): Federal law requiring equivalent coverage for mental health and substance use disorder treatment as for medical and surgical services.

National Committee for Quality Assurance (NCQA): Independent non-profit organization that works to improve health care quality through the administration of evidence-based standards, measures, programs, and accreditation.

National Quality Forum (NQF): non-profit membership organization that promotes patient protections and healthcare quality through measurement and public reporting.

National Quality Strategy (NQS): A national effort led by the Agency for Healthcare Research and Quality on behalf of the U.S. Department of Health and Human Services (HHS) to align public- and private-sector stakeholders to achieve better health and health care for all Americans.

National Survey on Drug Use and Health (NSDUH): Annual nationwide survey on tobacco, alcohol, and drug use, mental health and other health-related issues in the United States.

Office of the Patient Advocate (OPA): California state agency which rates health plans and medical groups using health care performance measures based on quality of medical care and patient experience.

Office of Statewide Health Planning and Development (OSHPD): State agency responsible for collecting data and disseminating information about California's healthcare infrastructure, monitoring the construction, renovation, and seismic safety of hospitals and skilled nursing facilities, and providing loan insurance to assist the capital needs of California's not-for-profit healthcare facilities.

Patient-Centered Medical Homes (PCMH): A health care setting that facilitates partnerships between individual patients, and their personal physicians, and when appropriate, the patient's

family. Care is facilitated by registries, information technology, health information and other means to assure that patients get the indicated care when and where they need and want it in a culturally and linguistically appropriate manner. The medical home is best described as a model or philosophy of primary care that is patient-centered, comprehensive, team-based, coordinated, accessible, and focused on quality and safety

Patient-Centered Primary Care Home (PCPCH): Oregon-led initiative that places Medicaid patients in a health care clinic that has been recognized for their commitment to patient-centered care.

Patient Health Questionnaire (PHQ): A screening and diagnostic tool for mental health disorders of depression, anxiety, alcohol, eating, and somatoform disorders.

Patient Safety Indicators (PSI): Set of indicators providing information on potential in hospital complications and adverse events following surgeries, procedures, and childbirth.

Pharmacy Quality Alliance (PQA): Non-profit developer of consensus-based measures for medication safety, adherence and appropriate use.

Physician Value-Based Payment Modifier (PVBM): A program which measures the quality and cost of care provided to Medicare beneficiaries under the Medicare Physician Fee Schedule (PFS). The program is intended to improve quality and lower costs.

Prevention Quality Indicators (PQI): Population based set of measures that can be used with hospital inpatient discharge data to identify quality of care for "ambulatory care sensitive conditions" for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease.

Preventive Health and Wellness Services: The provision of specified preventive and wellness services and chronic disease management services, including preventive care, screening and immunizations, set forth under Section 1302 of the Affordable Care Act (42 U.S.C. Section 18022) under the Section 2713 of the Affordable Care Act (42 U.S.C. Section 300gg-13), to the extent that such services are required under the California Affordable Care Act.

Primary Care: The provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health needs, developing a sustained partnership with patients, and practicing in the context of family and community (Institute of Medicine, 1978).

Primary Care Behavioral Health (PCBH): Model of behavioral health integration which uses “behavioral health consultants” to provide rapid, on-site behavioral health screenings and brief interventions in integrated primary care settings.

Primary Cares Initiative (PCI): CMS- led initiative that provides primary care practices and other providers with five new payment model options under two paths: Primary Care First and Direct Contracting.

Project Extension for Community Healthcare Outcomes (Project ECHO): Lifelong learning and guided practice model for medical education which trains primary care clinicians to provide specialty care services.

Quality-Adjusted Life Year (QALY): A generic measure of disease burden, including both the quality and the quantity of life lived.

Qualified Health Plan (QHP): Insurance plan that's certified by the Health Insurance Marketplace, provides essential health benefits, follows established limits on cost-sharing (like deductibles, copayments, and out-of-pocket maximum amounts), and meets other requirements under the Affordable Care Act.

Quality Rating System (QRS): A rating system for qualified health plans created by the Affordable Care Act, which requires issuers to submit quality data to the federal government to allow for qualified health plans to be rated based on quality and patient experience.

Screening, Brief Intervention and Referral to Treatment (SBIRT): An evidence-based practice used to identify, reduce, and prevent problematic use, abuse, and dependence on alcohol and illicit drugs.

Shared Decision Making (SDM): The process of making decisions regarding health care diagnosis and treatment that are shared by doctors and patients, informed by the best evidence available and weighted according to the specific characteristics and values of the patient. Shared decision making combines the measurement of patient preferences with evidence-based practice.

Smart Care California (SCC): Public-private partnership co-chaired by the Department of Health Care Services (DHCS), Covered California, and CalPERS working to promote safe, affordable health care in California currently focusing on C-sections, opioid overuse, and low back pain.

Social Determinants of Health (SDOH): The conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels.

State Based Exchange (SBE): State-managed health exchanges (such as Covered California) for the individual market for health insurance created by the Affordable Care Act

Strong Start Program (SSP): Center for Medicare and Medicaid Innovation initiative for pregnant women enrolled in Medicaid or the Children's Health Insurance program (CHIP) intended to test psychosocial approaches to reducing preterm birth, improving overall pregnancy outcomes for mothers and infants, and reducing costs to Medicaid and CHIP during pregnancy and the year following birth.

Substance Abuse and Mental Health Services Administration (SAMHSA): The agency within the U.S. Department of Health and Human Services that leads public health efforts to advance behavioral health.

Team-Based Care: A plan for patient care that is based on philosophy in which groups of professional and nonprofessional personnel work together and share the work to identify, plan, implement and evaluate comprehensive client-centered care. The key concept is a group that works together toward a common goal, providing qualitative comprehensive care. The team care concept has its roots in team nursing concepts developed in the 1950's.

Telehealth: A mode of delivering professional health care and public health services to a patient through digital information and communication technologies (computers and mobile

devices) to facilitate the diagnosis, consultation, treatment, education, care management, and self-management of a patient's health care while the patient is at the originating site and the health care provider is at a distant site.

Transitional Care Model (TCM): Care model in which advance practice nurse provides education about self-care to patients and their caregivers, develops and coordinates a follow-up care plan with the patient's physician, and conducts regular home visits.

United States Preventive Services Task Force (USPSTF): An independent, volunteer panel of national experts in prevention and evidence-based medicine. The Task Force works to improve the health of all Americans by making evidence-based recommendations about clinical preventive services such as screenings, counseling services, and preventive medications.

Value Based Payment (VBP): A concept by which purchasers of health care (government, employers, and consumers) and payers (public and private) hold the health care delivery system at large (physicians and other providers, hospitals, etc.) accountable for both quality and cost of care. This means rewarding physicians and providers for taking a broader, more active role in the management of patient health, and reimbursing them based on cost and quality outcomes instead of solely the volume of visits or procedures.