Comments to the Board - Internal

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April 7, 2016 Board Meeting

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California Association of Health Plans

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VIA ELECTRONIC MAIL
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RE: Special Enrollment Verification Process

Dear Ms. Dooley and Mr. Lee:

The California Association of Health Plans ("CAHP") represents 48 public and private health care service plans that collectively provide coverage to over 25 million Californians. Qualified Health Plans (QHPs) in California are very proud of the partnership with Covered California. CAHP and its member plans share the same goal as Covered California—to expand coverage at an affordable and sustainable price. Together QHP Issuers and Covered California have provided coverage for more than 1.5 million Californians, while maintaining low premium increases. We write today to express our strong support for the implementation of a Special Enrollment Period (SEP) verification process.

While health plans continue to work hard to expand coverage and drive enrollment, we believe that the attention of policymakers needs to transition to stabilizing a maturing market. We are concerned that policies that were put in place to cover the uninsured and grow a new market may be increasingly subject to abuse. Our primary concern is the expanded use of SEPs with no requirement of documentation or validation to verify qualifying life events as in other guaranteed-issue markets. We strongly recommend that the Board approve moving forward to operationalize a verification process.

Abuse of Special Enrollment Periods is a nationally recognized problem:

The federal Department of Health and Human Services has recognized the need to confirm special enrollment eligibility in order to *"enhance program integrity and contribute to a stable rate environment and affordability for consumers."*[1] This is backed up by independent studies in addition to plan data.[2] Based on this information the federal Marketplaces will implement verification of eligibility for SEPs. And State Based Exchanges are also seeing similar data and looking to implement verification process if not already in place. Therefore, it is clear that the

[1] HHS Fact Sheet, Special Enrollment Confirmation Process, February 24, 2016. HHS said they will begin validating SEP eligibility for the most frequently used SEPs, including:

- Loss of minimum essential coverage;
- Permanent move;
- Birth;
- Adoption, placement for adoption, placement for foster care or child support or other court order; or
- Marriage.

[2] Oliver Wyman Analysis of SEP Enrollment in ACA Nongroup Market

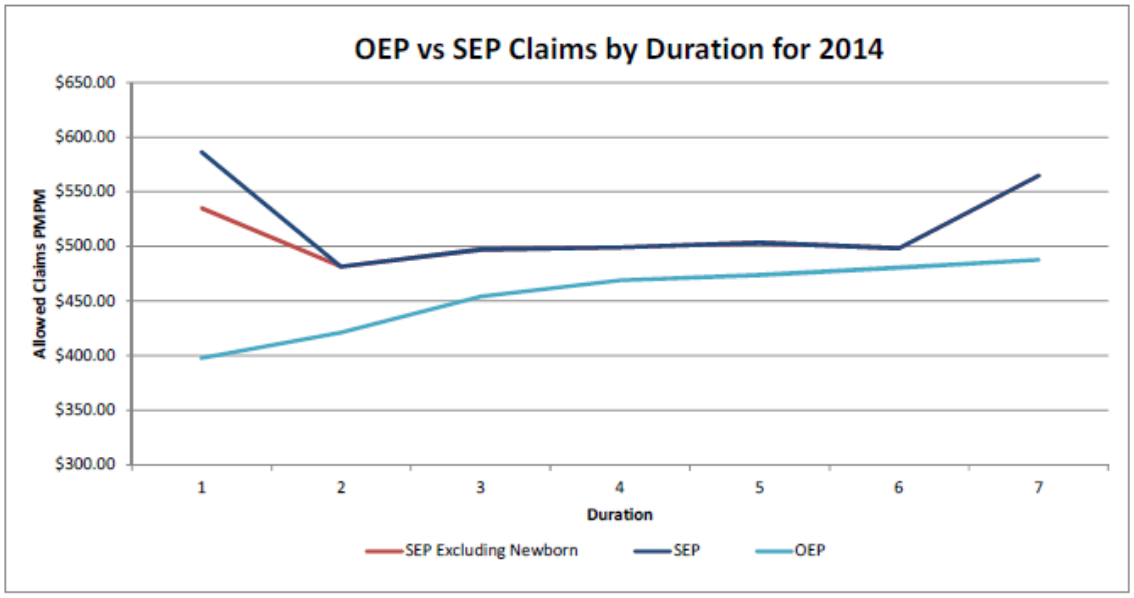
data provide a clear policy justification, on both a state and federal level, that verification of SEP eligibility is a necessary component of the enrollment process to ensure the stability and affordability of the Exchanges. We believe that Covered California, just like the Federal Marketplace, must take action to require SEP verification in order to ensure a sustainable Exchange in California.

We appreciate Covered California's acknowledgment of this issue and the diligent work by staff to reach a consensus solution that will protect the integrity of the California model. This work is consistent with the Board's determination in June 2014 to implement a SEP verification process. In addition, Covered California's Chief Actuary, John Bertko, presented several key data points in his presentation to the Board on February 18, 2016:

- Special enrollment is moving towards 20 percent of total enrollment, nearly double the initial year of the Exchange.
- The data shows a significant cost differential between open enrollment enrollees and SEP enrollees. This trend is confirmed by national data.
- Plans have documented hundreds of cases where enrollees who were subject to SEP validation off-Exchange and determined ineligible then enroll through Covered California without documented proof of eligibility.
- Failure to address SEP abuse would result in additional rate increase of 2-5%.

Pre-enrollment Validation is Critical to Ensure the Stability of the Market:

It is critical that validation of eligibility must occur before enrollment is effectuated. As shown in the chart below[3], SEP enrollees have notably higher utilization immediately upon enrollment as compared to OEP enrollees.



[3] Oliver Wyman Analysis of SEP Enrollment in ACA Nongroup Market. Available at: http://www.ahip.org/Wyman-SEP-Enrollment/

The data shows that a large percentage of individuals enrolling in coverage through SEPs have materially higher utilization costs within the first 3 months—and ongoing higher utilization—indicating they are enrolling only after they are in need of coverage. Cancellation or retroactive termination of enrollment would likely result in claims incurred being paid; with little chance the money can be recovered. The legal authority for plans to terminate coverage retroactively and recover costs for incurred services if someone is later found ineligible for SEP using an audit process (unless fraud can be proved, which is a very high bar) is dubious at best. Such costs would inevitably lead to higher premiums. Moreover, this result resembles post-claims underwriting scenarios the ACA was meant to prevent, where coverage is rescinded after an individual enrolls. Consistency requires that the integrity of the eligibility determination process be maintained. We believe that Covered California, as the arbiter of all eligibility and enrollment in the Exchange, should be responsible for ensuring that verification is complete prior to sending enrollment files to the QHP Issuers to avoid the complications noted above and to be as transparent as possible to consumers.

In addition to higher claims costs, SEP enrollees lapse at a higher rate than OEP enrollees. Although the exchange population is more susceptible to churn as people find alternative sources of coverage, the rate of churn should remain fairly consistent year-to-year. The increased use of SEPs, coupled with higher utilization data, indicates that it is more likely that abuse of SEPs is driving the increase rather than expected churn.

Verification of SEP Eligibility is not a Barrier to Enrollment:

As a matter of industry practice, insurers validate an individual's eligibility for SEP enrollment off-Exchange. This is the same standard industry practice as any other guaranteed-issue commercial market, including the employer market and CalPERS.[4] Nevertheless, like consumer organizations, health plans recognize that Covered California's population has unique needs, and we understand the desire to simplify the enrollment process. QHPs have actively engaged with Covered California and consumer groups to create an eligibility documentation list that leverages electronic data sources where available, expands the list of accepted documents to include unconventional documents such as a cell phone bill, and considers verbal attestation where appropriate. We will continue to work with consumers and advocates to ensure that we create a list that serves the needs of this population while also preventing SEP abuse.

Conclusion:

We continue to appreciate our partnership with Covered California that has led to Covered California being arguably the most successful health insurance exchange in the nation. However, the ongoing success of our marketplace is dependent on the fragile balance of affordability and access to coverage. Without a policy that requires verification of special enrollment periods, the potential for abuse threatens to disrupt the stability and sustainability of the entire market. This has been recognized by the federal government as previously noted and we strongly agree that not taking action will lead to higher premiums for everyone, unfairly penalizing consumers who play by the rules by enrolling during open enrollment or a valid special enrollment period.

[4] *See* CalPERS Required Documentation of Enrollment Change. Available (page 22) at: https://www.calpers.ca.gov/docs/forms-publications/2014-health-program-guide.pdf

We look forward to continuing to work with Covered California and other stakeholders in ensuring that the California model of health reform continues to be the model for the nation.

Sincerely,

Athena Chapman
Director of State Programs

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April 5, 2016

Ms. Diana Dooley, Chair
Paul Fearer
Genoveva Islas
Marty Morgenstern
Art Torres
Covered California Board
Via email to boardcomments@covered.ca.gov

Dear Covered California Board Members:

We write to you regarding the proposed Special Enrollment Policy verification regulations and planned audit. The Health Consumer Alliance has been the designated statewide independent consumer assistance program since before the first open enrollment. Through our individual and policy advocacy with Covered California consumers we have gained valuable insight into the consumer experience.

As our testimony at the last Board meeting indicated, our work with consumers has shown that additional verification requirements are a tremendous burden on low- and moderate-income Californians and are a substantial barrier on health care access, even for eligible persons. Mandatory SEP verification would be a significant burden on consumers and a workload and technology strain for Covered California. We commend Covered California for taking the interim step of auditing SEP eligibility in the coming year but we caution against any hasty implementation of policies or procedures that would deprive eligible applicants and enrollees access to health care.

To that end, we provide the following comments on the proposed guiding principles and audit process for SEP eligibility verification.

Proposed Special Enrollment Policy Guiding Principles

1. *Integrity of the market risk mix and long term affordability*

We believe that in order to keep consumer engagement and trust high while preserving affordability, any SEP eligibility verification should be narrowly targeted only to instances of suspected ineligibility or fraud and should use electronic verification rather than requiring paper documentation. While we understand the balance Covered California must strike between plans and consumers to achieve affordability, we believe that mandatory SEP eligibility verification will have a chilling effect. Excessive documentation requests may be a deterrent to potentially eligible Covered California applicants who may spread the risk and Covered California should take care not to discourage participation. Problems and consumer frustration with the verification process already exist—such as lost documents, trouble

uploading verifications, incorrect eligibility results, confusing notices, long call center wait times, and difficulty resolving issues. Adding another level of verification may jeopardize the integrity of the market mix by increasing consumer distrust and decreasing engagement with Covered California. At the same time, mandatory SEP eligibility verification will be time consuming and costly for both consumers and Covered California administration.

2. *SEP Policy will not be overly burdensome to members*

We commend Covered California for prioritizing minimal burden to Covered California applicants and enrollees. We also agree that electronic verification should be maximized, where available, and that Covered California should accept a wide range of documentation to support SEP eligibility. We urge Covered California to preserve its current practice and enumerated principle of always accepting attestation—whether it is in the first instance or as a last resort. The ability to attest to SEP eligibility may be the only viable method for consumers who have difficulty accessing documents, especially for consumers who are limited English proficient or who are in circumstances that make document acquisition nearly impossible, such as for domestic violence survivors, seasonal workers, those losing jobs, for those having to move in with other family members or experiencing homelessness, and for those experiencing displacement because of natural disaster or environmental hazards.

We believe the audit offers an opportunity for Covered California to study how consumers respond to notices, what documents consumers are able or unable to provide, what consumers need to attest to, and, perhaps most importantly, what types of and how much consumer assistance is necessary to verify SEP eligibility.

A policy of mandatory verification would be highly burdensome to consumers and to the Covered California staff required to obtain and process such verification, and we reiterate that to the extent that SEP eligibility is indeed an issue, verification requirements should be targeted only to cases where fraud or other ineligibility is expected.

3. *SEP eligibility is conditionally granted to not jeopardize access to care*

The consideration for access to care is paramount and we commend Covered California for including it among the four guiding principles. It is critical that Covered California allow conditional eligibility and plan enrollment while SEP eligibility verification is pending.

For some special enrollment qualifying events, it can take time to get the documents that demonstrate the event, for example records that must be requested from another state. This should not preclude eligible people from enrolling in the meantime.

The ACA only allows one short gap in coverage before levying penalties. For some people, this means not only will they be unable to access care while waiting to get documents to show they are eligible for special enrollment, they will also incur a tax penalty if they cannot enroll first and verify later.

The practice of QHP enrollment with conditional eligibility is used and works in other state-based marketplaces, such as Massachusetts. We also encourage that both during the audit and any long-term SEP eligibility verification that Covered California clearly define timeframes both for consumer response and a prompt eligibility determination.

4. *Technology capabilities and resource limitations*

Technology and resources, including Covered California staff time, is an important consideration that is linked with burden to consumers. Again, we think the audit is the right way to study how Covered California's technology infrastructure and resource are stressed by increased verification demands. Although processes are improving, consumers already have technological difficulty in uploading documents in the current application and SEP processes. In other verification situations, such as data matching issues or immigration inconsistencies, many consumers were told their documents were either lost or would take significant time to process, or had to endure long call wait times before reaching a representative who could provide any information about their case. Where there are problems with submitted verifications, we understand that there is increased Covered California staff time to work each case. Given the already existing constraints on technology and resources, we urge Covered California not to implement mandatory, across the board SEP eligibility verification.

2017 SEP eligibility verification audit

We commend Covered California on its decision to pilot an audit before considering full implementation of mandatory SEP eligibility verification. We believe the audit is a critical opportunity to study whether there is a problem of inappropriate SEP enrollment and, if so, the magnitude of it. Because the audit will be the first focused examination of special enrollment period eligibility, we caution against assuming any outcome. Depending on the results of that audit, Covered California can decide whether the problem, if any, requires mandatory SEP eligibility verification. Unless the audit yields significant evidence of widespread SEP abuse, we recommend requiring SEP verification only when there is an indication of SEP ineligibility or fraud.

It is vital that Covered California's policies and procedures for the audit and any ensuing SEP eligibility verification must be defined, with stakeholder input, before the audit begins, particularly with respect to audit selection process, consumer communications, legal rights, acceptable verifications, and consumer assistance.

We therefore recommend:

- The audit should have clear goals and objectives with well-defined methodologies to achieve and measure outcomes.
- Covered California should include consumer advocates in the planning, oversight, and evaluation stages of the audit.

- Covered California must ensure randomness so that selection for audit is not based on any personally identifiable characteristics or claims data.
- Consumers should receive clear instructions in their threshold language about their rights and what to expect in the audit process and what their legal rights are.

In conclusion, we urge Covered California to keep consumer interests, rights, and engagement at the forefront while deliberating the necessity of SEP eligibility verification. We also look forward to participating in the development of the SEP eligibility verification audit and analysis.

If you would like to discuss our comments please contact Cori Racela at (310) 736-1646 or racela@healthlaw.org or Jen Flory at (916) 282-5141 or jflory@wclp.org.

Sincerely,

The Health Consumer Alliance

April 6, 2016

Diana Dooley, Chair, Board of Directors
Peter Lee, Executive Director
Covered California
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Via-email to: boardcomments@coveredca.com

Re: Verification of Special Enrollment Periods

Dear Ms. Dooley and Mr. Lee,

Our organizations write to commend the revised staff recommendation regarding verification of Special Enrollment triggers and to seek ongoing engagement as the process is developed. Special enrollment triggers include loss of other minimum essential coverage as well as moves into a different region and other life transitions that result in the need for coverage outside the Open Enrollment period.

Estimates by various academics and other policy experts suggest that 30%-40% of Covered California's total enrollment should come during Special Enrollment periods and that many individuals who seek coverage as individuals will do so for periods of less than a year. Examples include someone who loses their job or gets divorced, seeks

coverage through Covered California, and then finds other coverage as a result of a new job or other change in life circumstance.

The staff recommendation proposes a combination of audits and electronic verification, with paper documents to be required under some but not all circumstances. This approach which is still being developed would be more consistent with the approach currently taken by the Medi-Cal program as well as Covered California itself for verifying other aspects of eligibility.

Electronic verification using state databases, and indeed the plans' own information on whether an individual was previously covered, can in many instances verify prior coverage or eligibility for the special enrollment trigger. Similarly, properly constructed audit protocols are an appropriate tool for detecting patterns and problems.

What is not appropriate is to require paper documents that may or may not exist or that may not exist in the 60 day window consumers have to apply for a Special Enrollment period. Low and moderate wage workers often do not receive any paper document notifying them of loss of their job, and thus their job-based coverage. In some counties, birth certificates take more than six weeks. And many who move to live with friends or relatives have no paper document to verify the move. Requiring documents that do not exist or do not exist within the 60 day window would be unreasonable and unrealistic.

We are pleased that the prior staff recommendation has been modified to a more reasonable proposal. We look forward to further development of the process for verification of eligibility for Special Enrollment triggers.

Sincerely,

California Labor Federation
California Pan-Ethnic Health Network
California School Employees Association
California Teamsters Public Affairs Council
Children Now
Health Access California
Korean Community Center of the East Bay
Maternal and Child Health Access
The Children's Partnership
Unite Here
Western Center on Law & Poverty

April 6, 2016

Diana Dooley, Chair
Covered California Board Member

Peter Lee, Director
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1601 Exposition Way
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Via Electronic Submission

Re: 2017 Qualified Health Plans Model Contract: Attachment 7, Article 3: Reducing Health Disparities

Dear Ms. Dooley and Mr. Lee:

We, the undersigned organizations write in strong support of Covered California's proposed 2017 contract requirements in Attachment 7, Article 3: Reducing Health Disparities. As a leader in marketplace enrollment, Covered California has an historic opportunity to take concrete steps beyond measuring disparities to demonstrating actual improvement in disparities reduction for its enrollees. For too long, quality improvement initiatives and disparities reduction goals have been treated as separate objectives. Covered California's efforts are not only a positive step forward but are necessary in order to see real change for communities of color, and all communities in California. Together we write in strong support and urge the adoption of the following:

- We strongly support Covered California's proposal in Attachment 7, Article 3 to require health plans to demonstrate year-over-year reductions in health disparities in target areas starting in 2017: diabetes, hypertension, asthma and behavioral health. Chronic diseases are the leading causes of death in the United States and the biggest contributor to health care costs.[1] Due to many factors, communities of color are disproportionately impacted by chronic conditions. For example, Latinos and African Americans in California are twice as likely to be diagnosed with

[1] "Californians with the Top Chronic Conditions: 11 Million and Counting," California Health Care Almanac 2015. California Health Care Foundation, April 2015.

and to die from type 2 diabetes. American Indians and Alaska Natives are three times more likely to have asthma. Approximately 10% of American Indians and Alaskan Natives, African Americans, and Latinos experienced serious psychological distress this past year. Covered California's focus on eliminating health disparities will save lives and result in better health outcomes for communities of color and all residents in our state.

- We strongly support requiring health plans to share their performance data with Covered California for all of their enrollees, even those outside of Covered California. It is estimated that a large portion of Exchange enrollees will move between various coverage sources such as job-based coverage and Medi-Cal in a given year.[2] For this initiative to succeed, health plans must be genuinely committed to reducing health disparities for all of their members, not just their Covered California enrollees. Covered California's requirement for plans to provide performance data for all of their members will strengthen broader efforts in our state to improve quality, eliminate disparities, and strengthen the value of care. This requirement is also key in ensuring Covered California has sufficient data to make progress towards these ambitious goals starting in 2017.

- While not a voting item, we strongly support Covered California's focus not only on traditional quality metrics such as diabetes, hypertension and asthma control but also on innovative metrics such as community level hospital discharge data, as proposed in Appendix 2: measures 6-15 which will help identify gaps in preventive outpatient care. These gaps in care, if not properly identified, can lead to costly, avoidable hospitalizations. For example, in California, preventable hospitalizations have reached $3.5 billion dollars and counting.[3] African-Americans were two to three times more likely to be hospitalized for preventable conditions including diabetes, asthma and heart disease. Asian/Pacific Islanders had the highest death rates for heart attack, stroke and pneumonia. Many of these outcomes could have been avoided with better quality, preventive outpatient care. Requiring reporting on these additional quality metrics will offer a more adequate measure of the health care system in treating its most vulnerable communities and save costs while helping health plans to better target solutions.[4]

Covered California is once again poised to make innovative advancements in improving the quality and value of health care for all Californians. We strongly urge you to take action now by supporting Attachment 7, Article 3 and the types of measurements that will be needed to ensure the 2017 QHP contract requirements provide an important and meaningful step towards reducing persistent health disparities in our state.

Sincerely,

Doreena Wong, Project Director, Asian Americans Advancing Justice-Los Angeles

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[2] "The Ongoing Importance of Enrollment: Churn in Covered California and Medi-Cal," by Miranda Dietz, Dave Graham-Squire, and Ken Jacobs. UC Berkeley Labor Center, April 2014.
http://laborcenter.berkeley.edu/pdf/2014/churn_enrollment.pdf

[3] "Preventable Hospitalizations in California: Statewide and County Trends in Access to and Quality of Outpatient Care, Measured with Prevention Quality Indicators: 1999-2008," OSHPD, 2010.
http://www.oshpd.ca.gov/hid/products/preventable_hospitalizations/pdfs/PH_REPORT_WEB.pdf

[4] "Using Data to Reduce Disparities and Improve Quality: A Guide for Health Care Organizations," Aligning Forces for Quality a project of the Robert Wood Johnson Foundation, April 2014.
http://www.solvingdisparities.org/sites/default/files/data%20issue%20brief.pdf

Richard Konda, Executive Director, Asian Law Alliance

Sandra Poole, Interim President/CEO, California Black Health Network

Sarah deGuia, Executive Director, California Pan-Ethnic Health Network

Betsy Imholz, Director Special Projects, Consumers Union

Anthony Wright, Executive Director, Health Access

Rebecca DeLaRosa, Director Legislative Affairs, Latino Coalition for a Healthy California

Michelle Cabrera, Healthcare and Research Director, SEIU California

Stella Kim, Director, Having Our Say Coalition

Jen Flory, Senior Attorney, Western Center on Law & Poverty

Cc: Covered California Board Members

February 29, 2016

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Plan Management

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Re: 2017 QHP Issuer Contract Attachment 7: Final Draft Redline Revisions

Dear Ms. Price and Dr. Lang,

Our organizations appreciate the opportunity to comment on the 2017 QHP Issuer Contract Attachment 7 (revised 2/18/16.) We applaud the scope of quality improvement initiatives Covered California has included as part of Attachment 7. Together these ambitious strategies will move Covered California beyond asking for data towards acting "as a catalyst for change in California's health care system, using its market role to stimulate new strategies for providing high-quality, affordable health care, promoting prevention and wellness, and reducing health disparities." (Director Peter Lee, March 2015)[1]

We understand that moving from assessment to action and expecting both plans and providers to improve quality while controlling costs and reducing, not worsening disparities is a reinvention of the way in which health care is delivered. The strategies Covered California has articulated in Attachment 7 will take more than one contract year to implement. However with a membership that is 60% communities of color and a majority low-income, many of whom experience disproportionate rates of chronic diseases, we continue to believe that the time to act is now. Below are our recommendations to help strengthen the quality requirements in Attachment 7:

General Recommendations:

- **Require plans to show improvement in health disparities reduction in 2017.** We applaud Covered California for requiring health plans to meet concrete, enforceable year-over-year disparities reduction goals in specific target areas and publicly reporting on the

[1] Peter Lee, Executive Director's Report, March 2015: http://board.coveredca.com/meetings/2015/3-15/PPT%20-%20Executive%20Director's%20Report_March%205,%202015.pdf

results of those efforts (Attachment 7, Article 3). However we are concerned at the exceedingly slow pace of these efforts. While we appreciate the revised language in Attachment 7, 3.02 that clarifies "the collection of data on clinical measures for the purpose of population health improvement requires development and adoption of systems for enhanced information exchange (see Section 1.07)," a lack of such systems currently should not stop QHPs from using proxy data now to identify disparities and target interventions in 2017. Several of your QHPs have been involved in quality improvement strategies through Medi-Cal that have relied on clinical data measures for decades. The focus on population health improvement is paramount at the national level as well. The Centers for Medicare and Medicaid Services (CMS) in its 2017 Quality Improvement Strategy guidance is encouraging QHPs to address health and health care disparities in each Quality Improvement Strategy starting in 2017.[2] Requiring QHPs to engage in disparities reduction activities now will encourage QHPs to strengthen their current data collection methods while ensuring QHPs are meeting national standards. We urge Covered California to move forward with its plan to use 2016 as the baseline measurement year for disparities reduction efforts and to begin to hold plans accountable for reaching quality goals in 2017 (Attachment 7). Waiting until 2018 or 2019 to incentivize disparities reduction is too long (Attachment 14).

- **Make Impact on Equity an Integral Component of all Covered California Quality Improvement Efforts.** Covered California's focus on reducing health disparities through payment incentives as outlined in Attachments 7 and 14 is a good first step. However there are other contract areas where tracking and trending disparities could assist Covered California and health plans at achieving overall quality improvement goals. For example, addressing gaps in primary care selection (4.01) or in utilization of tobacco cessation and obesity prevention services (6.01), are complementary objectives to the stated goals in Article 3. Without a primary care physician, consumers risk not being diagnosed with asthma, hypertension, diabetes or behavioral health issues. At the same time as tobacco use and obesity are often co-morbid with diabetes, hypertension and asthma, utilization of preventive services should be encouraged and gaps in access addressed. We urge this type of tracking and trending of disparities as part of other quality initiatives as well including activities such as: 1.03 Participation in Collaborative Quality Initiatives, 4.02 Patient Centered Medical Home, 4.03 Integrated Healthcare Models (IHM), 4.04 Mental and Behavioral Health, 4.05 Telemedicine and Remote Monitoring, as information on disparities in accessing these types of services could point to targeted solutions for improving quality overall.

- **Conduct Disparities Impact Assessments in order to Ensure Quality Initiatives will not Unintentionally Harm Vulnerable Populations or Leave Disparities in Place.** We appreciate Covered California's revised contract language clarifying that readmissions "shall not be the only measure" used to determine hospital penalties and the additional language requiring hospitals to "adopt balancing measures to track, address, and prevent unintended consequences from at-risk payments including exacerbation of health care

[2] Quality Improvement Strategy: Technical Guidance and User Guide for the 2017 Coverage Year, November 2015: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityInitiativesGenInfo/Downloads/QIS-Technical-Guidance-and-User-Guide.pdf

disparities." (Attachment 7, Section 5.01). We urge Covered California to conduct a disparities impact assessment in all Covered California quality improvement initiatives, particularly other pay-for-performance initiatives that may unintentionally incentivize plans to cherry-pick easy patients in an attempt to demonstrate immediate quality improvement.

- **Ensure a Transparent Process for Selection of Measures for Quality Improvement.** We appreciate the opportunity to provide comments on Appendix 2 to Attachment 7. The measures and required stratification by race/ethnicity will go a long way towards ensuring QHPs are meeting concrete disparities reduction goals in specific target areas starting in 2017. Moving forward, we urge Covered California to ensure there is a transparent stakeholder process for the selection of quality improvement measures as is done in the Medi-Cal program. We understand that QHPs may have reasonable concerns about the appropriateness of certain measures. However consumer advocates and other stakeholders must be included in these discussions and continue to have an opportunity to review and provide feedback regarding the final measurement specifications. We direct you to CPEHN's 2/16/16 letter for more detailed comments on Covered California's current proposed measures.

- **Require plans to stratify all measures, especially health disparities reduction measures by Primary Language:** In addition to stratification of data by race and ethnicity, we encourage Covered California to require QHPs to stratify primary language in 2017 as part of health disparities reduction efforts. Data on language proficiency specifically, is vital to eliminating racial and ethnic disparities as racially and ethnically diverse patients with Limited English proficiency (LEP) are more likely than their English speaking White counterparts to suffer from adverse events, and these adverse events tend to have greater clinical consequences.[3] For future years, we continue to urge Covered California to stratify measures by sexual orientation and gender identity as well. We also urge Covered California to ensure demographic data is disaggregated for smaller, racial/ethnic and LEP populations in order to target disparities reduction efforts in those communities.

Conclusion:
Making equity a central component of Covered California quality improvement initiatives will help to ensure those initiatives are actually meeting agreed upon benchmarks for quality improvement. California has the opportunity to lead the nation by ensuring that health equity is not only important but central to *all of your* quality improvement strategies and to the exchange's ability to achieve its mission of reducing health disparities in our state. We strongly urge you to take action now to ensure the 2017 QHP contract requirements provide an important and meaningful step towards reducing rather than holding constant or even worsening persistent health disparities.

Sincerely,

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[3] Divi C, Koss RG, Schmaltz SP, et al., Language proficiency and adverse events in US hospitals: a pilot study, *Int J Qual Health Care,* 2007; 19(2):60-7. Available at: http://www.ncbi.nlm.nih.gov/pubmed/17277013

Doreena Wong, Project Director
Asian Americans Advancing Justice-Los Angeles

Caroline Sanders, Director Policy Analysis
California Pan-Ethnic Health Network

Anthony Wright, Executive Director
Health Access

Michelle Cabrera, Healthcare and Research Director
SEIU California

Cc: Covered California Board members

CALIFORNIA HOSPITAL ASSOCIATION

Providing Leadership in Health Policy and Advocacy

March 16, 2016

Peter V. Lee
Covered California
Executive Director
Peter.Lee@covered.ca.gov

Subject: Covered California's March 4, 2016 Draft Appendix 2 to Attachment 7: Measurement Specifications

Dear Mr. Lee:

On behalf of our more than 400 member hospitals and health systems, the California Hospital Association (CHA) is providing the attached comments to Covered California on its draft 2017-19 Qualified Health Plan (QHP) Certification Application, Appendix 2 to Attachment 7: Measurement Specifications ("Appendix 2"), released on March 4, 2016. We appreciate that Covered California provided CHA an opportunity to meet and discuss Appendix 2 on March 11. The ongoing dialogue is an important step in bringing to light a number of issues still not well understood by the hospital field. While our comments are limited to Appendix 2, they are largely reflective of many unanswered questions in Attachment 7, Quality, Network Management and Delivery System Standards ("Attachment 7"). CHA continues to appreciate Covered California's engagement in meaningful dialogue to bring clarity to both Attachment 7 and Appendix 2 going forward.

As we have previously shared, CHA supports Covered California's goal of moving from paying for volume to paying for value and stands ready to work with interested stakeholders to achieve this goal. To do so responsibly, there must be a deep and shared understanding between providers, QHPs and Covered California of the operational and technical issues that, if not addressed, will limit our progress toward these shared goals.

As a first step in achieving success, CHA believes that Covered California must focus on a narrow set of consensus-based and nationally endorsed quality measures that align the efforts of the public and private sectors, leading to accelerated improvement and demonstrated results. Starting with a narrow set of clearly defined measures allows providers and QHPs to build infrastructure in which additional measures can be considered in the future. Starting with an unreasonable set of measures will dilute our ability to achieve improvements and undermine our long-term goals. Hospital Compare started with 10 measures because the Centers for Medicare & Medicaid Services (CMS) and stakeholders agreed that starting small and building a reliable infrastructure was key in building momentum.

CHA believes strongly that Appendix 2 should be viewed as a menu of measures from which QHPs and providers choose as they design their approach to meeting the requirements of Covered California, as outlined in Articles 5.01 and 5.02 of Attachment 7. CHA agrees that Covered California should not dictate how QHPs and hospitals contract for value, but we do believe Covered California plays a critical role in mandating the use of an agreed upon measure set (numerator, denominator and a clearly defined population) from which QHPs and hospitals can choose. Such a list promotes alignment and accelerates improvement. **CHA does not support the proliferation of**

variations on quality measures and urges Covered California to promote alignment in a way that will not mandate a value-based purchasing (VBP)-type approach.

Without a common understanding and agreed upon detailed definitions, baseline and performance period time frames, further delineated patient populations, appropriate risk adjustment methodologies and transparent criteria for the exclusion of certain providers — among other things — we are concerned we may miss an opportunity to promote alignment.

At the same time, we urge Covered California to have further discussions regarding what is currently on the list in light of this request. **More specifically, CHA believes that for Article 5.01 QHPs should rely only on the standardized infection ratio (SIR) calculations for the hospital-acquired condition (HAC) measures, rather than multiple competing measures.** These are nationally endorsed and risk adjusted measures that, with the exception of C. Difficile infection, are appropriate for public reporting and performance programs.

We support the efforts currently being taken by organizations to address adverse drug events (ADEs) and the pilot projects underway to collect meaningful data that will lead to further improvement. **However, CHA does not believe the ADE measure is currently ready for inclusion at this time. We are open to further dialogue for other opportunities to advance this topic.**

It is our understanding that Covered California will convene stakeholders on March 22 to further discuss Appendix 2, and that Covered California will additionally discuss Appendix 2 with its Plan Management and Delivery System Reform Advisory Group on March 29, in advance of finalizing Appendix 2 by April 7. **CHA looks forward to participating in the scheduled discussions and urges Covered California to revise its April 7 deadline to finalize Appendix 2 if it appears additional discussions with stakeholders are warranted.**

In addition, **CHA requests that Covered California exclude inpatient psychiatric facilities (IPFs), free standing inpatient rehab facilities (IRFs) and long-term acute care hospitals (LTCHs) and children's hospitals from Attachment 7 Section 5.01 Hospital Payments to Promote Quality and Value, and requests that Covered California provide this additional clarification regarding the applicability in Attachment 7 Section 5.02 Hospital Patient Safety.** General acute care hospitals are better positioned to take on more performance based contracts because the measures for these hospitals have been in use for many years. This is not the case for other providers. Most national quality reporting programs began only a few short years ago. Notably, all county run IPFs that are not certified by Medicare are not currently reporting measures – excluding a huge portion of IPFs from even having readily available data for consideration in VBP like programs. More importantly, IRFs and LTCHs are just beginning data collection on several new measures as a result of the implementation of the IMPACT Act. We are hopeful that these measures will provide reliable and valid data that reflect the patient population and quality of care provided in these settings, but these measures remain untested and are very early in adoption.

In addition, surgical site infection with a focus on colon is not relevant to pediatric patients; C. Difficile infections in children are less common than in adults, and there is limited high-quality evidence to guide the management of pediatric C. Difficile infection. This document does not currently identify any pediatric-sensitive measures, nor does it address the important differences in the applicability of measures in unique settings including inpatient psychiatric facilities, freestanding inpatient rehabilitation facilities and long-term acute care hospitals. Therefore we believe these facilities should be excluded at this time.

CHA believes it would be premature to require this provision to be applicable to other providers until we have more measures that reliably reflect the quality of care provided in that setting.

We have previously shared with Covered California a number of principles that should be adhered to as part of the QHP contracting process and in developing Appendix 2. These principles include, but are not limited to, the following:

- **Use a Common and Parsimonious Set of Measures.** All measures used by QHPs should be identical (numerator, denominator, risk adjustment, data collection methods, data source etc.), regardless of the program in which they are used. The proliferation of measures, data sources and risk adjustment methodologies for the sake of differentiation wastes limited financial and personnel resources. In the April 2015 Institute of Medicine report titled *Vital Signs: Core Metrics for Health and Health Care Progress*, researchers concluded that the vast — and constantly growing — number of quality measures that providers are required to track "limits their overall effectiveness." Therefore, the Institute proposed a more streamlined approach for assessing performance. We should not miss this opportunity to lead the nation in demonstrating that a parsimonious set of high-impact measures — instead of a proliferation of measures that dilute performance — can drive performance at an accelerated rate.

- **Use NQF-Endorsed Measures.** All measures should, at a minimum, be endorsed by the NQF, a consensus-based entity that evaluates quality measures based on their importance, scientific acceptability, feasibility to collect and usability. Measures endorsed by the NQF are typically suitable for public reporting. CHA reminds Covered California that not all measures are suitable for pay-for-performance programs; we urge Covered California to work with stakeholders to ensure that only the most robust, reliable and valid measures are adopted into these programs. CHA appreciates that Covered California has used NQF-endorsed measures in Section 5.01; however, Covered California does not use NQF-endorsed measures in Section 5.02. CHA requests that Covered California only use NQF-endorsed measures.

- **Evaluate Additional Risk Adjustment.** CHA has continually expressed disappointment that, despite overwhelming evidence, CMS has failed to adjust the Medicare readmissions measures for sociodemographic factors that influence a readmissions rate. **It is our understanding in reading Attachment 7 that Covered California intends to use nationally-recognized measures such as Medicare readmissions measures; however, Appendix 2 does not list readmissions measures under consideration. If Covered California wishes to use readmission measures, they should be clearly defined and include appropriate sociodemographic status adjusters.**

  As noted in Appendix 2, Covered California is very interested in robust data collection on race and ethnicity. CHA supports these efforts but seeks further dialogue to ensure this data is reported, on both claim level and encounter data, consistently with National Uniform Billing Committee processes. Though we believe Covered California's proposal is in alignment, we request additional clarity. This data is an important component in the development of measures' risk stratification and may be used where appropriate for risk adjustment — along with income, education and other factors evidence suggests are predictors of health outcomes. However, we do not wish to create competing data collection efforts that will be administratively burdensome to providers and health plans.

CHA looks forward to continued discussions with Covered California as it finalizes a set of agreed upon measures and guidance. We prepared comments quickly to meet Covered California's compressed timeframe. Should we identify any other areas of concern, we will submit our comments to Covered California in an expeditious manner. We appreciate Covered California's consideration of our recommendations and look forward to our continued partnership. If you have any questions, please contact me at (916) 552-7543.

Sincerely,

Amber Kemp
Vice President, Health Care Coverage

cc: Lance Lang, Chief Medical Officer, Covered California
Anne Price, Director, Plan Management, Covered California

California Hospital Association Comments on Covered California's March 4, 2016 Draft
Appendix 2 to Attachment 7: Measurement Specifications

Article Number or Attachment Number	Metric No.	2017 Contract Section	Measure Name	California Hospital Association Comment
Attachment 7 to Covered California Individual Contract: Quality, Network Management, Delivery System Standards and Improvement Strategy	N/A	1.06	N/A	CHA requests that Covered California clarify who this requirement applies to as it is our understanding that QHPs cannot participate in Partnership for Patients, nor CHPSO. CHA recommends that Covered California add a sentence prior to (B) that notes that QHPs should work with providers to identify hospitals/physician participation in any number of QI efforts (B through N). Alternatively, Covered California can obtain all this information from the collaboratives themselves and then decide if it wants to monitor progress of any of these initiatives. CHA is concerned that absent this level of specificity QHPs may read this section as a requirement for them to require providers to participate in all of the QI efforts listed, and CHA adamantly disagrees with such interpretation.
Appendix 2 to Attachment 7: Measurement Specifications	N/A	N/A	N/A	CHA requests that Covered California limit the reporting burden on providers. Several measures in Appendix 2 are already reported to OSHPD in some capacity.
Appendix 2 to Attachment 7: Measurement Specifications	N/A	N/A	N/A	CHA requests that Covered California clarify in its QHP contract that Appendix 2 represents a menu of options (i.e. the universe of measures) from which plans may select and that, with the exception of the Section 5.01 Hospital Payments to Promote Quality and Value, plans may not use measures not included in Appendix 2. In addition, CHA requests that Covered California incorporate language that clarifies that any other measures included in future iterations of Appendix 2 be vetted with stakeholders, including providers. CHA requests to be included in any future stakeholder discussions related to Appendix 2.
Appendix 2 to Attachment 7: Measurement Specifications	N/A	N/A	N/A	CHA requests that Covered California clarify what constitutes exclusion from a network if a provider does not meet a milestone (i.e. if the provider misses one of four measures, or all four measures, etc.), as this is not clear.
Appendix 2 to Attachment 7: Measurement Specifications	N/A	5.01	N/A	It is our understanding that the current VBP measures under consideration are based on all patients. CHA requests that Covered California clarify.
Appendix 2 to Attachment 7: Measurement Specifications	21	5.03	Hospitals reporting to CMQCC	CHA requests that Covered California include the date for when the list of participants will be pulled so that a hospital that is considering participating in CMQCC for the plan year 2017 understands when the cut of date is for having this count for these purposes; this is not clear.

California Hospital Association Comments on Covered California's March 4, 2016 Draft
Appendix 2 to Attachment 7: Measurement Specifications

Appendix 2 to Attachment 7: Measurement Specifications	22	5.03	Hospitals meeting CalSIM goal for C-sections	In an effort to minimize data collection requirements on providers, CHA requests that Covered California include instructions for QHPs to collect this data as the QHPs will already have access to this data through their collaboration with CMQCC, as part of meeting their Section 1.06 Participation in Collaborative Quality Initiatives requirement.
Appendix 2 to Attachment 7: Measurement Specifications	22	5.03	Hospitals meeting CalSIM goal for C-sections	CHA believes Covered California should add a physician metric to Appendix 2 and request that this topic be added to the March 22 Covered California 2017 Quality Initiatives Metrics and Specifications Workgroup.
Appendix 2 to Attachment 7: Measurement Specifications	24	5.01	Payment strategies for maternity services	CHA requests that Covered California include a common set of definitions for the various types of payment arrangements for C-Section (e.g. fee-for-service linked to quality, blended rate, capitated rate) to ensure appropriate data collection and consistency. CHA believes it is incumbent upon Covered California to provide this level of shared understanding amongst providers.
Appendix 2 to Attachment 7: Measurement Specifications	25	5.02	Opioid Adverse Events (Patients Treated with Naloxone)	CHA believes Measure 25 is an important measure; however, it is not currently NQF-endorsed and there is not a national data repository for this measure. CHA does not believe this measure will be ready for use by 2018. We are not confident that Covered California and the QHPs can operationalize this measure in its current form as it is too premature for use, therefore, CHA requests that this measure be removed.
Appendix 2 to Attachment 7: Measurement Specifications	26	5.02	CAUTI Rate	CHA strongly requests that all measures be NQF-endorsed. As such, CHA supports Measure 27 (CAUTI SIR) being used and requests that Measure 26 (CAUTI Rate) be removed.
Appendix 2 to Attachment 7: Measurement Specifications	27	5.02	CAUTI SIR	CHA supports Measures 27 (CAUTI SIR) being used and requests that Measure 26 (CAUTI Rate) be removed.
Appendix 2 to Attachment 7: Measurement Specifications	28	5.02	Urinary Catheter Utilization Ratio	CHA requests that Covered California clarify the purpose of collecting this additional data. CHA recommends that Covered California remove this measures from Appendix 2, as it seems to be additive and may be confusing.
Appendix 2 to Attachment 7: Measurement Specifications	29.00	5.02	CLABSI Rate	CHA strongly requests that all measures be NQF-endorsed. As such, CHA requests that Measure 29 (CLABSI Rate) be removed.
Appendix 2 to Attachment 7: Measurement Specifications	33	5.02	C. Diff SIR	CHA believes more dialogue is needed regarding this measure.

California Hospital Association Comments on Covered California's March 4, 2016 Draft
Appendix 2 to Attachment 7: Measurement Specifications

Appendix 2 to Attachment 7: Measurement Specifications	36	5.01	Hospital Reimbursement at Risk for Quality - Report the percentage of hospital performance at risk for quality performance (metrics may include but are not limited to HACs, readmissions, patient satisfaction, etc.).	CHA requests to participate in discussions with Covered California about the readmissions measures to be used, so as to ensure this information is uniformly collected and meaningful for quality improvement.
Appendix 2 to Attachment 7: Measurement Specifications	37	5.01	Hospitals with Reimbursement at Risk for Quality Performance - Report the number and percentage of hospitals with reimbursement at risk for quality performance (metrics may include but are not limited to HACs, readmission, patient satisfaction, etc.)	CHA requests to participate in discussions with Covered California about the readmissions measures to be used, so as to ensure this information is uniformly collected and meaningful for quality improvement.

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Additional offices
Los Angeles, Sacramento

April 6, 2016

Peter Lee, Executive Director
Covered California
1601 Exposition Blvd.
Sacramento, CA 95815

Re: Support for Covered California quality improvement and health disparities reduction initiatives

Dear Executive Director Lee:

Children Now—California's nonpartisan research, policy development, and advocacy organization dedicated to promoting children's health and education—is writing in support of the proposed quality improvement and health disparities reduction initiatives for 2017 that will be voted on by the Covered California Board of Directors on April 7, 2016. Specifically, we support Covered California's proposal in Attachment 7 to require health plans to demonstrate year-over-year reductions in health disparities starting in 2017 on diabetes, hypertension, asthma and behavioral health.

Communities of color are disproportionately impacted by chronic diseases; for example, asthma hospitalization and Emergency Department visit rates are higher in Hispanics than Whites, especially among children, according to *Asthma in California: A Surveillance Report* from May 2013. Furthermore, almost three in four California children are from communities of color, so the focus on improving the quality of care by eliminating health disparities will improve health outcomes for our children now and in the future.

To truly address disparities affecting California's children and families, we support requiring health plans to share performance data for all of their members, even enrollees outside of Covered California. This will help to demonstrate the broader commitment of health plans to eliminating health disparities and ensure Covered California has sufficient data to make progress towards these ambitious goals in 2017. Children Now also supports Covered California's use of innovative quality metrics, such as community level hospital discharge data, to identify gaps in care that can lead to costly, avoidable hospitalizations down the road. We believe these actions will also encourage alignment and spur innovation in other health care programs and delivery system reforms, thereby driving improved health for California's children and families.

We very much appreciate Covered California's hard work and commitment to improving health care quality and reducing health disparities among Californians.

Sincerely,

Michael Odeh
Associate Director, Health Policy

cc: Covered California Board of Directors

April 6, 2016

Peter Lee, Executive Director
Covered California
1601 Exposition Boulevard
Sacramento, CA 95815

Via-email to: boardcomments@covered.ca.gov

Re: SUPPORT – Attachment 7 - Quality and Health Disparities Reduction Initiatives

Dear Mr. Lee,

The Children's Partnership (TCP) is a statewide child advocacy organization that works to ensure that all children—especially those from underserved communities—have the resources and opportunities they need to grow up healthy and lead productive lives. Consistent with that goal, we strongly support Covered California's proposal to require health plans to demonstrate year-over-year reductions in health disparities on diabetes, hypertension, asthma and behavioral health, starting in 2017.

California is home to a diverse population with almost 3 in 4 children from communities of color. The future of the state is dependent on our ability to secure the health and well-being of our children of color. Communities of color are disproportionately impacted by chronic disease. Low-income children and children of color, in particular, face greater barriers to getting needed care. Unmet health, dental, and mental health needs can result in developmental delays in children that affect their health, social, and academic outcomes. Covered California's focus on disparities reduction will improve health outcomes for our children today and in the future.

In order to reduce disparities for all California families and their children, The Children's Partnership supports requiring health plans to share performance data for all of their members, including enrollees outside of Covered California. The Children's Partnership also supports Covered California's use of innovative quality metrics, such as community level hospital discharge data, to identify gaps in care that can lead to costly, avoidable hospitalizations down the road. These efforts will strengthen broader efforts by health plans and other health care partners to improve quality, strengthen the value of care, and ensure Covered California has sufficient data to make significant progress towards the reduction of disparities in 2017 and beyond.

We thank you for your leadership and commitment to improving the quality of care and achieving health equity for all California families and their children.

Sincerely,

Mayra Alvarez

Mayra E. Alvarez, MHA
President, The Children's Partnership

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Comment Received via E-mail

Support for Covered California's Proposal in Attachment 7 re reductions in health disparities

Dear Dr. Lee

I am a historian/ethnographer of science with a research specialty in how new scientific/medical knowledge and practice comes into being. In mid-life I ordained as a Buddhist minister, earned an MDiv, and trained as an interfaith healthcare chaplain.

I am especially passionate about the lack of access to excellent, multidisciplinary palliative and end of life care for poor, underserved people in CA.

It has come to my attention that Covered California has proposed that health plans devote some real attention to **reductions in health disparities**, beginning with diabetes, hypertension, asthma and behavioral health starting in 2017. As you no doubt know, due to the many factors associated with poverty and structural and institutional racism, poor people of color develop chronic disease, are often undermedicated, and die earlier than white middle-class people. The demographics of poverty and racism directly impact health care costs.

In my professional training as a chaplain, especially in my experience during 24 hour oncall shifts in the Emergency Department at UC San Francisco Medical Center I have seen how lack of professional clinical training in health literacy, linguistic and cultural competence (and humility), impatience and lack of empathy resulted in a history of poor care and terrible deaths!

I support other provisions of the proposal:

- requiring health plans to share performance data for all of their members, even enrollees outside of Covered California. This will help to demonstrate the broader commitment of health plans to eliminating health disparities and ensure Covered California has sufficient data to make progress towards these ambitious goals in 2017.
- the adoption of quality metrics such as community level hospital discharge data to identify gaps in care that can lead to costly, avoidable hospitalizations down the road.

In support of innovating health quality metrics, I am appending to this email a 2015 report by the Bay Area Regional Health Initiatives which demonstrates how social determinants that typically do not get included in these outcomes study might well be useful. I strongly urge you to consider, in the future, requiring health plans to include even more variables in their data gathering.

Yours truly
Sharon Ghamari-Tabrizi, PhD, MDiv

APPLYING SOCIAL DETERMINANTS OF HEALTH INDICATOR DATA FOR ADVANCING HEALTH EQUITY

A Guide for Local Health Department Epidemiologists and Public Health Professionals

BARHII
Bay Area Regional Health Inequities Initiative

Acknowledgements

This guide was produced by the Bay Area Regional Health Inequities Initiative (BARHII) Data Committee.

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Contents

INTRODUCTION

I. PURPOSE OF THE GUIDE

The public health community has reached a consensus that where you live determines how long and how well you will live, with neighborhood wealth as one of the most important influences. In societies where everyone is supported to flourish socially and financially, people are healthier and so is the economy.

According to the World Health Organization, "(p)olicies that recognize that what makes societies prosper and flourish can also make people healthy have more impact. Fair access to education, good work, decent housing and income all support health. Health contributes to increased productivity, a more efficient workforce, healthier ageing and less expenditure on sickness and social benefits. The health and well-being of the population are best achieved if the whole of government works together to address the social and individual determinants of health." As part of traditional public health practice, health departments collect data and implement programs based on individual health behaviors and outcomes—including indicators related to health and risk behaviors, infection, disease, injury, birth, and death. With most of these data, there are differences in outcomes and disparities in health between population groups classically defined by race, ethnicity, gender, disability status, and age. Public health interventions typically have been designed to reach and meet the needs of specified groups with higher rates of particular conditions—such as diabetes among Hispanic/Latinos or hypertension among African Americans/Blacks. Although there is an important role for culturally appropriate programs that build awareness and self-efficacy to make healthier individual choices (for example, in nutrition and exercise), this traditional, downstream view often also propagates a misunderstanding that individual behavior (i.e., "personal responsibility") is the principle or only cause of preventable disease.

While this perspective has some merit, it ignores the influence of historically discriminatory public and economic polices that determine poverty, educational attainment, and neighborhood living conditions. These upstream social determinants promote, enable, and reinforce the unhealthy behaviors leading to preventable disease, disability, and death. Thus the use of the term 'health inequities, defined by the World Health Organization as "the differences in health status and mortality rates across population groups that are systemic, avoidable, unfair, and unjust."

The purpose of this guide is to show local health department (LHD) epidemiologists, data analysts, and other professionals how to collect, analyze, and display a prioritized list of social determinant of health living condition (SDOH-LC) indicators and frame these data in the context of neighborhood mortality, morbidity, and social conditions.

The recommendations in this guide are designed to help local health departments (LHDs) use SDOH-LC indicators to make measurable improvements in health and quality of life—particularly for neighborhoods and populations that emerge from the data as having the greatest SDOH needs.

By following the recommendations outlined in this guide, we expect the reader will be able to:

- Understand the importance of SDOH-LC indicators and their role in local public health equity work.
- Conduct a health equity analysis of death certificate files available to all LHDs.
- Collect and analyze key SDOH-LC indicators for use in local public health activities and to monitor changes over time.
- Respond to common questions and known limitations to SDOH indicators.
- Connect SDOH-LC indicators to the ten essential public health services.
- Show examples of successful partnerships from San Francisco Bay Area health departments with institutions traditionally outside of health and human services to address the SDOH.

II. ABOUT THE BAY AREA REGIONAL HEALTH INEQUITIES INITIATIVE (BARHII)

The Bay Area Regional Health Inequities Initiative (BARHII) is a collaboration of public health staff and leadership from 11 of the San Francisco Bay Area LHDs whose mission is to "transform public health practice for the purpose of eliminating health inequities using a broad spectrum of approaches that create healthy communities." This charge is carried out by an in-kind LHD staff committee structure, which includes a Data Committee (DC) composed of LHD epidemiologists and analysts. The DC addresses factors identified by research as underlying the health inequities seen between population groups, especially socioeconomic inequalities in living conditions, and helps build local capacity in epidemiology and evaluation to monitor these conditions and the strategies and actions to improve them.

III. HISTORY AND PROCESS OF THE BARHII SDOH INDICATOR PROJECT

This BARHII indicator project began in February 2009 to develop a set of indicators that best illustrate the effects of the SDOH on inequitable health outcomes for the purposes of: showing the connections between inequities and health; developing more effective public health interventions; creating data support for public health interventions that might fall outside of the traditional public health models for interventions; and to support and develop more effective approaches in health departments which address living conditions and other social determinants. This information can also be used for policy makers, program evaluation, data monitoring—including county-level tracking over time, input on statewide indicator projects, future grant funding, and as a source of potential 'gaps' in currently tracked indicators.

The BARHII Data Committee started out by compiling a comprehensive set of over 300 indicators from the literature, including several well-documented pioneering SDOH indicator lists such as the Centers for Disease Control and Prevention (http://www.cdc.gov/dhdsp/docs/data_set_directory.pdf), the San Francisco Healthy Development Measurement Tool, and the World Health Organization—The Solid Facts. Additional sources included newly published reports such as Galea's *Estimated Deaths Attributable to Social Factors in the US*, Healthy People 2020 SDOH

indicators, and an extensive literature review showing the effects of living conditions on health outcomes. Then, utilizing local knowledge and expertise, the DC followed a process of narrowing the list to a core set of 72 health equity measures (Appendix F). Criteria for inclusion in the list included the strength of each indicator in the literature reviewed and the degree to which each measure would impact health inequities. Data availability was not included in the selection criteria at this stage because the DC wanted to identify a 'wish list' of priority indicators to advocate for future tracking by the State of California. The 72 indicators were categorized along the same organization as the living conditions associated with health inequities from the BARHII Framework: economic environment, social environment, physical environment, and service environment.

In 2012, the data committee took the list of 72 core, prioritized indicators and, now also considering data availability, voted on which 15 SDOH indicators to use as examples in this 'how to' guide.

IV. THE SOCIAL DETERMINANTS OF HEALTH AND THE BARHII FRAMEWORK

In the 2008 BARHII report, *Health Inequities in the Bay Area*, an analysis of mortality, neighborhood poverty, race, and ethnicity among BARHII member counties from 1999 to 2001 showed a strong, inverse relationship between Census tract poverty and life expectancy. Figure 1 is the updated version based on deaths in the Bay Area from 2009 to 2011 and the 2010 Census. While improvements in life expectancy have occurred since 2000, differences in life expectancy by race, ethnicity, and neighborhood poverty continue to exist.

In an attempt to explain and ultimately eliminate these differences, BARHII developed a theoretical framework (Figure 2) showing how upstream factors produce and reproduce health inequities across populations.

The BARHII framework argues that living conditions, institutional power, and social inequalities are factors "upstream" to the individual and mostly out of his or her control, but they directly determine his or her health behavior, morbidity, and mortality. The collection of these upstream factors (the social inequality, institutional power, and living conditions boxes in the framework), are defined as the social determinants of health (SDOH). Many of the inequities in the SDOH are associated with each other, and many groups suffering from the worst health profiles also struggle in many of these social and economic indicators.

This guide focuses on SDOH indicators in the living conditions column where concrete measurements of built environment and social factors can be examined. As explained in *Health Inequities in the Bay Area*, "Neighborhoods with high rates of poverty, often disproportionately communities of color, are more likely to have high concentrations of retail outlets that specialize in alcohol, tobacco, and fast foods, a relative absence of stores that sell fresh produce at reasonable prices, a lack of open space, limited public transportation, housing adjacent to ports, rail yards, freeways and/or other sources of toxic exposures and socially segregated housing that contributes to high rates

FIGURE 1: NEIGHBORHOOD POVERTY VERSUS LIFE EXPECTANCY AT BIRTH, BARHII REGION, 2009-2011

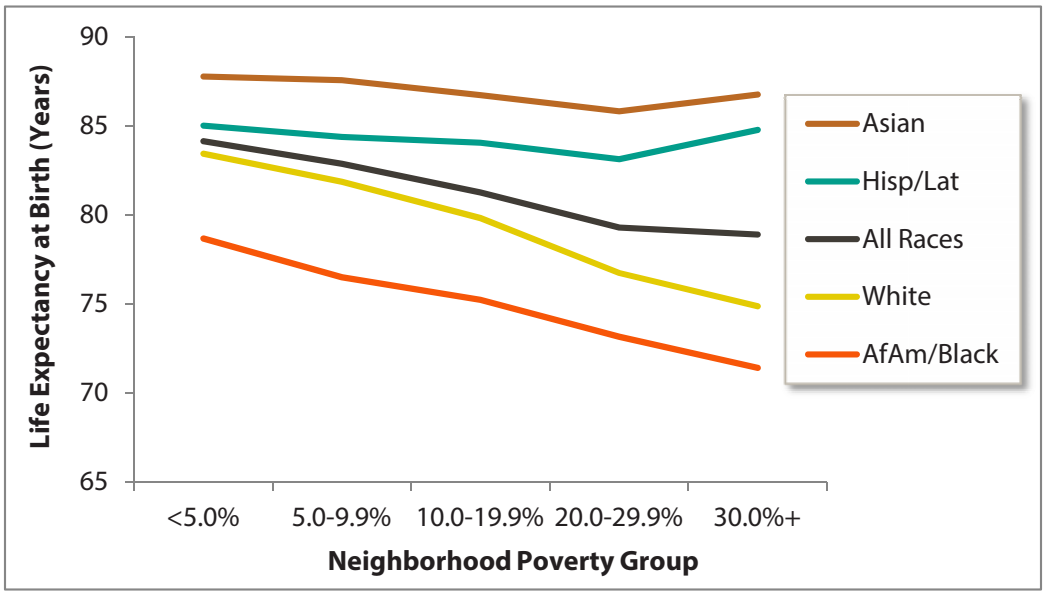
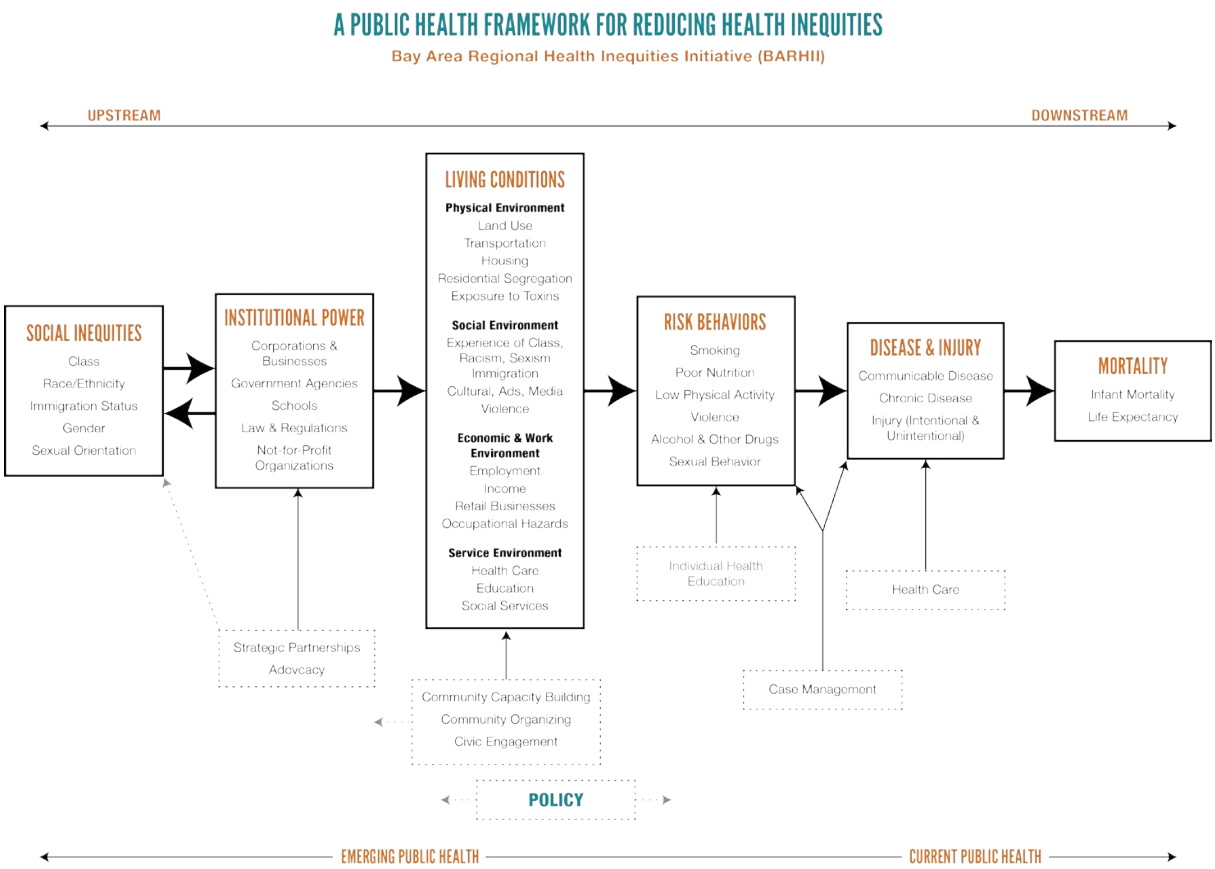


FIGURE 2: THE BARHII FRAMEWORK



of community violence. These conditions constitute risk factors for heart disease, cancer, stroke, diabetes, asthma, alcohol and drug abuse, and homicide, among others."

While the broad relationship between wealth, place, and health is known, LHDs are confronted with three questions: (1) What is different about the social, environmental, and living conditions of wealthier places versus poorer places that could explain this life expectancy gap?; (2) Once these differences are identified, how can communities best invest resources to improve disparate neighborhood conditions, considering the multitude of factors and the large economic and political capital required to change them?; and (3) What is a local public health department's role in facilitating this change? Beginning with an equity analysis of birth and death certificates, a well-designed, locally focused SDOH indicator project can begin to answer these questions.

This guide will focus on 15 SDOH living condition (SDOH-LC) indicators that BARHII has identified as significant influences on health, which can be collected, analyzed, and monitored by LHDs. Taken together with health data (e.g., morbidity, mortality, and risk behaviors), data from SDOH-LC indicators can help show (a) the complex and multifaceted nature of social inequities leading to health inequities; (b) outcomes of the discriminatory, inequitable, and unethical exercise of institutional power; (c) the cross-domain and cumulative burdens of those suffering from the worst inequities; (d) the many pathways to policies, programs and practices that can reduce these inequities; and (e) the need for those concerned with local health inequities to work with other partners beyond the healthcare and public sector to address SDOH inequities.

An important first step in transforming local public health practice to address the upstream health inequity factors is the collection and monitoring of SDOH-LC indicators. BARHII has drafted this guide to support health departments in doing so, especially those with limited resources. BARHII has developed eight general recommendations for LHD epidemiologists on how to collect and analyze SDOH-LC indicators. In addition to basic technical steps, BARHII also urges health departments to apply these indicators to program work and advises on where to begin in accomplishing this with examples from LHDs. In addition, BARHII has a report, *Healthy Planning Guide*, available online at http://barhii.org/resources/healthy-planning-guide/, to assist health departments in defining local policy recommendations, action steps and community partners with whom to build partnerships for healthy planning.

V. BARHII RECOMMENDATIONS FOR USE OF SOCIAL DETERMINANT OF HEALTH LIVING CONDITION INDICATORS IN LOCAL PUBLIC HEALTH PRACTICE

Recommendation 1. Analyze mortality and morbidity data to show health disparities, identify causes of death attributable to social and economic factors, and prioritize places and populations for further public health surveillance, intervention, and evaluation.

BARHII recommends that health departments analyze death certificate data to produce the charts and tables in this section. This analysis will identify priority places and populations for health equity work and track progress in building health equity over time. Stratification of life expectancy

at birth and mortality by educational attainment and neighborhood poverty is essential because these two SDOH-LC indicators are: (1) among the strongest predictors of life expectancy and premature mortality; (2) factors on which public policy makers at all levels have significant influence; (3) factors recommended by the World Health Organization to be monitored as part of a health equity surveillance system; and (4) are readily available to most health departments. By identifying causes of death with a strong, statistical relationship with poverty or low educational attainment, LHDs can better tailor programs to improve the health of socially disadvantaged populations. While these are recommendations to analyze causes of death, they are based on the International Classification of Diseases version 10 (ICD-10) codes, the same codes that are found in electronic medical records (EMR); therefore, health departments can apply the methods here to monitor patient morbidity from EMRs as data become available. Further, this analysis can be considered a health equity analysis and can meet many of the data analysis and monitoring requirements for community health benefit reports or applications to the Public Health Accreditation Board.

Figure 3 shows neighborhood poverty versus life expectancy at birth (LEB) stratified by race and ethnicity in the Bay Area. LEB is a good overall measure of population health. Every LHD's equity goal is to increase life expectancy in places and populations where it is lowest and reduce the disparities in this measure by race and ethnicity. Figure 3 shows that as poverty increases, LEB decreases for the total population and White and African American/Black races in the Bay Area. This gradient does not hold up as well for Asians and Hispanic/Latinos.

FIGURE 3: NEIGHBORHOOD POVERTY VERSUS LIFE EXPECTANCY AT BIRTH, BARHII REGION, 2009-2011

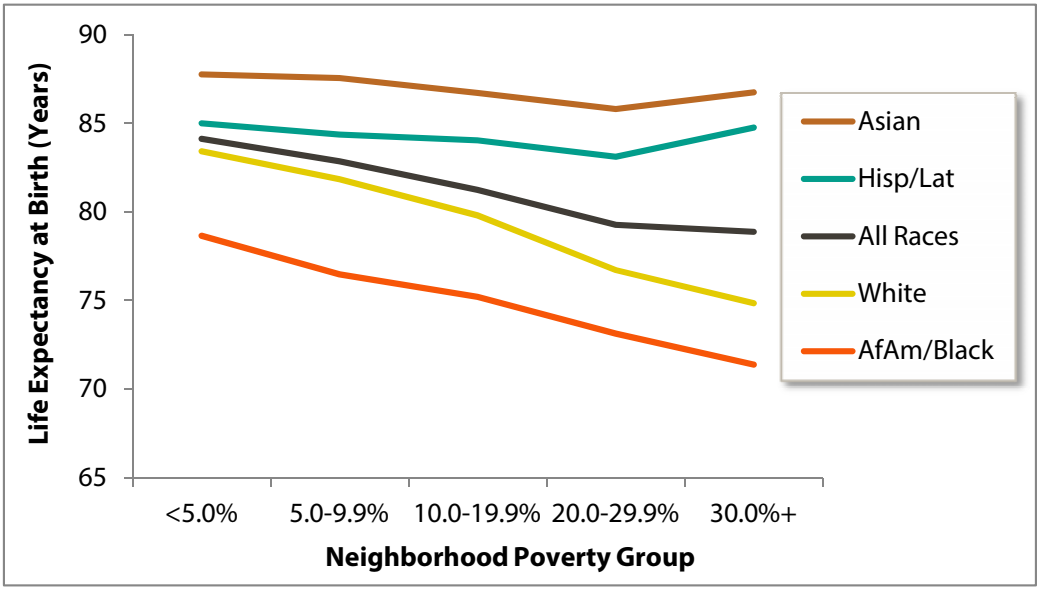
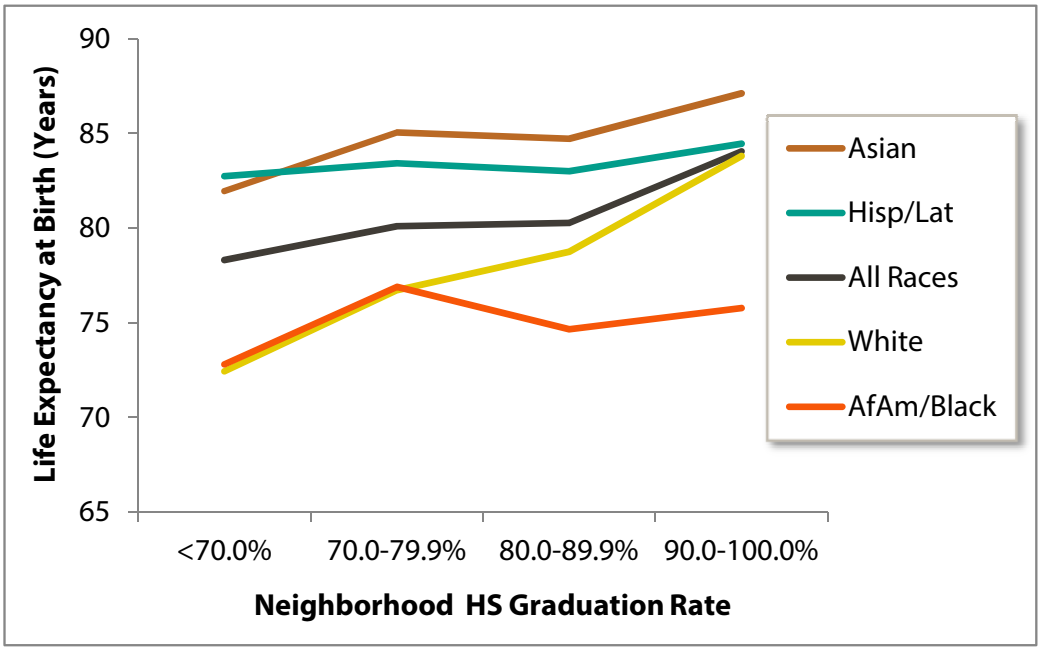


FIGURE 4: NEIGHBORHOOD HIGH SCHOOL GRADUATION RATE VERSUS LIFE EXPECTANCY AT BIRTH, BARHII REGION, 2009-2011



Another strong predictor of health determined by upstream policy is educational attainment, which is typically measured as the prevalence of adults 25 years and older with a high school education or its equivalent. As Figure 4 shows, neighborhoods with the highest rate of high school graduation also have the highest LEB in the Bay Area. However, the data suggest that educational attainment is not as strong a predictor of life expectancy than neighborhood poverty especially when broken out by race/ethnicity. For example, there is little change in LEB in the tracts with a 70-79% and 80-89% high school graduation rate, except for African Americans/Blacks and Whites. Conversely, as Figure 3 shows, there is at least some incremental change in LEB across all races as neighborhood poverty increases.

Figure 5 shows that rates of mortality increase substantially with neighborhood poverty. Mortality rates among White and African American/Black populations living in poverty are most affected, while rates of mortality in Asian and Hispanic/Latino populations are less affected by neighborhood poverty.

Overall, rates of mortality decrease in neighborhoods as the proportion of adults living in that neighborhood with a high school education increases (Figure 6). However, this relationship is not as strong as neighborhood poverty versus age-adjusted mortality when stratified by race and ethnicity. This suggests that other factors—such as neighborhood poverty—confound the relationship between educational attainment and mortality rates and more robust epidemiologic analysis is needed to control for these other factors. The technical appendix discusses in greater detail the issues of colinearity and confounding.

FIGURE 5: NEIGHBORHOOD POVERTY VERSUS ALL-CAUSE, AGE-ADJUSTED MORTALITY RATE, BARHII REGION, 2009-2011

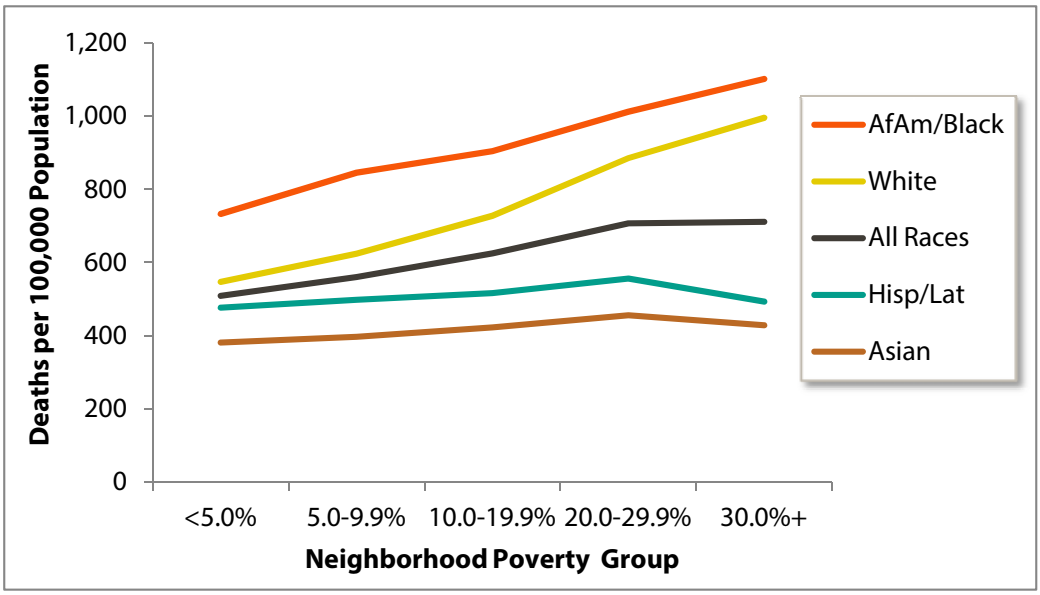


FIGURE 6: NEIGHBORHOOD HIGH SCHOOL GRADUATION RATE VERSUS ALL-CAUSE, AGE-ADJUSTED MORTALITY RATE, BARHII REGION, 2009-2011

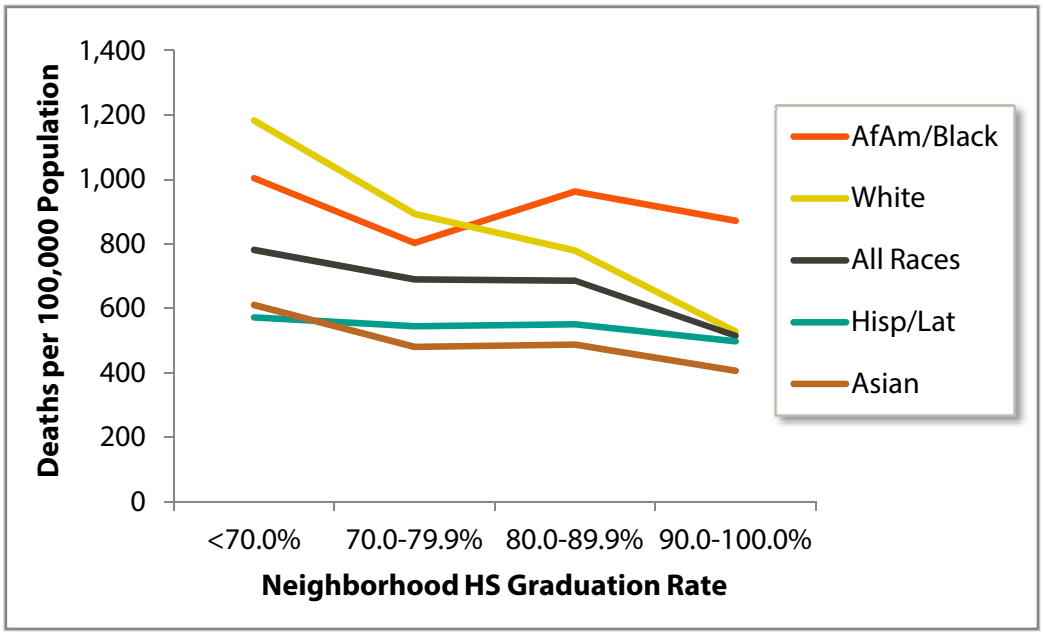


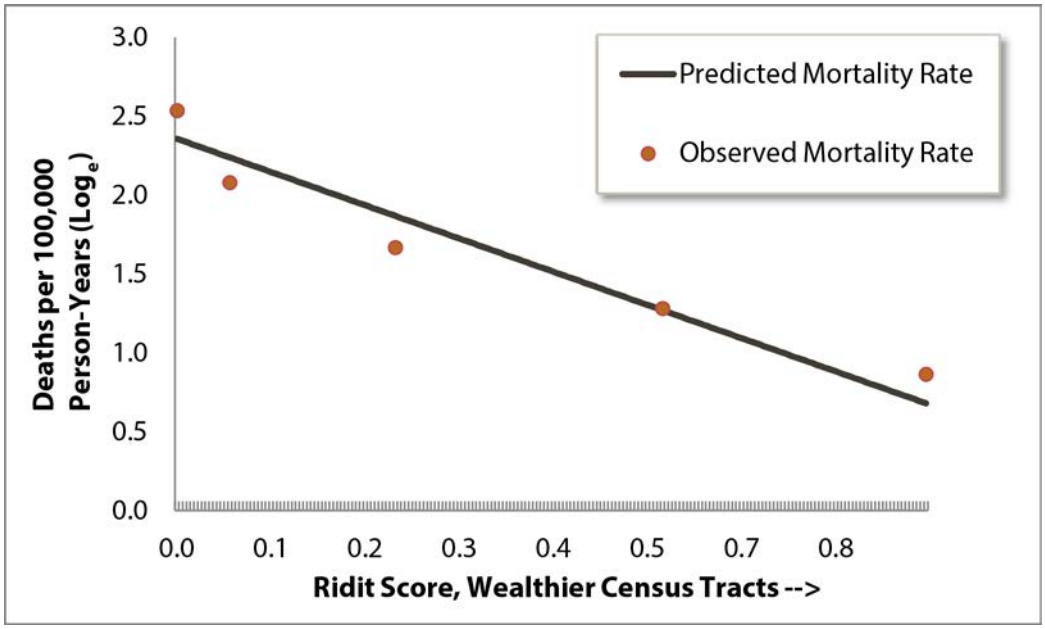
Table 1 shows how much having no high school diploma affects the population attributable risk for specific causes of death among adults (25 to 64 years). The population attributable risk column estimates—in order of highest risk—the excess burden of mortality among adults with low educational attainment. The analysis was limited to adults of working age because those deaths have the most significant economic and political impact on a community. For example, the rate of death by pedestrian collisions is 27.3% higher in adults 25 to 64 years with no high school diploma compared to adults who graduated high school. This analysis suggests that in the Bay Area, adults with low educational attainment share a higher burden of external causes of death (accidents, violence, and substance abuse). For detailed notes on how to calculate the population attributable fraction, see Appendix A.

TABLE 1: TOP 15 CAUSES OF DEATHS OF ADULTS (25 TO 64 YEARS) WITHOUT A HIGH SCHOOL EDUCATION BY POPULATION ATTRIBUTABLE RISK, BARHII REGION, 2009-2011

GROUP CAUSE OF DEATH	GROUP CAUSE OF DEATH CODE	POPULATION ATTRIBUTABLE RISK NO HIGH SCHOOL DIPLOMA (%)
Accidental choking	318	28.2
Pedestrian collisions	296	27.3
Organic dementia	136	25.0
Pneumonitis due to food and vomit	209	24.8
Duodenal ulcer	218	24.3
Assault by sharp object	341	23.0
Mental and behavioral disorders due to substance abuse	139	19.6
Occupant of motor vehicle collision	301	19.3
Alzheimer's disease	148	18.9
Rheumatic aortic valve disease	58	17.5
HIV resulting in other conditions	42	17.3
Assault by other types	346	17.3
Other transport accidents	311	17.2
Intestinal infections	7	17.0
Assault by firearm	340	17.0

An advanced method to measure the relationship between neighborhood poverty and mortality is the slope index of inequality (SII). This method calculates a log-linear regression coefficient of Census tract poverty versus cause-specific death rates in those Census tract poverty groups. Causes of death with a more negative slope index (e.g., assault by firearm) suggest a stronger association with neighborhood poverty (i.e., as neighborhood poverty decreases so do the death rates of that cause of death). Slopes indices closer to zero (e.g., trachea, bronchus, and lung cancer) indicate that the effect of neighborhood poverty on that cause of death is weaker compared to other causes. BARHII calculated the slope index of inequality for all group causes of death of adults 18 to 64 years living in BARHII counties, 2009-2011. Those shown in the table are statistically significant ($p < .05$) and had the steepest and most negative slope index score compared to other causes. For example, Figure 7 illustrates the slope index of inequality for "Other COPD" (ICD-10 group cause of death 205). The observed values fit the predicted model well.

FIGURE 7: SLOPE INDEX OF INEQUALITY RATES OF MORTALITY FOR OTHER CHRONIC OBSTRUCTIVE PULMONARY DISEASE, BARHII REGION, 2009-2011



The charts of the SIIs for the other causes of death in Table 2 look very similar, which are available on request. While this method is complex and requires geocoded mortality data and statistical software (BARHII used SAS version 9.3), it is an additional, useful method to suggest relationships with specific causes of death and neighborhood poverty.

TABLE 2: STATISTICALLY SIGNIFICANT SLOPE INDICES OF INEQUALITY (CENSUS TRACT POVERTY) OR CAUSE OF DEATH OF ADULTS (18 TO 64 YEARS), BARHII REGION, 2009-2011

GROUP CAUSE OF DEATH	GROUP CAUSE OF DEATH CODE	SLOPE INDEX (MORE NEGATIVE IS MORE UNEQUAL)
Assault by firearm	340	-4.09
Other ill-defined and unknown causes of mortality	293	-2.31
Mental and behavioral disorders due to use of alcohol	138	-2.30
Accidental poisoning by and exposure to drugs and other biological substances	327	-2.17
Hypertensive heart disease	162	-2.06
Other chronic obstructive pulmonary disease	205	-1.97
Intracerebral and other intracranial hemorrhage	183	-1.88
Viral hepatitis	38	-1.86
Cardiomyopathy	176	-1.78
Atherosclerotic cardiovascular disease, so described	167	-1.42
Diabetes mellitus	124	-1.39
Alcoholic liver disease	230	-1.15
All other forms of chronic ischemic heart disease	168	-1.03
Trachea, bronchus, and lung cancer	73	-0.79

Recommendation 2. Track morbidity and mortality data in priority places and populations over time to measure progress in affecting the SDOH indicators attributable to these health disparities.

BARHII recommends that health departments monitor changes in mortality over time and prioritize those places or populations with an increase in adverse mortality measures or little improvement in mortality outcomes for further intervention and assessment. One important limitation to this analysis is that some communities may experience displacement where the age, gender, race, or ethnic composition of a community in 2000 may have changed significantly in 2010 because of changes in the local economy. In other words, decreases in neighborhood morbidity and mortality could be explained by one population displacing another due to gentrification. Gentrification oc-

curs when rent and other costs of living became too high for the original population, forcing them to leave.

When reviewing trends in LEB, it is expected that they will improve naturally:

> *The trend in the life expectancy of humans during the past thousand years has been characterized by a slow, steady increase—a pattern frequently punctuated by a volatility in death rates caused by epidemics and pandemic infectious diseases, famines, and war.*
>
> Olshansky et al, 2005

However, Olshansky and colleagues (2012) argue that LEB for different populations based on race, ethnicity, education, or social status will change at different rates, leaving some population groups behind others in gains in LEB. Analysis of local data will help identify those populations specific to individual health departments.

Figure 8 illustrates that residents of all neighborhood poverty groups in the Bay Area experienced gains in life expectancy at birth from 2000 to 2010, with the sharpest increase in the highest poverty neighborhood (30% or more poverty). However, overall gaps in LEB between neighborhood poverty groups have not closed significantly except the gap between the 20.0-29.9% poverty groups and 30%+ poverty groups. While the population has migrated to and from and within all these areas—the poverty groups are not cohorts—there is significance in neighborhood poverty rate as a place-based unit, as concentrated poverty affects individuals as well as neighborhood conditions. Further assessment is needed to examine cohorts of population and to look at migration, especially in and out of high-poverty neighborhoods.

FIGURE 8: TRENDS IN LIFE EXPECTANCY AT BIRTH BY NEIGHBORHOOD POVERTY GROUP, BARHII REGION, 2000 TO 2010

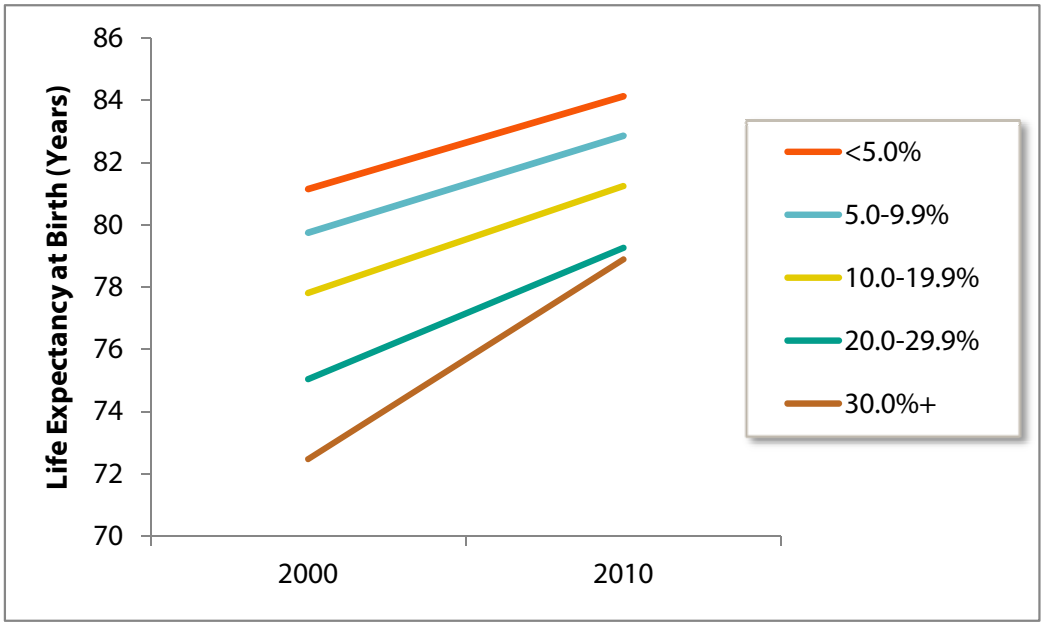


Figure 9 illustrates trends in LEB in the highest poverty group in the Bay Area, stratified by race and ethnicity. From 2000 to 2010, LEB improved for each population group in high-poverty neighborhoods, but racial and ethnic inequities persist. Figure 10 has a pattern similar to Figure 9, except it is expressing mortality rates. Mortality declined from 2000 to 2010 for all racial and ethnic groups. However, differences by race and ethnicity continue to exist.

FIGURE 9: TRENDS IN LIFE EXPECTANCY AT BIRTH, 30%+ NEIGHBORHOOD POVERTY GROUP, BARHII REGION, 2000 TO 2010

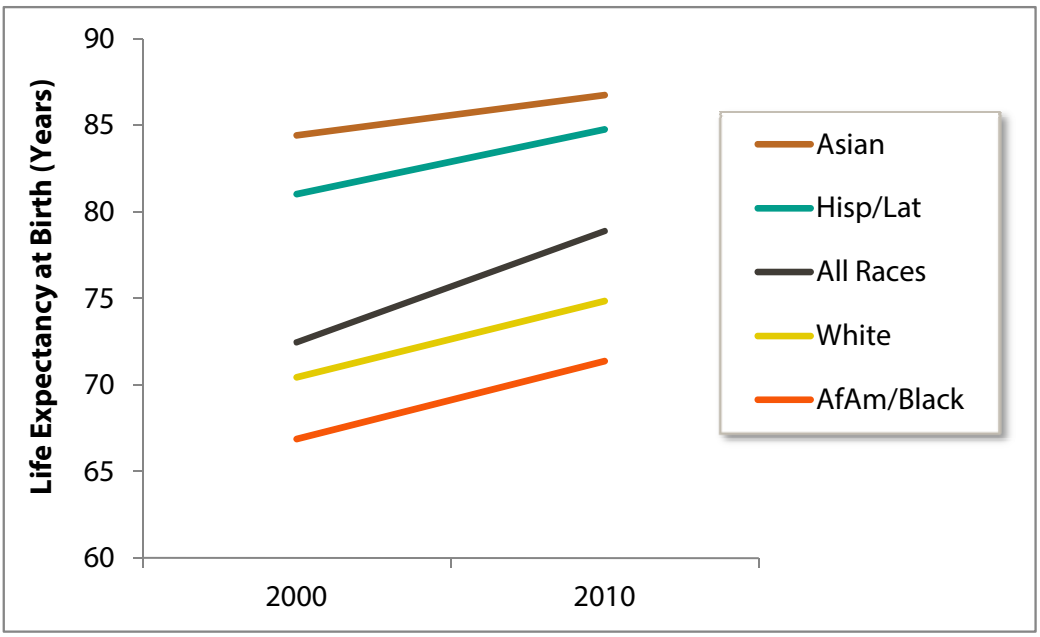
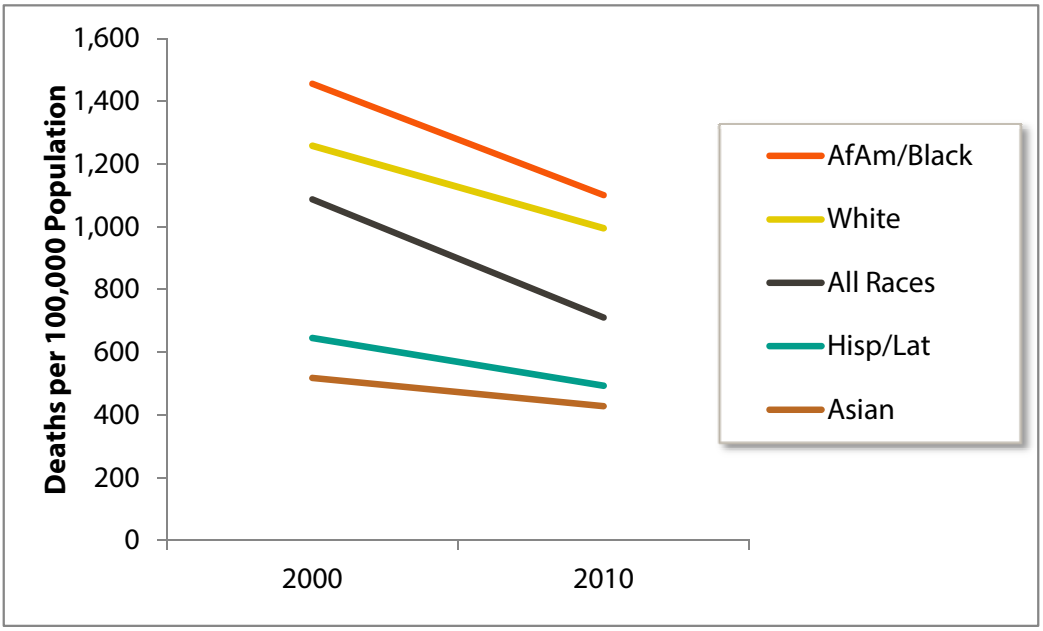


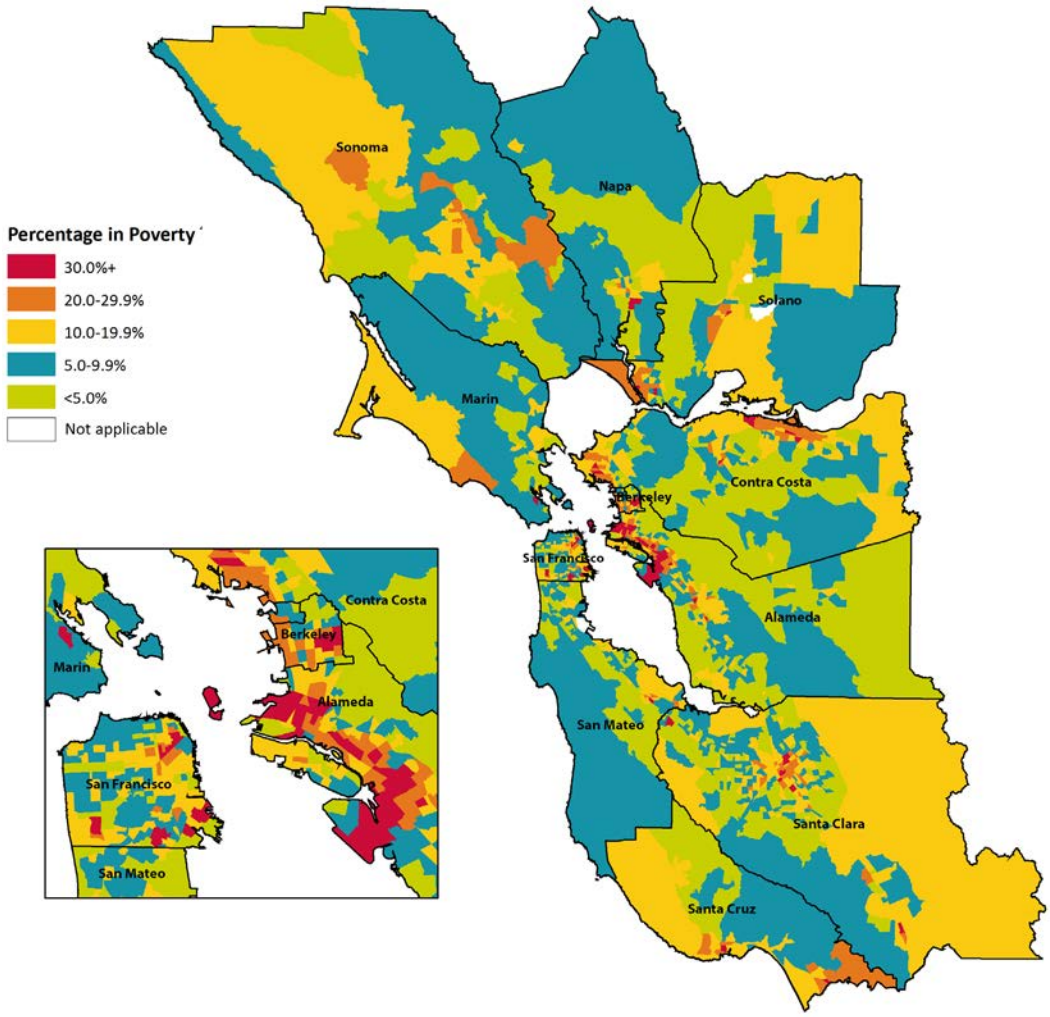
FIGURE 10: TRENDS IN ALL-CAUSE, AGE-ADJUSTED MORTALITY RATES, 30%+ NEIGHBORHOOD POVERTY GROUP, BARHII REGION, 2000 TO 2010



Recommendation 3. Identify the Census tracts in your jurisdiction with a high prevalence of people living below 100% or 200% FPL.

Poverty is an outcome of social, public, and economic policies, and poverty contributes to high morbidity, high mortality, and low quality of life. In the technical appendix, BARHII specifically recommends creating a geographic information systems (GIS) layer showing high poverty at the Census tract level and using this layer to identify Census tracts, their respective cities, and the populations living in them to build health equity. Areas identified with the highest proportion of people living in poverty should be designated as priority areas for equity work. Census tracts in red in Figure 11 meet these criteria. These data are freely available from the American Community Survey. See Appendix B for steps on how to download and display the data.

FIGURE 11: NEIGHBORHOOD POVERTY, BARHII REGION, 2008-2012



Recommendation 4. Collect, analyze, and interpret 15 SDOH-LC indicators recommended in this guide.

By collecting SDOH data in the neighborhoods and populations identified by mortality and morbidity analysis, comprehensive and need-based prioritization can occur. If certain neighborhoods and communities have high need in several SDOH indicators, then the data exist to justify and prioritize these neighborhoods for programming and policy change.

These 15 indicators were narrowed from an initial list of several hundred selected by members of the BARHII data committee. The criteria included relevance and availability. Members drew on a review of the literature and years of experience in LHD epidemiology. Each of the 15 indicators has its own chapter that outlines how to locate, analyze, and tailor indicators to local health equity work. Furthermore, examples of how BARHII-member health departments have used these indicators (or related data) in public health practice are included at the end of each chapter.

Recommendation 5. Track SDOH-LC indicators over time to show improvement, decline, or stagnation in the totality of policies, programs, and procedures related to that indicator for a geography and population over time.

To determine if public health activities and other equity work are improving the living conditions that influence life expectancy and mortality, SDOH-LC indicators are needed to identify what conditions are present before an intervention, or a baseline measure, and if any change in SDOH-LC has occurred along with the health outcomes after the intervention's implementation. From this, decision-makers can see whether programs or policies can continue as implemented or if they need modification. Typically, an indicator trend chart will look like Figure 12 showing trends in educational attainment in San Pablo versus the San Francisco Bay Area.

Following trends and changes in indicators over time are part of the health impact assessment (HIA) framework (Figure 13), which is frequently used to identify the effects of transportation and land use planning on health. For example, the rate of accidents and at a busy intersection could be used to evaluate the effectiveness of investment in traffic-calming devices.

> *Health Impact Assessment (HIA) is a means of assessing the health impacts of policies, plans and projects in diverse economic (and social) sectors using quantitative, qualitative and participatory techniques. HIA is a practical approach used to judge the potential health effects of a policy, program or project on a population, particularly on vulnerable or disadvantaged groups. Recommendations are produced for decision-makers and stakeholders, with the aim of maximizing the proposal's positive health effects and minimizing its negative health effects.*
>
> World Health Organization, 2008

Recommendation 6. Use SDOH-LC analysis to write competitive funding applications.

Describing communities through SDOH-LC indicators can help local agencies and health departments craft funding proposals that are more likely to be successful for two reasons. First, initial analysis of SDOH-LC indicators can determine if the funding opportunity actually aligns with

FIGURE 12: EDUCATIONAL ATTAINMENT, BARHII REGION AND SAN PABLO, 2000 TO 2008–2010

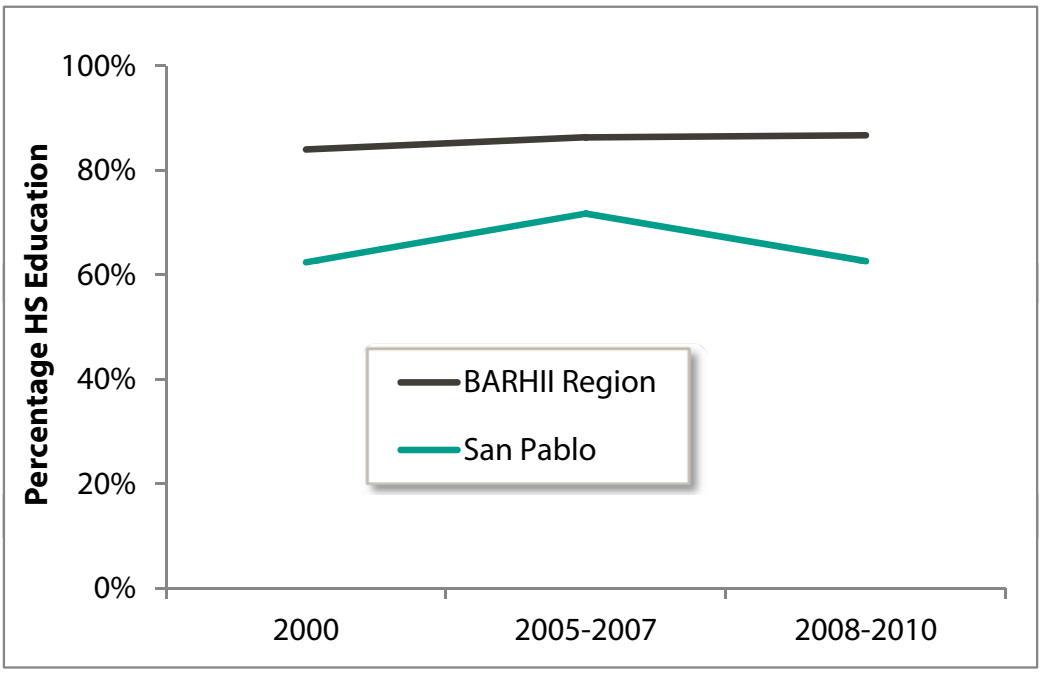
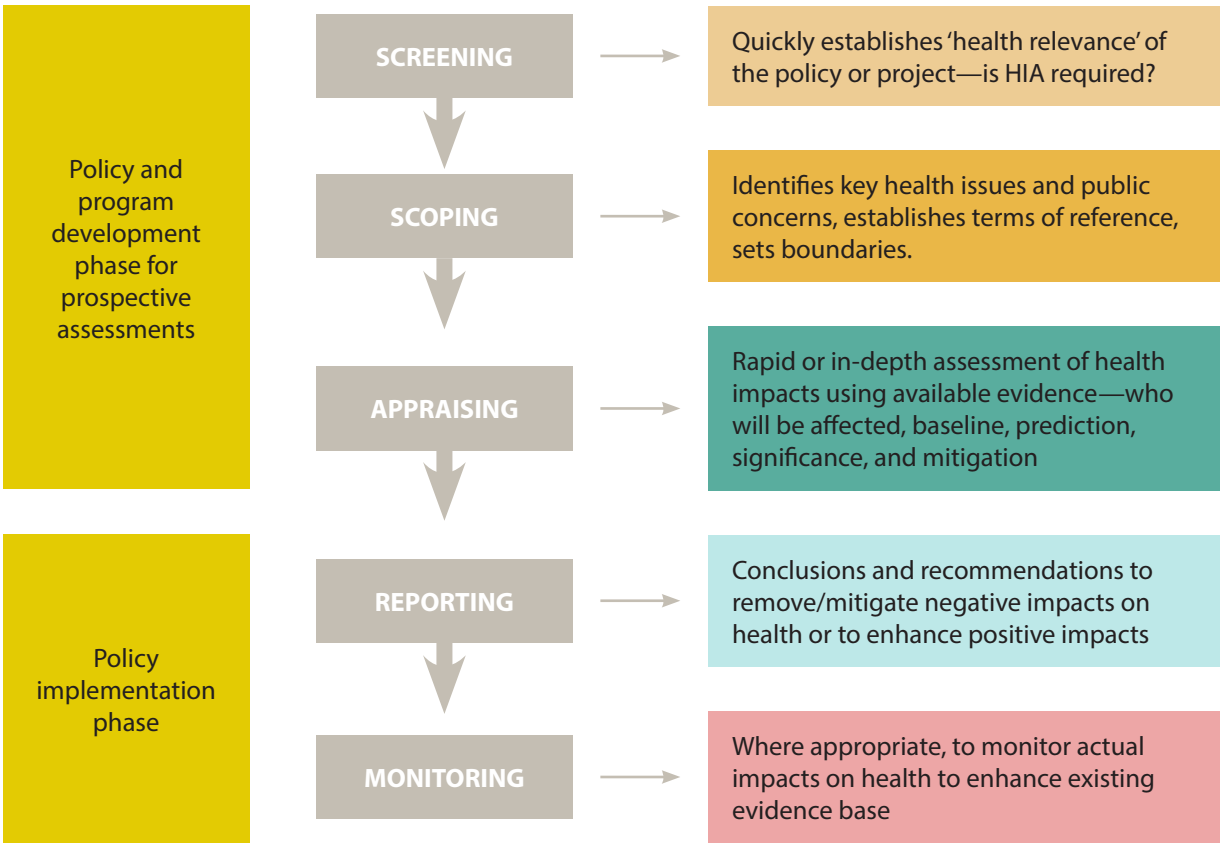


FIGURE 13: THE HIA PROCEDURE



the identified needs of a community. Second, philanthropic and government funders favor applications from data-literate agencies that can articulate needs through data, collaborate across sectors, and show measurable progress on program or funding objectives.

Recommendation 7. Use SDOH-LC indicators to mobilize community partnerships with organizations traditionally outside health and human services.

One of the ten essential public health services is to mobilize community partnerships. Because health departments are not experts in most of the SDOH-LC indicators discussed in this guide, progress in these domains will only come from constructive partnerships from the relevant institutions and organizations. Collectiing and analyzing SDOH-LC indicators is an important contribution that health departments can make to help establish external partnerships where they do not already exist.

A health department's work connecting SDOH-LC data to neighborhood health outcomes show where to allocate resources under its control and where to build cross-sector partnerships for increasing health equity. After LHDs have analyzed basic health and SDOH-LC data, partnerships with other institutions can be developed where more granular data can be shared. Collaborative evaluation and analysis of granular data leads to progressive policies and programming across public and private sectors advancing health in all policies. Further, SDOH-LC indicators will help health departments and community agencies identify opportunities for effective collaborations and grass-roots organization for equitable, local policy change.

Once the priority places and populations are identified through analysis of mortality and SDOH-LC data, public health can collaborate with other sectors to integrate strategies that affect social determinants. For example, a youth tobacco education program may work with schools on high school graduation goals in addition to health messages regarding smoking, as higher educational attainment is linked to lower rates of smoking. Public health departments may also find ways to leverage their current contracts and cross-sector agreements to influence progressive policies. For example, staff inspecting restaurants for health and safety code violations may also inquire about worker pay and labor law violations before granting licenses, with the understanding that a liveable wage and humane working conditions are public health issues that affect health and well-being. For additional examples, see the indicator chapters.

One approach to working across sectors for improved health outcomes is modeled by the California Department of Public Health (CDPH)'s Health in All Policies (HiAP) program within the Office of Health Equity. According to the CDPH definition, "Health in All Policies is a collaborative approach to improving the health of all people by incorporating health considerations into decision-making across sectors and policy areas." The HiAP program produced a guide for local and state governments on how to work collaboratively across disciplines to incorporate health into all policy sectors.

Another highly effective, cross-sectoral, collaborative approach in the research in recent years is the concept of collective impact. Initiatives that include the following five key conditions distinguish collective impact from other forms of collaborative efforts.

Common Agenda	All participants have a shared vision for change including a common understanding of the problem and a joint approach to solving it through agreed upon actions
Shared Measurement	Collecting data and measuring results consistently across all participants ensures efforts remain aligned and participants hold each other accountable
Mutually Reinforcing Activities	Participant activities must be differentiated while still being coordinated through a mutually reinforcing plan of action
Continuous Communication	Consistent and open communication is needed across the many players to build trust, assure mutual objectives, and appreciate common motivation
Backbone Organization	Creating and managing collective impact requires a separate organization(s) with staff and a specific set of skills to serve as the backbone for the entire initiative and coordinate participating organizations and agencies

Due to the complex nature of most social programs, this collective impact approach of using shared data and collective action increases the breadth of impact and sustainability of efforts.

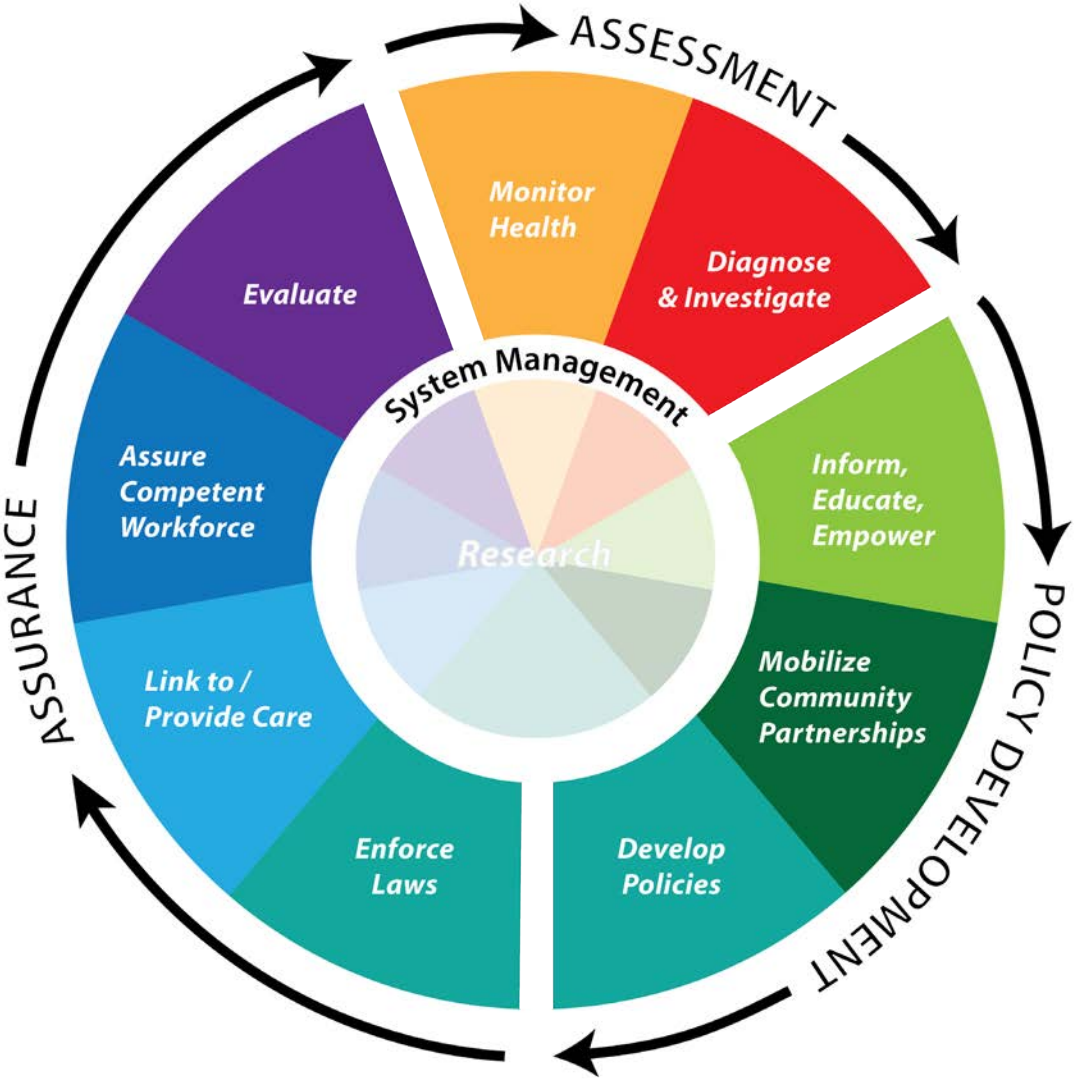
Recommendation 8. Use SDOH-LC and mortality indicators in the design, implementation, and evaluation of the other ten essential public health services to build health equity.

The ten essential services of public health (Figure 14) provide a guiding framework for the responsibilities of public health systems. The following describes how each essential service can more intentionally and explicitly address health inequities experienced by residents of your community.

Mobilize Community Partnerships: As discussed in recommendation 7, the formation of community partnerships outside of the public health system is essential to addressing the conditions that most influence health inequities. The selection of SDOH-LC indicators can help a health department prioritize with which community organizations and government agencies to form relationships. LHDs can help engage community members, bring together key players in local decision-making, and give these community partners the SDOH data to identify priority social determinants in their community in which to focus their advocacy that are beyond the capabilities of the health department.

Monitor Health: Through tracking SDOH-LC indicators in addition to vital records, public health departments can highlight the broader health issues and risk factors of its population. These data

FIGURE 14: THE TEN ESSENTIAL SERVICES OF PUBLIC HEALTH



and skills are unique to public health professionals and will become more valuable as medical records become digitized and their analysis becomes mandated.

Diagnose and Investigate: SDOH-LC indicators are diagnostic tools to identify possible disease risk behaviors, as well as social and environmental risk factors, in populations not captured by classic infectious disease diagnosis techniques. Because most of the leading causes of morbidity and mortality today are not microorganisms, public health diagnosis and investigation must find causes other than bacteria and viruses. Unfavorable SDOH contribute substantially to disease outcomes.

Evaluate: Health departments have traditionally evaluated the effectiveness of health care and health promotion programs as part of quality improvement. Public health evaluation methods are backed by empirical research and have been shown to improve programs and ultimately health.

Many of the quantitative methods in public health evaluation can also be applied to evaluate the effectiveness of the social and economic policies that determine health.

Assure Competent Workforce: The more LHD staff that receive training on SDOH and are aware of and can discuss SDOH issues, the more likely they are to find ways to address them in their work. Despite the limitations of categorical programs and services in public health, LHD staff have some discretion in how these services are provided. Information on SDOH-LC indicators can help staff identify and apply that discretion to deliver more effective services and create more effective partnerships to advance health equity.

Inform, Educate, Empower: In some areas, the health department may be the only organization that can credibly speak to the relationship of social determinants and health. LHDs are often expected to advise other institutions as well as the public on health and disease. Using SDOH-LC indicators will improve the LHD's ability to fulfill this role of informing, educating, and empowering both other institutions and individuals by relating health to larger social and environmental factors and encouraging action to improve these living conditions for all communities.

Develop Policies: Through monitoring SDOH-LC indicators, LHDs are better equipped to identify how local policies affect health. If a LHD can ensure that SDOH-LC and health outcomes are considered in the creation of its own policies, it will gain the experience and credibility to guide HiAP work with other institutions. In addition, as LHDs are increasingly being invited to inform policy-making, by developing local policy review criteria that prioritizes health equity, LHDs can provide consistent, equitable, public health responses to local policy and planning issues that are related to SDOH-LC.

Enforce Laws: By monitoring SDOH indicators, a health department can ensure that the laws it is responsible to enforce (e.g., food safety, sanitation, occupational health, and hygiene) are promoting better health outcomes for all populations and can also help identify unintended consequences leading to inequitable outcomes. In addition, LHDs can leverage their public health mandates (e.g., restaurant health and safety inspection certificates) to ensure other SDOH issues are also being addressed (e.g., fair labor practices for employees of inspected restaurants). Tracking SDOH indicators can also help monitor the enforcement of laws of other institutions that lead to disproportionately negative health impacts.

Research: SDOH-LC indicators provide a common framework for health departments to share their program and policy experiences addressing the social determinants, and to facilitate and expand the research process to address the underlying conditions that influence health outcomes.

VI. FREQUENTLY ASKED QUESTIONS REGARDING SDOH-LC DATA AND LIMITATIONS

What is a social determinant of health (SDOH-LC) indicator? Administrative data from agencies, governments, institutions, and programs about a SDOH summarized to a geographic level, which may not include data about specific individuals.

Who are the audiences for SDOH-LC indicators? SDOH-LC indicators are intended for LHDs and the citizens, community groups, and institutions they wish to partner with or influence. For example, in working with land use planning policy-makers, demonstrating the overall cost benefit of affordable housing to the health and well-being of the community at large would be helpful data to support progressive housing policies in high need areas. Whereas, in working with community members, SDOH-LC indicators will help these audiences identify the underlying causes of disease and community assets needed to address them. From these data, more encouraging, structural strategies to positively affect the highlighted needs can be designed.

Why not just use poverty as a proxy for all SDOH-LC indicators? BARHII considers neighborhood poverty (proportion of individuals living below the federal poverty level) the fundamental SDOH-LC indicator and recommends that every health department identify the Census tracts with the highest concentration of people living below the federal poverty level. (See recommendation 3 in this guide.) This recommendation is supported by the conclusions of the Harvard Health Disparities Geocoding project, which shows that poverty alone can serve as a proxy for many of the individual SDOHs.

While poverty is the fundamental SDOH-LC indicator, analysis of it alone is not sufficient for a health department to develop robust interventions tailored to the specifics of a place and its inhabitants. For example, if a local data analysis reveals that high and disproportionate incarceration rates are one of its main concerns in one high-poverty neighborhood, the health department may choose to focus strategies on crime, violence prevention, or police profiling policies. It is possible that analysis of the same indicator in another high-poverty neighborhood may not identify incarceration rates as a priority.

Won't SDOH-LC Indicators single out, blame, or disfavor communities and populations? There is a risk that some communities may take offense when they are shown SDOH-LC data, although a health department may have the best of intentions. The risk of offending communities can be avoided through carefully framing messages and building trust with communities so that open and honest dialogue about improving health and living conditions can take place. At a minimum, any messages or conclusions that are adverse must be delivered using language that is respectful, honest, understandable to the audience, and not inflammatory. There is a body of literature on how to do this. Other suggestions when discussing these issues include: 1) describing the positive attributes of a community (i.e., resilience factors and assets); 2) displaying data that compare communities with themselves over time; and 3) comparing SDOH-LC data with communities similar in demographic and economic composition. BARHII also recommends seeking the advice of a health educator on how to best frame messages about the SDOHs.

Haven't communities already seen enough charts, maps, and graphs of problems they are already aware of? If the indicators continue to say the same thing with little change over time, something needs to change. To understand this, health departments must build relationships with community members and leaders to obtain data with a purpose of identifying and evaluating the specific policies, programs, and procedures within a priority area that drive improvement in living conditions.

How can a health department identify or track the specific policies, programs and procedures from these broad indicators? The SDOH-LC indicators in this guide are a starting point for the health department to address the SDOH in its own work. Because of the inherent limitations of the data, it is true that specific solutions to unfavorable SDOHs will not reveal themselves from these broad indicators, but they will show a LHD where to begin to look. Once the places and populations most affected by the SDOH are known and revealed by these indicators, the LHD can evaluate its own programs and build partnerships to identify and address causes.

Public health professionals are not experts in economic development, transportation, law enforcement, urban planning, or education. What gives public health the credibility to advise or influence these institutions? Why should local health departments spend its limited resources in areas where they have little expertise or control? Public health's purpose is to promote health and prevent disease. Many of public health's successful services used in the 20th century to prevent infectious disease are applicable to preventing chronic disease in the 21st. Because these services are numerous and complex, this guide recommends identifying which of the ten essential services health departments can offer to other institutions to advance health. It is through the improved delivery of the essential services, that the LHD will gain the trust and credibility it needs to advise and influence other institutions. The real-world program and policy examples in this guide show how LHDs in the Bay Area have integrated health into social and economic policies and applied SDOH data analyses and the ten essential public health services to local health equity work.

How does stress link to SDOH-LC indicators and health outcomes and how can it be measured? The indicators of both acute and chronic stress are not often captured directly in public health data collection and analysis. However, there are clear pathways that link the mental and physical effects of stress to poorer health outcomes as well as unhealthy behavioral decision-making, including alcohol and drug use as self-medication or a coping mechanism.

In addition, disadvantaged populations are often poorly affected by stressful living and working conditions (e.g., crowded housing, violence, toxic environments, unemployment and financial stress, occupational hazards, trauma leading to the inability to work or stay in school, lack of supportive personal relationships). Many of these risk factors that cause stress are not under the control of the individual to change, rather are affected by unhealthy social and political systems of inequality.

There are then physiological effects of stress on the body, such as raised blood pressure and cortisol levels, that increase the risks for harmful effects of pre-term labor and chronic disease (e.g., cancer, cardiovascular disease). Community empowerment and a sense of control over ones' circumstances have been shown to be positively associated with decreased stress.

Due to these links between stress and health outcomes, BARHII recommends that public health departments include research-validated questions about perceived individual stress as well as questions that assess a wider sense of control and community empowerment in their community health assessments, and other data collection and analyses.

VII. SDOH-LC INDICATORS INCLUDED IN THE GUIDE

TABLE 3: SDOH-LC INDICATORS PRESENTED IN THIS GUIDE

DOMAIN	INDICATOR	DATA SOURCE
Economic	Income distribution	American Community Survey (ACS); Healthy Community Data and Indicators Project (HCI)
Economic	Unemployment	California Employment Development Department (EDD)
Economic	Housing cost burden	ACS, HCI, U.S. Department of Housing and Urban Development
Economic	Living wage	MIT Poverty in America Living Wage Calculator, ACS, EDD; HCI
Economic	Food insecurity	California Health Interview Survey (CHIS); HCI
Economic	Foregoing health care	CHIS
Service	Violent crime	Uniform Crime Reports; HCI
Social	Educational attainment	ACS; HCI
Social	Voter participation	HCI
Social	Social capital/social support	CHIS 2003
Social	English language learners	ACS
Physical	Air contamination	HCI
Physical	Access to public transportation	HCI
Physical	Alcohol access	California Alcohol and Beverage Commission (ABC)
Physical	Food access	California Nutrition Network; Dun and Bradstreet

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INCOME DISTRIBUTION

AS A SOCIAL DETERMINANT OF HEALTH

INCOME DISTRIBUTION
Gini coefficient

I. FACTORS ATTRIBUTABLE TO HEALTH

Income is linked to one's ability to acquire resources for healthy living. Both household income and the distribution of income across a society independently contribute to the overall health status of a community. Western industrialized nations with large disparities in income distribution tend to have poorer health status than similarly advanced nations with a more equitable distribution of income. It is estimated that approximately 119,200 (5%) of the 2.4 million United States deaths in 2000 were attributable to income inequality. The pathways by which income inequality act to increase adverse health outcomes are not known with certainty, but policies that provide for a strong safety net of health and social services have been identified as potential buffers.

Many cross sectional, ecological studies have compared western industrialized countries, including the United States, along a gradient of a health outcome and the corresponding gradient of income inequality using the Gini coefficient, a measure of inequality of income and wealth. Studies using this index often show a linear relationship between increasing income inequality and poorer health outcomes such as life expectancy, infant mortality, obesity, mental illness, homicide, and other outcomes. Several, large longitudinal studies that followed healthy participants at baseline were combined to estimate the number of U.S. deaths in 2000 attributable to income inequality.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

How to Analyze the Gini Coefficient (Gini)

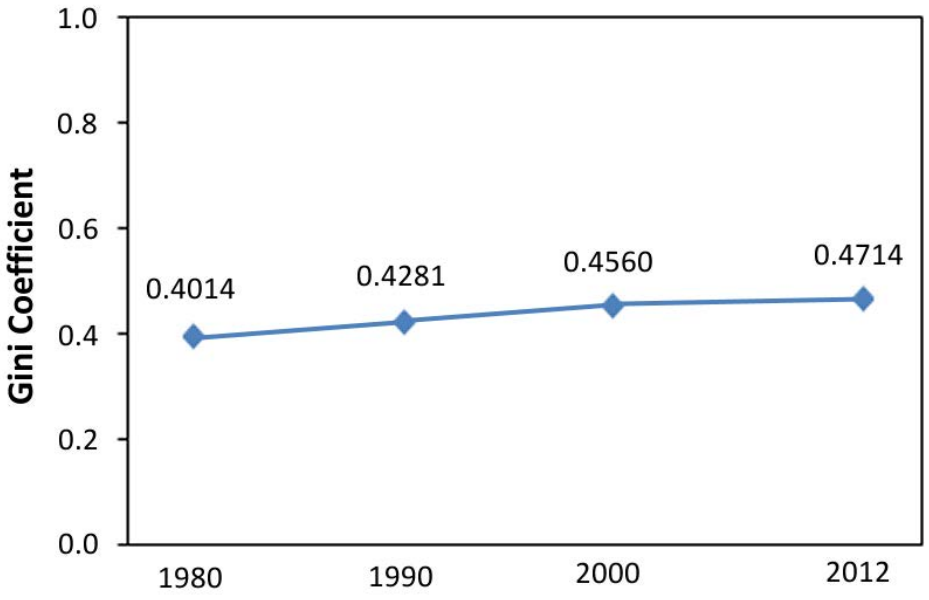
Note to LHDs in California: The California Department of Public Health's Health Communities Data and Indicators (HCI) project has collected, cleaned, and compiled the Gini coefficient for cities with greater than 20,000 residents, counties, and regional transportation planning districts in California, which can be found at http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx. Appendix D explains how to download and filter these data.

The Gini is the easiest measure to indicate the distribution of income or wealth across a geographic area. The Gini is a score between zero and one. A geography with a Gini value of zero signifies that every household in that geography owns an equal share of income or perfect income equality. Conversely, a Gini value of one signifies that one household owns all of the income or perfect inequality. Thus, a higher Gini means more inequality. The main drawback to the Gini is that the magnitude of the wealth or poverty is not measured, just the spread. Thus, if you had a very segregated high-income neighborhood, the Gini would be low. However, if you have a neighborhood that has mixed incomes, the Gini would be high. So it's best to use the Gini at larger geographic regions, and best to compare across time rather than across geographies.

The normal geographic unit of analysis is the metropolitan area. These can be seen as commute sheds, where people may live in any part of the area and work in any part. For the Bay Area, the nine counties are considered the metro area. Another common geographic unit of analysis is the nation.

For a detailed explanation of how to access American Community Survey data, see Appendix B. The American Community Survey reports the Gini for every level of geography in indicator B19083. However, for the reasons explained above, BARHII does not recommend displaying maps of Census tracts with high Gini coefficients. Instead, BARHII recommends showing trends in the Gini coefficient at the county or regional level like the figure below. With caution, larger cities may also be used. The Bay Area nine-county region's Gini increased steadily from 0.4014 in 1980 to 0.4714 in 2012.

FIGURE 15: GINI COEFFICIENT, SAN FRANCISCO BAY AREA, 1980–2012



SOURCE: 1980, 1990, AND 2000 CALCULATED BY BARHII; 2012 FROM 1-YEAR ACS ESTIMATES.

Alternatively and for older data, the Gini can be calculated manually. This is an elaborate process. The Gini is the ratio of two areas derived from the Lorenz curve. The cumulative share of population is on the x-axis (p in Figure 16) and the cumulative share of income is on the y-axis (L). The line of parity is where each household has the same income (solid blue line). The Lorenz curve shows the actual distribution (dotted blue line). As the Lorenz curve bows away from the line of parity, income distribution is becoming more unequal. The ratio of the area of A to the area of A plus B is the Gini. If the income is evenly distributed, the ratio would be zero, while a ratio of one would mean that all the income belongs to one household.

FIGURE 16: MAKING THE LORENZ CURVE AND CALCULATING THE GINI COEFFICIENT USING SAMPLE DATA

INCOME CATEGORY	SHARE OF TOTAL INCOME (%)	*p* CUMULATIVE SHARE OF POPULATION (%)	*L* CUMULATIVE SHARE OF INCOME (%)
Top 20%	42.7	100	100
4th 20%	24.4	80	57.3
3rd 20%	17.1	60	32.9
2nd 20%	11.1	40	15.8
Lowest 20%	4.7	20	4.7

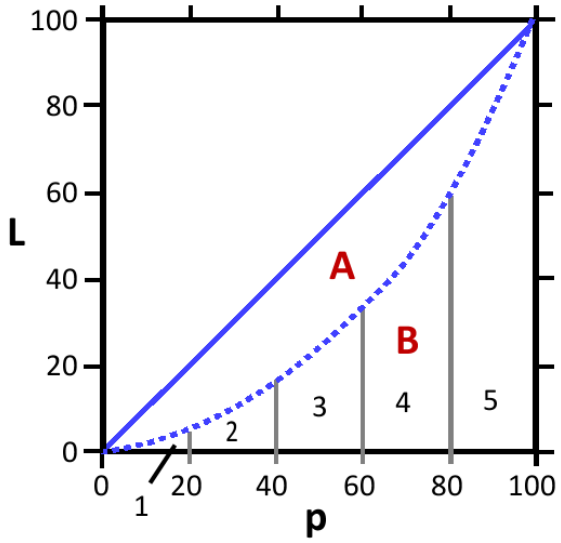


FIGURE 16 (CONTINUED)

Area A + Area B	100*100 / 2 =	5,000
Area 1	20*4.7/2 =	47
Area 2	20*(4.7+15.8)/2 =	205
Area 3	20*(15.8+32.9)/2 =	487
Area 4	20*(32.9+57.3)/2 =	902
Area 5	20*(57.3+100)/2 =	1573
Total Area B		**3,214**
Area A	5,000 – 3,214 =	**1,786**
Gini Coefficient	1,786/5,000 =	**0.357**

FIGURES ADAPTED FROM FRANÇOIS NIELSEN, http://www.unc.edu/~nielsen/special/s2/s2.htm

III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

PROSPERITY PROJECT

Alameda County Public Health Department

The Alameda County Public Health Department's (ACPHD) Place Matters Economics Workgroup is leading a stakeholder process to explore ways that Alameda County can support low-income, underbanked residents to protect their income and assets and build long-term financial health. As envisioned by ACPHD Place Matters and its advisory partners, a healthy credit program would leverage existing county funds in order to expand credit and financial opportunities for low-income county residents, support small lenders in reaching a wider pool of underserved people, and reduce predatory lending and the associated financial and health consequences for low-income communities.

BUILDING ECONOMIC SECURITY TODAY (BEST)

Contra Costa County Public Health Department

Contra Costa inserted a program into their Women, Infants, & Children (WIC) services to help WIC recipients understand the income tax process and apply for the Earned Income Tax Credit. Agency leaders understood that poverty is a major determinant of poor health, and that by helping support asset development and economic sustainability, the health department can advance the health of women and children in their community. So far, over 6,000 women have participated, and participants report feeling more confident about handling money and have an improved understanding of the impact of money on health.

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UNEMPLOYMENT

AS A SOCIAL DETERMINANT OF HEALTH

UNEMPLOYMENT

Unemployment rate

I. FACTORS ATTRIBUTABLE TO HEALTH

Unemployment is associated with higher rates of self-reported poor health, long-term illnesses, higher incidence of risky health behaviors (e.g., alcoholism, smoking), and increased mortality. These negative health outcomes affect not only the unemployed persons but can extend to their families. Longer unemployment can be associated with higher odds of negative health effects. Various explanations have been proposed for the link between poor health and unemployment; for example, economic deprivation that results in reduced access to essential goods and services. Another explanation is that unemployment causes the loss of latent functions (e.g., social contact, social status, time structure, and personal identity) that can result in stigma, isolation, and loss of self-worth. The safety net available to the unemployed is weaker than in the past due to the deterioration of employment rights and a decrease in social support and welfare systems.

Studies at the county level found a positive association between higher unemployment and overall mortality and death due to cardiovascular disease and suicide; however, a negative relationship was detected with deaths due to motor-vehicle accidents. Individual level longitudinal studies showed that the unemployed had higher rates of poor physical health, suicides, mental health problems (e.g., depression, stress, anxiety), and greater use of healthcare services. Other studies found reduced access to healthcare services and higher likelihood to delay care among the unemployed.

The population in the labor force is the civilian non-institutionalized population 16 years and older who have jobs or are actively looking for jobs. Persons in the labor force are classified as unemployed if they do not have a job, are currently available for work, and have actively looked for work in the previous month (for instance, attending interviews, sending out resumes, or filling out applications). People that do not have a job and are not looking for one are considered not to be in the labor force. Women, youth (16 to 24 years), the least educated, and ethnic minorities are more likely to be unemployed.

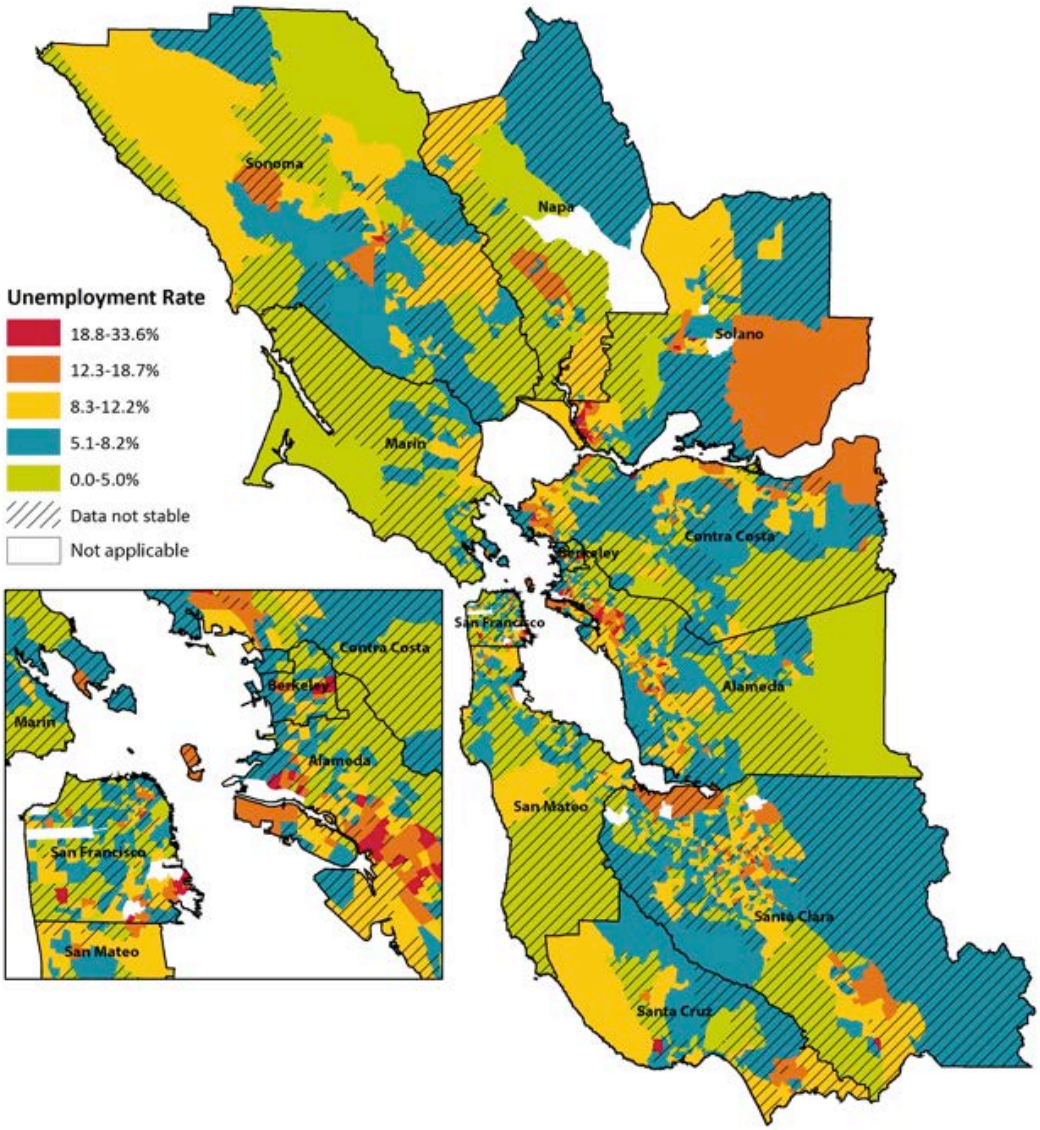
II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

Note to LHDs in California: The Healthy Community Indicators project has already downloaded and compiled these data; see Appendix C. The screen shots are for regions outside of California.

To track unemployment, two data sources are needed. One is table DP03 from the American Community Survey at the Census tract level and the other are Local Area Unemployment Statistics (LAUS) from the Bureau of Labor Statistics. For a detailed explanation of how to access American Community Survey data, see Appendix B. The ACS data can identify unemployment rates in Census tracts and provide race and ethnic stratification in those tracts. The LAUS can

identify trends in counties and cities with 25,000 inhabitants and greater. For steps on how to download and map data from the American Community Survey, see Appendix B. Figure 17 shows the percent of resident actively seeking work who are unemployed at the Census tract level. Stratification by race and ethnicity is also available from the five-year ACS files. Tracts in red should be considered for further health department assessment and intervention.

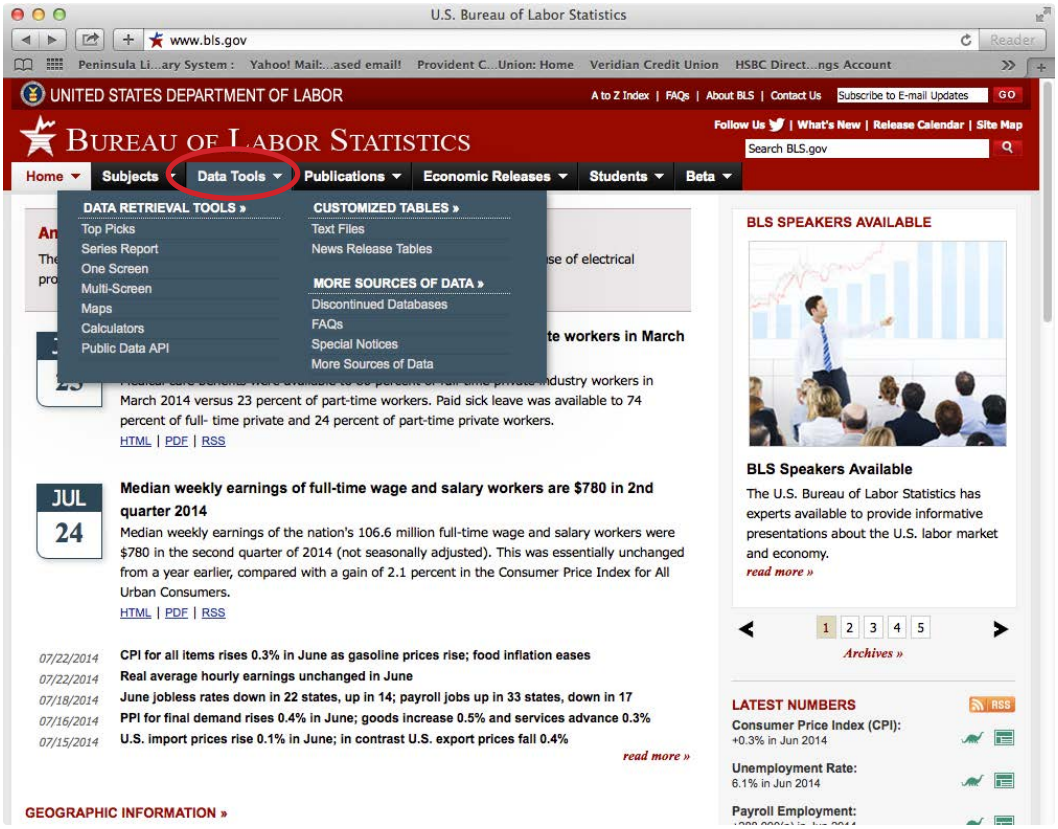
FIGURE 17: UNEMPLOYMENT RATE, BARHII REGION, 2006–2010



Trends are available for states, counties, and localities with 25,000 people or greater from the LAUS dataset. LAUS can monitor overall trends in unemployment in cities and towns of 25,000 people and above. Data for Oakland, California was obtained with these steps:

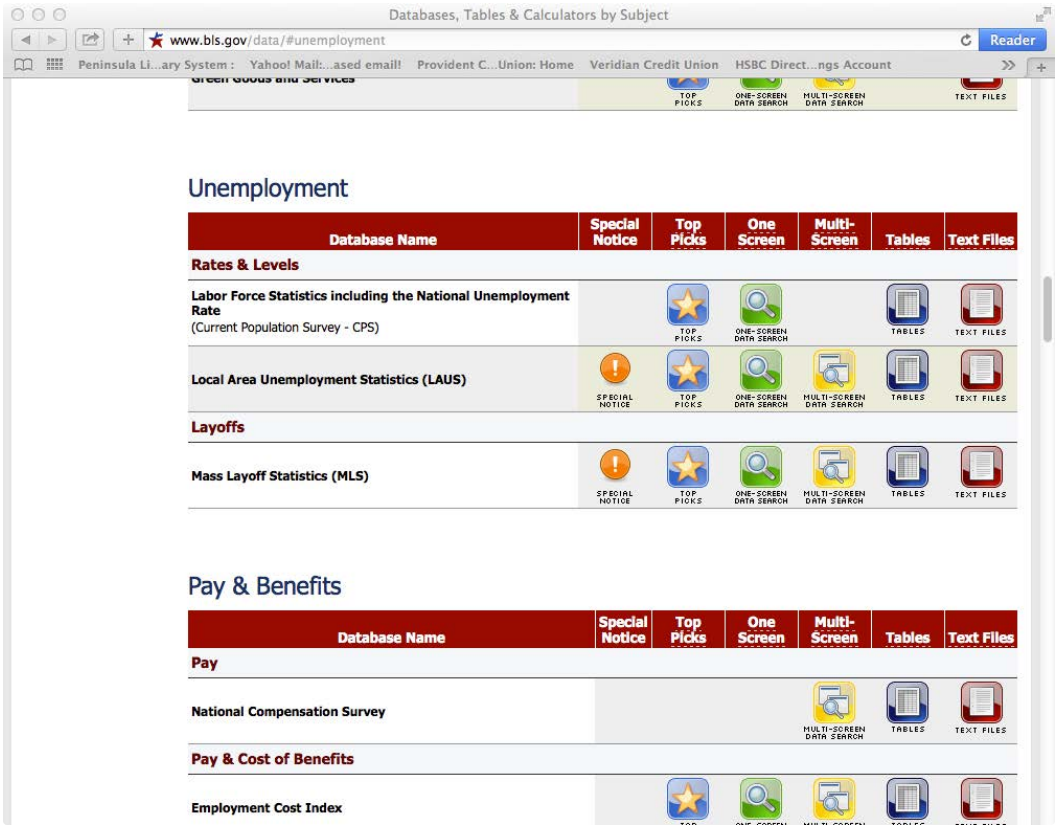
How To Analyze Rates of Unemployment

STEP 01. Go to http://www.bls.gov/lau. On the home page menu, click on "Data Tools."

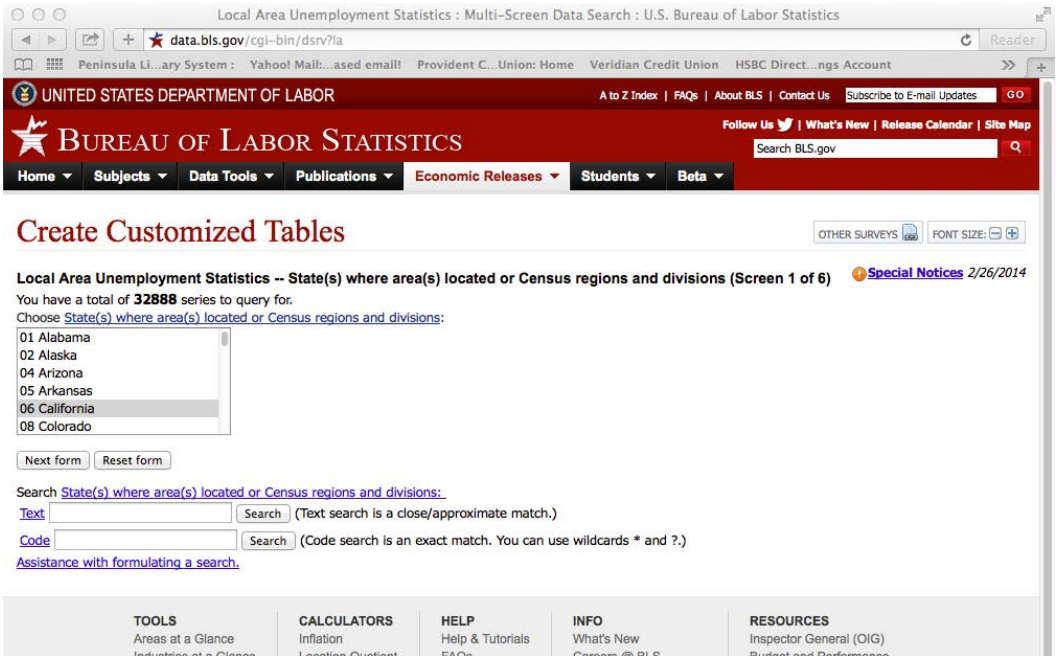


STEP 02. On the Data Tools page, click "Unemployment."

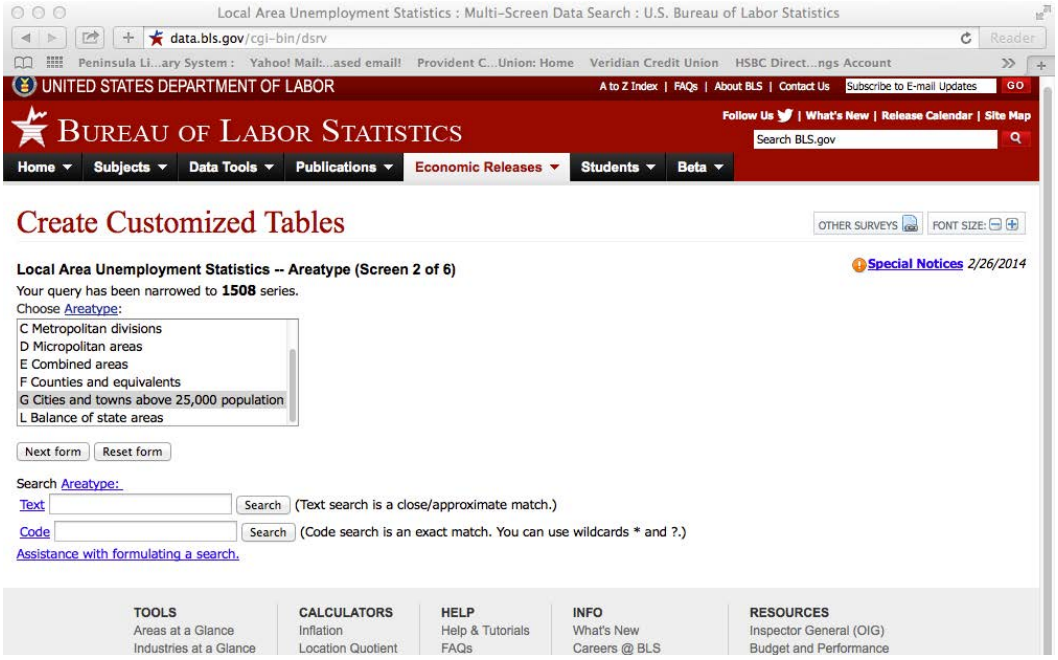
STEP 03. Click on Local Area Unemployment Statistics (LAUS), "Multi screen data search."



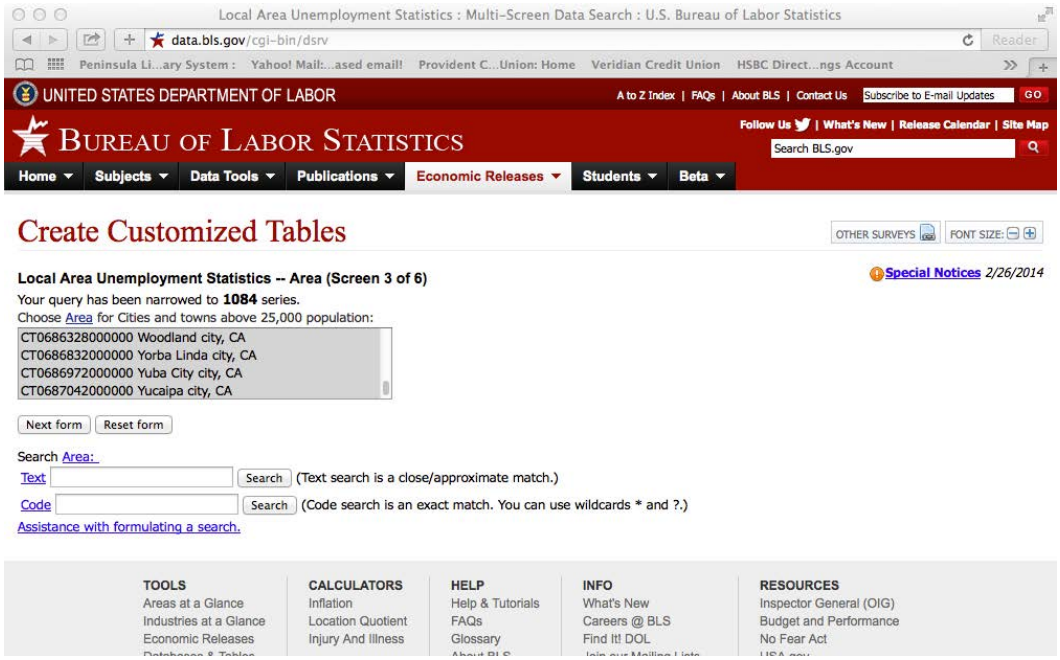
STEP 04. Select "California", click "Next form."



STEP 05. Select "Cities and Towns above 25,000 Population," click "Next form." County-level data can be acquired by selecting "Counties and Equivalents" and following the subsequent steps.



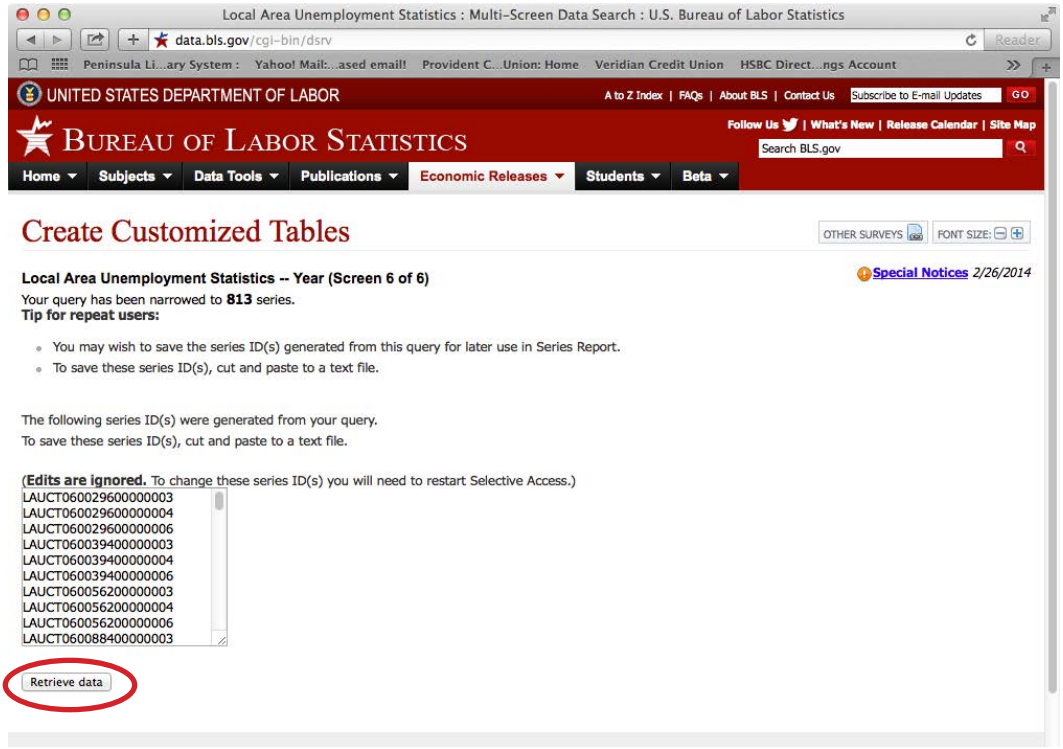
STEP 06. Select all the cities in the list, click "Next form."



STEP 07. Select "unemployment rate," "unemployment," and "labor force," click "Next form."

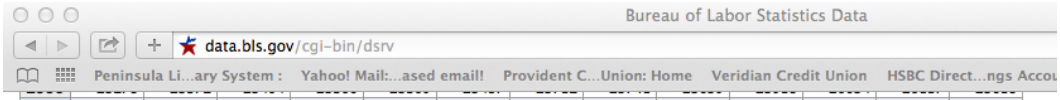
STEP 08. Check the box for "Not Seasonally Adjusted," click "Next form."

STEP 09. Click "Retrieve data."



STEP 10. This step creates a printout of all localities in California with 25,000 people or greater. Scroll down to the city of your choice, Oakland in this example. These data can be pasted in a spreadsheet program. The screenshot below shows HTML, but a CSV file can be generated by clicking "More Formatting Options."

STEP 10A (optional) These data are also available as a CSV file, which can be more easily imported into a new spreadsheet. If a CSV file of LAUS is downloaded, a crosswalk file is needed to match the record ID number in the LAUS file with a city name located in the crosswalk. Download the crosswalk and the code list files located at http://www.bls.gov/lau/crosswalk.xlsx. This file matches the ID number with a city name. Additional manipulation is needed to merge the two datasets.



2007	25624	25739	25740	25470	25507	25722	26059	25943	25991	26085	26225	26207	25860
2008	25595	25586	25723	25731	25784	25991	26389	26262	26090	26234	26167	26222	25981
2009	26030(S)	26149(S)	26131(S)	26011(S)	25847(S)	25956(S)	26343(S)	26197(S)	25948(S)	26006(S)	26051(S)	25890(S)	26047(S)
2010	26295(E)	26315(E)	26373(E)	26503(E)	26304(E)	26312(E)	26774(E)	26745(E)	26619(E)	26547(E)	26530(E)	26562(E)	26490(E)
2011	26672(E)	26650(E)	26767(E)	26725(E)	26732(E)	26829(E)	27160(E)	27215(E)	27257(E)	27343(E)	27355(E)	27391(E)	27008(E)
2012	26946(E)	27199(E)	27325(E)	27303(E)	27285(E)	27474(E)	27827(E)	27683(E)	27695(E)	27775(E)	27707(E)	27818(E)	27503(E)
2013	27667(E)	27740(E)	27678(E)	27698(E)	27698(E)	27856(E)	28140(E)	28016(E)	27949(E)	27865(E)	27972(E)	27969(E)	27854(E)
2014	27950	28083	28122	27851	27888	27962(P)							

S : Reflects adjustment to new state control totals.
E : Reflects revised inputs, reestimation, and adjustment to new state control totals.
P : Preliminary.

Series Id: LAUCT065300000000003
Not Seasonally Adjusted
Area: Oakland city, CA
Area Type: Cities and towns above 25,000 population
State/Region/Division: California
Measure: unemployment rate

Download: xlsx

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2004	10.2	9.8	10.0	9.2	8.9	9.4	9.5	9.0	8.4	8.4	8.3	7.8	9.1
2005	8.6	8.7	8.3	7.8	7.5	8.2	8.4	8.1	7.9	7.7	7.6	6.8	8.0
2006	7.3	7.3	7.1	6.8	6.5	7.2	7.6	7.2	6.7	6.4	6.7	6.2	6.9
2007	7.3	7.1	7.0	6.8	6.7	7.5	8.0	7.7	7.5	7.5	7.4	7.4	7.3
2008	8.0	7.8	8.3	7.8	8.6	9.4	10.0	10.4	10.2	10.6	11.1	11.7	9.5
2009	13.5(S)	14.3(S)	15.1(S)	14.8(S)	15.4(S)	16.6(S)	16.9(S)	17.0(S)	16.6(S)	16.7(S)	16.3(S)	16.0(S)	15.8(S)
2010	17.3(E)	17.0(E)	17.1(E)	16.8(E)	16.5(E)	17.0(E)	17.6(E)	17.5(E)	16.7(E)	16.5(E)	16.7(E)	16.0(E)	16.9(E)
2011	16.5(E)	16.1(E)	15.9(E)	15.3(E)	15.2(E)	16.1(E)	16.2(E)	16.0(E)	15.4(E)	15.1(E)	14.5(E)	14.1(E)	15.5(E)
2012	14.5(E)	14.4(E)	14.2(E)	13.2(E)	13.5(E)	14.2(E)	14.5(E)	14.1(E)	12.9(E)	12.9(E)	12.5(E)	12.2(E)	13.6(E)
2013	12.9(E)	12.2(E)	11.8(E)	11.0(E)	11.0(E)	11.9(E)	12.0(E)	11.5(E)	10.9(E)	10.9(E)	10.4(E)	9.6(E)	11.3(E)
2014	10.4	10.3	10.3	8.9	8.7	9.0(P)							

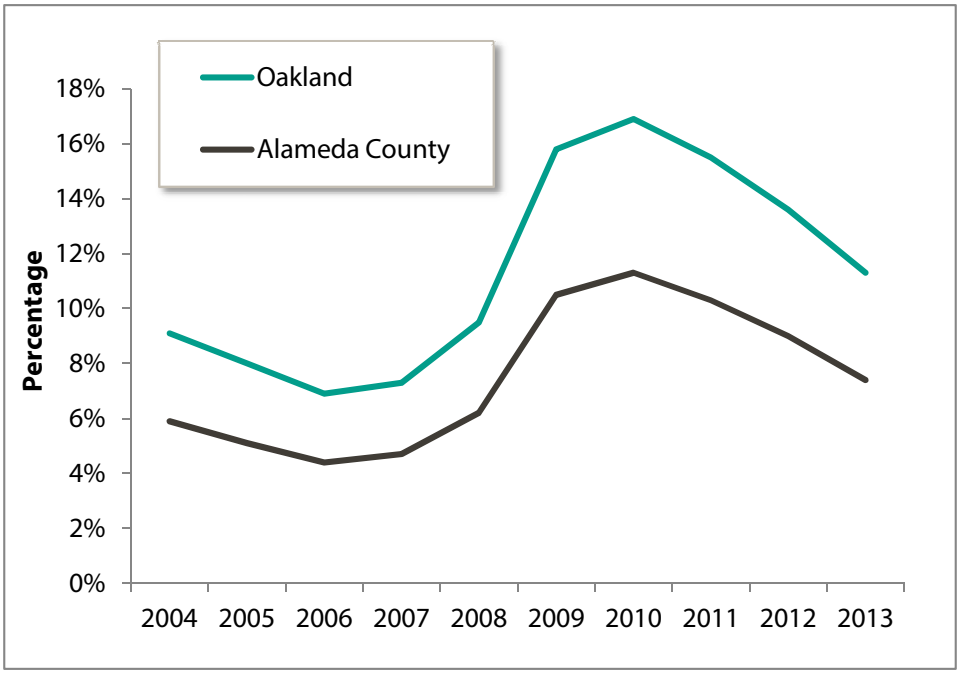
S : Reflects adjustment to new state control totals.
E : Reflects revised inputs, reestimation, and adjustment to new state control totals.
P : Preliminary.

Series Id: LAUCT065300000000004
Not Seasonally Adjusted
Area: Oakland city, CA
Area Type: Cities and towns above 25,000 population
State/Region/Division: California
Measure: unemployment

STEP 11. Identify the cities in your county with the highest rate of unemployment and construct a trend chart like the one below. Data for Alameda County, which contains Oakland, can be acquired in the same way as for Oakland. To do so, begin at step 5 and repeat steps 6 through 10.

Sample interpretation: From 2004–2013, trends in unemployment for the city of Oakland mirrored those of Alameda County. Both Oakland and Alameda County experienced significant increases in unemployment due to the financial crisis in 2008 and the subsequent recession, but Oakland's unemployment rate was higher. In recent years, unemployment has been declining in both Alameda County and in the City of Oakland.

FIGURE 18: UNEMPLOYMENT RATE, ALAMEDA COUNTY AND OAKLAND, 2004–2013



II. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

EMERGENCY MEDICAL SERVICES CORPS PROGRAM

Alameda County Public Health Department

The Emergency Medial Services (EMS) Corps is a highly selective, rigorous academy that trains aspiring emergency medical professionals who are from the community and ready to serve. It is a paid (stipend) program whose mission is to increase the number of underrepresented emergency medical technicians through youth development, mentorship, and job training. Program elements include EMT training, transformative mentoring/male development, life coaching, case management, mentorship, mental health and self-care reform, and academic tutoring.

The primary purpose of Alameda County EMS, a division of Health Care Services Agency, is to provide oversight and administration of medical 911 responses throughout the county. Parts of their responsibilities are education and community programs. There was a growing concern with seeing a disproportional representation of minorities in the pool of EMTs and firefighters serving their communities. After uncovering approaches in finding pathways to emergency medical careers, there was a conscience effort to provide training for young minority adults, including offering trainings through a local juvenile hall facility. In addition, Alameda County EMS leveraged their contracts with local 911 responder companies to make the hiring of EMS Corps graduates a priority. This training and its job connections allows them to serve their communities and become competent contributors and members of the changing and growing pool of first responders.

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HOUSING COST BURDEN

AS A SOCIAL DETERMINANT OF HEALTH

HOUSING COST BURDEN

Households paying more than 30% or 50% of income on housing

I. FACTORS ATTRIBUTABLE TO HEALTH

Affordable, quality housing is central to health, conferring protection from the environment and supporting family life. Substandard housing is associated with increased risks of injury and respiratory ailments. Homes can be a source of exposure to radon, lead, asbestos or other hazardous agents. In children, lead exposure increases the risk of neurological impairment and developmental delays. Chronic homelessness is associated with higher rates of injuries, cancer, cardiovascular disease, substance addictions, mental disorders and death. Children and adolescents with transient housing have impaired academic performance. Housing costs—typically the largest, single expense in a family's budget—also affect decisions that affect health. As housing consumes larger proportions of household income, families have less income for nutrition, health care, transportation, or education. Severe cost burdens may induce poverty, which is associated with developmental and behavioral problems in children and accelerated cognitive and physical decline in adults. Low-income families and minority communities are disproportionately affected by the lack of affordable, quality housing.

Controlled studies of the impact of housing characteristics or cost burdens on specific health outcomes are limited. However, cohort studies have documented adverse effects to health. Moisture linked to household mold was associated with respiratory illness, nausea, and fatigue. Lead abatement in residential housing was associated with abnormally elevated blood lead levels in children. Overcrowding in households was associated with higher incidence of tuberculosis. Housing insecurity, especially triggered by poverty, was associated with behavioral problems in children and excessive school absences.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

Note to LHDs in California: The California Department of Public Health's Healthy Communities indicator (HCI) project has already collected, cleaned, and compiled these data for this indicator for California, which can be found at http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx. For instructions on how to download and filter data from the HCI, see Appendix D.

Two datasets are used to understand housing cost burden at the local level. The ACS collects data on the percentage of household income spent on housing. These data are available for Census tracts in five-year aggregated samples through American FactFinder (tables DP04, B25070, and B25091). For a detailed explanation of how to ACS data, see Appendix B. Additionally, The U.S. Department of Housing and Urban Development (HUD) releases their Comprehensive Housing

Affordability Strategy (CHAS) data, available at http://www.huduser.org/portal/datasets/cp.html. The advantage to CHAS data over the ACS tabulations is that CHAS data combine ACS microdata with HUD-adjusted median family incomes (HAMFI) to create estimates of the number of households that would qualify for HUD assistance.

The CHAS data also incorporate household characteristics (e.g., race/ethnicity, age, family size, and disability status) and housing unit characteristics (e.g., number of bedrooms and renter or owner costs). HAMFI is calculated at a place (i.e., city) level and is adjusted based on the apartment size, family size, ages of family members, cost of utilities, as well as other characteristics. It is also possible with CHAS data to include all households, discluding only those households where no rent or mortgage is paid. The smallest geography available for these data is at the Census place level (i.e., cities). For more information on HAMFI and HUD qualification, see the HUD website at http://www.huduser.org/publications/pdf/CHAS_affordability_Analysis.pdf.

The indicators available are households spending 30% or more of adjusted household income on housing and households spending 50% or more of adjusted income on housing, which include rent and home ownership costs. The maps below show housing cost burden at the place level from CHAS and at the Census tract level from the ACS.

How To Analyze Housing Cost Burden Data

Example 1: Bay Area CHAS Data at the Census Place Level

A spreadsheet with the housing cost burden data at the Census place level was joined to an ArcGIS shapefile to produce the maps below. Categories are identified with the natural breaks method in ArcGIS. Upon examination of mapped CHAS data, there appears to be multiple Census places (i.e., towns and cities) in Alameda and Contra Costa counties where a higher percentage of households are spending more than 30% of their adjusted income on housing. To examine more closely, example 2 illustrates the percentage of households paying 50% or more of adjusted income on housing at the Census tract level in Alameda and Contra Costa counties using ACS data. Areas marked as unstable had a relative standard error greater than 30, which is explained in more detail in Appendix D.

Figure 20 shows housing cost burden downloaded from the ACS at the Census tract level. While data from the ACS alone is less robust than the data from HUD–CHAS, it does estimate housing burden at the Census tract level, compared to the city level available only with CHAS. Census tract level analysis may be more useful for health departments if less precise than city-level estimates. The map identifies Census tracts in the western region of Contra Costa and Alameda County where greater than 25% of households are paying more than 50% of their income on

housing. Areas marked as unstable had a relative standard error greater than 30, which is explained in more detail in Appendix D.

FIGURE 19: PERCENTAGE OF HOUSEHOLDS PAYING GREATER THAN 30% OF INCOME ON HOUSING BY CENSUS PLACE, BARHII REGION, 2006–2010

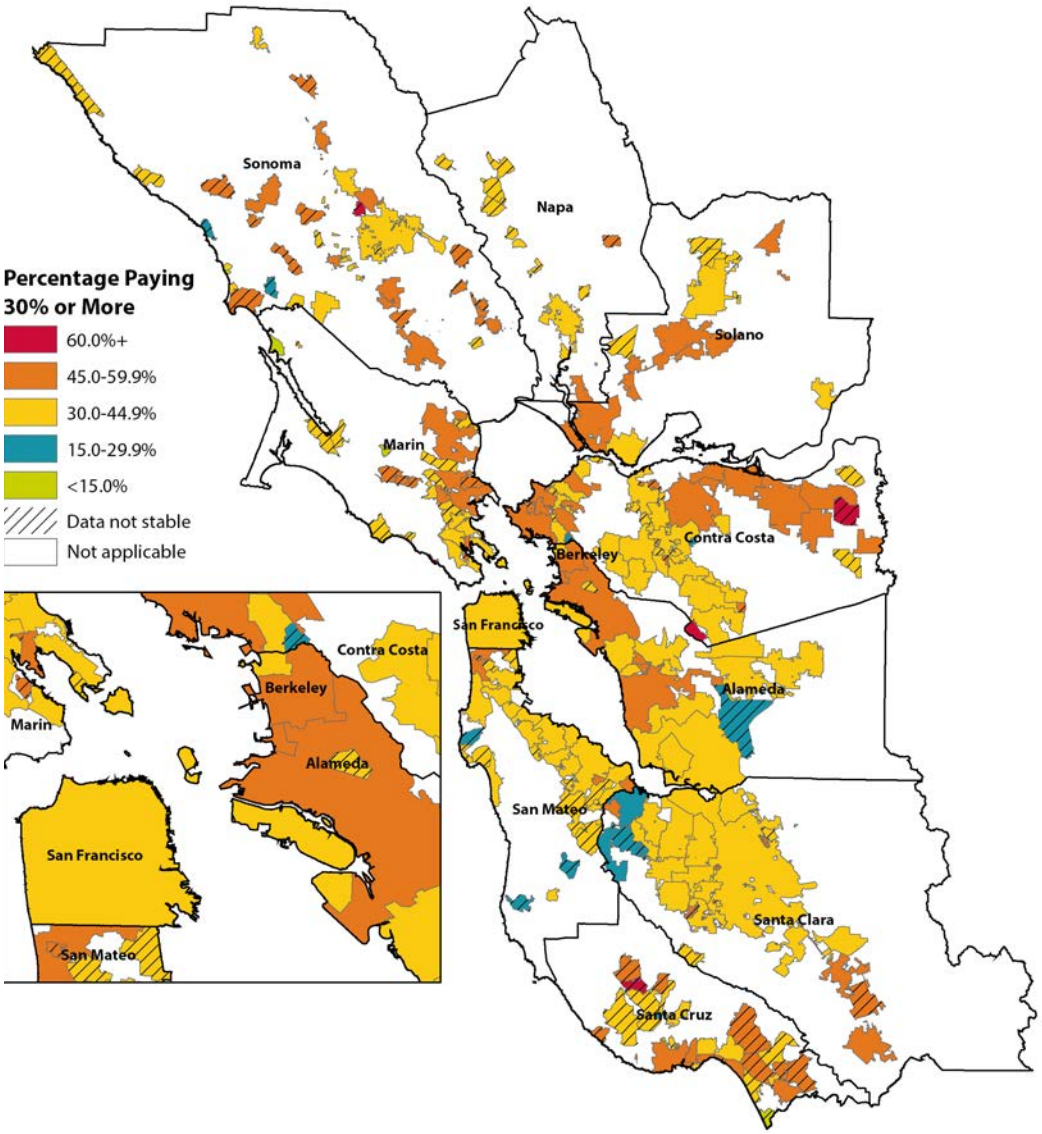
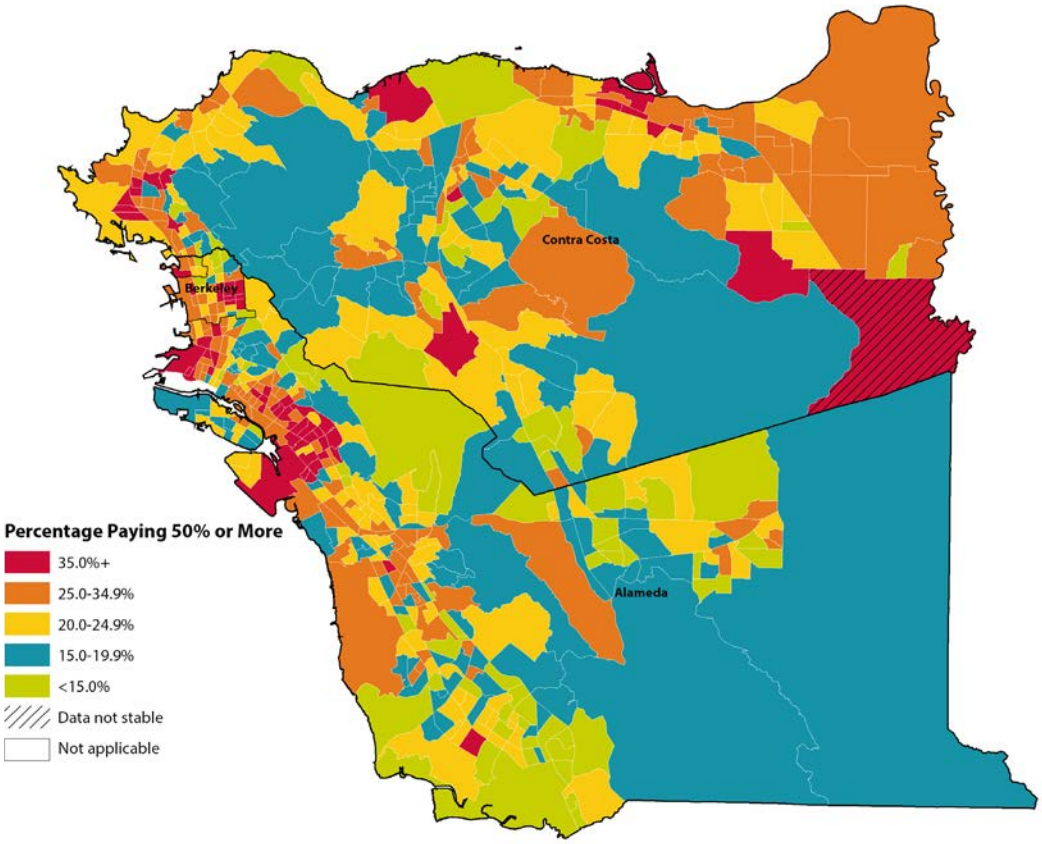


FIGURE 20: PERCENTAGE OF HOUSEHOLDS PAYING GREATER THAN 50% OF INCOME ON HOUSING BY CENSUS TRACT, ALAMEDA AND CONTRA COSTA COUNTIES, 2006–2010



II. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

SUPPORTING AFFORDABLE HOUSING POLICY IN RICHMOND

Contra Costa County Health Services

Contra Costa Health Services (CCHS) is working with the City of Richmond to support affordable housing policies that maximize health equity within the city. This partnership arose from a draft health impact assessment (HIA) by CCHS on the Richmond Livable Corridors Project, a zoning change within central Richmond. In this HIA, CCHS identified connections between housing and health as a key area of health concern: approximately half of the city's households pay more than they can afford for housing, with even greater proportions for low-income households (61% of renters and 82% of homeowners). Richmond has also recognized quality affordable housing as a key element of their HiAP framework.

To address this issue, CCHS has drafted a report that analyzes potential updates to Richmond's inclusionary zoning ordinance—a policy that requires new market rate housing

developments to include some percentage of affordable housing, or else to contribute fees to an affordable housing fund. The report uses criteria on the connections between health and housing, such as cost burden, housing quality, and housing stability, to recommend a variety of policy options. These options include targeting households at lower income levels, raising fees to encourage market rate developers to build affordable housing on site, and lengthening the terms of affordability on housing units. CCHS has been invited to present this work to key decision-makers within the city and plans to continue partnering with Richmond to support healthy housing policy.

TENANT JUSTICE COALITION AND GENTRIFICATION REPORT

Alameda County Public Health Department

The Alameda County Public Health Department (ACPHD) Place Matters Housing Workgroup partnered with community-based organizations and tenant advocates in Oakland to provide research and city council testimony on the impacts of rising rental costs and lack of affordable, quality housing for neighborhood stability and health. In spring of 2014, the Tenant Justice Coalition won improvements to Oakland's rent ordinance which capped all rent increases at 10% annually and reduced the amount in rent that landlords can pass through to tenants when making capital improvements on their properties. These policy changes are the first significant reforms for tenants in Oakland in more than ten years.

Additionally, in collaboration with Causa Justa::Just Cause, ACPHD formed a research partnership to analyze gentrification and displacement from a public health and tenants' rights perspective, and to recommend strategies for preventing displacement in future development. The partnership tackles the controversial and often misunderstood issue of gentrification, and seeks to provide analysis grounded in community experience that leads to policy and systems change for the benefit of communities most affected by gentrification and displacement—urban low-income communities and communities of color. A report, *Development without Displacement: Resisting Gentrification in the Bay Area*, was released in April 2014 from this partnership and can be found at http://cjjc.org/publications/reports/item/1421-development-without-displacement-report.

ASTHMA START AND HEALTHY HOMES PROGRAMS

Alameda County Public Health Department

Alameda County Public Health Department's Asthma Start and Alameda County Healthy Homes programs works with Oakland families to eliminate asthma triggers in their homes. Some triggers are impossible to remove without the landlord's help, like moldy carpet. In fact, Asthma Start reported that for a recent 12-month period, over 40% of the 370 homes they visited contained some signs of mold. The Place Matters Housing Workgroup prioritized advancing policies that will improve rental housing. They have partnered with the

City of Oakland and code enforcement officials to effectively address housing conditions that are linked with poor health in Oakland rental properties. They researched new models of code enforcement that are more focused on preventing health harming conditions and presented the findings to City staff and a Building Services Improvement Taskforce. The Oakland City Council's Community and Economic Development Committee approved the Task Force's recommendations to move forward with piloting this model. The proposed program design can be found at http://www2.oaklandnet.com/oakca/groups/ceda/documents/report/oak033410.pdf.

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LIVING WAGE

AS A SOCIAL DETERMINANT OF HEALTH

LIVING WAGE

Wages necessary for minimum standard of living

I. FACTORS ATTRIBUTABLE TO HEALTH: LIVING WAGE

Economic policy debates have long focused on the unemployment rate and poverty rate as indicators of economic well-being. While these measures are certainly not irrelevant, they are insufficient in that the picture of economic hardship they create is incomplete. The unemployment rate looks solely at those who are working versus those who are both without jobs and searching for a job. The poverty rate, on the other hand, only considers income in relation to a basic food budget determined by the United States Department of Agriculture (USDA) in 1962 and is adjusted annually for inflation. The working poor—a group of people who are employed but do not earn a wage adequate for sustaining good health and quality of life—are overlooked by both measures and subsequently neglected by policy makers who fail to consider additional indicators incorporating measures of basic needs being met.

In order to consider a more comprehensive view of economic hardship and not overlook subsets of the population, such as the working poor that face true struggles in their daily life pertaining to sustaining good health and quality of life, we propose using a new indicator. Living wage is an indicator that takes into account not only employment status and ability to purchase food, but also the ability to acquire basic needs: housing, food, transportation, health insurance, and child care. It is a useful indicator for measuring income above or below a specific threshold that considers basic needs, which are essential not only for subsistence but for healthy living and maintaining quality of life.

How Living Wage Affects Health

Research has demonstrated extensively that income level is associated with health. Adverse health outcomes are more likely to occur throughout the entire lifetime of low-income individuals including infant mortality, all-cause mortality, various diseases, self-reported health status, and mental health with relative risks inversely proportional to income.

Housing fundamentally protects us from the elements of nature and functions as a space for activities of daily living. However, inadequate housing has a variety of pathogeneses through which it contributes to disease morbidity and mortality. The contribution of housing to health is detailed in the chapter on Housing Cost Burden. Here, we will focus on food, transportation, health insurance, and child care.

Transportation is a means to access jobs or job interviews, education, and other everyday activities but it can also be instrumental for gaining access to healthy foods and medical attention. The USDA estimates that 23.5 million people in the United States live in food deserts—neighborhoods or towns without "ready access to fresh, healthy, and affordable food." Many people in these

neighborhoods are forced to subsist on food from fast food restaurants and convenience stores that lack essential nutrients or are saturated with sodium, sugar, saturated fats, and chemical preservatives and contribute to diet-related diseases such as diabetes and heart disease. For these people, 13.5 million of which are low income, reliable transportation may be the pivotal factor for gaining access to nutritious food and good health.

Health insurance directly affects health by contributing to the timeliness, appropriateness, and financial accessibility of clinical preventive services and treatment for illness and injury. Individuals with health insurance are more likely to foster ongoing relationships with a medical professional. They are more likely to receive screenings that enable early diagnosis and drastically decrease mortality of diseases such as breast cancer, cervical cancer, prostate cancer, or melanoma. They are more likely to have regular checkups and obtain medications to help control chronic medical conditions such as heart disease, diabetes, HIV, or mental illness. Subsequently they are more likely to have positive health outcomes. One national study in the United States found that over a 17-year follow-up period the risk of mortality was 25% greater among adults who did not have health insurance at the beginning of the study than those who had private health insurance.

The availability of safe and reliable child care is imperative for working parents to gain or maintain employment, but also has considerable implications for the livelihood of children themselves. Several studies have found that children who attended quality preschool programs earned up to $2,000 more per month than those who did not, were more likely to graduate from high school, more likely to own homes, and more likely to have longer marriages. Furthermore, they were less likely to repeat grades in school, need special attention, or get into future trouble with the law. Children with the opportunity to attend a quality childcare institution make developmental gains that confer a substantial benefit throughout their life. Additionally, safe and sanitary childcare institutions also play a role in preventing the transmission of communicable diseases such as hepatitis A or influenza as well as preventing accidental injuries and death.

Limitations

The living wage is a no-frills, minimum standard of living that should be considered a step above the poverty rate and not a lifestyle most middle-class Americans would desire. It does not include income set aside for children's post-secondary education, pension, retirement, or savings for wealth accumulation (investments, home ownership). The budget also does not include money for restaurant meals or entertainment, leisure activities, or vacations. Regional cost adjustments were available for some of the cost categories. However, local variation in costs within regions was not accounted for. Family income for married couples can reflect two earners. Standard errors for per-

centage of families below the living wage were not calculable from American Community Survey data.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

Using the Poverty in America Living Wage Calculator

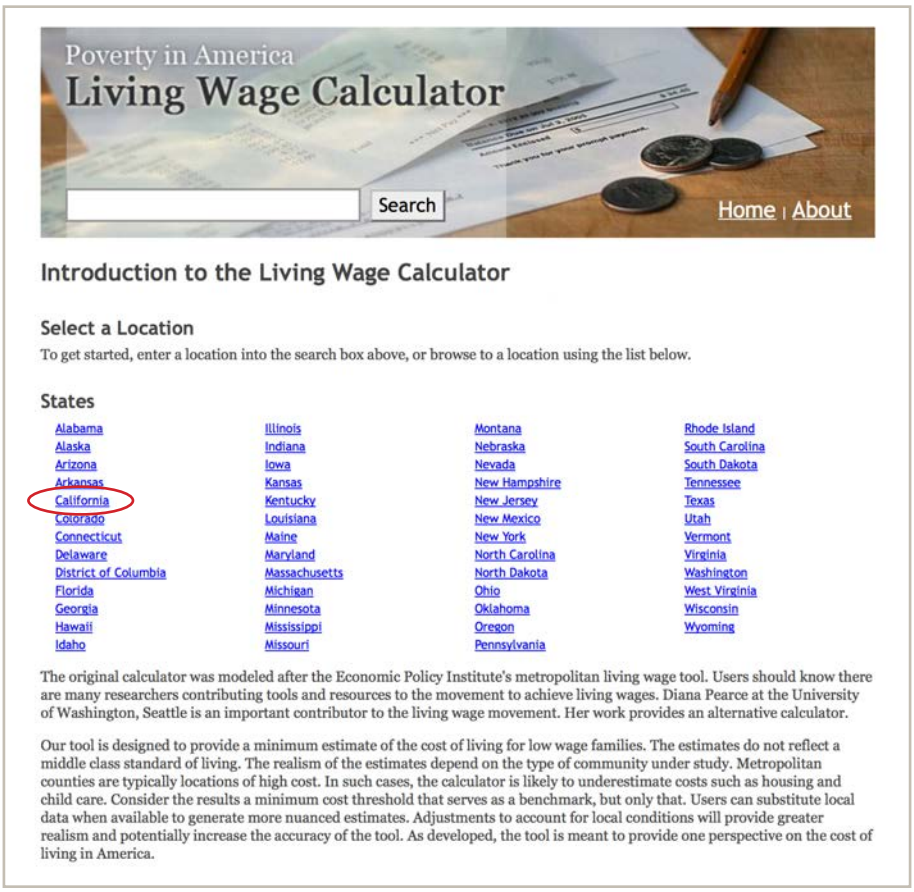
Note to LHDs in California: The California Department of Public Health's Healthy Communities Data and Indicators Project (HCI) project has already collected, cleaned, and compiled the data for this indicator for California, which can be found at http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx. Further, the HCI project has estimated the percentage of California families who earn less than this living wage using data from the American Community Survey. For instructions on how to download and filter data from the HCI, see Appendix D. For LHDs outside of California, it is necessary to download the data from the Poverty in America Living Wage Calculator and compare that with population estimates from the American Community Survey.

The Poverty in America Living Wage Calculator can be used to determine the living wage required for families of different compositions, geographies, and ethnicities. This calculator was created by Dr. Amy K. Glasmeier in the Department of Urban Studies at the Massachusetts Institute of Technology in conjunction with Poverty in America, an accelerated research, data development and distribution research program that began at Penn State. These researchers have compiled nationwide economic data and developed user-friendly tools in order to provoke research into the causes, effects, and existence of economic inequity in the United States.

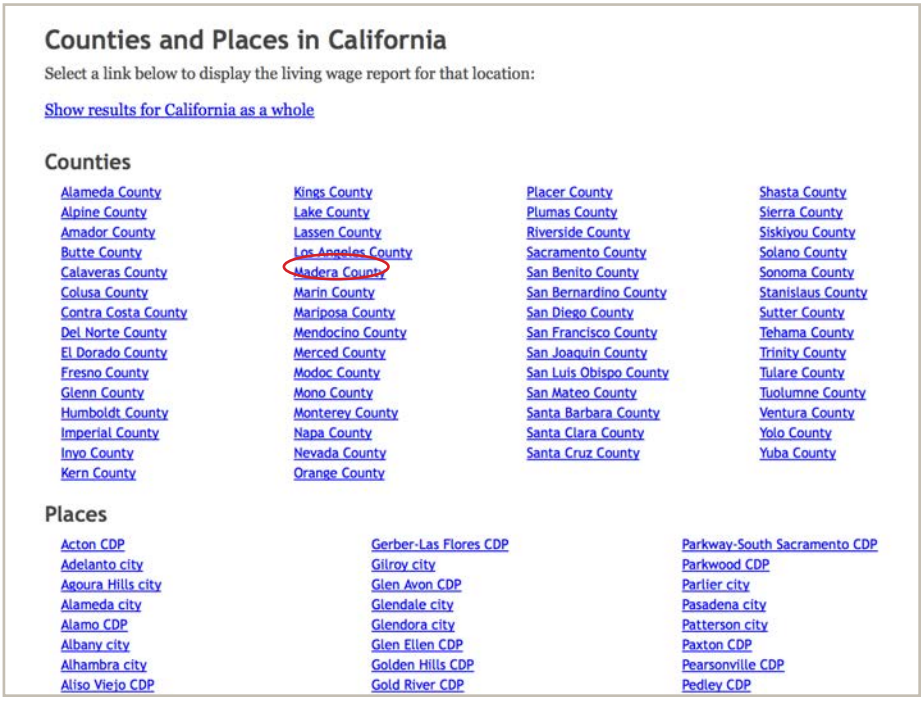
The data represent a synthesis of multiple data sources including USDA's 2010 low-cost food plan (food costs); *Parents and the High Cost of Child Care—2011 Update,* National Association of Child Care Resource and Referral Agencies (child care); 2010 Consumer Expenditure Survey and the 2010 wave of the Medical Expenditure Panel Survey (health care); 2010 Fair Market Rents produced by U.S. Department of Housing and Urban Development (housing); 2010 Consumer Expenditure Survey (transportation); and federal payroll taxes as well as federal and state income taxes for the 2011 tax year (taxes). Income data were tabulated from sequence tables (B19139) of the ACS, 2006-2010, and stratified by race/ethnicity (county, region, state). Prevailing (median) wages for selected occupations in 2010 were downloaded from the Employment Development Department, Labor Market Information website (http://www.labormarketinfo.edd.ca.gov) based on the first quarter of the Occupational and Employment Statistics (OES) Survey, 2009.

How to Identify the Living Wage for a Place or County from the Poverty in America Living Wage Calculator

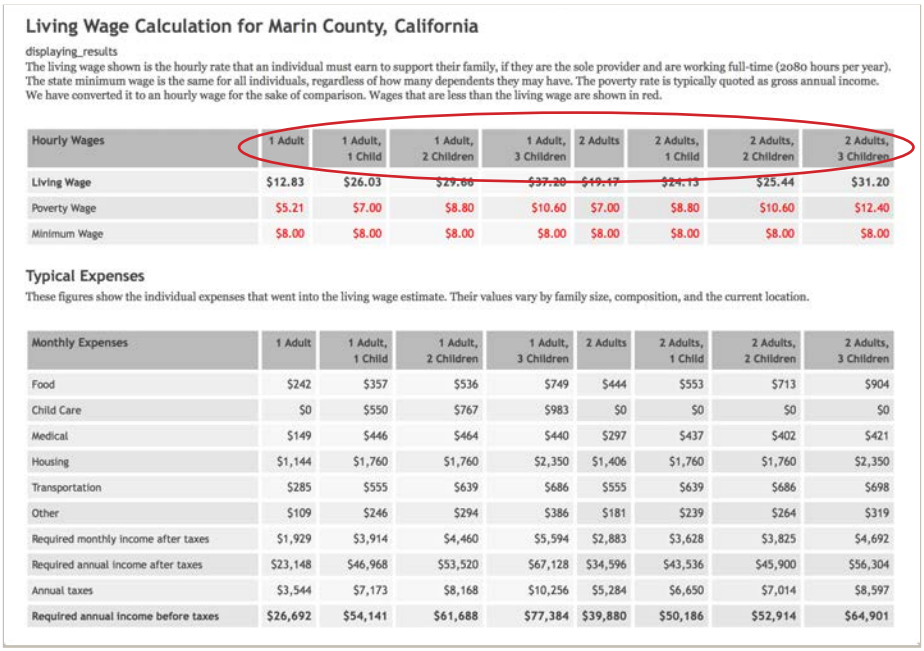
STEP 01. Go to http://livingwage.mit.edu. Select the state for which you would like to investigate the living wage.



STEP 02. Choose the county or place for which you would like to investigate the living wage (e.g., Marin County).



The following wages chart will be returned with the living wage, poverty wage, and minimum wage required for different family compositions.



Living Wage Calculation for Marin County, California

displaying_results

The living wage shown is the hourly rate that an individual must earn to support their family, if they are the sole provider and are working full-time (2080 hours per year). The state minimum wage is the same for all individuals, regardless of how many dependents they may have. The poverty rate is typically quoted as gross annual income. We have converted it to an hourly wage for the sake of comparison. Wages that are less than the living wage are shown in red.

Hourly Wages	1 Adult	1 Adult, 1 Child	1 Adult, 2 Children	1 Adult, 3 Children	2 Adults	2 Adults, 1 Child	2 Adults, 2 Children	2 Adults, 3 Children
Living Wage	$12.83	$26.03	$29.68	$37.20	$19.17	$24.13	$25.44	$31.20
Poverty Wage	$5.21	$7.00	$8.80	$10.60	$7.00	$8.80	$10.60	$12.40
Minimum Wage	$8.00	$8.00	$8.00	$8.00	$8.00	$8.00	$8.00	$8.00

Typical Expenses

These figures show the individual expenses that went into the living wage estimate. Their values vary by family size, composition, and the current location.

Monthly Expenses	1 Adult	1 Adult, 1 Child	1 Adult, 2 Children	1 Adult, 3 Children	2 Adults	2 Adults, 1 Child	2 Adults, 2 Children	2 Adults, 3 Children
Food	$242	$357	$536	$749	$444	$553	$713	$904
Child Care	$0	$550	$767	$983	$0	$0	$0	$0
Medical	$149	$446	$464	$440	$297	$437	$402	$421
Housing	$1,144	$1,760	$1,760	$2,350	$1,406	$1,760	$1,760	$2,350
Transportation	$285	$555	$639	$686	$555	$639	$686	$698
Other	$109	$246	$294	$386	$181	$239	$264	$319
Required monthly income after taxes	$1,929	$3,914	$4,460	$5,594	$2,883	$3,628	$3,825	$4,692
Required annual income after taxes	$23,148	$46,968	$53,520	$67,128	$34,596	$43,536	$45,900	$56,304
Annual taxes	$3,544	$7,173	$8,168	$10,256	$5,284	$6,650	$7,014	$8,597
Required annual income before taxes	$26,692	$54,141	$61,688	$77,384	$39,880	$50,186	$52,914	$64,901

How to Analyze Living Wage Data from the CDPH Healthy Communities Data and Indicators (HCI) Project

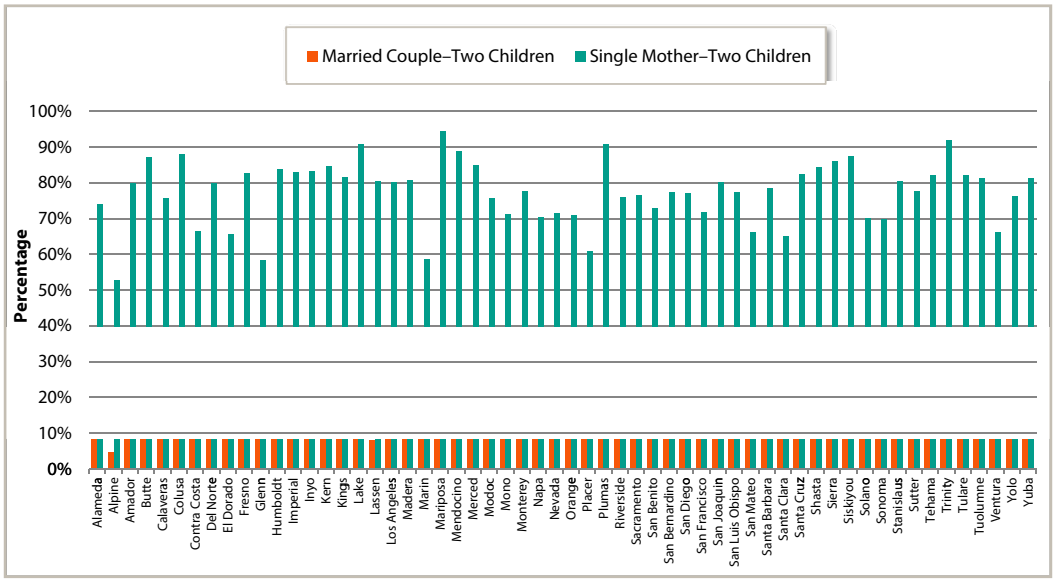
EXAMPLE 1: ANALYSIS BY COUNTY FOR ALL OF CALIFORNIA

The HCI project has estimated the number of families in California—stratified by family composition, race, and ethnicity—who earn less than a living wage using data using the living wage calculator. These data are found at http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx. Population estimates for two family compositions are available: married coupled families with two children and single mother families with two children.

	A	B	C
1	County	MarriedCouple2Children	SingleMother2Children
2	Alameda	16.5	74.1
3	Alpine	4.5	52.9
4	Amador	15.8	79.8
5	Butte	20.8	87.2
6	Calaveras	12.1	75.7
7	Colusa	31.9	88.1
8	Contra Costa	14.5	66.4
9	Del Norte	23.6	80.0
10	El Dorado	9.5	65.8
11	Fresno	30.3	82.7
12	Glenn	31.4	58.3
13	Humboldt	23.2	83.7
14	Imperial	31.4	83.1
15	Inyo	17.6	83.3
16	Kern	28.6	84.5
17	Kings	29.6	81.7
18	Lake	31.4	90.9

After downloading and filtering the data from the HCI project as explained in Appendix D, figure 21 shows the percentage of married couple, two children and single mother, two children families in California who live below a living wage by California county.

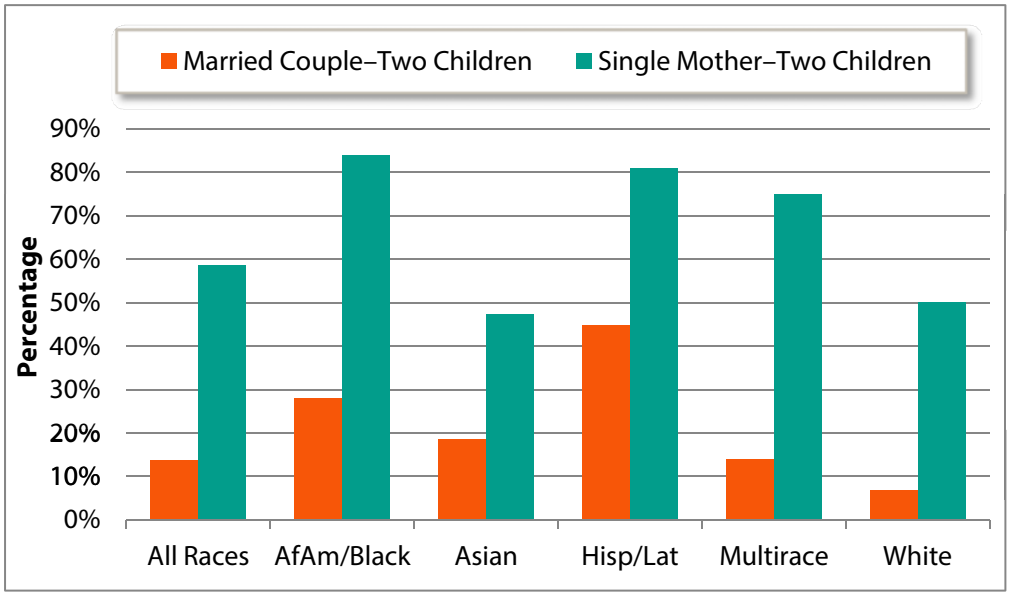
FIGURE 21: PERCENTAGE OF FAMILIES LIVING BELOW THE LIVING WAGE, CALIFORNIA COUNTIES



EXAMPLE 2: ANALYSIS BY RACE/ETHNICITY FOR A SPECIFIC GEOGRAPHIC AREA

Figure 22 shows estimates the percentage of families—stratified by race/ethnicity—in Marin county California who earn less than a living wage. These data were downloaded from the same dataset in example one and filtered to display Marin County.

FIGURE 22: PERCENTAGE OF FAMILIES LIVING BELOW THE LIVING WAGE, MARIN COUNTY, BY RACE/ETHNICITY



III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

LEVERAGING HEALTH DEPARTMENT AUTHORITY TO PROMOTE COMPLIANCE WITH LABOR LAWS

San Francisco Department of Public Health

Through participatory research projects, the San Francisco Department of Public Health (SFDPH) has learned that wage theft, or non-payment of wages earned, and employer negligence for work-related injuries are common in certain service industries. These work conditions negatively affect health. For example, 50% of Chinatown restaurant workers reported not receiving minimum wage, 90% of domestic workers reported a lack of overtime pay, and many day laborers have no access to workers' compensation.

Working to translate knowledge into policy, SFDPH has begun to explore how to leverage its regulatory authority over restaurants and other businesses to protect worker health. Recognizing that labor agencies have limited staffing or capacity to monitor all businesses, SFDPH seeks to complement, not duplicate, labor enforcement activities by supporting monitoring efforts and targeting of chronic violators.

Using legal authority established by local and state health code, SFDPH suspended health permits of restaurants and other health-permitted businesses found to be noncompliant with San Francisco's minimum wage law. In multiple cases, health permit suspension led to payment of tens of thousands of dollars in back wages owed to workers within in a couple weeks or months, after one to four years of employer noncompliance with the labor agency ruling.

According to California Health and Safety Code (Part 7 §113715), all food facilities must be in compliance "with all applicable local, state, and federal statutes, regulations, and ordinances" in order to operate in California. To receive a new health permit for operation, SFDPH has begun to require proof of workers compensation (WC) coverage, which is required under state law. Among permitted facilities, SFDPH also randomly selects 10% of facilities to request proof of WC compliance annually. Failure to provide proof of insurance results in suspension of the health permit and reporting to state labor enforcement agency. SFDPH has also piloted projects to observe labor law postings and identify sentinel worker health and safety hazards as part of routine inspections.

To date, SFDPH has conducted this pilot work with minimal staffing and no outside funds. However, additional funds and staff could increase the scale and scope of labor compliance work. For more information, visit http://www.sfhealthequity.org/elements/work.

LIVING WAGE ORDINANCE HEALTH IMPACT ASSESSMENT

San Francisco Department of Public Health

In 1999, the city of San Francisco proposed a living wage ordinance that would create a wage minimum of $11 per hour for firms that provided services to, or lease land from, local government. Support for the law was based on the idea that employees who provide services for local government should be paid wages that sufficiently meet the local cost of living.

The first living wage ordinance was adopted in Baltimore, Maryland in 1994. Since that time approximately 30 other cities in the United States have taken on such laws including three in California—Los Angeles (1997), San Jose (1998), and Oakland (1998).

San Francisco Department of Public Health (SFDPH) decided to conduct an analysis of a proposed living wage ordinance for San Francisco with respect to its impact on health. The analysis documented the benefits to adult health and children's education achievement attributable to the adoption of a living wage of $11.00 per hour. The findings were significant. SFDPH predicted adoption of the increased would result in decreases in the risk of premature death by 5% for adults 24 to 44 years in households whose current income was around $20,000. For the offspring of these workers, a living wage would result in an increase of a quarter of a year of completed education, a 34% increased odds of high school

completion, and a 22% decrease in the risk of early childbirth. The American Journal of Public Health published this analysis in 2001.

In 2002, city legislators invited SFDPH to participate in city policy discussions on augmenting local minimum wage standard for all San Francisco residents. In 2003, San Francisco residents passed a minimum wage ordinance, increasing the minimum wage from $6.75 to $8.50 for over 50,000 workers in San Francisco. As of 2014, the new minimum wage is $12.66/hour and it is expected that a proposal to raise the minimum wage to $15/hour will appear on the November 2014 ballot.

For more information, visit http://www.sfhealthequity.org/elements/work/22-elements/work/83-living-wage-and-health.

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FOOD INSECURITY

AS A SOCIAL DETERMINANT OF HEALTH

FOOD INSECURITY

Ability to afford enough food

I. FACTORS ATTRIBUTABLE TO HEALTH

The United States Department of Agriculture defines food security as regular access to enough food to lead a healthy and active life. In contrast, individuals who experience food insecurity may cut the size of their meals, be unable to eat balanced meals, forgo eating when hungry, or eat less than needed because of an inability to afford or access food. Inadequate diets can impair intellectual performance and have been linked to more frequent school absence and poorer educational achievement in children. Nutrition also plays a significant role in causing or preventing a number of illnesses, such as cardiovascular disease, some cancers, obesity, type 2 diabetes, and anemia. Inadequate food intake can also adversely affect learning, development, and physical and psychological health.

At least two factors influence the affordability of food and the dietary choices of families—the cost of food and family income. The inability to afford food is a major factor in food insecurity, which has a spectrum of effects including anxiety over food sufficiency or food shortages; reduced quality or desirability of diet; and disrupted eating patterns and reduced food intake.

Low-income, ethnic minority, and female-headed households are at the highest risk for food insecurity. In 2011, approximately 15% of U.S. households were food insecure at some time during the year, meaning that the food intake of one or more household members was reduced and eating patterns were disrupted because the household lacked money and other resources for food. Inadequate diet and physical inactivity are responsible for approximately 17% of deaths in the United States.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

The steps outlined here to analyze survey data about food insecurity are part of the service diagnose and investigate. Completion of this step allows a health department to identify the priority populations where to focus other essential public health services primarily: evaluate, monitor health, and mobilize community partnerships. Based on the results of this analysis, a health department can identify the community organizations and stakeholders working with priority populations to mobilize into a partnership first. Once created, the first crucial outcome of this partnership is the inter-agency sharing of data about programmatic and health outcomes of the priority populations. This partnership can then specifically identify the needs of the priority populations through sharing this data, which this broad SDOH-LC indicator cannot capture. The partnership can then design policies, programs, and other interventions tailored to the priority populations identified in the "diagnose and investigate" step from this collaboratively-created needs assess-

ment. The partnership, after implementation of an intervention, can use this SDOH-LC indicator to evaluate the progress and to monitor the health and quality of life in priority populations over time.

California

There are two sources of data for health departments in California—the California Health Interview Survey (CHIS) and the California Department of Public Health's Healthy Communities Data and Indicator (HCI) project.

CHIS collects data on food insecurity from adults with household incomes that are less than 200% of the federal poverty level (FPL) (i.e., lower-income households). Ideally, in order to identify disparities in food security, it is best to look at differences among adults from lower- and higher-income households. However, the CHIS data can be used to identify lower-income adults who are most at risk of food insecurity, such as those from disadvantaged racial/ethnic groups or older adults. Considering the limitations of CHIS (and phone-based surveys in general), BARHII suggests that health departments always triangulate estimates from CHIS with other SDOH-LCs and other neighborhood-level data. In the case of the food insecurity indicator, we can assume that areas with a higher prevalence of people living below 200% FPL also face a higher prevalence of food insecurity. Based on this assumption, further assessment about food insecurity in high-poverty areas (as shown on the poverty map in the introduction) can occur to mitigate the limitations of phone-based surveys such as CHIS. For a detailed set of instructions with screen shots of how to access these data, see Appendix C.

In addition, HCI has developed their own data for this indicator for California, which can be found at http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx. For the detailed instructions on how to download and filter data from the HCI, see Appendix D.

Each of these methods is outlined below.

Areas Outside California

The method outlined for CHIS to identify priority places and populations for a health outcome or social determinant of health can be applied to local surveys or others outside of California.

CHIS asked a series of five questions developed by the USDA about nutrition in the past 12 months, such as whether the food that the household bought lasted, or whether they had enough money to purchase more to measure food security. These questions can be found on the CHIS adult questionnaire at http://healthpolicy.ucla.edu/chis/design/Pages/questionnaires.aspx.

For more information on how the responses to these five questions were combined into a single overall measure of household food security that can be viewed on AskCHIS, see http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement.aspx.

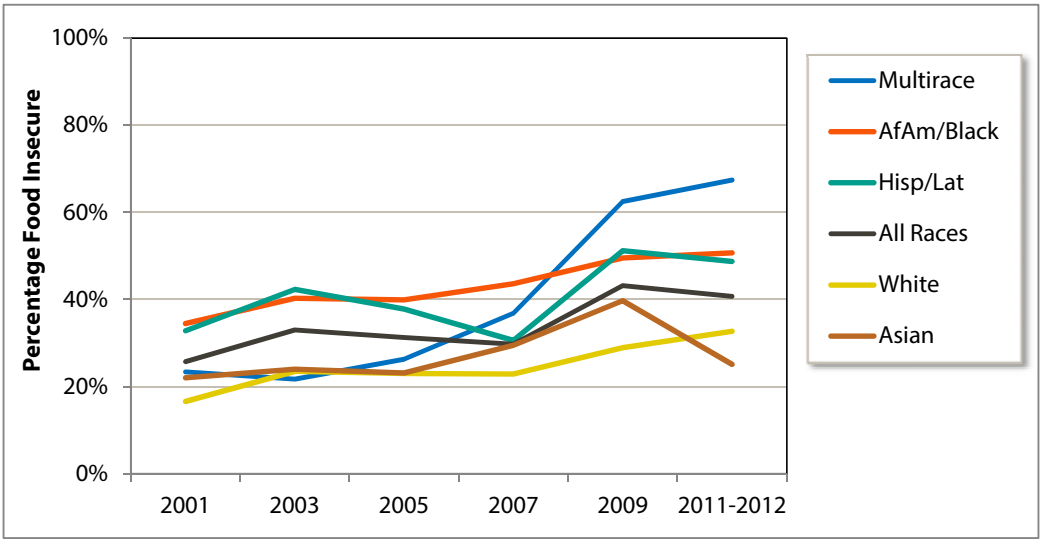
How to Use AskCHIS to Find Information on Food Security

Use the method from Appendix C to identify disparities in food security by race/ethnicity among adults from low-income households. In this case, we used the BARHII region (the Bay Area plus Santa Cruz) as the geography, comparing food security by race/ethnicity over time.

Interpret the trend chart to determine priority populations among race and ethnicities with statistically stable estimates. Race/ethnicities (with statistically stable estimates) among people living below 200% FPL with the highest prevalence of food insecurity have seen an increase or no change in food insecurity over time should be designated as intervention priorities. Based on this procedure, recommended ranked priority populations of people living below 200% FPL by race and ethnicity for food-security interventions include those of two or more races, African American/Black and Hispanic/Latino (tie), Asian, and White. Because Native Hawaiian and American Indian population responses were unstable, their rank could not be determined from these data, although they could experience food insecurity greater than or equal to other race/ethnicities. Right now, this can only be determined with local-level assessment or oversampling of these populations by CHIS, which can be cost prohibitive. In late 2014, CHIS will release the CHIS Neighborhood Edition, which will allow geographies including zip codes to be grouped together for analysis.

An interpretation of the trend chart would be that, in 2009, food insecurity among those living below 200% FPL in the BARHII region increased since 2001 with the most significant change after 2007. In 2009, Multirace individuals living below 200% FPL had the most significant increase in food insecurity since 2001, followed by Hispanic/Latinos and African Americans/Blacks (tie), Asian, and White populations. Although sometimes reported, data on food insecurity for Native

FIGURE 23: FOOD INSECURITY, BARHII REGION



Hawaiian/Pacific Islander, and Native Americans could not be determined with CHIS because of unstable data. Although the data from CHIS cannot determine food insecurity for Native Americans and Native Hawaiian populations living below 200% FPL, these populations may still experience food insecurity equal to or greater than race/ethnicities identified in this analysis. This can be examined more closely with local-level assessment or oversampling of these populations by CHIS.

Consider more robust analysis of survey date (e.g., small area analysis) if resources permit. BARHII concedes that there are superior, more rigorous methods to analyze CHIS and other surveys than those presented here. These methods require additional data collection on populations (i.e., oversampling) or sophisticated survey modeling. Both of these alternatives, while providing better results, can be methodologically complex and cost prohibitive to LHDs. However, synthetic estimates and some other small area analysis techniques exist.

Identify the potential community-based organizations in priority areas to mobilize community partnerships to increase food security.

How to Use HCI to Find Information on Food Security

Use the method from Appendix D to download data from the California Department of Public Health's Healthy Communities Data and Indicator (HCI) project.

The HCI presents the ratio of dollars to purchase an annual market basket of foods for a female-headed household with children less than 18 years, relative to her annual inflation-adjusted income. The cost of food is based on the USDA's low-cost food plan, which includes a market basket of items that families would have to purchase to provide a nutritious diet for each family member. To determine the costs, the USDA conducts a monthly national market basket survey of food items. The USDA tabulates per person costs by age for children less than 11 years, and age and gender for those 12 years to those 71 years and older. For the HCI project, family costs were the sum of costs for the female head of household and the per child-cost multiplied by the area average number of children under 18 years, taking into account their age distribution. The USDA annual costs were expressed in constant 2010 dollars and adjusted for regional differences (Los Angeles, Bay Area, San Diego, California average) based on the Consumer Price Index food at home.

STEP 01. Go to http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx.

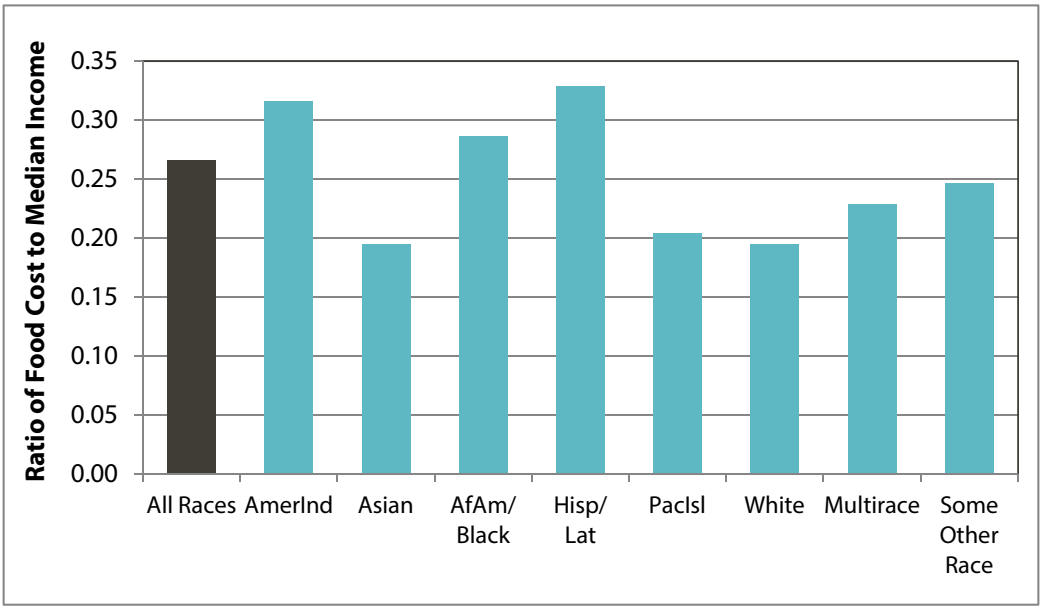
STEP 02. Open the "Food Affordability" Microsoft Excel sheet (xls).

STEP 03. Choose filters based on your analysis. For this example, we will be comparing race/ethnicities in the entire state of California. So under 'geotype' choose "CA." This will bring up each race/ethnicity category as rows.

STEP 04. The affordability shown is for a female-headed household with children under 18 years. The affordability ratio is the food cost divided by median income for that race/ethnicity. Copy the data into a new Excel sheet.

STEP 05. Create a visual representation.

FIGURE 24: AFFORDABILITY RATIO, CALIFORNIA, BY RACE/ETHNICITY



III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

CALFRESH AWARENESS AND ENROLLMENT

Marin County

In 2011, Marin County convened a CalFresh collaborative to address the low penetration of CalFresh enrollment in Marin, as Marin has one of the lowest in the state. The collaborative convened representatives from the local food bank; the director of Health and Human Services and Social Services; policy analysts; Community Health and Prevention staff; Women, Infants, and Children (WIC) staff, and Epidemiology Program staff. A data presentation on food insecurity, food stamp gaps, and needs in Marin was provided by the epidemiologists.

In 2012, as a direct outcome of the collaborative, a CalFresh application assister was hired by the Division of Social Services, and located at the WIC office to assist WIC clients with completing CalFresh applications. It was clear from this pilot that the assister was able to effectively reach CalFresh eligible families, dispel myths about the program, and be a friendly and accessible face of the program.

Later in 2012, the recently convened Marin Food Policy Council chose CalFresh enrollment as a program goal and explored opportunities to support CalFresh outreach and enrollment activities and the systems and policy changes that were required to make an impact on this issue. The council drafted a resolution to the

board of supervisors recognizing May as Marin's first ever CalFresh Awareness Month, and supported a range of awareness activities for the month, including:

- Coordinating a CalFresh application assister training in which 30 community-based application assisters were trained to complete CalFresh applications. These CBO staff are now poised to do outreach and enrollment in the community and can better address myths about the program.
- Developing a plan for a community advisory board comprised of low-income residents to guide healthcare reform and other public assistance enrollment efforts, including CalFresh.
- Strengthening CalFresh outreach and promotion materials. These materials include a CalFresh insert that was printed in English and Spanish and was distributed in the *Sunday Marin Independent Journal* and will be available for future community events. They also produced a CalFresh video.
- Coordinating Marin's first CalFresh in a Day outreach event, in which applicants bring their applications and are certified as eligible on the same day.

EXPANDING ACCEPTANCE OF CALFRESH

Santa Clara County Public Health Department

Increasing access to farmers' markets and community-supported agriculture projects in communities can promote the consumption of fruits and vegetables. However, since low-income residents must often purchase food with CalFresh Electronic Benefits Transfer/Food Stamps, access may be limited if farmers' markets do not accept CalFresh. To promote increased access to healthy foods and beverages among low-income families, the Santa Clara County Public Health Department (SCCPHD) worked with farmers' markets, farmers' market associations, city officials, and a local coalition of stakeholders to increase acceptance of CalFresh at farmers' markets. The work was supported by a Center for Disease Control and Prevention Communities Putting Prevention to Work grant. SCCPHD staff provided one-on-one guidance to the cities, towns, farmers' markets, and farmers' market associations on the application process to offer CalFresh, as well as on building community support and utilizing marketing materials to promote the use of markets by low-income families. Since the work began, ten markets have completed the application to accept CalFresh, obtained a wireless point-of-sale machine, and promoted CalFresh acceptance. Farmers' markets that successfully implemented market acceptance of CalFresh were in locations of the county with high populations of low-income residents. Through partnerships with local cities and farmers' markets associations, 23 farmers' markets now accept CalFresh in Santa Clara County.

In addition, The Health Trust (a local foundation) with funds from CPPW and in collaboration with key stakeholders advocated for the adoption of an ordinance streamlining the

process for new certified farmers' markets in the City of San Jose. The ordinance eliminates barriers to San Jose's farmers' market permitting process and creates a requirement that all new farmers' markets accept food assistance benefits, CalFresh and WIC.

Through CPPW funding, SCCPHD also worked with food retailers to apply to the USDA's Restaurant Meals Program. This program allows CalFresh-approved clients that are disabled, homeless, or elderly to purchase prepared meals at participating retailers. SCCPHD and the Santa Clara County Social Services Agency (SSA) identified and prioritized regions in the county to target, providing technical assistance to retailers in completing Restaurant Meals Program (RMP) applications and assisted with marketing efforts. For example, SSA provided a venue for promotion of retailers participating in the RMP on their website and at their monthly Safety Net meetings. As a result, 14 additional restaurant retail locations in Santa Clara County in geographic areas with high need accept CalFresh.

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FOREGOING HEALTH CARE

AS A SOCIAL DETERMINANT OF HEALTH

FOREGOING HEALTH CARE

Delaying or not receiving health care

I. FACTORS ATTRIBUTABLE TO HEALTH

Poverty, unemployment, and a lack of access to health insurance can all affect one's ability to afford personal healthcare costs. For people without health insurance, this lack of healthcare access can seriously affect life stability and mental health as well as physical health outcomes. People without health insurance are more likely to die early and have poor health status. In addition, infectious diseases that go untreated can also increase health risks for the larger community. Uninsured people often postpone getting health care, have difficulty obtaining care when they ultimately seek it, and may have to bear the full brunt of healthcare costs. According to one study, uninsured families can afford to pay for only 12% of hospitalizations that they experience. Even for people with healthcare insurance, high premiums and out-of-pocket payments can be a significant barrier to accessing needed medical treatment and preventive care. Almost 50% of personal bankruptcy filings in the United States are due to medical expenses.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

For a detailed explanation of how to access CHIS data, see Appendix C.

How to Use AskCHIS to Find Information on Foregoing Health Care

STEP 01. Log in to your account.

STEP 02. Pick the geographic area that you want to explore. Choose the Bay Area Regional Health Inequities Initiative (BARHII) region—all the Bay Area counties plus Santa Cruz County. When you are finished, press the "Select" button.

STEP 03. To find those who delayed medical care, choose "Access & Utilization." Under that, choose "Delay of Care." The topics available for "Delay of Care" will populate on the right side of the page. Select the first topic, "Delayed or didn't get other medical care."

STEP 04. The next page asks you to compare by other groups or conditions. For now we are skipping comparing, so we press the "Population" button at the top. Here you can choose to limit the data by age, race/ethnicity, gender, and/or federal poverty level factor for the household. We limit to adults under 65 years only by entering 18 and 64 in the age boxes. When ready, press the green button, "Get Results." The results are displayed for the most recent year the data are available. In this case, the data display for 2011–2012. The result is that 15.2% of adults delayed or didn't get medical care.

STEP 05. We can further refine this by pooling together multiple years. To do this, hover over "Time Period" and click "Pool Data Together" and choose the years you want. In this case we chose 2009 and 2011–2012. The results are again displayed, this time showing 15.7% of adults delayed or didn't get medical care.

Other indicators available in AskCHIS include "Delayed or didn't get prescription medicine" and from 2001, the reasons that health care or medications were delayed.

III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

PRESCRIPTION DRUG DISCOUNT CARD

Napa County Public Health Department

In 2009, Napa County Public Health Department helped to launch and promote a prescription drug discount card under a program sponsored by the National Association of Counties (NACo). The program helps consumers cope with the high cost of prescription drugs by offering an average of 22% off retail prices of commonly prescribed drugs.

All Napa County residents, regardless of age, immigration status, income, or existing health coverage, may use the prescription discount card. There is no enrollment form, no membership fee, and no restrictions or limits on frequency of use. Cardholders and their families may use the card any time their prescriptions are not covered by insurance.

Napa County Public Health Department targeted promotion efforts to uninsured and underinsured residents of the county by holding information sessions with groups representing senior citizens, such as the local chapter of American Association of Retired Persons; providing outreach materials to all programs within the Health and Human Services Agency and to local non-profits serving indigent and other at-risk populations; and through information distributed to the local news media.

HEALTHY SAN FRANCISCO

San Francisco County Department of Public Health

Launched in 2007, Healthy San Francisco (HSF) is a program designed to make healthcare services available and affordable to uninsured San Francisco residents. Operated by the San Francisco Department of Public Health, HSF is available to all San Francisco residents regardless of immigration status, employment status, or pre-existing medical conditions.

The program currently provides health coverage to over 50,000 uninsured San Francisco residents.

HSF was launched after the passage of the Health Care Security Ordinance, which required employers with 20 or more employees to satisfy an employer spending requirement in one of three ways: 1) make payments for health, dental, and/or vision insurance for employees; 2) contribute to a city option; or 3) make contributions to programs that reimburse employees for out-of-pocket health care costs.

Employees of employers that contribute to the city option and who meet program eligibility requirements are invited to apply for HSF. Employees who are not eligible for HSF are assigned medical reimbursement accounts to pay for out-of-pocket medical expenses. While Healthy San Francisco provides basic and ongoing medical care, the program is not health insurance. Therefore, if employers offer health insurance they should not drop it. People who qualify for Healthy San Francisco include the following:

- A San Francisco resident.
- Uninsured for the last 90 days.
- Not eligible for public insurance programs such as Medi-Cal or Healthy Families.
- Between the ages of 18 and 64 years.
- Living within program income guidelines.

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VIOLENT CRIME

AS A SOCIAL DETERMINANT OF HEALTH

VIOLENT CRIME
Violent crime rate

I. FACTORS ATTRIBUTABLE TO HEALTH

Violent crime is a public issue that affects everyone's health. In addition to contributing to death and disability, violence exacerbates various chronic diseases by inducing stress and fear. Constant stress and fear evoke unhealthy physical responses (e.g., high blood pressure), confine residents to their homes eliminating the health benefits of physical activity, and prohibit commuting via walking or bicycling to jobs, goods, and services. In addition, residents in high-crime areas mistrust neighbors and public institutions, leading to further social disintegration, which perpetuates further violence and stifles economic development.

Poverty and educational attainment are significantly associated with violence as measured through violent intentional injuries. As in the introduction, those with low educational attainment or who live in high-poverty neighborhoods suffer a high burden of fatal, intentional injuries. Upstream policies and programs that reduce poverty, increase educational attainment, and improve other SDOHs can also reduce violent crime.

Traditionally, health and law enforcement institutions have acted independently in their responses to violent crime despite the interconnectedness of its causes and consequences. Public health essential services, in partnership with community stakeholders, can integrate these historically separate downstream and upstream services into a holistic approach to prevent violence.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

Note to LHDs in California: The California Department of Public Health's Healthy Community Indicators (HCI) project has already collected, cleaned, and compiled these data from the Uniform Crime Reports for communities in California, which can be found at http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx. Appendix D explains how to download and filter these data. Counties outside of California can acquire the data from Uniform Crime Reports.

Uniform Crime Reports (UCR) is a nationwide, cooperative statistical effort of nearly 18,000 city, university and college, county, state, tribal, and federal law enforcement agencies that voluntarily report data on crimes discovered by police and those reported to the police by the general public. The Federal Bureau of Investigation compiles these reports in a standard format annually. Four types of major crimes fall into the category of violent crimes: 1) murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault. These tend to be more reliably reported than other less serious crimes, but underreporting has been well documented. Crime data are based on incidents that are reported to law enforcement agencies.

Furthermore, these data do not reflect crime in unincorporated areas or reported by special law enforcement agencies, such as transit or port authority law enforcement agencies. Limitations in the use of these data are detailed at http://www.fbi.gov/about-us/cjis/ucr/ucr-statistics-their-proper-use.

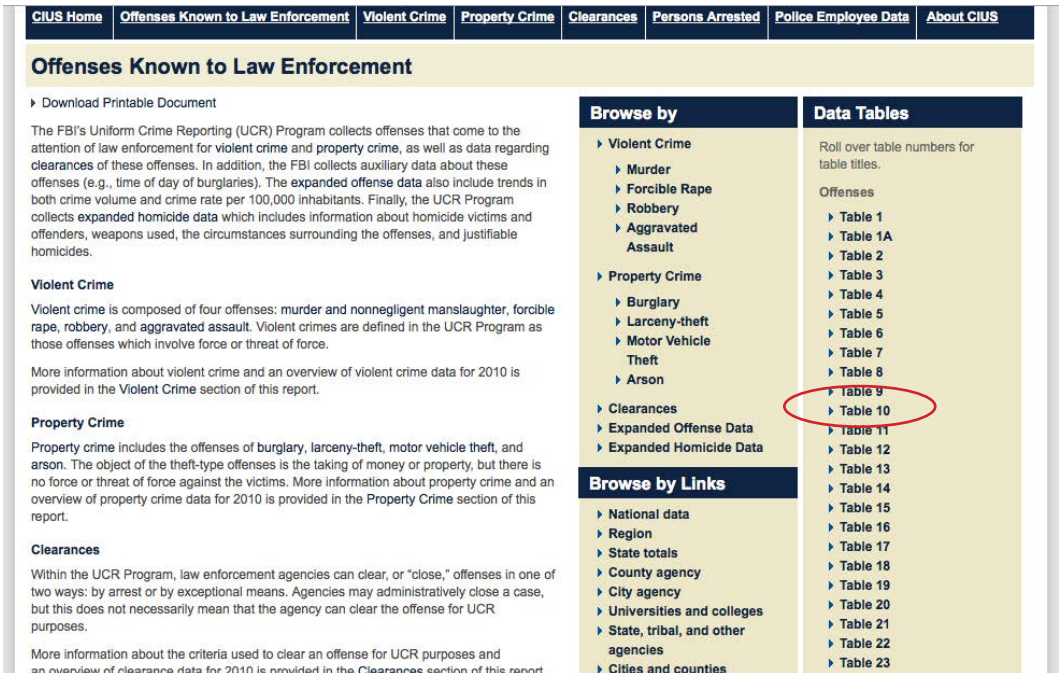
While there are limitations to the UCR, they are freely available and easy to analyze. The procedure below shows how to download and analyze the UCR. These steps will enable a health department to prioritize partnerships with local law enforcement agencies and other community groups. For organizations in California, the California Department of Public Health Healthy Community Indicators project has already cleaned and compiled UCR data for all places in California that report to the UCR.

STEP 01. Download the table "Offenses Known to Law Enforcement" by state and city (table 8) in an Excel spreadsheet for the most recent year (2011 at the time of printing) from the FBI website http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s.

First click on the year of interest:

Then, click on "Offenses Known to Law Enforcement."

Then, click on Table 8, and click on California. There is a link that says "Download Excel."



STEP 02. Obtain the total number of people living in your county/region from the 2010 Census. For the Bay Area, 7,391,453 people in 2010.

STEP 03. Identify the cities in your county/region

STEP 04. From the downloaded spreadsheet in Step 01, calculate the following statistics based on the variables in the UCR "violentcrime" and "population."

A. Violent crime rate per 1,000 residents

$$\text{Rate} = \frac{\textit{violent crime}}{\textit{population}} * 1000$$

B. Standard error, Poisson distribution (SE)

$$\text{SE} = \frac{\sqrt{\textit{violent crime}}}{\textit{Population}}$$

C. Lower 95% confidence limit

$$\text{LL\_95CL} = \text{Rate} - (1.96 * \text{SE})$$

D. Upper 95% confidence limit

$$\text{UL\_95CL} = \text{Rate} + (1.96 * \text{SE})$$

E. Relative standard error (RSE)

$$\text{RSE} = \frac{\textit{SE}}{\textit{Rate}}$$

STEP 05. Sort the spreadsheet to rank from highest to lowest for each city's violent crime rate per 1,000 inhabitants in your jurisdiction.

STEP 06. Calculate a cumulative total or running total of the population.

STEP 07. Identify the cities with the highest rate of crime and whose cumulative population approaches 10% of the jurisdictions' population. (This 10% cutoff is arbitrary, but

	A	B	C	D	E	F	G	H	I
1	City	violentcrime	population	cumulative total	ratex1000	LL_95CI	UL_95CI	se	rse
2	Oakland	6267	409723	409723	15.2957	14.917	15.6744	0.193214	1.263194
3	Emeryville	128	10207	419930	12.54041	10.3679	14.71293	1.108426	8.838835
4	Richmond	1176	103442	523372	11.36869	10.71891	12.01846	0.331518	2.916059
5	Antioch	864	102125	625497	8.46022	7.896088	9.024352	0.287823	3.402069
6	East Palo Alto	271	34294	659791	7.902257	6.961402	8.843112	0.480028	6.074567
7	San Pablo	241	31122	690913	7.743718	6.766037	8.721399	0.498817	6.441566
8	Vallejo	822	114258	805171	7.194245	6.702426	7.686064	0.250928	3.487901
9	San Francisco	5747	818594	1623765	7.020574	6.839061	7.202087	0.092609	1.319105
10	El Cerrito	134	22263	1646028	6.018955	4.999836	7.038074	0.519959	8.638684
11	Colma	8	1456	1647484	5.494505	1.687007	9.302004	1.942601	35.35534
12	Berkeley	533	102700	1750184	5.189873	4.749269	5.630478	0.224798	4.331481
13	Santa Rosa	767	158182	1908366	4.848845	4.505685	5.192005	0.175082	3.610791
14	Fairfield	502	104202	2012568	4.817566	4.39613	5.239002	0.215018	4.463218
15	Cotati	35	7306	2019874	4.790583	3.203461	6.377705	0.809756	16.90309
16	Concord	551	122119	2141993	4.511992	4.135246	4.888738	0.192217	4.260143

it serves as a good starting point for analysis absent other methods.) Health departments should routinely monitor those cities and approach law enforcement and other community organizations for long-term violence prevention interventions. Using this method for the Bay Area, the cities of Oakland, Emeryville, Richmond, Antioch, East Palo Alto, and San Pablo (highlighted in yellow) would serve as priority cities.

STEP 08. Consider excluding the places identified in Step 07 with fewer than ten violent crimes per year, a low population, a wide 95% confidence interval and/or a relative standard of error (variable: RSE) >30%. A jurisdiction's crime rate and population that meet any of these criteria are considered unstable and should be interpreted with caution. For example, the City of Colma, although its violent crime rate places in the top ten in the Bay Area, meets all of the unstable data criteria.

STEP 09. For each priority city, download UCRs from previous years (Step 01) and construct a trend graph showing changes in violent crime over time.

STEP 10. Identify the priority cities with no decrease or little increase in violent crime over time. Based on these criteria, the cities of Antioch and Richmond should be prioritized for further health department, law enforcement, and other stakeholder interventions if they are not already.

STEP 11. Identify local agencies and institutions in the priority cities (step 7) for potential partnership.

FIGURE 25: RATE OF VIOLENT CRIME, ANTIOCH, 2006 TO 2010

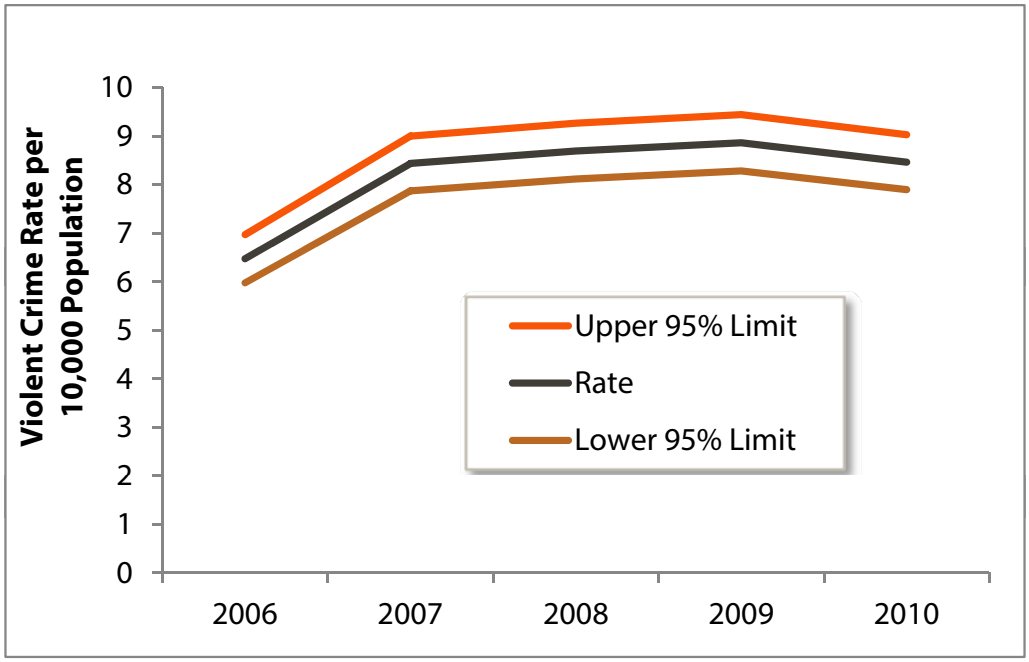


FIGURE 26: RATE OF VIOLENT CRIME, EAST PALO ALTO, 2006 TO 2010

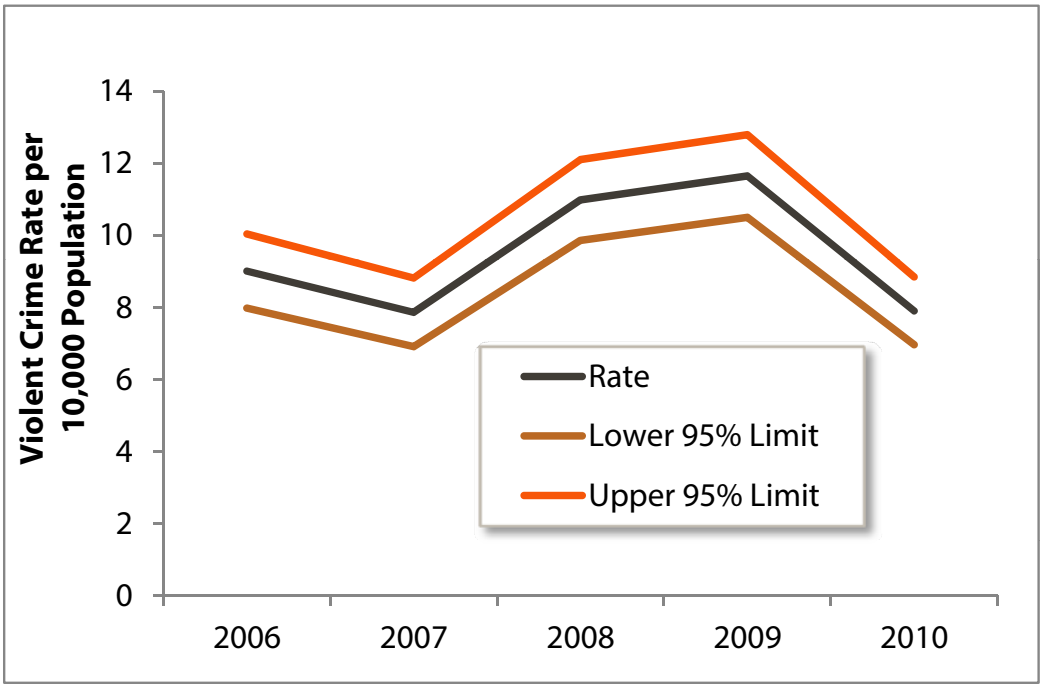


FIGURE 27: RATE OF VIOLENT CRIME, EMERYVILLE, 2006 TO 2010

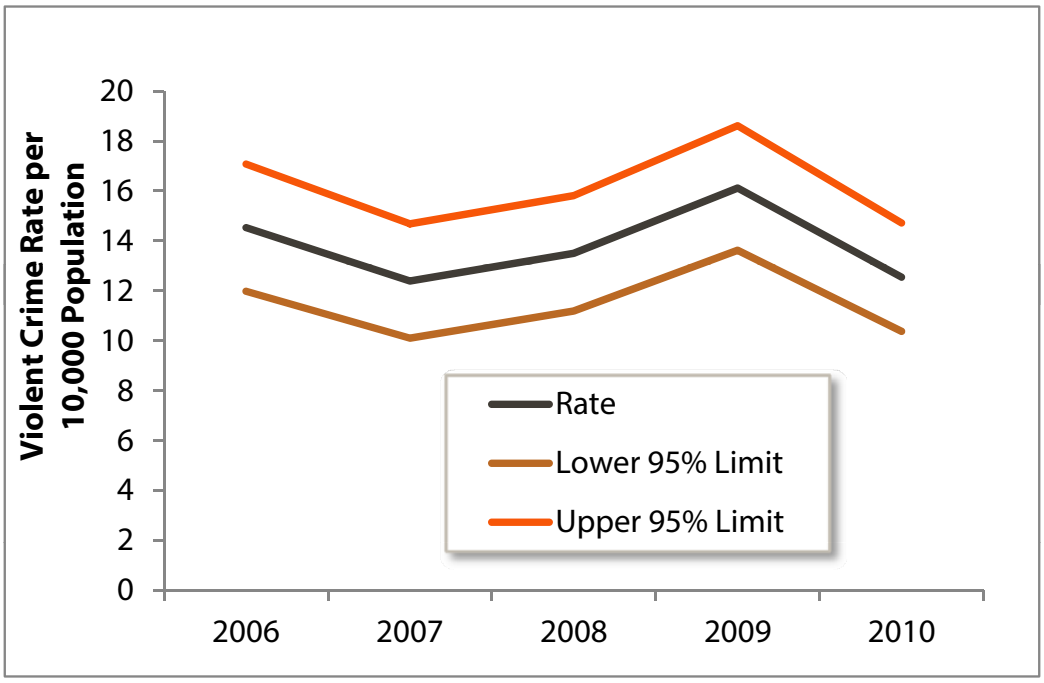


FIGURE 28: RATE OF VIOLENT CRIME, OAKLAND, 2006 TO 2010

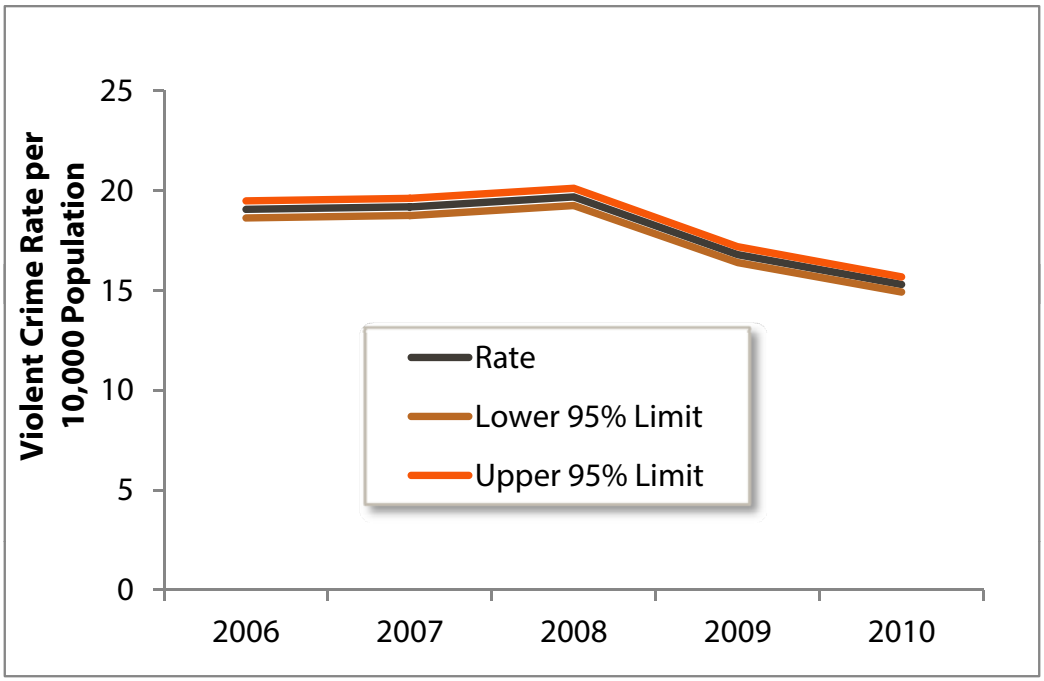


FIGURE 29: RATE OF VIOLENT CRIME, RICHMOND, 2006 TO 2010

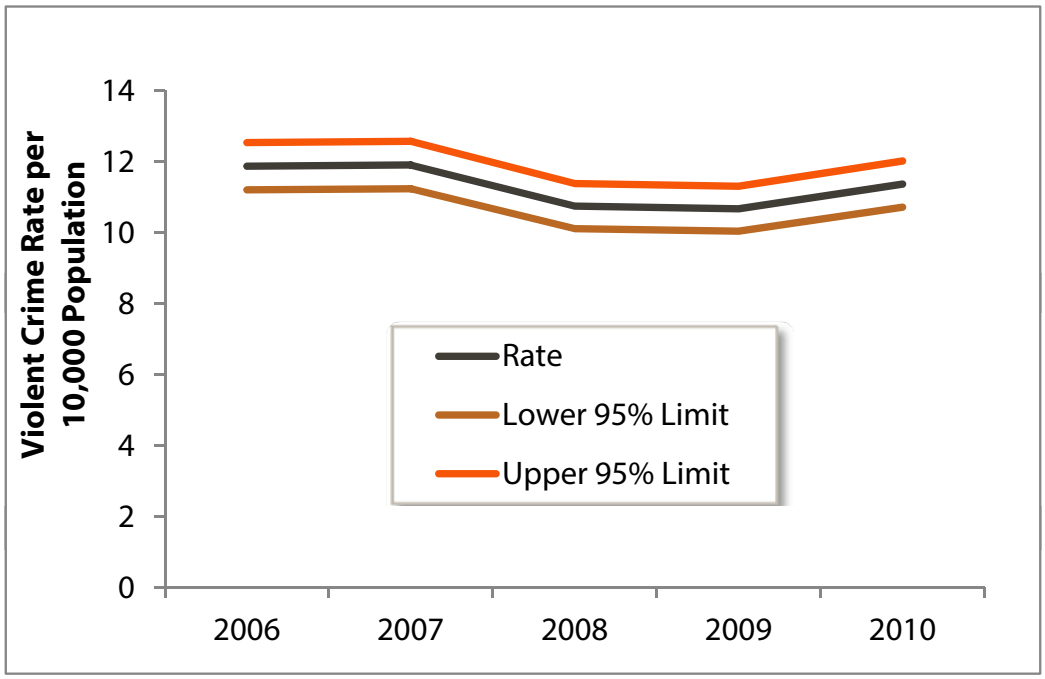
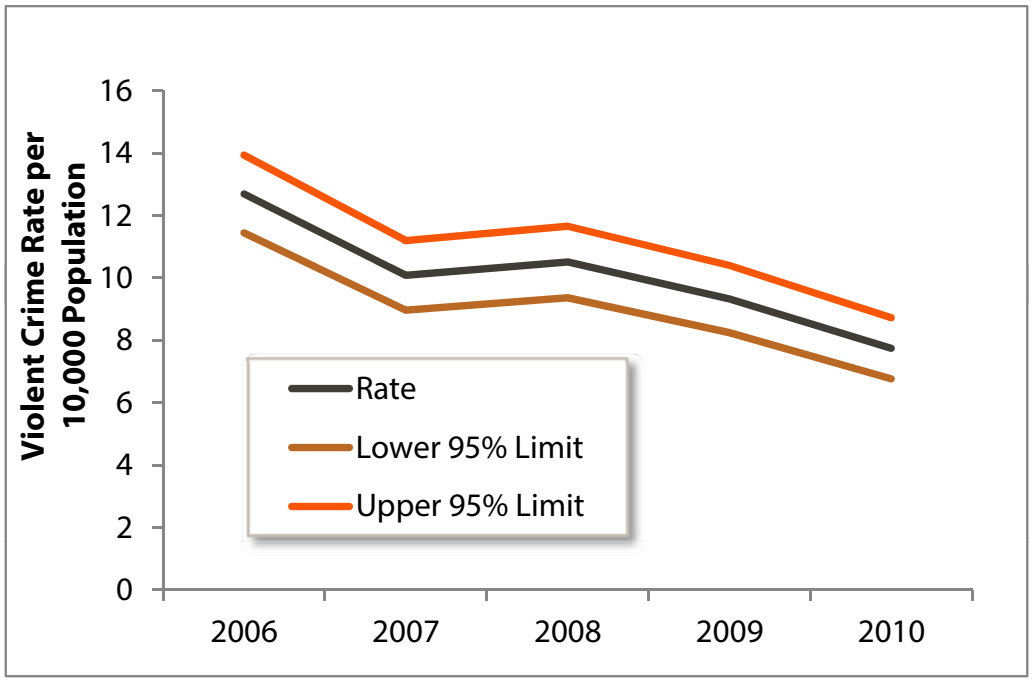


FIGURE 30: RATE OF VIOLENT CRIME, SAN PABLO, 2006 TO 2010



III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

EAST PALO ALTO FIT ZONE PROJECT

San Mateo County Health Department

Use of indicators and other data obtained through interagency cooperation has been crucial to the success of the East Palo Alto Fit Zone project. East Palo Alto is identified as a priority city in the Bay Area by the UCRs. The UCRs cannot, however, identify where within the city to plan interventions. Consequently, cooperation between community, law enforcement, and health agencies is needed to identify the high-crime areas to best direct resources.

Through this cooperation, the San Mateo County Health Department obtained and analyzed gunshot time and location data provided by the East Palo Alto Police Department's shot-spotter system. This analysis—combined with disease prevalence data from the Ravenswood Family Health Center and a survey conducted by the UC Berkeley Center for Law and Social Policy—identified two neighborhoods for Fit Zone activities. These activities, funded by the California Endowment, include police officers leading fitness classes, field games, and bike rides as they provide security in the Fit Zones. In addition, health navigators from the Ravenswood clinic educate parents on site about nutrition and other healthy behaviors.

While this project is only in its ninth month at the time of this writing, preliminary results are encouraging. The frequency of gun shots in the Fit Zones have declined, police officers report more positive interactions with youth, and residents have more opportunities for physical activity and health education. Furthermore, the project is partnering with community organizations to identify Fit Zone residents who can eventually lead activities.

The project has its challenges, and questions about its long-term effectiveness and sustainability exist. Nevertheless, the East Palo Alto Fit Zone Project is a promising real-world example of how interagency collaboration and the health department's application of at least one essential service "diagnose and investigate" led to an innovative intervention to improve social cohesion, address violence, and promote physical activity.

INNOVATIONS IN REENTRY

Alameda County Public Health Department

Access to employment, housing, and healthcare resources for people reentering our communities from the criminal justice system can make a big impact on their health and the health of our communities. It can also reduce recidivism, or the likelihood that someone will return to the criminal justice system. Because supporting successful reentry is critical

to the health of communities in Alameda County, the Alameda County Community Corrections Partnership Executive Committee provided approximately two million dollars to support innovative approaches to reentry in 2013.

Staff from the Alameda County Public Health Department's Place Matters Criminal Justice team are managing the funding process and the launch of Innovations in Reentry. This is a pilot grant program designed to spur innovative approaches to addressing the needs of the adult reentry population and reducing recidivism in Alameda County. The nine inaugural grantees are implementing programs in vocational training and entrepreneurship, mentoring, fair chance employment, and disease management.

While grantees may focus on services or policy, this project is an opportunity to advance criminal justice policy goals and influence larger criminal justice-related funding decisions.

For additional information on funded programs, visit http://www.innovationsinreentry.org/Grantee-Profiles.

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EDUCATIONAL ATTAINMENT

AS A SOCIAL DETERMINANT OF HEALTH

EDUCATIONAL ATTAINMENT

Percentage with high school education or more

I. FACTORS ATTRIBUTABLE TO HEALTH

Education is linked to health outcomes in many ways. It provides individuals with knowledge and cognitive abilities to make healthier behavioral choices. It often leads to increased employment at higher income levels and in safer, healthier working conditions. It also provides social and psychological benefits, which increase problem-solving skills, teamwork, internal locus of control, social support, and other life skills that help people navigate risks and provide a foundation for improved health outcomes over a lifetime. Despite the complexity of the multiple factors that link education to health, staying in school to graduate is one of the strongest predictors of health, regardless of the school environment or the quality of the education. For these reasons, the high school graduation rate was chosen to best represent the effect of educational attainment as a SDOH.

Research demonstrates that educational attainment level is linked to a variety of health outcomes. Individuals without a high school diploma not only have higher incidences of risk behaviors (e.g., smoking, drinking), chronic disease (e.g., obesity, cancer, heart disease, diabetes), and other negative health outcomes (e.g., infant mortality), but they also have higher mortality rates and shorter lifespans compared with high school graduates. Health burdens due to low educational attainment disproportionately influence African Americans/Blacks, Hispanic/Latinos, and other race/ethnicities who are negatively affected by high dropout rates and the educational achievement gap. It is estimated that approximately 245,000 (10%) of the 2.4 million U.S. deaths in 2000 were attributable to low education. The mortality rates of high school dropouts 25 to 64 years are more than twice as high as those with some college education.

High school graduates earn more money than those with a general education degree (GED) or the same number of years of schooling but no diploma, which can lead to more access to resources and healthier work and living conditions. Earning a higher income provides the ability to purchase health care, have access to better housing and schooling, and engage in recreational activities, resulting in a better quality of life.

The causal relationship between education and health goes in both directions. For example, the mental and physical health of students and their families are major factors that affect the ability of children to learn and graduate. Studies show that children in poor health miss more days of school, have a higher likelihood of dropping out, and are more likely to become unhealthy adults. Some of the factors leading to school dropout are directly related to socioeconomic status. For example, students who work more than 20 hours a week to support their family, have low English-language proficiency, or who otherwise lack social or parental support are more likely to drop out than their peers.

In addition, because most public schools in the United States are funded by the assessed value of property (property taxes), schools in poorer communities often do not have the same resources to maintain a school climate that is as healthy and as conducive to learning as wealthier communities. Wealthier communities are able to provide other essential components of a healthy school climate beyond teachers and schools supplies, which include healthy food, opportunities for physical activity, and psycho-social support services. To be able to achieve academic success, students need to feed their brains and bodies with nutritious food options at school. Since many students consume more than half of their meals at school, it is essential that healthy options are readily available. When children consume healthy diets, optimal growth and development are promoted. When they eat a healthy breakfast, the associated benefits are improved mood, cognitive functioning, memory, and reduced absenteeism. A positive school climate has also been linked to students having a stake in caring for the school, as well as fewer behavioral and emotional challenges in students. This is because a positive school climate includes established norms and expectations that enable students to feel physically and emotionally safe and supported by those in their environment.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

The methods to download data from the American Community Survey are in Appendix B. Census tracts with low educational attainment are identified using the Jenks natural breaks method in the map below. For example, this method identifies with red Census tracts in the city of San Pablo (Contra Costa County) as having low educational attainment. Therefore, this area should be designated as a priority area for further public health monitoring. The chart following shows changes in educational attainment for this city over time compared with the Bay Area. Trend analysis was conducted for San Pablo with the lowest overall educational attainment. From 2000 to 2007, the city experienced an increase in educational attainment, but returned to its 2000 level from 2007 to 2010. These changes are not statistically significant.

FIGURE 31: EDUCATIONAL ATTAINMENT, BARHII REGION, 2006–2010

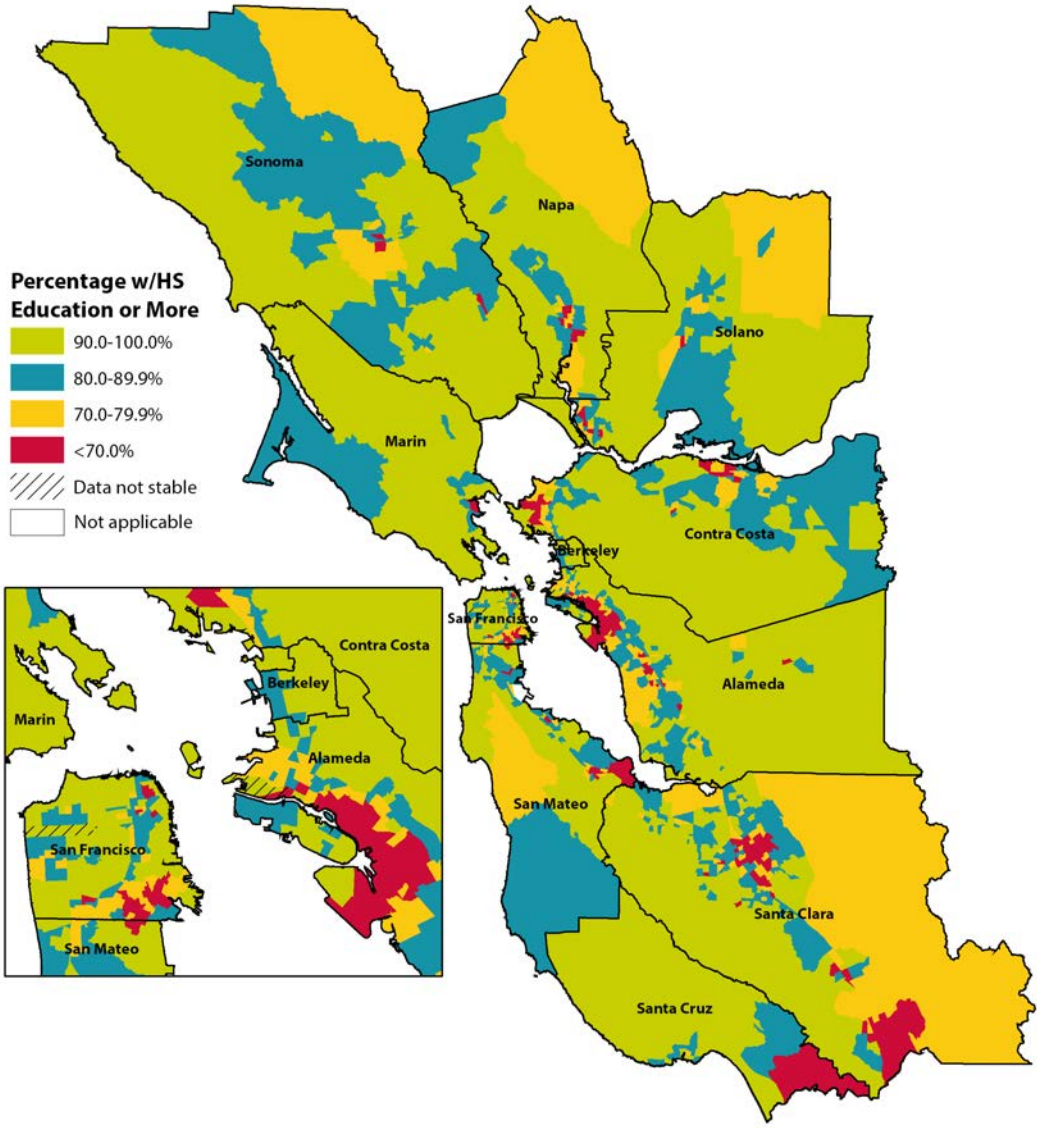
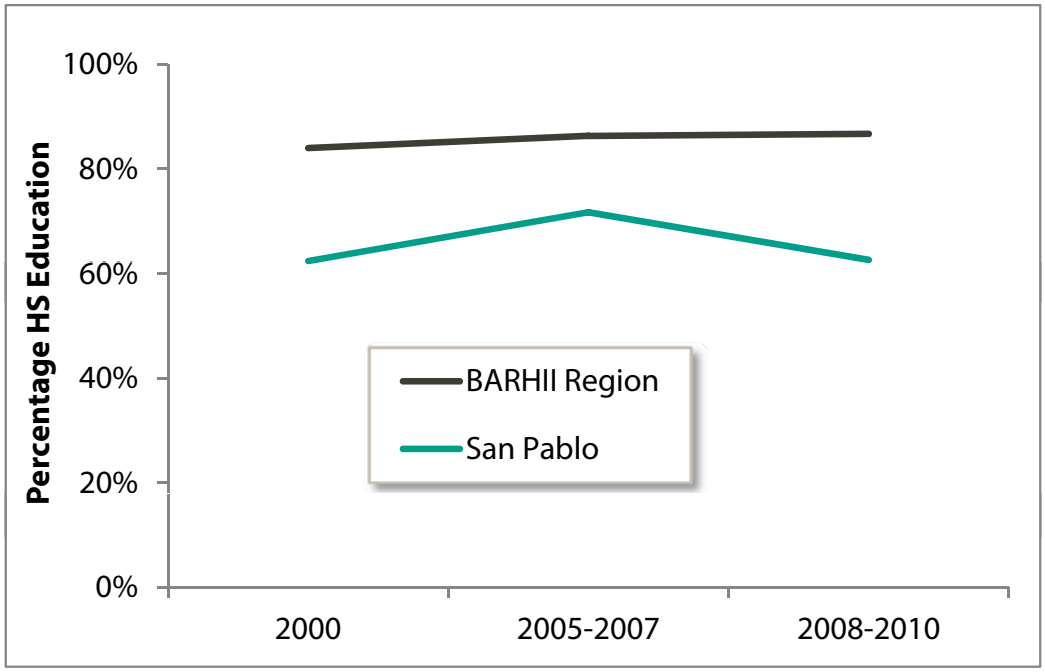


FIGURE 32: EDUCATIONAL ATTAINMENT, BARHII REGION AND SAN PABLO, 2000 TO 2008–2010



III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

CARECOACHING MODEL FOR THE SOBRANTE PARK YOUTH ACTION PROJECT

Alameda County Public Health Department

The CareCoaching 4 Sobrante Park Youth (SPY)–Action Project began in 2010 in response to the 60% high school graduation rate in Oakland Unified School District. The project addresses discriminatory beliefs, institutional power, social inequities, and risk factors as a way to encourage and promote educational attainment. In addition to the Bay Area Regional Health Inequities Initiative framework, project staff used several proven models to create an appropriate mix of services to meet the needs of the youth and implemented a program with four components: (1) care coaching—an intensive, one-on-one approach to assist youth participations with academic and social prerequisites for graduation and post-graduate plans; (2) skill-building educational workshops; (3) community engagement and positive role modeling; and (4) educational field trips. These services motivate youth to focus on their future and to ensure that they have the tools to successfully complete the program, earn their high school diploma, and create a plan to enter college or a vocational training program after high school.

Results of the project are encouraging. Five seniors who participated in the program all graduated high school and have a clear plan for after high school. Furthermore, 11 lowerclassmen identified a career that interests them through the intensive care coaching and workshops that were provided.

Since 2013, the Alameda County Public Health Department has leveraged lessons learned from the project and other youth interventions and brought economic development resources to expand and replicate the CareCoaching model countywide. For example, to provide psycho-social support, the project added a mental health specialist. Each youth is assessed by this specialist to identify psycho-social needs and offer appropriate support. In addition, the project supports the participant through continuous meetings with their principal, teachers, and family to develop, implement, and monitor plans to ensure well-being and academic achievement. The project is currently being piloted at the East Oakland Boxing Association, which helps Oakland youth achieve success in school, learn life skills, and build self-esteem in preparation for their future.

ASTHMA START TRUANCY COURT CASE MANAGEMENT

Alameda County Public Health Department

Chronic health conditions, especially asthma, often contribute to chronic absenteeism among students. The ACPHD Place Matters Criminal Justice Workgroup, the ACPHD Chronic Disease Program, and the Alameda County District Attorney's Office created a case management component for the Alameda County truancy court—a court where the prosecutor, judge, and case managers work with parents of chronically absent children to improve school attendance. A process is now in place where judges can refer families with chronic disease issues to the county's chronic disease program for case management. This has improved attendance. Asthma Start and partners are now exploring partnerships with local school districts to address truancy problems related to chronic disease earlier through a new project, Addressing Chronic Absenteeism. This effort aims to improve children's health, reduce absenteeism, and improve children's educational outcomes, which are directly linked to long-term health outcomes. For more information, visit http://www.acphd.org/asthma.aspx.

EQUITY-BASED SCHOOL BUDGETING HEALTH IMPACT ASSESSMENT

Alameda County Public Health Department

With funding from the W.K. Kellogg Foundation, ACPHD staff from Place Matters, the City–County Neighborhood Initiative, and the Community Assessment, Planning, and Evaluation (CAPE) Unit conducted a health impact assessment (HIA) on funding formulas for the Oakland Unified School District (OUSD). The HIA specifically looks at how modifying the current results-based budgeting formula to include a weighted student formula would decrease education inequities and the resulting health inequities.

The HIA considers different ways of addressing equity in school funding to improve academic performance through teaching quality, family and student engagement, improving

access to health and support services at schools, and providing safer school environments. Staff presented this information to OUSD stakeholders, parents, and caregivers in the Oakland Housing Authority's leadership program. They also provided the information to organizations that worked on passing a weighted student formula at for the state of California, which was successful in July 2013. For more on this HIA, visit http://www.acphd.org/social-and-health-equity/policy-change/place-matters/workgroups/education.aspx or http://www.healthimpactproject.org/resources/body/Brandon-ACPHD.pdf.

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VOTER PARTICIPATION

AS A SOCIAL DETERMINANT OF HEALTH

VOTER PARTICIPATION

Voter registration and participation rates

I. FACTORS ATTRIBUTABLE TO HEALTH: VOTER PARTICIPATION

Political participation can be associated with the health of a community through two possible mechanisms: through the implementation of social policies or as an indirect measure of social capital. Political participation is directly related to the socioeconomic status and other demographic characteristics of individuals, with lower levels of participation observed in people with low income and low education levels. Disparities in political participation across socioeconomic groups matters for political outcomes; additionally, the resulting policies could have an impact on the opportunities available to the poor to live a healthy life. Lower representation of poorer voters could result in reductions of social programs aimed toward supporting disadvantaged groups.

Although there is no direct evidentiary connection between voter registration or participation and health, there is evidence that populations with higher levels of political participation also have greater social capital. Social capital refers to the existence of trust and mutual aid among the members of a society and high participation of its members in civic associations. There is evidence of a positive association between social capital and lower mortality rates and higher self-assessed health ratings. This linked knowledge allows inferring that there could be more favorable public health outcomes in populations with higher political participation.

There are multiple measures of social capital including participation, reciprocity, trust, and social support systems. Multiple studies have found that higher social capital, regardless of measure, consistently increases the odds of self-reported good health and other favorable health outcomes. In one study, the likelihood of mortality was more than double among people who lacked social and community ties (low social capital), after adjusting for age and self-reported health status and practices. Levels of political participation are negatively correlated with levels of mistrust, which is an indication of depletion in social capital. Certain social and health outcomes among African Americans/Blacks—like the graduation rates and suspension rates of students and infant mortality rates—were found negatively correlated with minority diversity by state in the United States, which could be related to lack of political support for policies that support minorities.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

California

Note to LHDs in California: The California Department of Public Health's Healthy Communities Data and Indicator (HCI) project has already collected, cleaned, and compiled these data for this indicator for California, which can be found at http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx. For instructions on how to download and filter data from the HCI,

see Appendix D. For jurisdictions outside of California, it is possible to obtain voter registration and participation data from the local registrar of voters or secretary of state.

Areas Outside California

To determine voter registration rates, these data can be geocoded and compared to Census 2010 data, which has the population 18 years and older by geographic area. One limitation of this method is that the data are not adjusted for non-citizens, felons in prison, and supervised felon parolees. For California, these categories make up 15.8% of the voting age population. One way to adjust for felons in prison would be to subtract out those persons in correctional institutions, available in Census 2010. These data are not available in the American Community Survey.

To calculate voter participation rates, the data are more straightforward. The data from the registrar of voters has the information on whether individuals voted in the last, and sometimes previous, election. Geocoded data, then, will include both the numerator and the denominator for the geographic area of interest.

How To Analyze Voter Registration and Participation

Estimates of the number of people who are eligible to vote were obtained from the California Secretary of State's Reports of Registration (15 days prior to a general election) for counties and the state. The eligible population of voters is the number of individuals in the population that are 18 years and older, are citizens and not felons in prisons or supervised felon parolees. Eligible population is obtained by subtracting from population counts published by the California Department of Finance, the population that is 17 years or below, non-citizens, felons in prison, and supervised felon parolees. Complete enumeration data at the Census block level on the number of people 18 years and older who registered to vote and those who voted in the general elections was obtained from the statewide database. Data was aggregated into Census tracts, cities/towns, counties, regions, and the state. Regional estimates of the population eligible to vote were also obtained. Decile rankings of places and relative risk in relation to state average were calculated. Additionally, information on the population 18 years and older or voting age population (VAP) for the state and counties was obtained from the Department of Finance for all years available is included for those interested. Estimates of the VAP for cities/places and Census tracts were obtained from Census 2010.

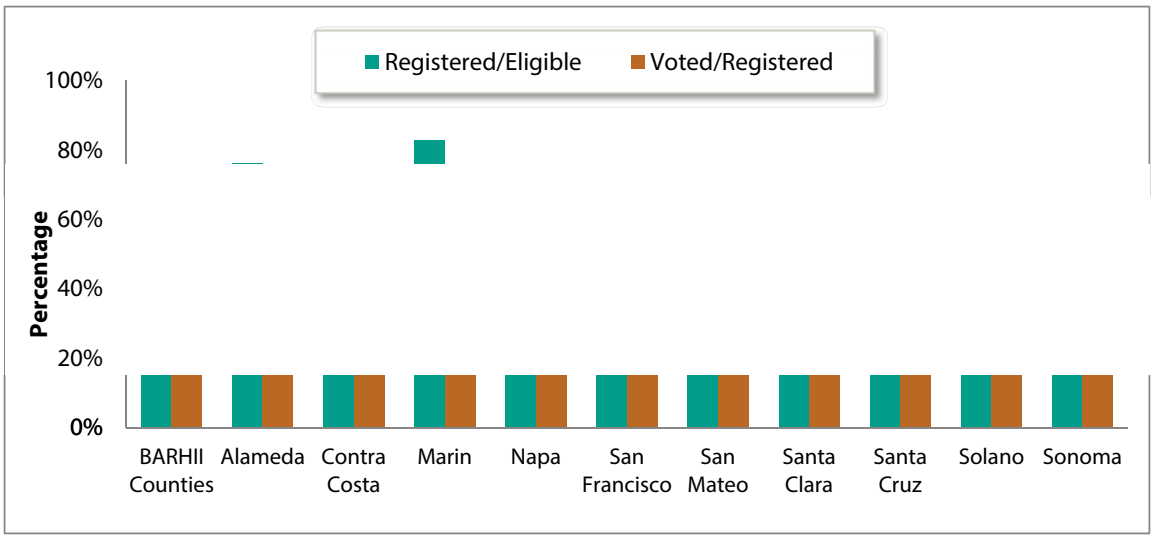
Voter registration is determined using the number of individuals who are eligible to vote and registered to do so. Registered voters can be expressed as a proportion of the eligible population. Voter participation is calculated by assessing the number of individuals who voted in the most re-

cent election among those registered to vote, and can be expressed as a percentage of all registered voters.

EXAMPLE 1: VOTER PARTICIPATION FOR ALL COUNTIES IN BARHII REGION

After downloading and filtering the data downloaded from the HCI project as explained in the note to health departments in California above, the chart below displays percentages of voter participation in BARHII member counties, which include all counties in the Bay Area and Santa Cruz.

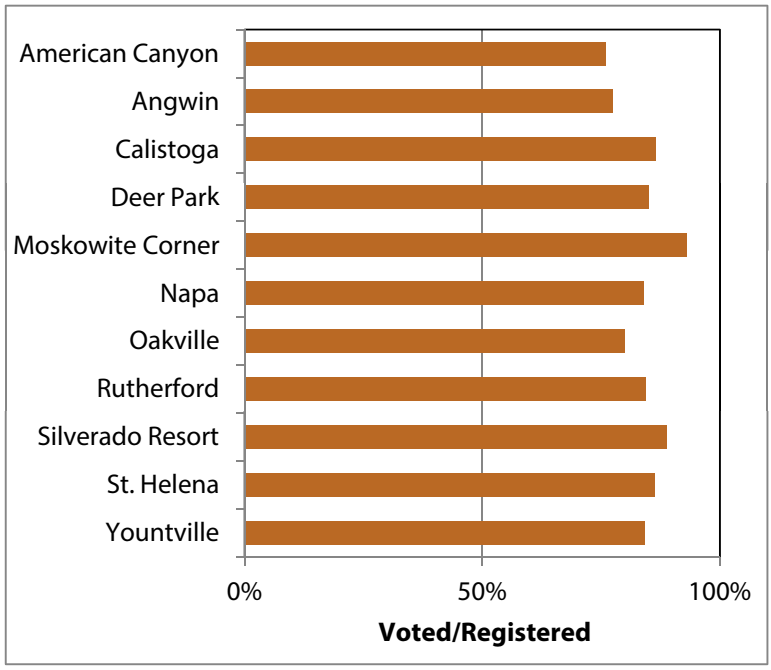
FIGURE 33: VOTER PARTICIPATION, BARHII COUNTIES, 2010



EXAMPLE 2: VOTER PARTICIPATION FOR PLACES WITHIN NAPA COUNTY IN THE 2008 PRESIDENTIAL ELECTION

Figure 34 shows voter participation in places (i.e., towns and cities) in Napa County. These data were downloaded from the same dataset in example one but filtered to display places in Napa County.

FIGURE 34: VOTER PARTICIPATION, NAPA COUNTY CITIES AND PLACES, 2008



III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

THE CITY–COUNTY NEIGHBORHOOD INITIATIVE

Alameda County Public Health Department

The City–County Neighborhood Initiative (CCNI) in the Sobrante Park neighborhood of Oakland is staffed by members of the Alameda County Public Health Department (ACPHD) and the City of Oakland. The CCNI is a community-building effort aimed at empowering the residents. The Sobrante Park Resident Action Council (RAC) made several efforts to encourage voter registration and promote education of issues on the ballot. The RAC went door to door in the neighborhood, handing out 837 voter registration forms. In addition, the RAC held voter education forums with the local League of Women Voters (LWV) chapter. The community also held debates on local issues and a candidate night.

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SOCIAL CAPITAL/ SOCIAL SUPPORT

AS A SOCIAL DETERMINANT OF HEALTH

SOCIAL CAPITAL/SOCIAL SUPPORT

I. FACTORS ATTRIBUTABLE TO HEALTH

"Social capital" refers to those features of social relationships—such as interpersonal trust, norms of reciprocity, and membership of civic organizations—which act as resources for individuals and facilitate collective action for mutual benefit. It refers to the social, non-economic resources available to people through their relationships with others as being part of social groups, networks, or communities. There is no single accepted definition of social capital. Labeling it as "capital" gets at its central idea: that social relations and connections can be a resource to people, separate from the direct control of economic resources (or economic capital). It can be conceived as a characteristic of individuals but is usually considered to be a collective property of communities or groups, which is how it is used here.

Social capital is important to community participation in improving health or eliminating disparities, because it is an important feature allowing collective community action to improve local conditions. It may help communities with few economic resources help each other get by, especially in times of economic downturns or dislocations. Communities with more social capital may have greater capacity to mobilize for social, political, or interpersonal actions to improve their health conditions.

The availability of benefits of social capital to community members might be unevenly distributed through processes of social inclusion or exclusion, including discrimination, in which case that part of the population may be more in need of such mobilization, but possibly less likely to participate and be represented in such actions.

Social capital has long been studied by social scientists who have characterized it in various ways, including its structural, relational, or cognitive dimensions; or bonding (intragroup) or bridging (intergroup) social capital. Social capital (or components of it) can be measured as distributions of individual-level, community, social relational characteristics (e.g., neighborhood trustworthiness or willingness to provide mutual aid), or by community-level, structural indicators like levels of civic organizational capacity or participation. It has become much more widely used as an important social determinant of health in the past decade or so. Health research has commonly measured the relational dimension of social capital, based on the character of social ties: e.g., trust, reciprocity, cooperation, or identification with a group or network.

There are at least three ways in which assessing social capital can be important for monitoring or intervening on conditions affecting health and health inequities:

- As a factor related to health outcomes, either directly or as a moderating or exacerbating factor in the health impacts of other living conditions.

- As a real or potential resource in the capacity to mobilize communities to participate in health interventions on their own behalf.
- As another measure of the social inequities underlying health inequities across different parts of a local health jurisdiction's population.

Social Capital and Social Cohesion

The concept of social cohesion is closely related to social capital—many of the components of social capital mentioned above overlap with components of measures of social cohesion. Cohesion generally refers to the degree of shared commitment to a common task and to the group. The European Organization for Economic Cooperation and Development conceptualizes social capital as related to social inclusion (the extent to which no parts of the population are systematically excluded from access to community resources, often through acts of discrimination) and social mobility (the capacity of members of disadvantaged populations to improve their conditions) in that these three characteristics are needed to produce a socially cohesive society. Social exclusion can make community social capital less available to some parts of the community, or concentrate some excluded groups into communities with less social (and economic) capital. Thus, the distribution of access to social capital is a key component of social and health inequity.

High ratings on measures like trusting neighbors or seeing them as willing to help each other can be interpreted through either a social cohesion lens to mean people feel a common commitment to each other, or through a social capital lens to mean that they are more likely to see others as a resource and potentially to use or work with them for an individual or common purpose.

Social Capital and Social Support

When a person's particular relationships, through their social networks, provide them with one or several individuals who can provide them various kinds of resources, then it is generally referred to as social support. Individuals in communities with low levels of social capital may still get needed personal support through their personal social connections, but may find it difficult to act together as a community on their own behalf to improve conditions.

Social support can include a number of separate dimensions (e.g., emotional, informational, appraisal, or tangible support) that have been found in research to be related to health, including physical health and mortality but most strongly to psychological well-being and social functioning. It is measured by questions asking about the availability to the person of someone to provide the type of support of interest, either in general or in times of need (see the Maternal and Infant Health Assessment questions in Table 4).

Dimensions of individuals' social support (including networks, connections, or isolation) have been measured and found to be associated with increased risk or protection from various physical and mental health outcomes in different populations. Those dimensions include:

- Structure of relationships (e.g., partner, family, friend, co-workers).
- Quality or intensity of relationship (e.g., good or poor, frequent or infrequent, routine interactions or availability in time of need).
- Function of relationship (e.g., positive interactions, relaxation, emotional support, tangible support).

Studies have shown that different components of social support matter differently to the risk of ill health or recovery of different parts of the population (such as men or women, low income or high income, older or younger) or in different contexts (such as for those experiencing stressful life events, job strain, or economic insecurity).

Evidence suggests that social support and social capital might affect health either directly, or through moderating effects on the likelihood that certain conditions (such as low income, job strain, economic insecurity, or other stressful experiences) can produce ill health or influence recovery from it. In addition to its impact on adults, there is evidence that social capital influences the health and well-being of children and adolescents and at least the mental health of the elderly.

The potential impact of social capital has mostly been studied in low-income populations or neighborhoods. In disadvantaged populations with low levels of access to material resources, social capital or social support may be especially important to measure to identify vulnerability or resilience factors. The assessment of community social capital can help identify areas and subpopulations of social exclusion and segregation. This offers the opportunity to improve factors such as trust, capacity, and social connections that, in return, could allow for improving access to existing social resources and for community mobilization to address concerns affecting health.

People's experience of the availability of social capital and social support is an important component of civil society in a democracy. It represents the feeling of being part of a society. That membership can help people find ways to meet their needs in ordinary or unusual circumstances that they cannot manage adequately by themselves with the material resources regularly available to them through family or work. Resources available through public programs may be economic resources, but are also like social capital in that they express (or their absence denies) the public's will to provide resources to its members who are qualified for them.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

There is no single accepted definition of social capital. Because of this and because several components of both social support and social capital have been associated with different health risks or protections in different populations, there are not single, standardized measures of each. There is

also no source of population-wide data for either social capital or social support that is currently regularly available for California or Bay Area counties.

Nevertheless, both collective social capital and individual social support are important enough determinants of health and health inequities to include them here despite the lack of a single defined indicator or population-level data source to recommend, as this guide does for the other SDOH. In this case, we recommend:

(a) Long-term development of a common population-level data source, such as the California Health Interview Survey (CHIS), for social capital measures of community-level resources for social participation or action, and also for the availability to individuals of tangible, social or emotional social support.

(b) Short-term interim use and development of local data sources for information on social capital and social support for all or (especially vulnerable) parts of populations. Useful local sources may be available to cover the whole population periodically (such as CHIS 2003 or CHIS 2011–12), through individual county-level surveys (such as in San Mateo County or Santa Clara County), or for particular subpopulations (such as the MIHA survey of post-partum women or California Healthy Kids Survey (CHKS) surveys of school children).

Other subpopulation data may be available through sources like: public health nursing home visit assessments of social support needs for high-risk pregnant women; local targeted needs assessments; or non-health related community satisfaction or characteristic survey, such as the San Francisco Controller's regular survey of public satisfaction with and participation in community services.

Potential indicators of social capital that could be compared across socioeconomic environments include the number and density of community and voluntary organizations in a defined geographic area, and by the participation level of community members in these organizations. In addition, voter registration and participation can serve as markers for civic engagement and potential for engaging in collective action.

As discussed for indicators throughout this guide, data on social capital or social support should be analyzed by strata for which health inequities are known to exist, including race/ethnicity, income level, jurisdiction or neighborhood, age, and family type (especially single-person and single-parent households).

Some currently available data sources are shown in Table 4.

TABLE 4: DATA SOURCES FOR SOCIAL CAPITAL QUESTIONS

DATA SOURCE (POPULATION LATEST YEARS)	SOCIAL CAPITAL RELATIONSHIP (SOURCE SECTION) QUESTIONS
California Health Interview Survey (CHIS) (Adults, 2011–2012) http://ask.chis.ucla.edu/main/default.asp	Trust (neighborhood, social cohesion section) • People in this neighborhood can be trusted. Reciprocity/cooperation (neighborhood, social cohesion section) • People in my neighborhood are willing to help each other. • You can count on adults in this neighborhood to watch out that children are safe and don't get in trouble. Safety (neighborhood, safety section) • Do you feel safe in your neighborhood? Civic engagement • In the past 12 months, have you done any volunteer work or community service that you have not been paid for? • In the past 12 months, have you served as a volunteer on any local board, council, or organization that deals with community problems? • In the past 12 months, have you gotten together informally with others to deal with community problems?

California Healthy Kids Survey (CHKS) (School children, 2012) http://chks.wested.org/	School, home and peer environment • Developmental supports at school & at home (Caring relationships, high expectations, opportunities for meaningful participation) School connectedness • Scale (at school, feel: close to people; happy; part of school; teachers treat students fairly; safe)
Maternal & Infant Health Assessment (MIHA) (Post-partum Women, 2011, 2012) http://www.cdph.ca.gov/data/surveys/MIHA/Pages/MaternalandInfantHealthAssessment%28MIHA%29survey.aspx	Social support • During your pregnancy, did you have someone you could turn to if you needed practical help, like getting a ride somewhere, or help with shopping or cooking a meal? • During your pregnancy, did you have someone you could turn to if you needed someone to comfort or listen to you?
Voter Registration and Participation (See the chapter on voter registration and participation in this guide.)	Voter registration and participation • Percent registered/eligible • Percent voted in the last presidential election/registered

III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

Several existing local health-related programs involve building social capital and social support. Emergency preparedness builds on or tries to build up social cohesion so it is a resource (social capital) that can be mobilized in emergencies through neighborhood teams and other aspects of volunteering and providing mutual assistance. Public health nurses in home visits to high-risk pregnant women assess their level of social support or isolation and try to connect those in need to community resources. Black Infant Health (BIH) has recently moved to a group-based model of participation, partly to improve the level of interpersonal and community connections of participants. The CenteringPregnancy model provides group prenatal care, which promotes participants' becoming interpersonal resources for each other both during and after the life of the group. The below example explicitly addresses neighborhood social capital.

CITY–COUNTY NEIGHBORHOOD INITIATIVE (CCNI)

Alameda County Public Health Department

In 2003, the Oakland CCNI was formed as a partnership between the Alameda County Public Health Department, the City of Oakland, and a broad range of community-based organizations and neighborhood resident groups. The initiative's long-term goal is to fight health inequities in two low-income areas of Oakland, California. CCNI partners include resident groups, community-based organizations, faith-based organizations, educational institutions, and the Oakland Unified School District. Using a community resident engagement approach, public health and city agency staff work closely with groups of residents to increase their social, economic and political power.

Since research has demonstrated the correlation between social capital and neighborhood health and safety, building social capital among community residents has been an important implementation strategy. CCNI evaluation has tracked the development of social capital at baseline and throughout the intervention using qualitative and quantitative methods, including one-on-one interviews with stakeholders, and community-wide surveys.

Evaluation findings over the first six years of the project indicate that three types of social capital have been built:

- Bonding relationships between immediate family members, neighbors, and close friends.
- Bridging relationships with people who are from different family and peer groups.
- Linking relationships between individuals and those in higher positions of influence outside of the community.

Community members have influenced city and county level policymakers to make policy changes, particularly related to street safety and neighborhood parks.

Evaluation findings further indicate that residents have become more empowered, as demonstrated by increased leadership, greater involvement in neighborhood events and stronger linkages with each other, community groups, and institutions. Neighborhoods have improved, as indicated by greater access to health-promoting resources (such as immunizations and good schools), decreased crime, increased disaster preparedness, renovated parks and open spaces and increased traffic safety. Residents have also perceived that City and County institutions have become more responsive to their needs. The Robert Wood Johnson Foundation highlighted this effort as a great example of how to engage partners and "pillars of the community"; http://www.rwjf.org/en/blogs/new-public-health/2012/10/engaging_partnersan.html. For more information, visit http://www.acphd.org/social-and-health-equity/partnerships-and-communities-collaboration/ccni.aspx.

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ENGLISH LANGUAGE LEARNERS

AS A SOCIAL DETERMINANT OF HEALTH

ENGLISH LANGUAGE LEARNERS

Percentage of people in households where no one 14 years or older speaks English only or speaks English very well

I. FACTORS ATTRIBUTABLE TO HEALTH: ENGLISH LANGUAGE LEARNERS (LINGUISTIC ISOLATION)*

In 2011 in California, 25% of children in immigrant families and 2% of children in United States (US)-born families were in households in which no person 14 years or older speaks only English, and no person 14 years or older who speaks a language other than English speaks English "very well." The adults and children in these linguistically isolated households have both cultural and language barriers to accessing important services such as health care, social services, utilities, financial services, voting, and education—including available and affordable English as a Second or Other Language (ESOL) classes.

Children's cognitive scores can be considerably affected by living in a household with linguistic isolation, which is largely influenced by the greater likelihood of people living in poverty in these homes. There are numerous benefits to immigrants who can speak the official language of their new country of residence, especially in regards to employment opportunities and economic success. In addition, studies in the United States show that learning English provides non-economic social capital and that there is a connection between language and social power.

The relationship between linguistic isolation and morbidity and mortality outcomes is complex. At the national and local level, immigrants (many of whom do not speak English) tend to have a longer life expectancy and lower burden of chronic disease morbidity. However, living in a community that is linguistically isolated decreases the social and political power of the individuals within that community and limits access to resources to which those individuals are entitled. Across time and generational status, health outcomes may be affected negatively for individuals living in these communities.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

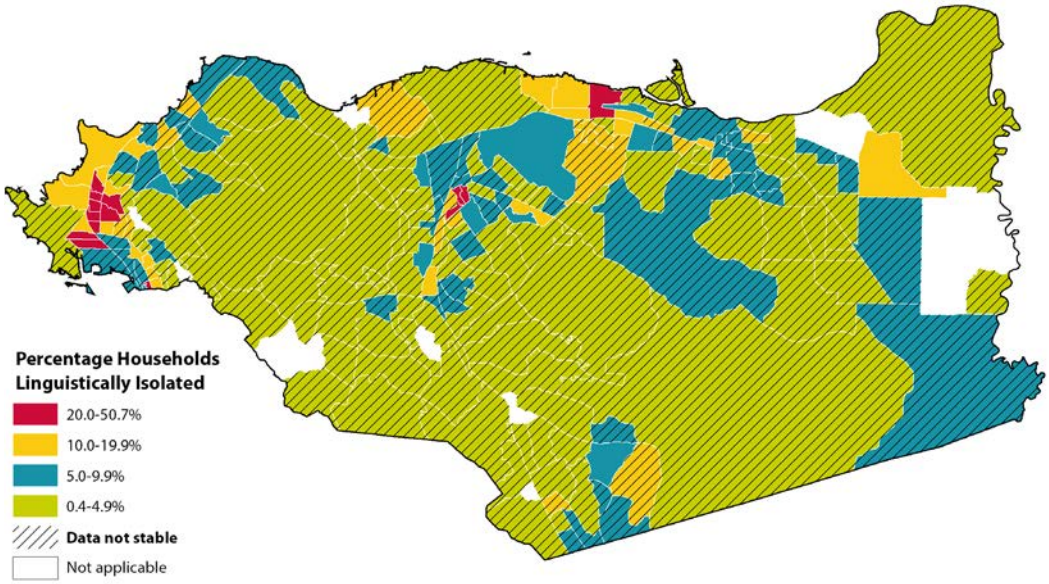
Data about linguistically isolated Census tracts are available from the American Community Survey (ACS). For detailed instructions with screen shots on how to download and analyze ACS data and an extended technical discussion of the features and limitations to the ACS, see Appendix A.

For those familiar with ACS data, the map below shows areas in Contra Costa County with a high prevalence of people 14 years or older where no one 14 years or older speaks English only

** The U.S. Census Bureau decided to eliminate the phrase "linguistic isolation" from its terminology starting in 2011. The Bureau explains: "We have changed the terminology to one that we feel is more descriptive and less stigmatizing. The phrase that will appear in all new products will be Households in which no one 14 and over speaks English only or speaks a language other than English at home and speaks English 'very well.'"*

or speaks English very well. These data are five-year estimates from the 2011 ACS table number S1602, mapped using ArcGIS at the Census tract level. We believe maps that assign warmer or more intense colors to Census tracts with more adverse SDOH indicators (i.e., graduated symbols) are among the most convincing and understandable ways to present place-based SDOH data to stakeholders and the general public. Of the many ways to group Census tracts in ArcGIS, we find natural breaks and geometrical interval to be the most useful, as they are both good at showing the range of values and the existence of outliers. ArcGIS software typically creates five classes of graduated symbols by default, which we believe is sufficient. For a detailed discussion on mapping Census data, see Appendix A.

FIGURE 35: LINGUISTICALLY ISOLATED HOUSEHOLDS, CONTRA COSTA COUNTY, 2011



STEP 01. Using the downloaded data, apply the following formula to calculate the standard error for the published proportion.

$$SE_p = \frac{MOE_p}{1.645}$$

SE_p is the standard error of the percentage of households where no one speaks English at home or "very well" age 14 and higher (HC01_EST_VC01)

MOE_p is the margin of error for the proportion of households where no one speaks English at home or "very well" age 14 and higher (HC01_MOE_VC01)

STEP 02. Calculate the coefficient of variation using this formula.

$$CV_p = \frac{SE_p}{percentLI} * 100$$

CV_p is the coefficient of variation for the percentage.

SEp is the standard error of the proportion of households with linguistic isolation (calculated in Step 1).

percentLI is the proportion of households with linguistic isolation (where no one speaks English at home or "very well" age 14 and higher (HC01_EST_VC01).

STEP 03. Display and interpret Census tracts with a coefficient of variation (CV) below 30% and display Census tracts with a CV slightly greater than 30% (e.g., 32%) with caution. For Census tracts with a coefficient of variation substantially greater than 30% (e.g., 80%), one of the following is recommended: 1) do not display those Census tracts, 2) clearly indicate those Census tracts on any map or table and include the following language: "Data from these Census tracts are statistically unstable and unreliable, interpret with caution."

III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

THE PUBLIC HEALTH NETWORK FOR EMERGENCIES (PHONE)

Napa County Public Health

PHONE is a network of local community and faith-based organizations that help communicate important health and safety messages to the people they serve during public health emergencies. Napa County Public Health developed PHONE to better deliver public health and safety messages to populations that are harder to reach through mainstream media and other typical communication channels, including those who are English language learners and who come from households in which no one 14 years or older speaks English only or speaks English very well.

Trust plays an important role in how people receive messages during an emergency. People tend to rely on individuals and organizations they already know for information more than outside sources, such as the government or mainstream media. The goal of PHONE is to develop and maintain communication channels that may be used during a public health emergency to quickly deliver messages to protect the health and safety of Napa County residents. The network includes a number of organizations that serve Napa County's monolingual Spanish-speaking population.

During an emergency, Napa County Public Health activates PHONE by sending an alert with critical public health information to PHONE members by phone, email, or another appropriate channel. Upon receipt of the information, PHONE members are responsible for delivering information to their population group(s) or networks of people who can further deliver the message as a trusted source of information and in a format that is easy for people to understand. For more information, visit http://www.countyofnapa.org/publichealth/phone/.

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AIR CONTAMINATION

AS A SOCIAL DETERMINANT OF HEALTH

AIR CONTAMINATION

Peak concentrations of particulate matter

I. FACTORS ATTRIBUTABLE TO HEALTH

Poor air quality can contribute to adverse health outcomes. Exposure to higher levels of air pollution may increase the risk of developing health conditions such as heart disease, cancer, and respiratory illness such as asthma. Poor air quality can also exacerbate pre-existing health conditions in already vulnerable groups, such as asthma symptoms in children. Air pollution often results from high levels of ozone and particulate matter released into the environment from sources such as factories or cars. Air pollution is not equally distributed in communities. The burden of breathing in unhealthy air is often disproportionately borne by low income and communities of color, many of which are situated closer to busy highways, ports, factories, and other pollution sources.

Clean air is a fundamental building block of human health. Air pollution from fixed and mobile sources (e.g., factories and cars, respectively) is a complex mixture of gases, fumes, and particles released into the atmosphere from the combustion of fossil fuels and evaporation of solvents. Ozone that forms at the ground level and fine particulate matter (PM) are two indicators of air pollution that are linked to short- and long-term adverse health effects. PM that has an aerodynamic diameter of 2.5 microns or less is called PM2.5 and is capable of reaching deep into the lungs causing a host of diseases including lung cancer, heart disease, respiratory disease, and acute respiratory infections, particularly in children. In California, the Air Resources Board estimated that, given the PM2.5 levels between 2004 and 2006, over 9,300 deaths could be prevented each year if California met its current statewide PM2.5 standard of 12 μg/m3.

Based on numerous community-based epidemiologic studies, both short-term and long-term exposures to PM2.5 increase the risk of cardiovascular disease and mortality, and are linked to adverse respiratory outcomes such as chronic obstructive lung disease, hospital and emergency department admissions for asthma, increased respiratory symptoms, altered pulmonary function, and pulmonary inflammation among asthmatic children. While not definitive, evidence is accumulating for PM2.5 effects on low birth weight and infant mortality, especially due to respiratory causes during the post-neonatal period.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

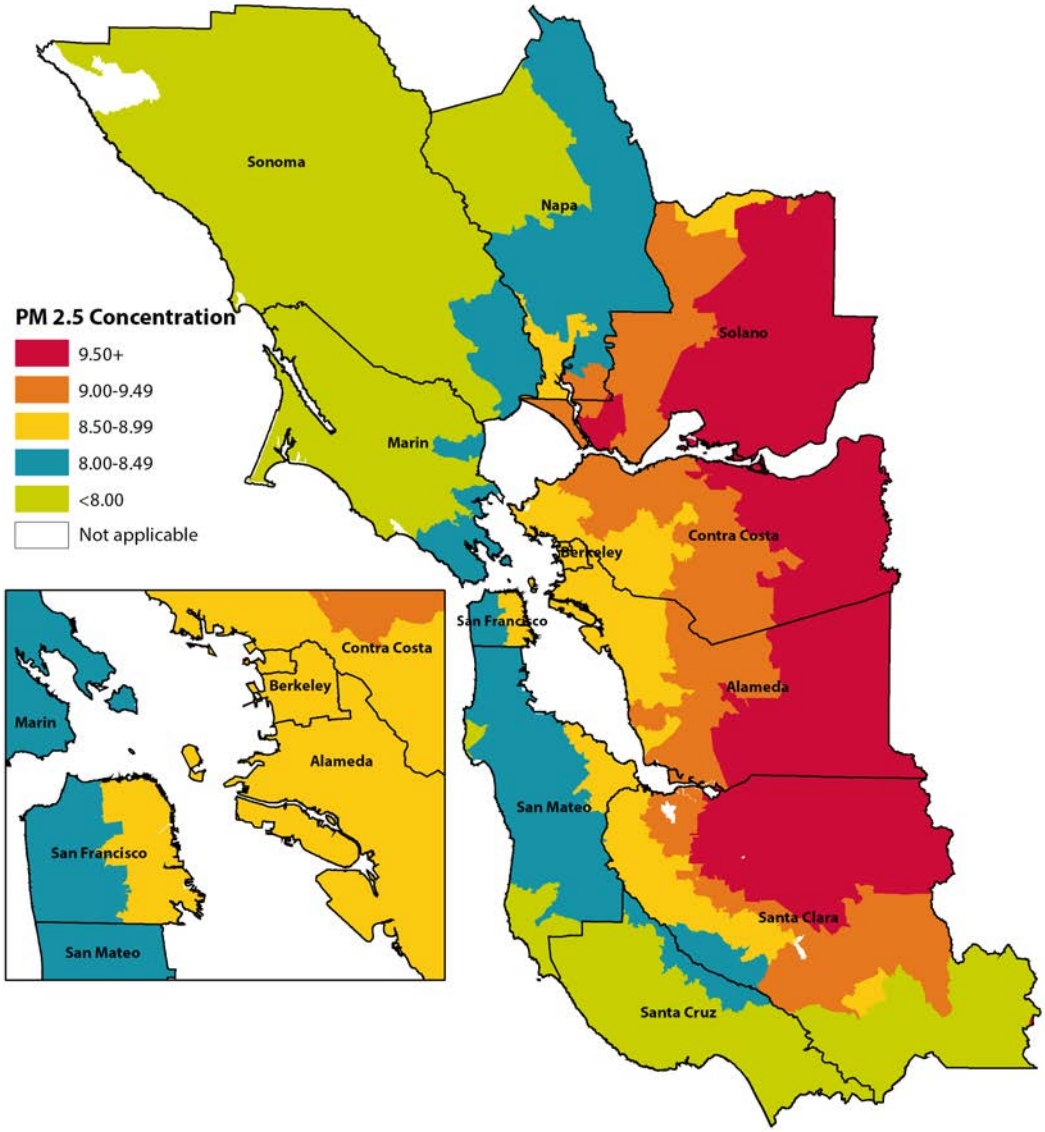
Note to LHDs in California: The California Department of Public Health's Healthy Community Indicators (HCI) project has already collected, cleaned, and compiled these data for California from the California Air Resources Board, which can be found at http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx. Appendix D explains how to download and filter these data. Counties outside of California may need to contact their state air quality resource board or equivalent agency.

The map below shows the annual mean ambient concentration of fine particulate matter for zip codes in the San Francisco Bay Area. Bay Area Regional Health Inequities Initiative (BARHII) recommends that analysis of this indicator be at the zip code level, which is the smallest level of geography available.

Limitations of the Data

Geographic coverage was not complete because of the limited number and geographic extent of air quality monitoring stations. The uncertainty of the interpolated values increases with distance from the nearest monitor. According to the Air Resources Board, values for areas greater than 50 km from the nearest monitor are very imprecise, and should be regarded as speculative. They are included for the sake of completeness, but should not be relied upon. Even within populated areas, monitoring stations are often located in areas that cannot detect highly localized areas of pollution that significant numbers or sensitive subgroups (e.g., daycare centers, schools, or hospitals) in the population may encounter. Data were not available to present standard errors.

FIGURE 36: ANNUAL MEAN AMBIENT CONCENTRATION OF FINE PARTICULATE MATTER (PM2.5), BARHII REGION, 2007-2009.



PROVIDING INPUT INTO THE DEVELOPMENT OF THE BAY AREA SUSTAINABLE COMMUNITIES STRATEGY PLANNING PROCESS

Contra Costa Health Services

Contra Costa Health Serves is a member of the Bay Area Ditching Dirty Diesel Collaborative, a regional collaborative of grassroots groups, non-governmental organizations and LHDs. The objective of the collaborative is to reduce the burden of diesel pollution on health, especially in low-income, minority communities that are disproportionately affected by diesel pollution. One of the activities of the collaborative over the last five years has been to influence the Sustainable Communities Strategy (SCS) process under SB375 to better address the health impacts of diesel pollution, especially the impacts on the occupants of new housing and other facilities (e.g., schools, senior centers, medical facilities) that will be cited in close proximity to sources of diesel pollution as a result of the emphasis on in-fill in the SCS.

As a way to support this advocacy effort, one of the members of the collaborative, the Pacific Institute, prepared a report, *At a Crossroads in Our Region's Health: Freight Transport and the Future of Community Health in the San Francisco Bay Area* (http://pacinst.org/publication/at-a-crossroads-in-our-regions-health-freight-transport-and-the-future-of-community-health-in-the-san-francisco-bay-area-2/). Contra Costa Health Services participated extensively in the development of this report. The report detailed where new development could occur within areas designated by local jurisdictions as priority development areas for growth that wasn't exposed to highest levels of risk from diesel sources. This information then served as the basis for policy recommendations for directing growth in a way that would minimize the impact to public health while still meeting the development goals of the SCS.

Contra Costa Health Services continues to be in an active participant in Ditching Dirty Diesel's follow-up effort to the report called the Pollution Free Housing for All Campaign, which will not only will try to help establish policies and practices for building new housing that is protected from the highest levels of diesel pollution, but will address how to do this without impeding the development of affordable housing. This effort will also address how to lessen the impact of diesel pollution on existing housing without exacerbating the negative impacts of gentrification.

PROMOTING ACTIVE TRANSPORTATION

Santa Clara County Public Health Department

Santa Clara County is a large county with over 1.8 million residents with a very diverse population. Additionally, many people commute to Santa Clara County for work; the county is home to several large technology companies that comprise what is known as Silicon Valley. With a large population of residents and workers, in addition to the county's geographic location, Santa Clara County often experiences days with poor air quality. In 2014, the county received a "D" grade for high ozone pollution days and for 24-hour particle pollution in the *State of the Air* report published annually by the American Lung Association.

In efforts to promote active transportation, the Santa Clara County Public Health Department partnered with cities on several strategies through Communities Putting Prevention to Work (CPPW). Active transportation strategies in partner cities included zoning studies, alternative commute recommendations, bike share program outreach, complete streets (streets designed to provide safe access to all users, regardless of age or transportation mode), and other strategies.

Bay Area Bike Share, one example of a partnership with cities and local agencies to promote active transportation, offers the public access to shared bicycles in select locations in the San Francisco Bay Area. The Santa Clara County Public Health Department provided assistance to the City of San Jose, which presently offers 150 bicycles in 15 locations in the downtown area. Two other cities in the county participate in Bay Area Bike Share—Mountain View and Palo Alto.

Also as part of CPPW, four school districts adopted Safe Routes to School policies. Safe Routes to Schools promotes biking and walking among children as a way to get to and from school. Safe Routes to Schools also emphasizes safety by partnering with cities and schools to promote safe passages for children to get to school, as well as safety training, such correct helmet usage. The adopted polices reach 45,000 students in 76 schools in the county.

As people walk and bike more, they become less reliant on driving to meet their transportation needs. A reduction in driving means reduced vehicle emissions, a contributing factor to pollution and poor air quality. Residents that live alongside freeways, such as lower-income families living in multi-unit housing, may be particularly affected by poor air quality due to motor vehicle emissions and so may especially benefit from countywide active transportation policies and programs.

HEALTH IMPACT ASSESSMENT ON TRAFFIC CONGESTION PRICING

San Francisco County Department of Public Health

The San Francisco Department of Public Health's (SFDPH) Program on Health, Equity and Sustainability received funding from the Robert Wood Johnson Foundation's Active Living Research program to conduct a health impact assessment (HIA) of a congestion-pricing policy under study in San Francisco. Specifically, the San Francisco County Transportation Authority (SFCTA) was studying a potential program that would charge $3 during rush hours to travel into or out of the congested northeast quadrant of San Francisco. This road-pricing fee would fund public transit, road maintenance, and bicycle and pedestrian street improvements.

In the Summer of 2011, SFPDH completed the HIA and found that with the potential future implementation of congestion pricing, San Franciscans could see significant health-related improvements relative to a future without road pricing—including fewer deaths due to air pollution, more cycling and walking and associated health benefits, and fewer pedestrian and cyclist injuries. The HIA did not find evidence of inequitable health effects on low-income, elderly, or young populations.

The HIA also estimated that the health-related economic costs of today's transportation system are very high—as much as $1.12 billion a year. Congestion pricing could generate significant economic value by reducing transportation-related adverse health effects and increasing walking and biking. The HIA also made recommendations that specifically target enhancing health benefits of the policy, including increasing congestion pricing fees where they can reduce health risks (e.g., on spare-the-air days) and investing in targeted infrastructure to reduce pedestrian and cyclist injury and increase walking and biking for transportation. For more information see http://www.sfhealthequity.org/elements/transportation/21-elements/transportation/116-road-pricing-health-impact-assessment-hia.

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ACCESS TO PUBLIC TRANSPORTATION

AS A SOCIAL DETERMINANT OF HEALTH

ACCESS TO PUBLIC TRANSPORTATION

Population within ½ mile of major public transportation stop

I. FACTORS ATTRIBUTABLE TO HEALTH

A strong and sustainable public transportation system supports safe, reliable, and affordable opportunities for walking, bicycling, and public transit. It helps reduce health inequities by providing more access to healthy food, jobs, health care, education, and other essential services. Active and public transportation promote health by enabling individuals to increase their level of physical activity, potentially reducing the risk of heart disease and obesity, improving mental health, and lowering blood pressure. Furthermore, the transition from automobile-focused transport to public and active transport offers environmental health benefits, including reductions in air pollution, greenhouse gases, and noise pollution, and leads to greater overall safety in transportation. Compared to public transit, a higher portion of trips by automobiles are associated with traffic accidents and increased air pollution, which are linked to increased rates of respiratory illness and heart disease.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

Note to Health Departments in California: The California Department of Public Health's Healthy Communities Data and Indicators (HCI) Project has acquired data for this indicator for the Bay Area from the San Francisco Bay Area Metropolitan Transportation Commission and for Southern California from the Southern California Association of Governments. These data are available at http://www.cdph.ca.gov/ programs/Pages/HealthyCommunityIndicators.aspx. For instructions on how to download and filter data from the HCI, see Appendix D.

Areas Outside California

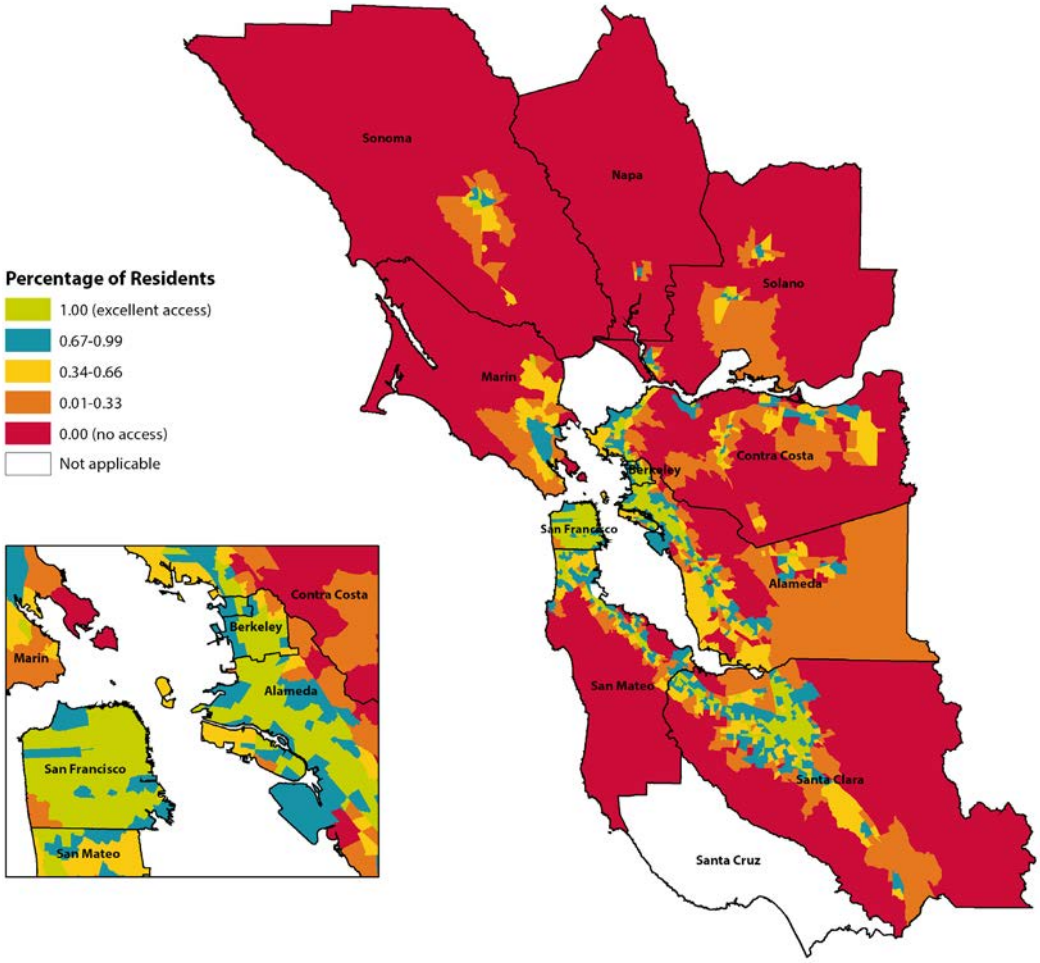
To analyze this indicator for jurisdictions outside of California, GIS software and two data sources are needed—a Census block GIS layer that has population denominators from the Census Bureau Census 2010 PL94-171 data; and a GIS shapefile of geocoded transit stops with a headway (i.e., wait time) of 15 minutes or less. The latter can be obtained from local or regional transportation planning authorities. Using GIS software, a buffer of one-half mile is drawn around a public transit stop to identify the Census blocks. Census blocks are dissolved (another GIS technique) into Census tracts to improve accuracy. From this, an estimate of the population living near a public transportation stop is identified for that Census tract.

EXAMPLE 1: ACCESS TO PUBLIC TRANSPORTATION IN THE BARHII REGION

Figure 37 shows walkable access to public transportation for the Bay Area. These data were downloaded and filtered from the HCI project. The red Census tracts show a low percentage of people living near a transit stop. Data for Santa Cruz County were not available at the time of publica-

tion. These areas should be considered for additional assessment and intervention to improve walkable access to public transportation.

FIGURE 37: PERCENTAGE OF RESIDENTS WITHIN ONE-HALF MILE OF A PUBLIC TRANSPORTATION STOP, SF BAY AREA, 2010

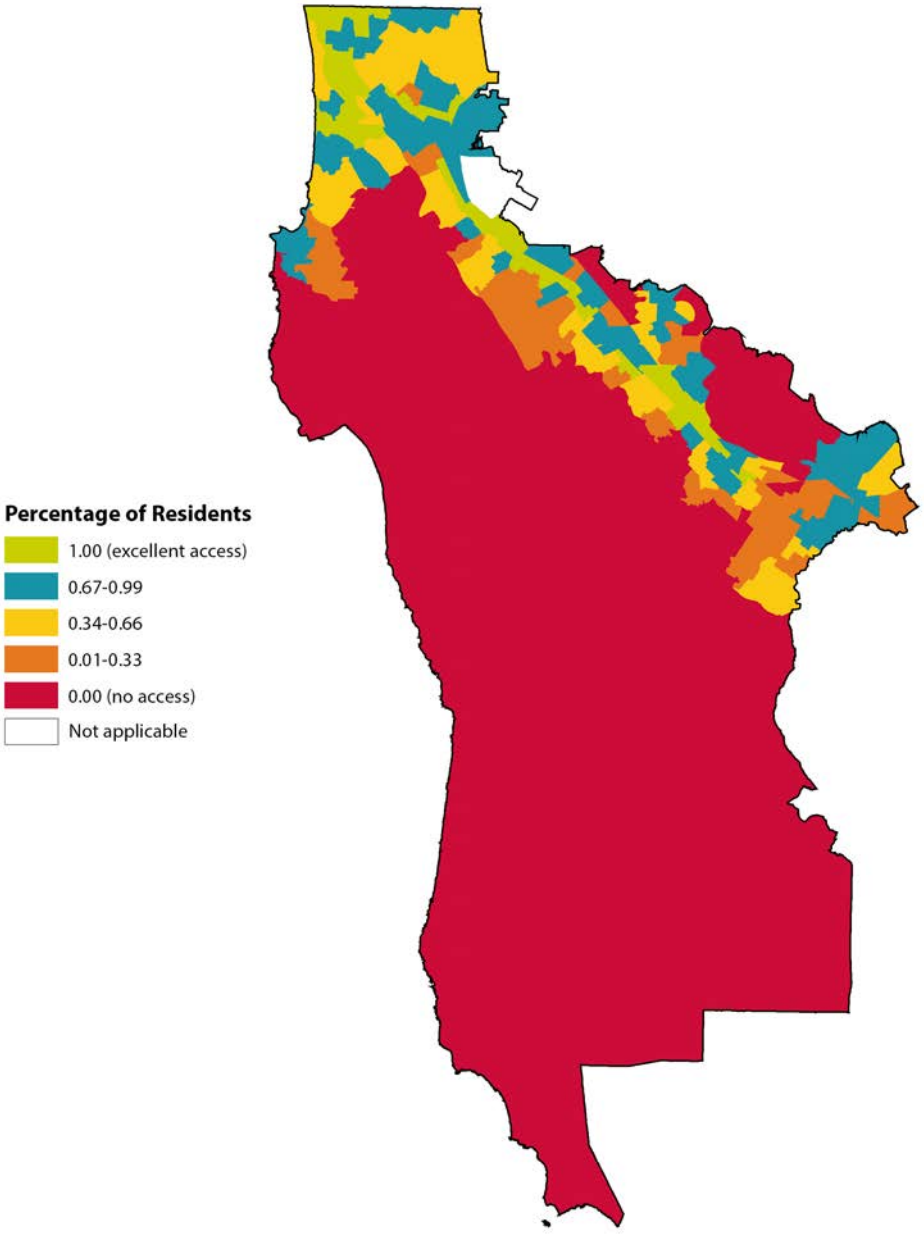


EXAMPLE 2: ACCESS TO PUBLIC TRANSPORTATION FOR ZIP CODES IN SAN MATEO COUNTY

For this indicator, it is essential to know the rural verses urban geographic and population attributes, which do not always appear on maps. Without this knowledge, maps and the resulting analysis can be misinterpreted. For example, based on the map of this indicator for San Mateo County, it appears that the inhabitants of the central and coastal regions either live far from or

must wait more than 15 minutes for public transportation. Following BARHII's recommendations and based on this map, the central and coastal regions of San Mateo County should be prioritized to improve access to public transportation, but this is an erroneous interpretation. These regions of San Mateo County are sparsely populated rural areas where the public transportation needs are substantially different from the urban parts of San Mateo County. For rural areas in general, further assessment is needed to determine if the public transportation is reliable, sustainable to rural transportation agencies, and can easily connect to larger regional public transportation networks.

FIGURE 38: PERCENTAGE OF RESIDENTS WITHIN ONE-HALF MILE OF PUBLIC TRANSPORTATION, SAN MATEO COUNTY, 2010



III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

PLACE MATTERS: HEALTH IMPACT ASSESSMENT

Alameda County Public Health Department

Alameda County Public Health Department's Place Matters initiative released a health impact assessment (HIA), *Getting on Board for Health: A Health Impact Assessment of Bus Funding and Access*, which examines the connections between bus access, mobility, and health. Over 15 non-profit organizations, community groups, and public agencies worked in partnership to produce the report. The group surveyed transit-dependent riders about how bus service cuts and fare increases affect affordability and quality of their trip experience, as well as their ability to get to essential destinations, all of which can affect health.

The report included recommendations to the Metropolitan Transportation Commission to help inform the Regional Transportation Plan. This is the long-term transportation plan for how $289 billion will be spent throughout the nine-county Bay Area between 2013 and 2040 on transportation plans and projects, which was adopted as part of Plan Bay Area in July 2013.

The HIA includes primary data showing how access to public transit affects people's ability to get to their job, healthcare appointments, school, and social activities, as well as how service cuts can directly affect safety, mental health, and social isolation. It also shows how fare increases affect personal income and can result in difficult choices between paying for transportation or food, medical care, and other necessities.

SUSTAINABLE STREETS SAN MATEO

San Mateo County Health System

The San Mateo County Health System has worked closely with the City of San Mateo to develop the City's Sustainable Streets Plan—a plan that incorporates complete streets and green streets concepts for a walkable, bikeable, transit-accessible community with environmentally friendly landscaping features. Using demographic and crash data, the health system provided recommendations for targeted infrastructure and policy improvements to encourage active transportation and transit use. Currently, a large housing development is being constructed at Bay Meadows, where over 1,000 new housing units with 10% affordable- to moderate-income families will be located in a bikeable, transit-adjacent neighborhood.

The development adheres to the recommendations of the Sustainable Streets Plan and will connect families to local and regional transit an easy walking or biking distance away. Extensive walking and biking facilities, such as separated bike paths and a walking trail, will make this trip to public transit appealing and safe. Additional information on sustainable streets San Mateo can be found at http://www.sustainablestreetssanmateo.com.

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ALCOHOL ACCESS

AS A SOCIAL DETERMINANT OF HEALTH

ALCOHOL ACCESS

Number and density of alcohol outlets

I. FACTORS ATTRIBUTABLE TO HEALTH

Excessive alcohol consumption caused approximately 88,000 deaths and 2.5 million years of potential life lost annually in the United States from 2006 to 2010, making it the fourth leading preventable cause of death. Evidence shows that high density and proximity to alcohol outlets in neighborhoods is associated with higher rates of binge drinking and associated harms, like drinking and driving, motor vehicle-related pedestrian injuries, child abuse and neglect, youth drinking, intimate partner violence, and violent crime.

In California, the rate of alcohol-attributable deaths (ADD/year/100,000 population, 2006–2010) is higher for males (43.6) and African Americans/Blacks (36.6) in comparison with the total population (29.4). Low-income and minority neighborhoods are more likely to have higher concentrations of stores selling alcohol.

Alcohol outlet density is controlled by the states and local regulations. In California the number of on-sale and off-sale alcohol licenses at the county level is restricted based upon the ratio of number of current licenses to the population within each Census tract. Additional licenses may be allowed based on a showing of public convenience or necessity. Limiting alcohol outlet density through the use of regulatory authority (e.g., licensing and zoning) is a public health strategy to prevent deaths and harms associated with excessive alcohol consumption. Multiple studies provide empirical evidence that higher alcohol outlet density and closer proximity to alcohol outlets is positively associated with outcomes like excessive alcohol consumption and other alcohol related harms like injuries and violence. However, some studies have found variations in the patterns; for example, four California cities showed higher rates of heavy drinking in high income neighborhoods with low alcohol outlet density than in lower income neighborhoods.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

Raw data is available from the California Department of Alcoholic Beverage Control (ABC) and is refreshed on a weekly basis. https://www.abc.ca.gov/datport/DataExport.html. The data are available in an unformatted ASCII file for the entire state.

STEP 01. After downloading the file from the website, open Microsoft Excel. Choose "Open" from the File menu and in the dropdown menu choose "All Files (*.*)". Navigate to the place where the downloaded file is saved, select the file and choose "Open".

STEP 02. To format the file, use the Data Layout and Code References available on the ABC website to determine the column placement. Using Microsoft Excel, the file can be

formatted by selecting "Text to Columns" under the Data menu in Excel, choosing "Fixed Width" and then manually selecting the column width and choosing the column locations based on the reference PDF file. Excel versions may vary slightly, but all versions will have the capacity to delineate the columns manually upon opening the unformatted file.

STEP 03. It is of particular importance to format the Census tract column initially as a text column so that leading and following zeros will not be eliminated in automated formatting done by Microsoft Excel upon file import. After import, for ease of mapping, the '.' character should be eliminated from the Census tract column using the find/replace function.

Data are restricted by license type, application status, and duplication in this example. Data were restricted to Contra Costa County and then restricted by license types 20 and 21 for off-sale. For these retail outlets, alcohol is sold in sealed original containers for consumption off the premises of the retailer. For reference, review license types on the ABC website at http://www.abc.ca.gov/permits/licensetypes.html. We further restricted the data for analysis to licenses (removing applications for which licenses have not yet been issued) and to active status licenses (removing pending and expired licenses). We removed duplicates in the dataset by excluding entries with identical premise name and premise address.

To calculate alcohol outlet density, it is not necessary to geocode the data at this point. The Census tracts provided in the download from ABC are adequate to proceed with mapping. However, if other analyses are required, it is possible to geocode the data using the premise address for further spatial analysis.

To calculate density, the number of outlets per Census tract can be calculated by importing the data into a statistical package (e.g., SAS) or by using a pivot table in Microsoft Excel. To construct a pivot table in Excel 2010:

STEP 04. Select the column with the Census tracts in the spreadsheet.

STEP 05. In the Insert menu, select Add PivotTable and add the table to a new worksheet.

STEP 06. Click the Census tract box in the pivot table field list.

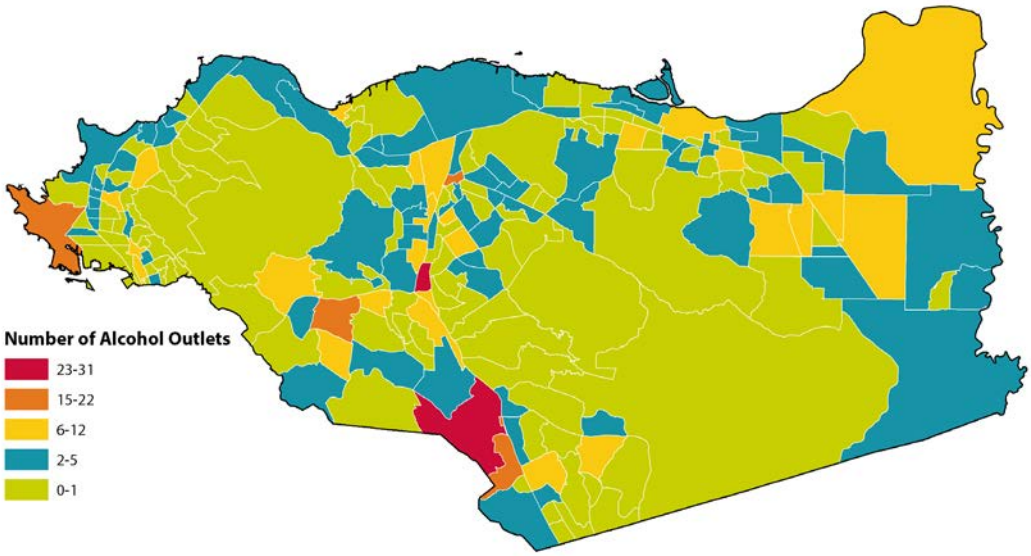
STEP 07. Drag the Census tract label in the field list and drop it in the value field.

STEP 08. For Values, ensure value field settings is set to Count.

At this point, you should have a column of Census tracts and a column with the number of alcohol outlets per Census tract.

To calculate and map outlets and display the relative numbers, you must join the table to a shapefile by Census tract. In this case, we used a 2010 Census layer that includes 2010 population numbers. After joining, Census tracts with no outlets will have a <Null> value for outlet number. To convert those values to 0, export the data to a new shapefile and show that shapefile on the map.

FIGURE 39: NUMBER OF ALCOHOL OUTLETS BY CENSUS TRACT, CONTRA COSTA COUNTY, 2014



To map the number of alcohol outlets per 10,000 people by Census tract, carry out the following steps.

STEP 09. Export the shapefile created above from ArcGIS.

STEP 10. Open the .dbf file, which contains the spreadsheet of data, in Excel.

STEP 11. Delete all columns except the Census tract identifier, number of outlets, and 2010 Census population numbers.

STEP 12. Calculate the density per 10,000 people by creating an additional column and dividing the number of outlets by the 2010 Census population and multiplying by 10,000

STEP 13. Save and close the new Excel file.

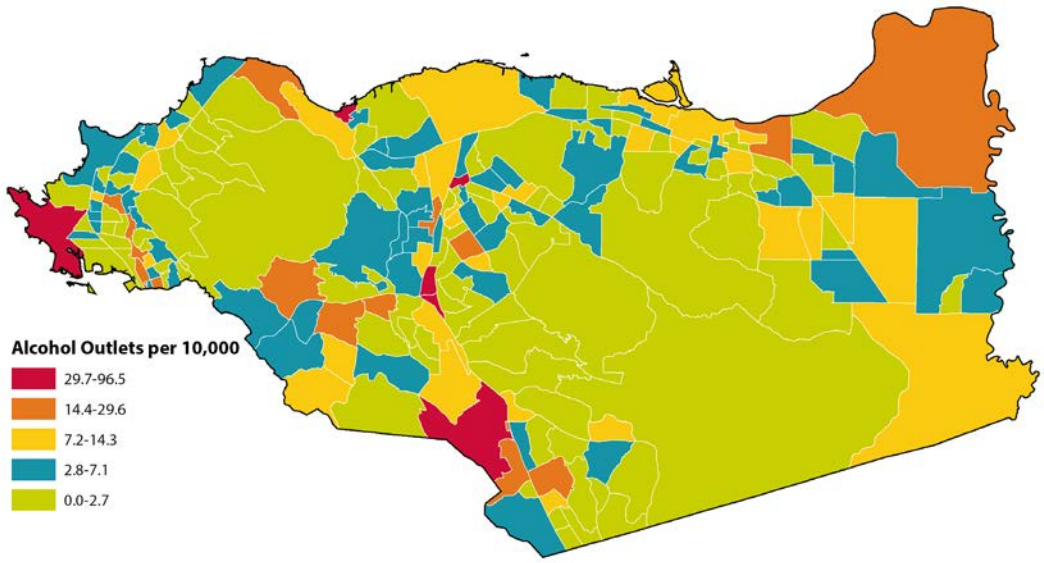
STEP 14. Open ArcGIS and join the new data file to the Census tract shapefile by Census tract.

Recall that as the shapefile includes both boundaries and population estimates, the exported joined data will have both the 2010 population estimates and alcohol

outlets. These data can also be obtained in American Factfinder, for details on how to download ACS or decennial data, please see the Appendix B.

Figure 40 shows the density of alcohol outlets per 10,000 people. By normalizing to population numbers, we see more areas of high density than on the previous map. To understand the impact of alcohol outlets on the population, the density relative to the number of people is a more effective measure.

FIGURE 40: ALCOHOL OUTLET DENSITY BY CENSUS TRACT, CONTRA COSTA COUNTY, 2014



III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES

ASHLAND/CHERRYLAND HEALTH ELEMENT IN GENERAL PLAN

Alameda County

How a community is designed can significantly affect the health of those who live there. Community design can affect public safety, housing, food security, and transportation, which also affects access to health care, school, and work; air pollution and other aspects of environmental quality; alcohol, tobacco, and fast food density and other aspects of land use; and social isolation. Improving the built environment of communities across Alameda County will ensure that everyone has an opportunity to be healthy and thrive.

The Ashland/Cherryland community is seeking to address health inequities by creating a health element in their county general plan. The general plan serves as the "constitution" of a community and guides all local government land use decisions and policies. Since general plans create a long-term vision, strong health elements can powerfully orient government actions for decades and can help prioritize a community's health-related goals. Developing a health element is also an opportunity to engage community members in

identifying important local health issues. The Alameda County Public Health Department (ACPHD) assisted the community in providing data and other support to include this health element. Funding for this project was provided jointly by the ACPHD, the Alameda County Planning Department, and Supervisor Nate Miley. For more information, visit http://ashlandcherryland.org/.

Once input has been gathered from internal Alameda County stakeholders, the health element will be presented at various community meetings to gain feedback from the community. The health element should be approved by the Board of Supervisors in early 2015.

ALCOHOL SOCIAL HOST ORDINANCE

Marin County

In 2005, a Youth Access Survey, administered locally, assisted in uncovering the retail and social outlet sources of alcohol for youth. The survey found that 77% of teen surveyed reported family and friends as a primary source of alcohol for youth. Few municipalities had ordinances or laws in place to address young people accessing alcohol in retail or social settings, and those in place were not being routinely and consistently enforced.

Starting in October 2006, and continuing over the following three years, a total of twelve Social Host Accountability Ordinances (SHAOs) were passed or amended in Marin County. These policy changes came as part of a coordinated effort under the Marin County Alcohol and Other Drug Prevention Strategic Plan to reduce youth access to alcohol and to transition alcohol and other drug prevention efforts from an individual-focused approach to a community-focused approach, using evidence-based environmental prevention strategies. The first new ordinance was passed in 2006 by the Marin County Board of Supervisors and covered unincorporated Marin County. During the following three years, all of Marin's cities and towns used the county ordinance as a model to pass their own ordinances or amend existing ordinances. Sausalito, Mill Valley, Tiburon, Fairfax, Novato, Ross, and San Anselmo amended existing ordinances. Belvedere, Corte Madera, Larkspur, and San Rafael adopted new SHAOs.

SHAOs discourage parents and other adults from hosting underage drinking parties. They also address the commonly held belief that underage drinking is inevitable or simply a rite of passage and that it is, therefore, acceptable to give alcohol to underage youth. SHAOs work as a nuisance abatement strategy, deterring underage drinking parties "by imposing a civil fine on the person responsible for loud or unruly gatherings where alcohol is consumed by, served to or in the possession of underage persons." Under SHAOs, the property owner, renter, or lessee, or the party organizer, is held responsible for the event. When a juvenile is the party host, the juvenile, and the parents or guardians of that juvenile, are jointly and severally liable for fines imposed and costs incurred for public safety services. SHAOs send a clear message to adults that providing alcohol to teens is not acceptable.

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FOOD ACCESS

AS A SOCIAL DETERMINANT OF HEALTH

FOOD ACCESS
Food market score

I. FACTORS ATTRIBUTABLE TO HEALTH

An adequate, nutritious diet is a necessity at all stages of life. Pregnant women, babies, children, adolescents, adults, and older adults depend on adequate nutrition for optimum development and maintenance of health and functioning. Inadequate diets can impair a child's intellectual performance and have been linked to frequent school absence and poorer educational achievement. Nutrition also plays a significant role in causing or preventing a number of illnesses, such as cardiovascular disease, some cancers, obesity, type 2 diabetes, and anemia. These weight-associated illnesses are no longer restricted to adults as the prevalence of obesity has more than doubled in children in the last 40 years. Obese children have an increased risk of heart disease and of becoming obese adults.

Lower income families are less likely to have a nutritious diet than those with higher incomes. Food environments—defined by the types of foods available in a neighborhood, including stores, restaurants, schools, and worksites—also influences peoples' food choices and their likelihood of being overweight or obese. There is a strong association between consumption of calorie-dense foods with low nutritional value and being overweight or obese when one or more calorie-dense meals are consumed per week. High-fat and high-sugar foods are available at most elementary and middle schools. Since the 1970s, the number of fast food restaurants has more than doubled in the United States, and the proportion of daily calorie intake from foods eaten away from home has increased.

Measures of food availability in the environment include distance to food retailers, cost of foods, and the number of food outlets in a given area. Due to the lack of standardization of food environment metrics and differences among populations studied, it is difficult to generalize the evidence on the relationship between food environments and health. Nevertheless, various cross-sectional and longitudinal studies show a positive association between the number of fast-food restaurants and/or convenience stores in a given area with body mass index (BMI), obesity and overweight rates; and a negative association with fruit and vegetable intake. The extent of this relationship can vary with race/ethnicity. In California, adults living in cities or counties with 16.7% healthy food retailers or less had a 20% higher prevalence of obesity and a 23% higher prevalence of diabetes than adults living in areas with 25% healthy food retailers or more; this relationship held true regardless of household income, race/ethnicity, age, gender, or the physical activity levels of respondents.

II. DATA SOURCE AND METHODOLOGY FOR HEALTH EQUITY ANALYSIS

The original indicator investigated was the retail food environment index (RFEI), developed by the California Center for Public Health Advocacy. This indicator has been altered by the Center for Disease Control and Prevention (CDC) to the modified RFEI (mRFEI). The equations for each are below.

INDICATOR	NUMERATOR	DENOMINATOR
RFEI	# fast food restaurants + # convenience stores	# supermarkets + # produce stores + # farmers' markets
mRFEI	# healthy food retailers [# supermarkets + # supercenters + # produce stores]	# healthy food retailers + # less-healthy food retailers [# fast food restaurants + # convenience stores + # small grocery stores]

There are limitations to both the RFEI and the mRFEI, which are especially evident within smaller geographical areas. For example, in a retail-rich area there are typically many more counter or fast food dining establishments even in areas that have more than one supermarket and/or a farmers market nearby. Due to the high number of counter or fast food dining establishments, an area would score poorly on the two measures. In contrast, an area with just one fast food outlet might score high on the two measures.

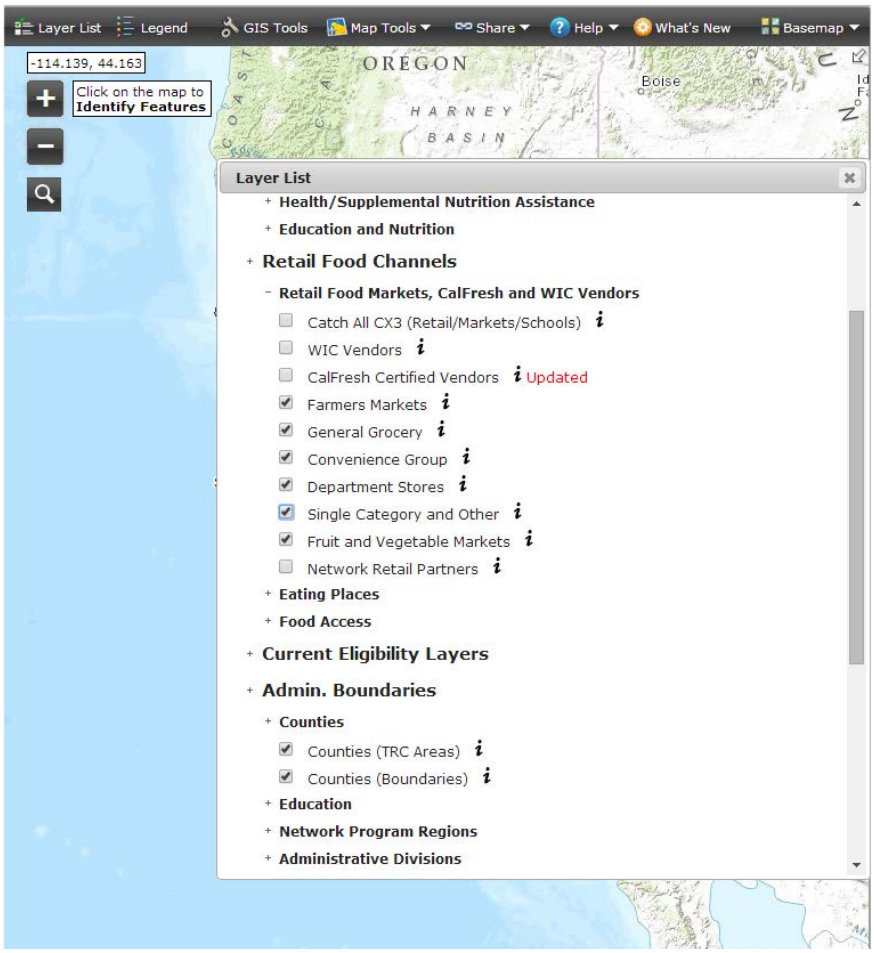
For this reason, Bay Area Regional Health Inequities Initiative recommends the adoption of the food market score, which is a relative measure of the number and variety of retail food resources within one mile, weighted by food offerings and distance.

This methodology was originally developed for San Francisco, modeling similar techniques used for the walkability measure in the Metropolitan Transportation Commission Snapshot analysis and Walkscore. It is a relative measure, so inherently some areas will score higher or lower depending on the variables listed in the table above. Weights for distance are based on typical walkable distances in an urban environment. Adjustments can be made based on the context of where this measure is adapted.

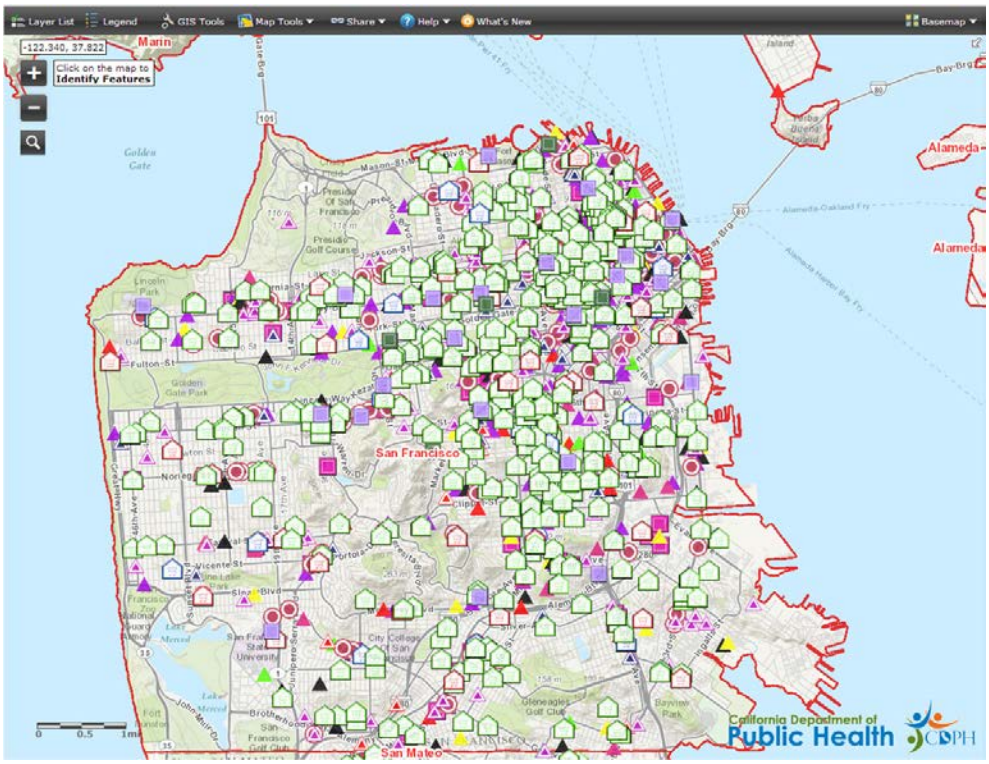
STEP 01. The first step is to collect geographic information systems (GIS) layers for all of the street intersections in the analysis area and the locations of retail food vendors. Street

intersection locations can generally be obtained from city planning departments or transportation agencies. In California, locations of food retailers can be downloaded from the Network for a Healthy California GIS Map Viewer (http://www.cnngis.org/). Follow these steps to download the data:

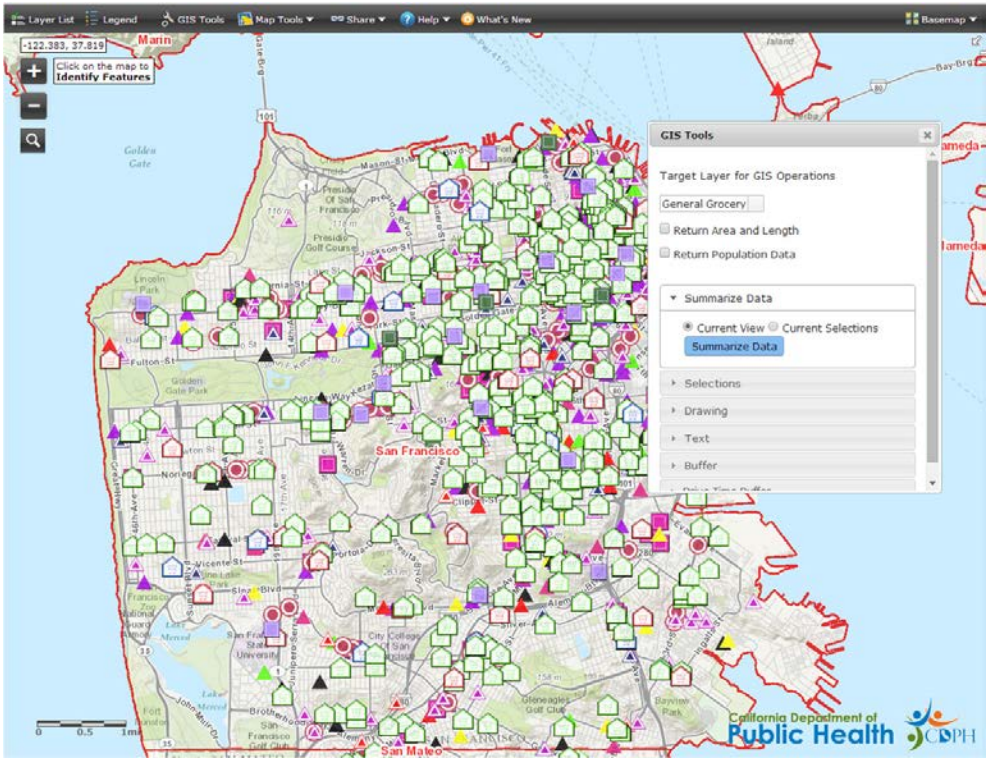
1) Open up the layer list and select the farmers' markets, general grocery, convenience group, department stores, single category and other, and fruit and vegetable markets layers.



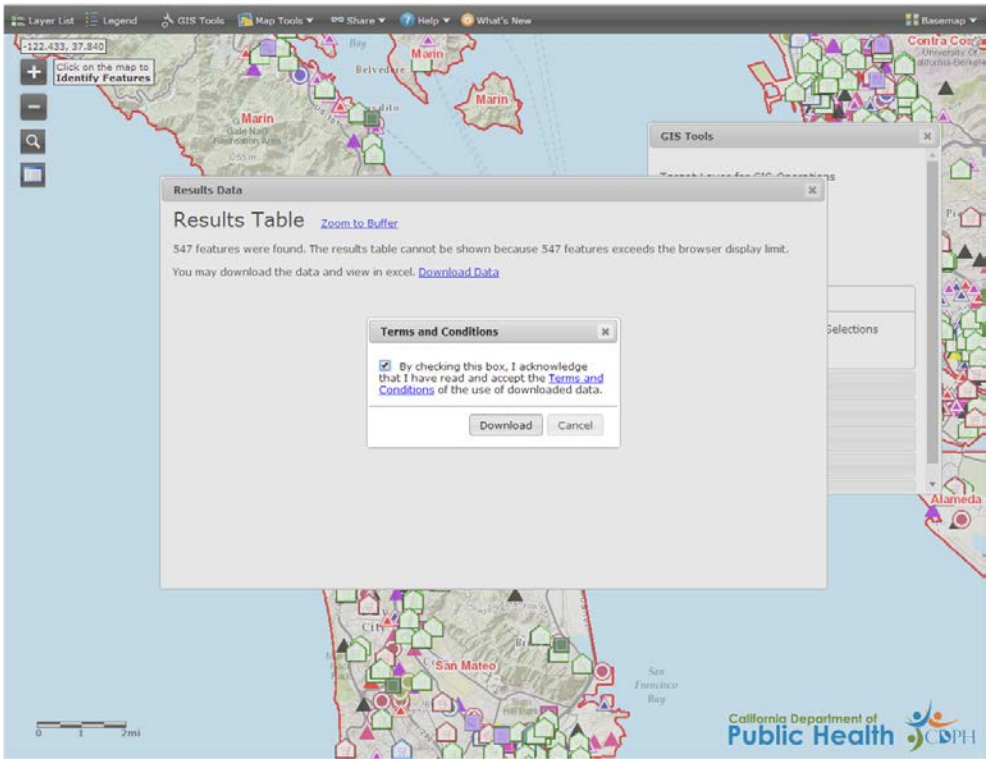
2) Zoom to your region of interest.



3) Click on GIS tools and select a target layer and click summarize data. Repeat for all six layers. In some cases, you may have more than 1,000 businesses in your current view; however, the program cannot download that many. One solution is to click "Selection" and then select the stores you are interested in downloading by drawing boxes around the items, which will create a light blue outline around them. Then, when using "Summarize Data," select "Current Selections."



4) After clicking "Summarize Data," click "Download Data." Make sure that your pop-up blocker is off, as the download window will appear as a pop-up. Proceed to save the resulting CSV file for geocoding later.



STEP 02. The next step is to geocode the business addresses in the six CSV files you have downloaded and then to clean, reclassify, and merge the files. There are many options for geocoding that exceed the guidance provided here—work with your local GIS expert to geocode each file to the best degree of accuracy possible. After geocoding the files, it is recommended to check that the stores listed do indeed sell food and are still operating. For example, many pharmacies and discount retailers, like Target, have significant fresh food options and should be included. Exclude other stores from the "Department Stores" sheet that are not known to sell food. While CDPH has fortunately done some very helpful preliminary cleaning and classification of these stores, business-listing data is notoriously inaccurate. Clean the files to a point that you are comfortable with and are willing to go back and correct errors iteratively.

The next step is to create a "Supermarkets" category from the "General Grocery" file. In ArcGIS, add a new field called "Type." Use the field calculator to assign "Supermarket" to all stores that are already classified as small or large chain stores. To determine whether other non-chain stores should be considered supermarkets, use the additional information about store size, revenue, and number of employees, as well as common knowledge of the retail stores in your community, to decide which stores should be classified as supermarkets. In San Francisco, stores in the general grocery category that had 5,000 square feet or more, made $1 million or more in annual sales, were part of a local chain, or had six to 20 employees and grossed between $500k to $1 million in sales were classified as supermarkets, but in less dense areas these criteria may not be as useful. For the remaining stores, label them as "Small Grocery" in the "Type" field using the field calculator. San Francisco has used Yelp searches and examination with Google Street View to verify that stores should be classified as "grocery" and not "convenience." Then merge the files together as one shapefile using the merge tool in ArcGIS.

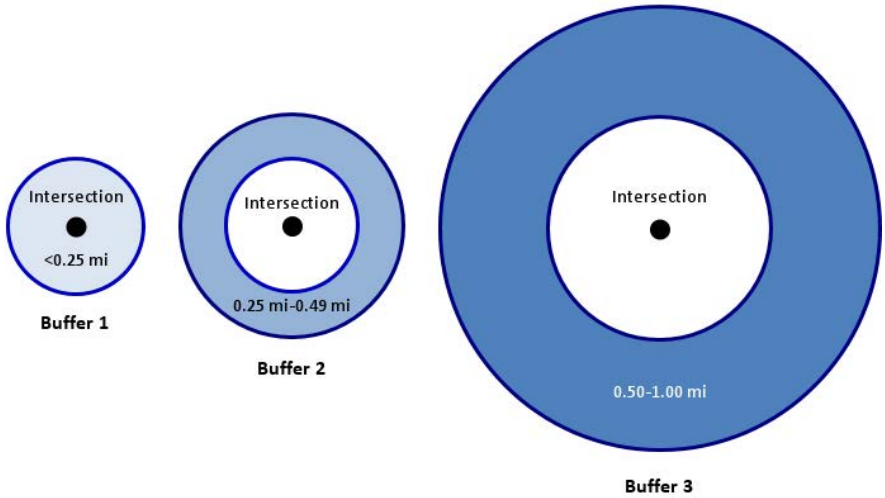
STEP 03. The next step is to assign quality weights to each store type. To do this, San Francisco did a small sample survey of supermarkets, small grocery stores, convenience/liquor stores, produce markets, meat markets, and chain pharmacies in different parts of the city, using a store survey that looked at the variety of healthy or whole foods available in each surveyed store. The survey contained sections for produce, dairy, whole grains, and protein. The produce section represented 51% of the total possible points (59 points possible), while the dairy, whole grains, and protein sections accounted for 10%, 19%, and 20% of the points respectively. To arrive at the final store type scores, the median number of points for each store type was divided by the median supermarket points (57). Final scores are listed in Table 5.

TABLE 5: STORE TYPES AND WEIGHTS

Store Type	Score
Supermarket	1.00
Produce market	0.90
Other grocery	0.72
Farmers' market	0.51
Pharmacy	0.41
Meat/seafood market	0.35
Convenience/liquor store	0.25

Other jurisdictions could adopt these scores or choose to conduct a survey of their local stores using San Francisco's survey instrument. Create a new field for "Type Score" and populate it with the appropriate score for each store type.

STEP 04. The next step is to do a spatial join to all of the food stores within one mile of each intersection and to assign a distance score for each intersection–store join. The distance scores are as follows: if the store is less than 0.25 miles from an intersection it gets a 1.00, if it is between 0.25 and 0.49 miles it gets a 0.90, and if it is between 0.50 and 1.00 miles away from the intersection it gets a 0.75. The easiest way to make these joins and to attach the appropriate score is to create buffers around the intersections. Start by making a quarter-mile buffer around each intersection. Then make another quarter-mile buffer around the first quarter-mile buffer, excluding the buffer shape area (so it resembles a donut). Then make one last half-mile buffer around the half-mile donut buffer to create another donut buffer that covers the area 0.50 to 1.00 miles from each intersection. Using these three new buffer shapefiles use the spatial join tool to do a one-to-many join of the food markets to each of the buf-

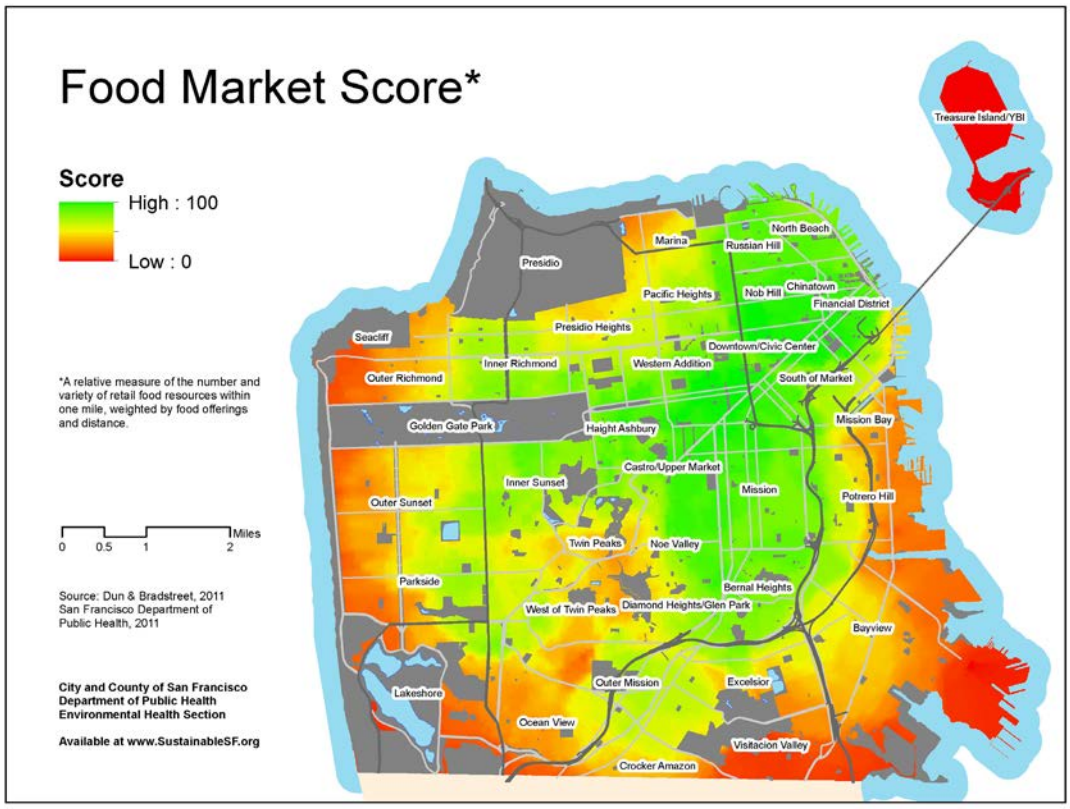


fers (specify that the points must be completely within the buffer, not intersecting)—making sure that an ID field that relates back to the original intersection is preserved. The result will be three new shapefiles that have the intersections listed many times with the different stores that are within each distance specific buffer. In each file, create a new field titled "Distance Score" and populate that column with the appropriate distance score (1.00, 0.90, or 0.75) depending on whether the file relates to the less than quarter-mile buffer, the second quarter-mile buffer, or the final half-mile buffer. Merge the three files into one. There will likely be thousands of records at this point.

STEP 05. Now that you have a master file that has a unique record for every intersection-to-store join, with the accompanying store type score and distance score, create a new field for "DT Score." Before populating this field, select all of the records for intersections connected to a convenience/liquor store with a distance score of 0.9 or 0.75 and delete them. Convenience stores that are more than quarter-mile away are not considered because residents would not travel further than that to go to a convenience store. Next, use the field calculator to multiply the distance score by the store type score for each record to populate the DT Score field. To account for the overabundance of some store types skewing the results, a score cap is applied to each store type. To do this, select the records by store type and summarize by intersection, essentially creating eight summary tables by intersection. Adjust the sums in each table so that an intersection receives no more than the equivalent of three stores of any type within one-quarter of a mile; in other words, 3.00 points for supermarkets, 2.70 points for produce stores, and 2.16 points for other grocery stores. For meat and seafood markets, pharmacies, and convenience and liquor stores, the top number of points an intersection should receive from each store type is 0.70, 0.82, and 0.50 respectively—or the equivalent of two stores within that quarter mile. There is no score cap for farmers' markets.

STEP 06. Merge the eight tables into one and summarize the capped products of store type score times distance score for each intersection. The resulting table should have the same number of records as the intersections shapefile, unless some intersections had no stores within one mile, in which case they may not be represented. Join this summary table by attributes using the intersection ID to the intersections shapefile. Now every intersection should have a score for the number and variety of retail food resources within one mile, weighted by food offerings and distance. Create a new field called "Final Score." Populate this field by normalizing the DT Score Sum to a score of zero to 100 using the formula (x - min(x))/(max(x) - min(x)) * 100.

STEP 07. To visualize the intersection scores over a continuous surface, create a raster image using inverse distance weighting. Average scores can be generated for small geographic areas, like neighborhoods or Census tracts, by using the zonal statistics to table tool.



III. BAY AREA LOCAL HEALTH DEPARTMENT EXAMPLES`

HOPE COLLABORATIVE

Alameda County

The HOPE Collaborative, a project of Tides Center, seeks to create community-driven and sustainable environment change for Oakland residents through the enhancement of local food systems, small business, and workforce development opportunities. HOPE is working with Alameda County Public Health Department via the Oakland Food Policy Council to increase access to land to grow food, including an edible parks program and opportunities to facilitate the sale/lease/use of private property to urban agriculture groups. HOPE is working with the City of Oakland to update mobile food vending zoning, expanding beyond the current limited areas and the current pod format.

HOPE is also working with Inner City Advisors and Urban Development to:

- Conduct a landscape analysis of food and economic justice projects working in low-income and communities of color in the county.
- Provide capacity building to social entrepreneurs seeking to build their projects towards sustainable business models for food and economic justice in low-income communities of color.

- Improve the ability of local food businesses in Oakland to provide quality fresh and prepared foods.
- Develop a comprehensive food retailer improvement initiative targeted at Oakland-based corner stores to provide Oakland residents access to high-quality fresh and prepared food options.

ADOPTING AND IMPLEMENTING COMPREHENSIVE HEALTHIER FOOD AND BEVERAGE STANDARDS POLICY FOR THE COUNTY GOVERNMENT

Santa Clara County Public Health Department

The county government is one of the largest employers in Santa Clara County, with a workforce of more than 15,000 in more than 30 departments and agencies. Many employees eat in one of six county-owned cafeterias and cafes, or purchase snacks and drinks from one of more than 200 vending machines. In addition, the county serves six million meals annually to the custodial population through the county hospital, jails, ranches, and other sites.

In 2011 and 2012, the Santa Clara County Public Health Department's Center for Chronic Disease & Injury Prevention developed a comprehensive set of nutrition standards (with funding from CDC's Communities Putting Prevention to Work obesity prevention initiative) based on national guidelines, including the 2010 Dietary Guidelines for Americans. These standards were developed with input from state and national experts and in collaboration with an interagency group that included senior-level representatives from nine county departments. This group, called the Nutrition Standards Committee, worked collaboratively for a year to develop the standards to ensure that food and beverages offered, purchased, or served at county facilities and those provided by county departments were of maximum nutritional value.

The standards were organized by food environment. These included meetings and events, vending machines, cafeterias and cafes, county-leased properties, and custodial populations. The standards were approved by the county board of supervisors in March 2012 and were published and disseminated soon after through an internal marketing campaign and employee trainings.

Assessments in the early stages of implementation revealed improvements in the mix of products offered in vending machines and in the availability of healthier food items in cafeterias, cafes, and custodial sites. The County Nutrition Standards were also used as a model for six cities in Santa Clara County, several other counties across California, and by several other states.

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APPENDIX A

Notes about the Social Gradient and Mortality Analysis

This appendix is a technical manual to accompany the SDOH guide. We recommend that LHD epidemiologists read the SDOH guide first, then refer to this appendix to read in more detail.

This appendix is for the staff that will actually do the work of downloading, cleaning, analyzing, and mapping the data. It was designed with an epidemiology student intern in mind, but more seasoned epidemiologists will benefit by reading this as well. The manual includes steps, screenshots, limitations, and more advanced technical considerations about how to download and analyze the core data for SDOHs. Some of these datasets are only available in California (i.e., California Health Interview Survey and the Healthy Community Indicator Project); nevertheless, health departments outside of California will benefit from the detailed instructions and discussions about analyzing mortality, along with data from the Census Bureau.

THE SOCIAL AND EDUCATIONAL GRADIENT

For the purposes of this analysis, a neighborhood is defined as a collection of Census tracts categorized by the poverty groups. To calculate it, one must total the numbers of people living below the federal poverty level, normally less than 5.0%, 5.0% to 9.9%, 10.0 to 19.9%, 20.0 to 29.9%, and 30.0% and more, and stratified these rates by race and ethnicity. For this guide, we have Hispanic/Latino as a mutually exclusive group; note that this is not possible in every dataset. A similar method is used for educational attainment, which is explained elsewhere in this appendix.

LIFE EXPECTANCY AT BIRTH

To calculate life expectancy at birth along the social gradient, one has to have geocoded mortality data with the Census tract appended. Further, a life table is required as this graph requires 25 separate life expectancy calculations. Methods on life tables can be found in standard textbooks.

AGE-ADJUSTED MORTALITY

In order to remove the effects of age on mortality, deaths rates should be adjusted (i.e., standardized to the U.S. population) to make meaningful comparison along the social gradient. In order to calculate this, death rates for specific age groups in each social and racial strata should be calculated. BARHII used ten-year age groups for its calculations. Methods on age adjustment are found in standard epidemiology textbooks.

POPULATION-ATTRIBUTABLE RISK AND EDUCATIONAL ATTAINMENT

Population-attributable risk (PAR) measures the excess incidence of a disease in a population that is attributable to a risk factor, or "no high school education" in this analysis. The PAR for cause-

specific mortality with no high school education as the risk factor in BARHI member counties was calculated by subtracting the incidence of death in adults 25 to 64 years with a high school education or greater from the total incidence of death of adults 25 to 64 years for each group cause of death. The education status of the deceased is indicated on his/her death certificate, which was obtained from the California 2009, 2010, and 2011 Death Statistical Master Files. Population denominators are from Census 2010. This method is found in standard epidemiology textbooks, but this publication, *Methods for Measuring Health Inequalities (Part II)*, from the World Health Organization explains the method well: http://bvs1.panaftosa.org.br/local/file/textoc/SCHNEIDER_CASTILLO_BACALLO_LOYOLA_MUJICA_VIDAURRE_ROCA_methods_inequalities.pdf.

For table 1 in the introduction, the following formula was used:

$$PAR_{nohs} = \frac{I_t - I_{hs}}{I_t} * 100$$

PAR_{nohs} = Population-attributable risk cause-specific mortality, no high school education

I_t = Incidence of death in all adults aged 25–64

I_{hs} = For each group cause of death, the incidence of death of adults aged 25–64 with a high school education or greater.

THE SLOPE INDEX OF INEQUALITY

A more complex method to identify causes of death with the strongest association with neighborhood wealth is the slope index of inequality (SII). The SII is a regression coefficient that measures the association between neighborhood wealth with a health outcome such as death. BARHII adapted the methods from the WHO publication *Methods for Measuring Health Inequalities (Part II)* for its analysis. The death rate is calculated from death certificates of adults 18 to 64 years geocoded to their Census tract of residence in BARHII counties from 2009 through 2011. Census tract poverty denominators of those 18 to 64 years are from the American Community Survey table B17024 five-year estimates, which were multiplied by three to estimate person years for BARHII counties. For this model, neighborhood wealth is measured by a ridit score, which is based on the cumulative population living in each Census tract poverty group up the social gradient. The higher the ridit score, the wealthier the Census tract group. Once calculated, a Poisson

regression of neighborhood poverty vs. cause-specific mortality rates was run using the 'genmod' procedure in SAS 9.2. The general formula of the SII is as follows:

$$\ln(\text{deathrate}) = \alpha + \beta(\text{ridit}) + \varepsilon v$$

LN(deathrate) = the natural log of the Census tract poverty group death rate for each group cause of death

α = the y-axis intercept

β = the slope index of inequality (i.e., the regression coefficient)

ε = the error factor

Ridit = The formula for a ridit score is as follows:

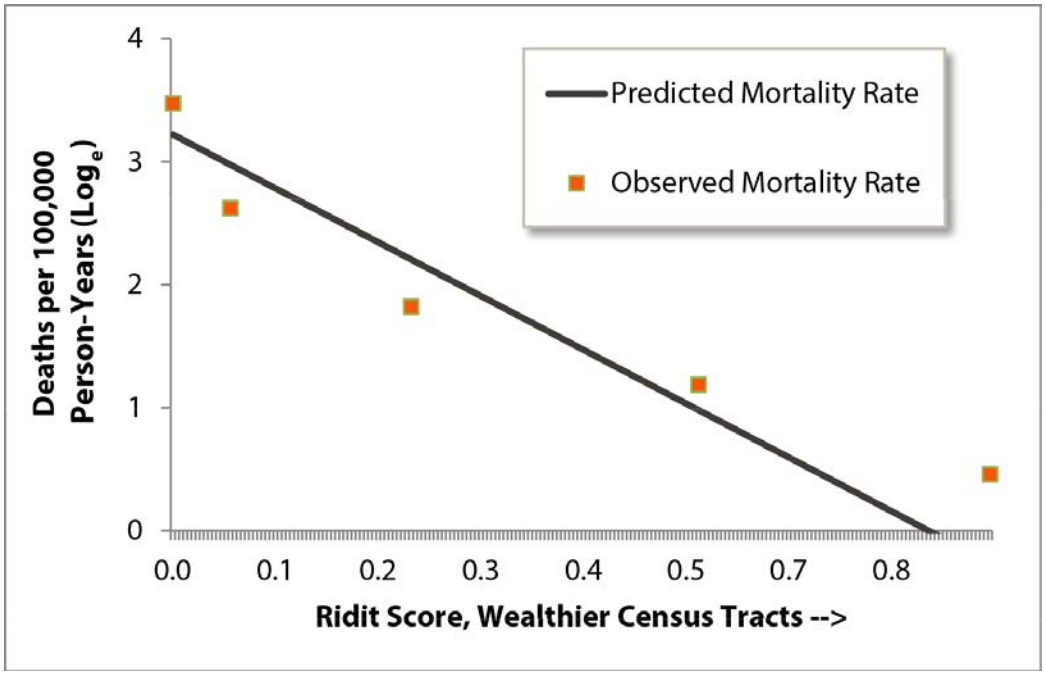
$$Ridit = 0.5p_j + \sum_{c<j} p_c$$

p_j = the prevalence of people living in each Census tract poverty group (<5%, <10%, 20%, 30%+ etc)

p_c = the cumulative population

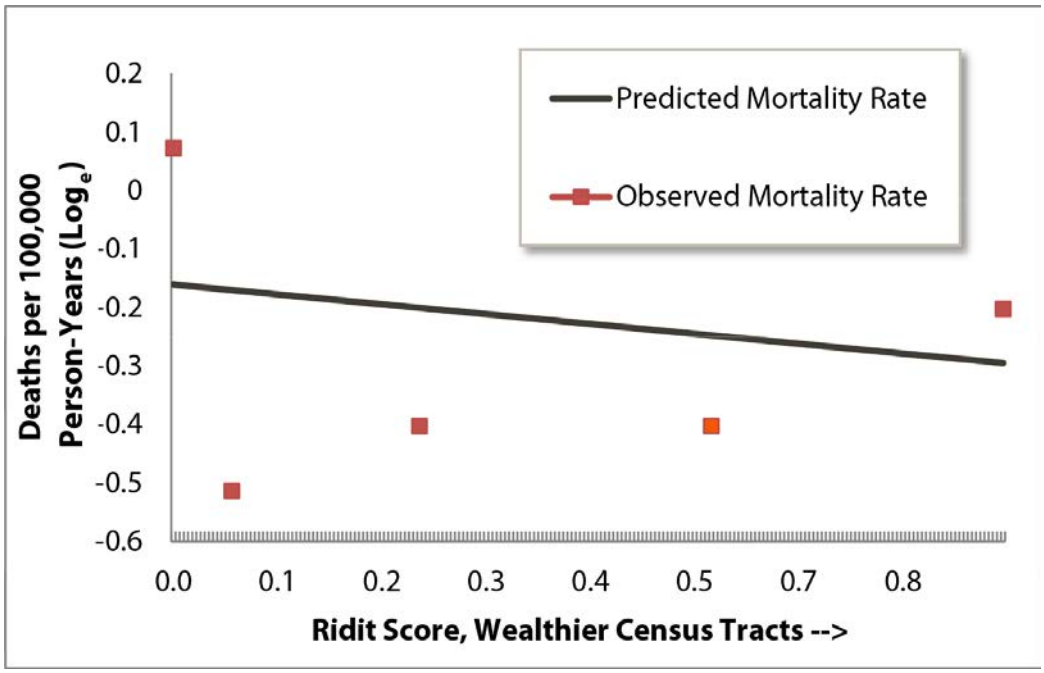
The SII can be plotted visually to better show the relationship between neighborhood wealth and cause-specific mortality rates. For example, Figure A-1 shows the SII for group cause of death 340

FIGURE A-1: SLOPE OF INDEX OF INEQUALITY RATES OF MORTALITY BY ASSAULT BY FIREARM, BARHII REGION, 2009-2011



or assault by firearm. Among all causes of death in the BARHII region, this cause had the strongest association with neighborhood wealth. As shown, the model fits the data well, is statistically significant, and shows how rates of mortality by firearm decrease as neighborhood wealth increases. Conversely, Figure A-2 shows little association with neighborhood wealth and rates of death by multiple sclerosis (group cause of death 149).

FIGURE A-2: SLOPE INDEX OF INEQUALITY RATES OF MORTALITY BY MULTIPLE SCLEROSIS, BARHII REGION, 2009-2011



APPENDIX B

Download and Analysis Steps for the American Community Survey

EDUCATIONAL ATTAINMENT FOR CENSUS TRACTS

Many of the most important SDOH-LC indicators in this guide come from the American Community Survey (ACS). These data are freely available for health departments to download. The steps presented here summarize a very complex survey and only introduce health departments to the ACS and the many technical considerations and limitations that will guide future work with it. The screen shots in steps 1 through 10 describe how to download the data for educational attainment data from the ACS. For the other indicators in the SDOH Guide from the ACS (i.e., income distribution, housing affordability, linguistic isolation), the steps are similar but the specific tables will differ. For health departments in California, the Healthy Community Indicators project has already collected and compiled these data for many of the ACS indicators, described in more detail in Appendix D.

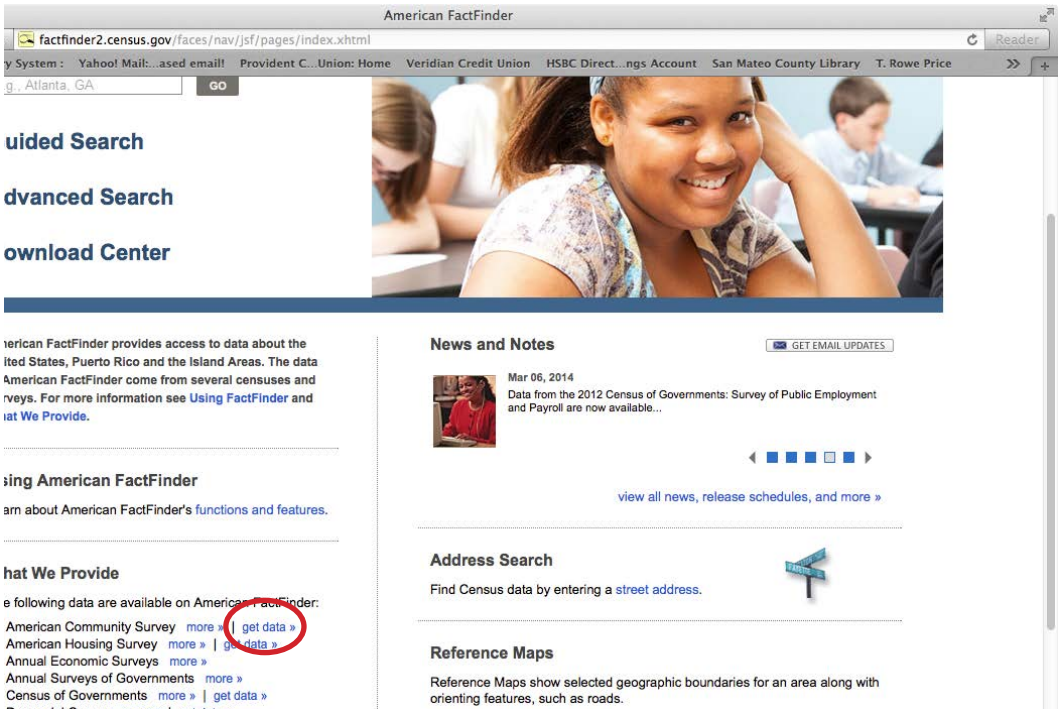
The educational attainment measure used here is as the percentage of adults 25 years and older with a high school diploma or equivalent or greater living in each Census tract. BARHII recommends Census-tract level analysis because it is the smallest level of geography with educational attainment data available. Also critical to SDOH indicator analysis is monitoring changes overtime at the Census tract level. Unfortunately, Census tract socioeconomic data have only been recently published, which limits time-series analysis at this level. However, time-series analysis will be available in the coming years. As a temporary solution, BARHII recommends monitoring educational attainment at the city/place level over time until more long-term, non-overlapping, Census tract data are available; see the next section.

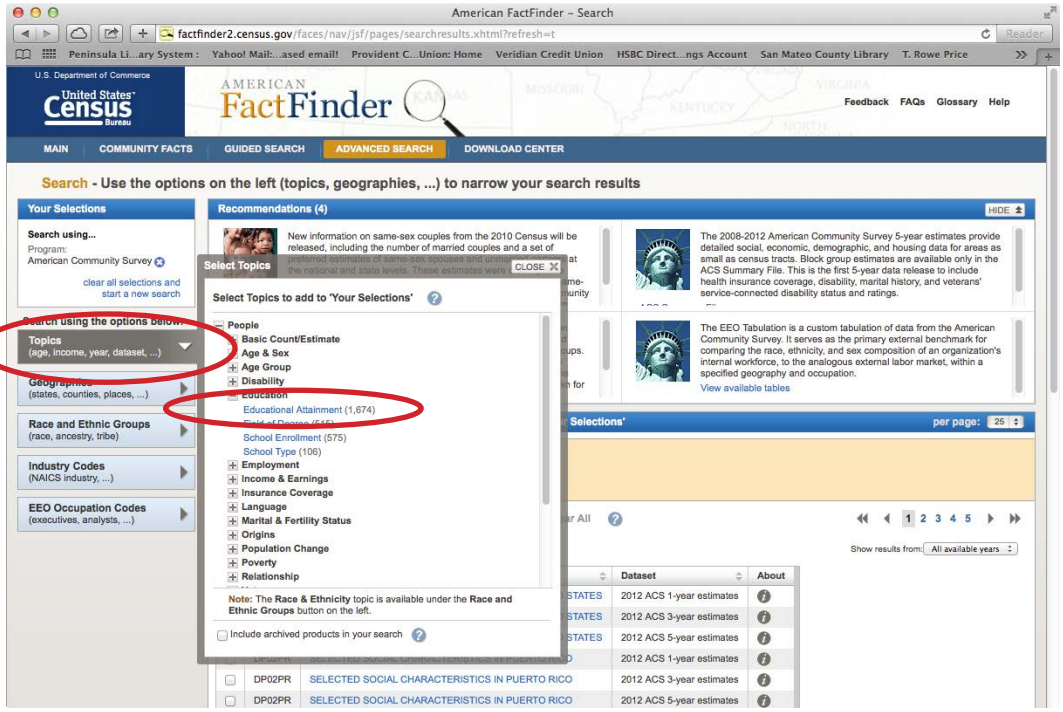
These procedures will show how to download a CSV file from the American Community Survey (ACS), which can be imported into all statistical software (e.g., SAS, SPSS, STATA) or Microsoft Excel. We will use Contra Costa County data as an example. GIS software is recommended to illustrate Census tracts where a health department and partners should further assess and address educational attainment. The maps shown here were made using Esri ArcMap GIS. For departments without GIS software, EpiInfo—a free database, statistical, and mapping software package from the CDC—can create basic maps of these data as well using tract shape files from the US Census http://www.census.gov/geo/maps-data/data/tiger.html.

Because this guide cannot describe all of the technical intricacies of the ACS, BARHII recommends reviewing the US Census Bureau publication "A Compass for Understanding and Using the American Community Survey Data, What Researchers Need to Know" http://www.census.gov/acs/www/Downloads/handbooks/ACSResearch.pdf to learn more about the capabilities and limitations of the ACS.

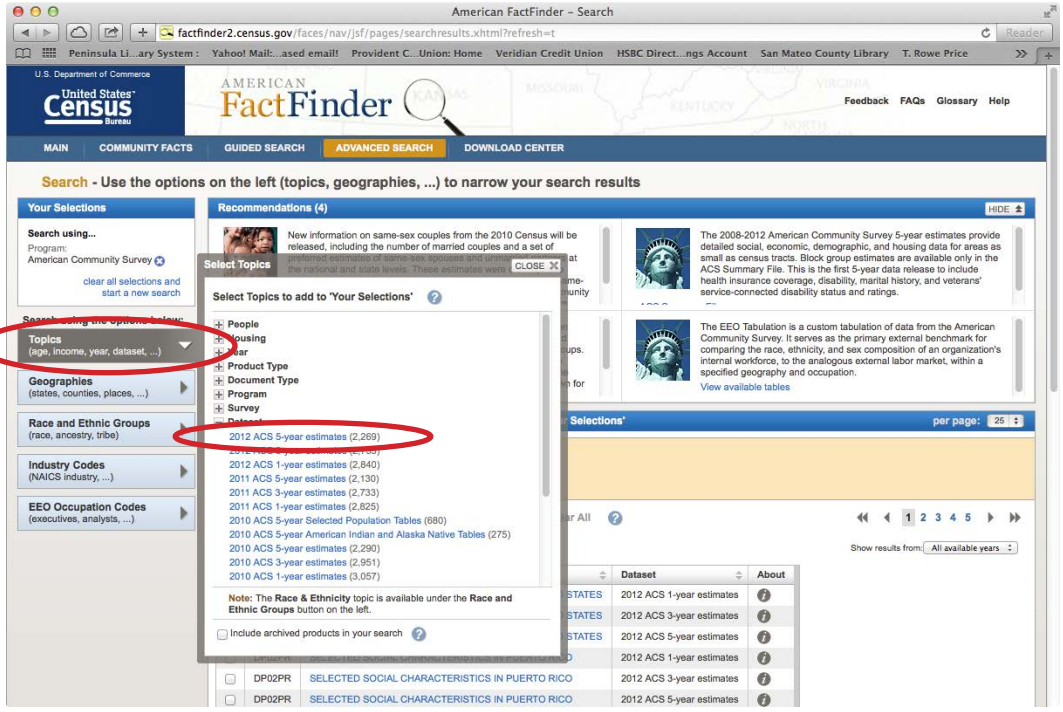
Part A: Procedures to Identify Census Tracts for Health Department Intervention in Educational Attainment using the American Community Survey

STEP 01. Visit the American FactFinder, and select "get data" next to the American Community Survey at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

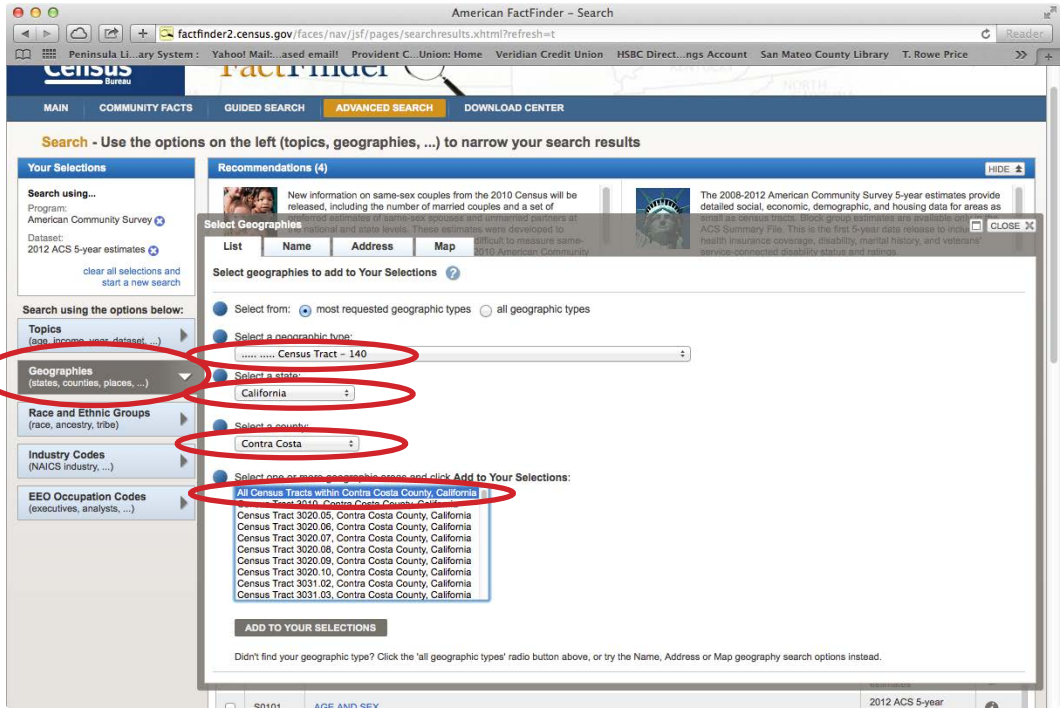




STEP 02. On the tool bar on the left hand side, in the "Topics" box, select "People" then "Education" and finally select "Educational Attainment." Educational attainment will appear in the box "your selections."

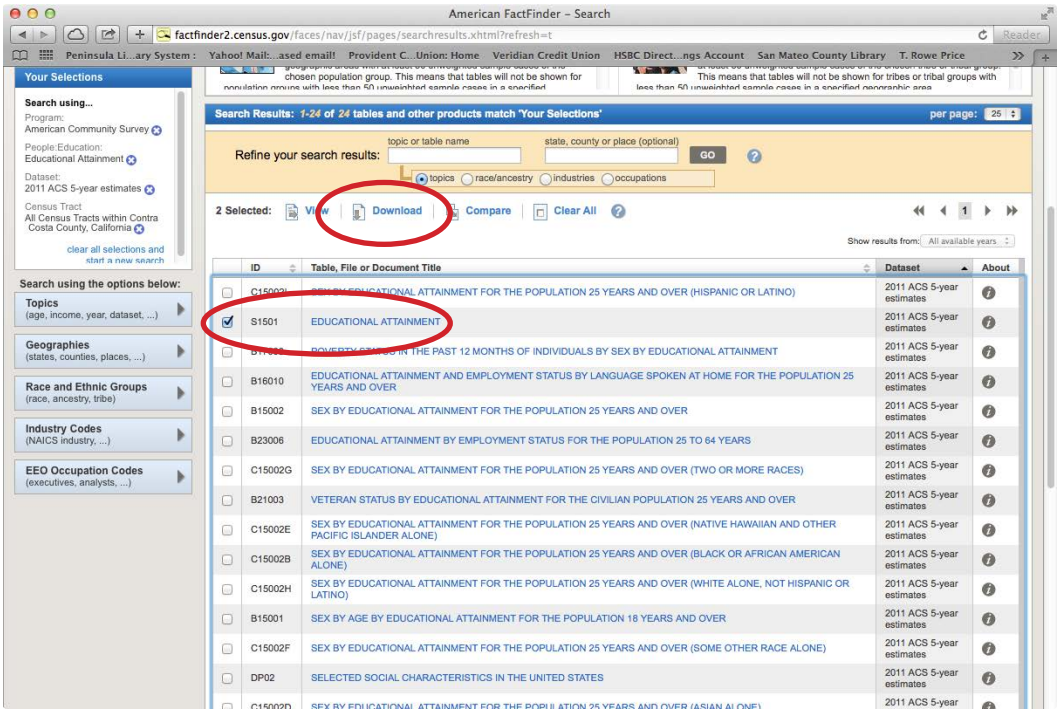


STEP 03. In the "Topics" box, select "Dataset" and then select 2011 American Community Survey 5-year Estimates. 2011 ACS 5-year Estimates will appear in the "Your Selections" box.



STEP 04. Under the "Geographies" box, select geographic type "Census tract – 140": and identify the state and county that you want to analyze. Select "Add to Your Selections"

and close the Select Geographies box. The selection "All Census Tracts within Contra



Costa County, California" is used in this example.

STEP 05. American FactFinder now shows a list of data tables found in the American Community Survey available for download. In this example, the variable S1501 Educational Attainment was selected by clicking the check box.

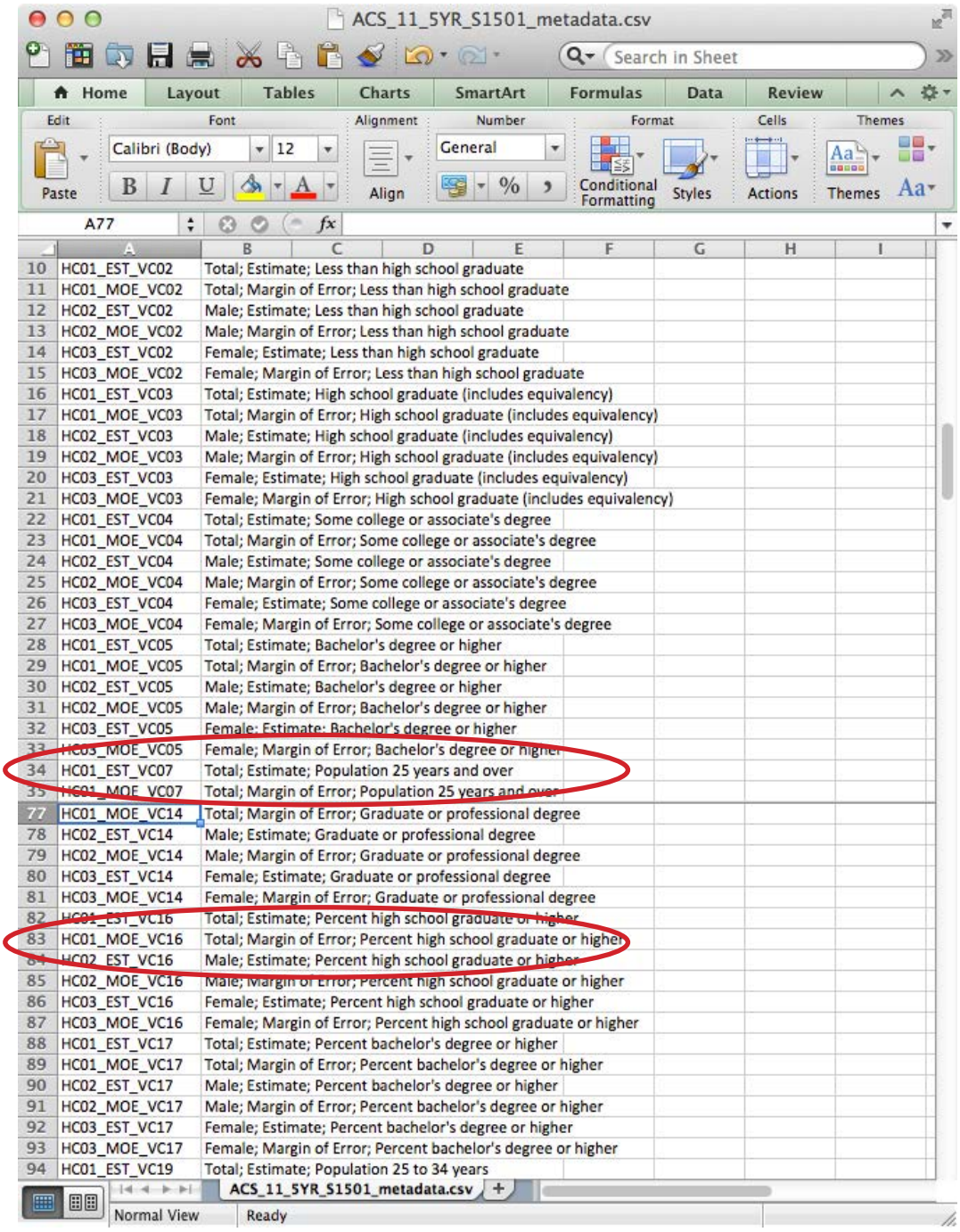
STEP 06. Download the data

STEP 07. American FactFinder will create a zip file containing the data in a .csv format, metadata, and other notes about data reliability.

STEP 08. Import the downloaded data into the statistical software of your choice or simply work with the data in Excel.

Steps 9 and 10 show how to assess the statistical reliability of this indicator

STEP 09. Using the metadata spreadsheet that accompanied the data, locate the variables for the total population aged 25 or over (HC01_EST_VC07), the number of high



	A	B
10	HC01_EST_VC02	Total; Estimate; Less than high school graduate
11	HC01_MOE_VC02	Total; Margin of Error; Less than high school graduate
12	HC02_EST_VC02	Male; Estimate; Less than high school graduate
13	HC02_MOE_VC02	Male; Margin of Error; Less than high school graduate
14	HC03_EST_VC02	Female; Estimate; Less than high school graduate
15	HC03_MOE_VC02	Female; Margin of Error; Less than high school graduate
16	HC01_EST_VC03	Total; Estimate; High school graduate (includes equivalency)
17	HC01_MOE_VC03	Total; Margin of Error; High school graduate (includes equivalency)
18	HC02_EST_VC03	Male; Estimate; High school graduate (includes equivalency)
19	HC02_MOE_VC03	Male; Margin of Error; High school graduate (includes equivalency)
20	HC03_EST_VC03	Female; Estimate; High school graduate (includes equivalency)
21	HC03_MOE_VC03	Female; Margin of Error; High school graduate (includes equivalency)
22	HC01_EST_VC04	Total; Estimate; Some college or associate's degree
23	HC01_MOE_VC04	Total; Margin of Error; Some college or associate's degree
24	HC02_EST_VC04	Male; Estimate; Some college or associate's degree
25	HC02_MOE_VC04	Male; Margin of Error; Some college or associate's degree
26	HC03_EST_VC04	Female; Estimate; Some college or associate's degree
27	HC03_MOE_VC04	Female; Margin of Error; Some college or associate's degree
28	HC01_EST_VC05	Total; Estimate; Bachelor's degree or higher
29	HC01_MOE_VC05	Total; Margin of Error; Bachelor's degree or higher
30	HC02_EST_VC05	Male; Estimate; Bachelor's degree or higher
31	HC02_MOE_VC05	Male; Margin of Error; Bachelor's degree or higher
32	HC03_EST_VC05	Female; Estimate; Bachelor's degree or higher
33	HC03_MOE_VC05	Female; Margin of Error; Bachelor's degree or higher
34	HC01_EST_VC07	Total; Estimate; Population 25 years and over
35	HC01_MOE_VC07	Total; Margin of Error; Population 25 years and over
77	HC01_MOE_VC14	Total; Margin of Error; Graduate or professional degree
78	HC02_EST_VC14	Male; Estimate; Graduate or professional degree
79	HC02_MOE_VC14	Male; Margin of Error; Graduate or professional degree
80	HC03_EST_VC14	Female; Estimate; Graduate or professional degree
81	HC03_MOE_VC14	Female; Margin of Error; Graduate or professional degree
82	HC01_EST_VC16	Total; Estimate; Percent high school graduate or higher
83	HC01_MOE_VC16	Total; Margin of Error; Percent high school graduate or higher
84	HC02_EST_VC16	Male; Estimate; Percent high school graduate or higher
85	HC02_MOE_VC16	Male; Margin of Error; Percent high school graduate or higher
86	HC03_EST_VC16	Female; Estimate; Percent high school graduate or higher
87	HC03_MOE_VC16	Female; Margin of Error; Percent high school graduate or higher
88	HC01_EST_VC17	Total; Estimate; Percent bachelor's degree or higher
89	HC01_MOE_VC17	Total; Margin of Error; Percent bachelor's degree or higher
90	HC02_EST_VC17	Male; Estimate; Percent bachelor's degree or higher
91	HC02_MOE_VC17	Male; Margin of Error; Percent bachelor's degree or higher
92	HC03_EST_VC17	Female; Estimate; Percent bachelor's degree or higher
93	HC03_MOE_VC17	Female; Margin of Error; Percent bachelor's degree or higher
94	HC01_EST_VC19	Total; Estimate; Population 25 to 34 years

school graduates or higher (HC01_EST_VC16), and their margins of error. HC01_MOE_VC07 and HC01_MOE_VC16, respectively.

Notes on Step 9: The formulae shown here is to calculate the coefficient of variation for a published proportion. There are other formulae to calculate the standard error

$$SE_p = \frac{MOE_p}{1.645}$$

and coefficient of variation depending on the statistic in question. For more details on this subject, review the following documentation.

STEP 10. Determine statistical reliability for the proportion used in Step 9 by calculating the standard error, 90% confidence interval and the coefficient of variation for each Census tract.

A. Using the downloaded data, apply the following formula to calculate the standard error for the published proportion.

SE_p standard error of the percent with a high school diploma, equivalent or above (HC01_EST_VC16)

MOE_p is the margin of error for the proportion of adults over 25 with a high school education, equivalent, or higher. (HC01_MOE_VC16)

$$CV_p = \frac{SE_p}{percentHS} * 100$$

B. Calculate the upper and lower 95% confidence limits for the estimate.

Upper and lower 95% confidence limits of the percent

LL_95cl = HC01_EST_VC16 – (HC01_MOE_VC16 * (1.96/1.645))

UL_95cl = HC01_EST_VC16 + (HC01_MOE_VC16 * (1.96/1.645))

C. Calculate the coefficient of variation from step a using this formula.

CV_p is the coefficient of variation for the percent.

SE_p is the standard error of the proportion of adults with a high school education or equivalent (calculated in step 10a.)

percentHS is the proportion of adults aged 25 or older with a high school education or equivalent (HC01_EST_VC16).

D. Display and interpret Census tracts with a coefficient of variation below 30% and display Census tracts with a CV slightly greater than 30% (e.g., 32%) with caution. For Census tracts with a coefficient of variation substantially greater than 30% (e.g., 80%), one of the following is recommended: 1) clearly indicate those Census tracts on any map or table; or 2) do not display those Census tracts and include the following language: "Data from these Census tracts are statistically unstable and unreliable; interpret with caution."

STEP 11. Map Census tracts with graduated symbols using the natural breaks or the geometric intervals method

We believe maps that assign warmer or more intense colors to Census tracts with more adverse SDOH indicators (i.e., graduated symbols) are among the most convincing and understandable ways to present place-based SDOH data to stakeholders and the general public. The display methods built in ArcGIS software sufficiently identify priority areas for SDOH data and are an essential part of any presentation on health inequity or the SDOHs, although more advanced geospatial analysis is recommended where applicable.

There are several ways to classify graduated symbols in ArcGIS, which include manual, equal interval, defined interval, quantile, natural breaks (Jenks), geometrical interval, and standard deviation. Details on these methods are at http://help.arcgis.com/en/arcgisdesktop/10.0/help/index.html.

We find natural breaks and geometrical interval to be the most useful, as they are both good at showing the range of values and the existence of outliers. The natural breaks function looks for groupings in the data that have breaks that best maximize the differences between classes. Geometrical interval is similar to natural breaks in how it looks for class intervals, while creating more consistent intervals between classes. ArcGIS software typically creates five classes of graduated symbols by default, which we believe is sufficient.

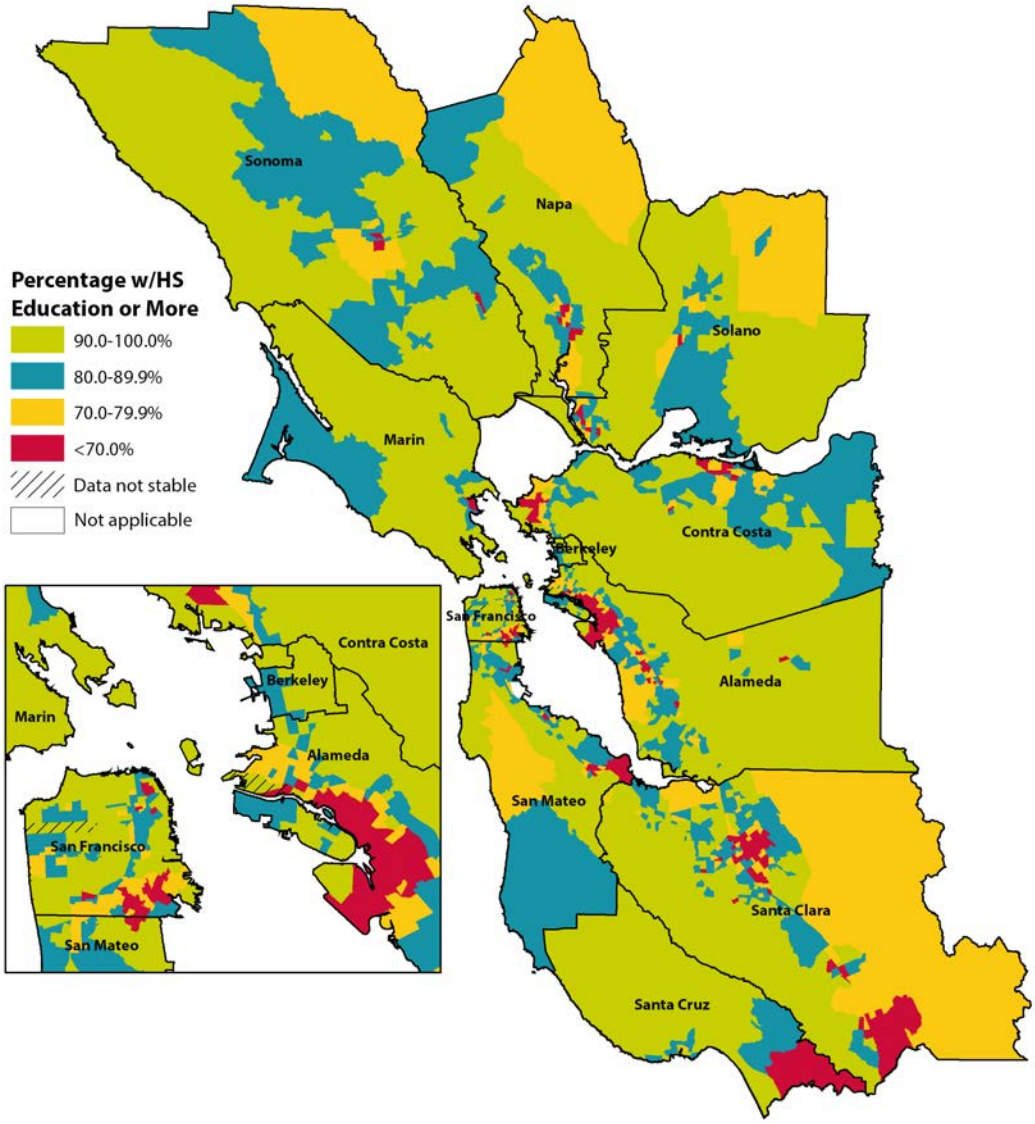
For the purposes of health department health equity work, Census tracts in the lowest performing symbol classes identified from the natural breaks or geometric interval should be designated as priority areas for focused SDOH health department assessment and intervention. For priority Census tracts that are deemed unreliable (see step 10d), we recommend two options: 1) consider pooling (reference the ACS guide here) with other unstable Census tracts that are similar in population composition (i.e., sparsely populated), physical geography (i.e., open space) or political designation (i.e., unincorporated areas vs cities and towns) 2) consider local data collection. If either of these methods is selected, it is advised to seek expert advice specific to your jurisdiction.

STEP 12. Identify priority areas identified from step 11. The map was generated based on this method. Areas that are identified as red are in the lowest performing group and should be prioritize for public health department intervention.

Part B: How to Monitor Educational Attainment Over Time Using the American Community Survey in Cities with 20,000 people or more.

It is recommended to track changes in educational attainment in the Census tract over time. Because of the small population size of a Census tract, tract-level trends are not currently available,

FIGURE B-1: PREVALENCE OF HIGH SCHOOL DIPLOMA OR ABOVE ADULTS 25+ YEARS, BARHII REGION



but they will be as time progresses. As a temporary solution, BARHII recommends to track educational attainment in cities with 20,000 people or greater using 3-yr estimates from the ACS.

The procedure below shows how to identify the cities with the lowest educational attainment to track over time. Cities in the Bay Area will be used in the example. It is the same procedure as that shown above, except a different table is used. BARHII recommends monitoring trends because comparing a locale with itself over time is an efficient way to monitor progress in SDOH.

STEP 01. Visit the American Fact Finder, and select "Get Data" next to the American Community Survey. http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml

STEP 02. On the tool bar on the left hand side, in the "Topics" box, select "People" then "Education" and finally select Educational Attainment. Educational attainment will appear in the box "Your Selections"

STEP 03. Under the "Topic Box, select "Dataset" and then select 2011 American Community Survey 3-year Estimates. 2011 ACS 3-year Estimates will appear in the box "Your Selections".

STEP 04. Under the geographies tool box, select geographic type "Place -160": and identify the state that you want to analyze. Close the "Select Geographies" box. All places in California are used as an example.

STEP 05. American Fact Finder will generate a list of variables that can be found in the American Community Survey available for download. In this example, the dataset S1501 educational attainment was selected by clicking the check box.

STEP 06. Download the data.

STEP 07. American Fact finder will create a zip file. The file will contain the data in a .csv format, metadata, and other notes about data reliability.

STEP 08. Import the downloaded data into the statistical software of your choice, including Excel.

STEP 09. Using the metadata spreadsheet that accompanied the data, locate the variables for the total population 25 or over, the percent of high school graduates or higher, and the margin of error for these variables.

$$SE_p = \frac{MOE_p}{1.645}$$

STEP 10. Using the downloaded data construct a spreadsheet as shown on page XX??.

EstimateHS = the estimated number of adults with a HS education or above

= (HC01_EST_VC16 * HC01_EST_VC07) / 100

PercentHS = the percentage of adults > 25 with a high school education or above

= HC01_EST_VC16

Total_ad25 = the total number of adults aged 25 or older

= HC01_EST_VC07

A. Using the downloaded data, apply the following formula to calculate the standard error for the published proportion.

$$CV_p = \frac{SE_p}{percentHS} * 100$$

SE_p = standard error of the percent with a high school diploma, equivalent or above (HC01_EST_VC16)

MOE_p is the margin of error for the proportion of adults over 25 with a high school education, equivalent or higher. (HC01_MOE_VC16)

B. Calculate the upper and lower 95% confidence limits for the estimate.

Upper and lower 95% confidence limits of the percent

LL_95cl = HC01_EST_VC16 – (HC01_MOE_VC16 * (1.96/1.645))

UL_95cl = HC01_EST_VC16 + (HC01_MOE_VC16 * (1.96/1.645))

C. Step 10c: Calculate the coefficient of variation from step A using this formula.

CV_p is the coefficient of variation for the percent.

SEp is the standard error of the proportion of adults with a high school education or equivalent (calculated in step 10a.)

percentHS is the proportion of adult aged 25 or older with a high school education or equivalent (HC01_EST_VC16).

Notes on Step 10: The formula shown here is to calculate a coefficient of variation for a published proportion. There are other formulae to calculate the standard error depending on the statistic and its use. For more details on this subject, review the following documentation: *Instructions for Applying Statistical Testing to the 2008-2010 3-Year Data and the 2006–2010 ACS 5-Year Data*, available at http://www.census.gov/acs/www/Downloads/data_documentation/Statistical_Testing/2010StatisticalTesting3and5year.pdf or *A Compass for Understanding and Using the American Community Survey Data, What Researchers Need to Know*, Appendix 3, at http://www.census.gov/acs/www/Downloads/handbooks/ACSResearch.pdf.

STEP 11. Calculate the total number of adults aged 25 or over in your jurisdiction or region. For the Bay Area: 4,357,754 adults.

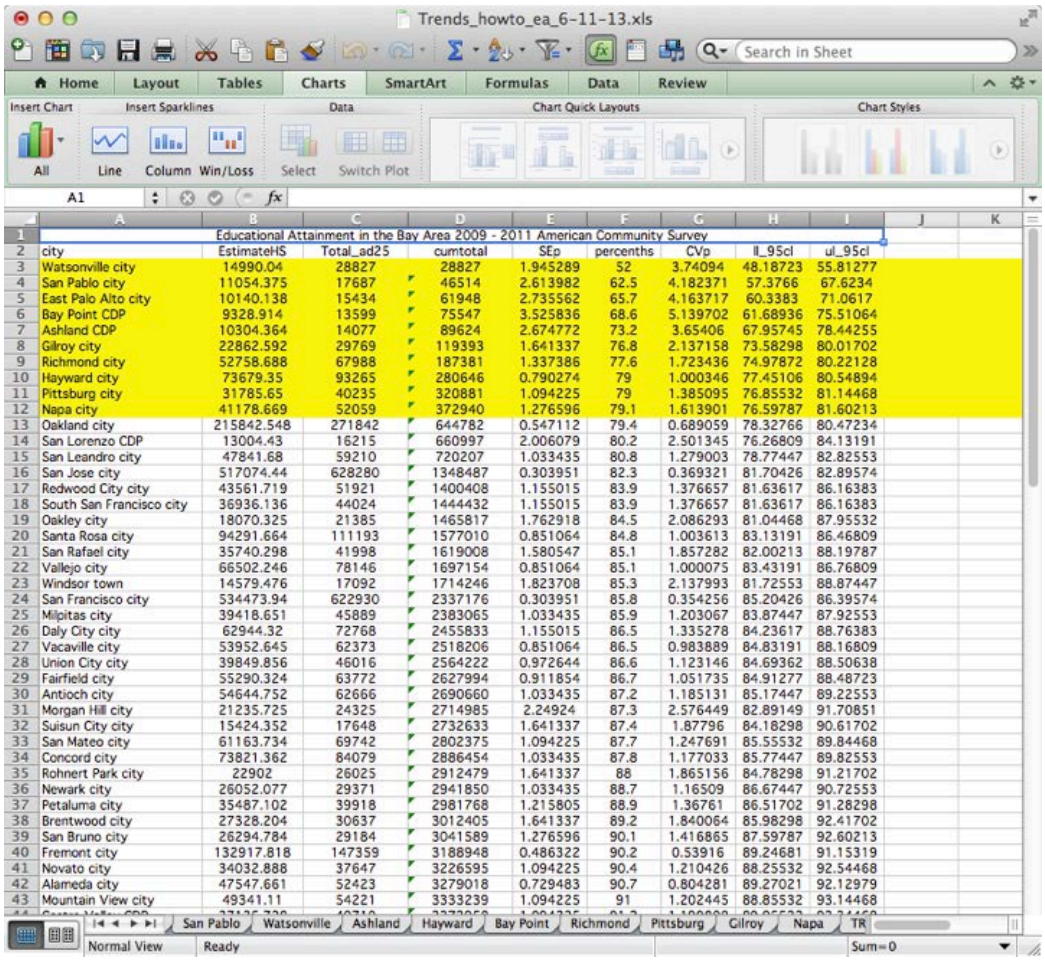
STEP 12. Sort the completed spreadsheet with the cities with the lowest percent of adults with a high school diploma or equivalent at the top.

STEP 13. Calculate a cumulative sum of adults aged 25 or over in the sorted spreadsheet and name it cumtotal.

STEP 14. Cities whose cumulative population (variable cumtotal calculated in step 13) is less than 10% of the jurisdictional or regional population of adults 25 and over (less than 435,775 based on the example in step 11) should be prioritized.

The 10% cutoff is arbitrary, but it serves as a good starting point for analysis absent other methods. The figure below outlines the priority cities using this method. Those cities are the ones health departments should consider for routine monitoring and forming community partnerships to address educational attainment. In the table below, this method identifies the following cities and unincorporated areas (CDP) in the Bay Area: Watsonville, San Pablo, East Palo Alto, Bay Point CDP, Ashland CDP, Gilroy, Richmond, Hayward, Pittsburg, and Napa because their cumulative population approaches 10% (372,940 adults) of the Bay Area total. Health departments are free to select and monitor cities not included in the cutoff group for other reasons.

STEP 15. Consider excluding the places identified in step 14 with a low population, a wide 95% confidence interval and/or a coefficient of variation greater than 30%. A city's



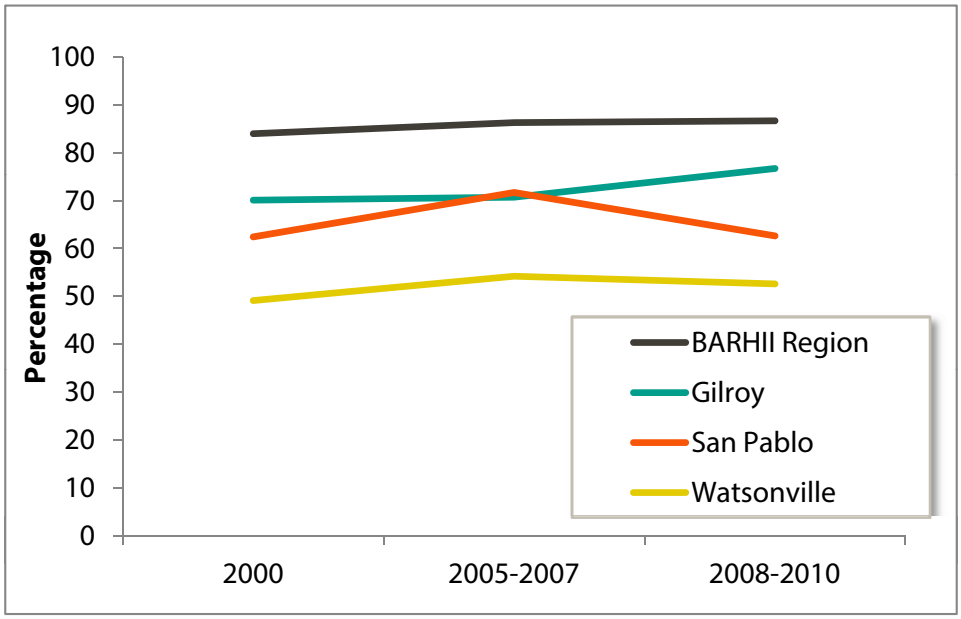
city	EstimateHS	Total_ad25	cumtotal	SEp	percenths	CVp	ll_95cl	ul_95cl
Watsonville city	14990.04	28827	28827	1.945289	52	3.74094	48.18723	55.81277
San Pablo city	11054.375	17687	46514	2.613982	62.5	4.182371	57.3766	67.6234
East Palo Alto city	10140.138	15434	61948	2.735562	65.7	4.163717	60.3383	71.0617
Bay Point CDP	9328.914	13599	75547	3.525836	68.6	5.139702	61.68936	75.51064
Ashland CDP	10304.364	14077	89624	2.674772	73.2	3.65406	67.95745	78.44255
Gilroy city	22862.592	29769	119393	1.641337	76.8	2.137158	73.58298	80.01702
Richmond city	52758.688	67988	187381	1.337386	77.6	1.723436	74.97872	80.22128
Hayward city	73679.35	93265	280646	0.790274	79	1.000346	77.45106	80.54894
Pittsburg city	31785.65	40235	320881	1.094225	79	1.385095	76.85532	81.14468
Napa city	41178.669	52059	372940	1.276596	79.1	1.613901	76.59787	81.60213
Oakland city	215842.548	271842	644782	0.547112	79.4	0.689059	78.32766	80.47234
San Lorenzo CDP	13004.43	16215	660997	2.006079	80.2	2.501345	76.26809	84.13191
San Leandro city	47841.68	59210	720207	1.033435	80.8	1.279003	78.77447	82.82553
San Jose city	517074.44	628280	1348487	0.303951	82.3	0.369321	81.70426	82.89574
Redwood City city	43561.719	51921	1400408	1.155015	83.9	1.376657	81.63617	86.16383
South San Francisco city	36936.136	44024	1444432	1.155015	83.9	1.376657	81.63617	86.16383
Oakley city	18070.325	21385	1465817	1.762918	84.5	2.086293	81.04468	87.95532
Santa Rosa city	94291.664	111193	1577010	0.851064	84.8	1.003613	83.13191	86.46809
San Rafael city	35740.298	41998	1619008	1.580547	85.1	1.857282	82.00213	88.19787
Vallejo city	66502.246	78146	1697154	0.851064	85.1	1.000075	83.43191	86.76809
Windsor town	14579.476	17092	1714246	1.823708	85.3	2.137993	81.72553	88.87447
San Francisco city	534473.94	622930	2337176	0.303951	85.8	0.354256	85.20426	86.39574
Milpitas city	39418.651	45889	2383065	1.033435	85.9	1.203067	83.87447	87.92553
Daly City city	62944.32	72768	2455833	1.155015	86.5	1.335278	84.23617	88.76383
Vacaville city	53952.645	62373	2518206	0.851064	86.5	0.983889	84.83191	88.16809
Union City city	39849.856	46016	2564222	0.972644	86.6	1.123146	84.69362	88.50638
Fairfield city	55290.324	63772	2627994	0.911854	86.7	1.051735	84.91277	88.48723
Antioch city	54644.752	62666	2690660	1.033435	87.2	1.185131	85.17447	89.22553
Morgan Hill city	21235.725	24325	2714985	2.24924	87.3	2.576449	82.89149	91.70851
Suisun City city	15424.352	17648	2732633	1.641337	87.4	1.87796	84.18298	90.61702
San Mateo city	61163.734	69742	2802375	1.094225	87.7	1.247691	85.55532	89.84468
Concord city	73821.362	84079	2886454	1.033435	87.8	1.177033	85.77447	89.82553
Rohnert Park city	22902	26025	2912479	1.641337	88	1.865156	84.78298	91.21702
Newark city	26052.077	29371	2941850	1.033435	88.7	1.16509	86.67447	90.72553
Petaluma city	35487.102	39918	2981768	1.215805	88.9	1.36761	86.51702	91.28298
Brentwood city	27328.204	30637	3012405	1.641337	89.2	1.840064	85.98298	92.41702
San Bruno city	26294.784	29184	3041589	1.276596	90.1	1.416865	87.59787	92.60213
Fremont city	132917.818	147359	3188948	0.486322	90.2	0.53916	89.24681	91.15319
Novato city	34032.888	37647	3226595	1.094225	90.4	1.210426	88.25532	92.54468
Alameda city	47547.661	52423	3279018	0.729483	90.7	0.804281	89.27021	92.12979
Mountain View city	49341.11	54221	3333239	1.094225	91	1.202445	88.85532	93.14468

prevalence of high school education or equivalent that meets any of these criteria is considered unstable and should be interpreted with caution.

STEP 16. For each priority city, download 3-yr estimates of educational attainment by city from previous years' ACS and the 2000 Census and repeat through step 10. Construct a trend graph showing changes in educational attainment and their associated 95% confidence intervals in these cities. BARHII, following the Census Bureau's guidance, does not recommend charting overlapping three-year estimates (i.e., 2007-2009, 2008-2010, and 2009-2011) to monitor trends.

STEP 17. Considering prioritizing the cities identified in step 14 with declines in educational attainment over time followed by cities with no change in educational attainment in the charts in step 15. Based on these criteria, the cities of Watsonville and San Pablo should be prioritized for further public health assessment because of the decline.

FIGURE B-2: PREVALENCE OF HIGH SCHOOL DIPLOMA OR ABOVE ADULTS 25+ YEARS, BARHII REGION AND SELECTED CITIES, 2000 TO 2008-2010



As an example interpretation, the review of these charts indicates that educational attainment for the BARHII Region has remained steady since 2000. Among the cities with the lowest educational attainment in the Bay Area (Watsonville and San Pablo), improvement in the educational attainment of those cities population peaked in the years 2005–2007 but declined near to year 2000 levels in 2010. Gilroy, another city with lower educational attainment in the Bay Area, has seen the most improvement in educational attainment since 2005–2007. Balance the results and limitations of this analysis with political considerations to identify the local agencies and institutions in the cities identified in step 16 for potential partnership.

APPENDIX C

Download and Analysis Steps for the California Health Interview Survey

THE CALIFORNIA HEALTH INTERVIEW SURVEY

The California Health Interview Survey (CHIS) is the nation's largest state health survey and a critical source of data on Californians as well as on the state's various racial and ethnic groups. It is a quick and easy online tool that enables anyone to search and compare health statistics by county, region, or across California.

AskCHIS is a free online tool that enables you to search for and compare health statistics on your county or region and the state as a whole, based on data from the CHIS. See http://healthpolicy.ucla.edu/chis/Pages/default.aspx. For a tutorial on how to use AskCHIS, see http://healthpolicy.ucla.edu/chis/data/Pages/askchis-tour1.aspx.

While CHIS is a complex, well-designed survey, it has some limitations. First, historically, estimates from CHIS below the county level (e.g., city, Census tract) have been unavailable without oversampling at considerable expense. However, in late 2014, CHIS will begin to release sub-county estimates based on small-area analysis. For the time being, the ability to monitor historical trends from CHIS at these smaller geographies will be limited. Second, estimates about smaller population groups may not be sufficiently statistically reliable for public health practice. Third, for some indicators, CHIS collects data from selected groupings or sample populations (e.g., food insecurity questions are only asked of adults with household incomes that are less than 200% of the federal poverty level).

Considering the limitations of CHIS (and phone-based surveys in general), BARHII suggests that health departments always triangulate estimates from CHIS with other SDOH and other neighborhood-level data. While the example provided is for CHIS, this method to identify priority places and populations for a health outcome or social determinant of health can be applied to local surveys or others outside of California.

How to Use AskCHIS to find information on Food Security

STEP 01. Go to http://ask.chis.ucla.edu and log in or create a username and password for the site.

STEP 02. On the first screen, select the geographic area of interest. Click the "Specific Counties in California" button.

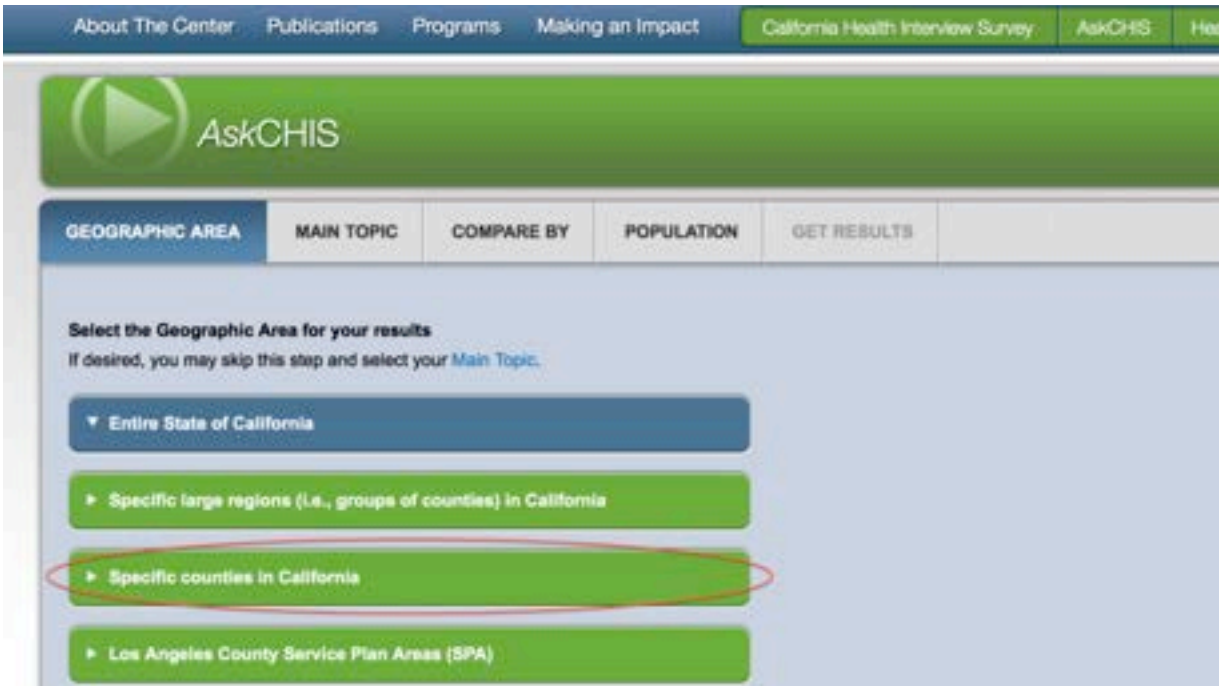
STEP 03. Select your county. For BARHII member counties, select all counties in the Greater Bay Area and Santa Cruz.

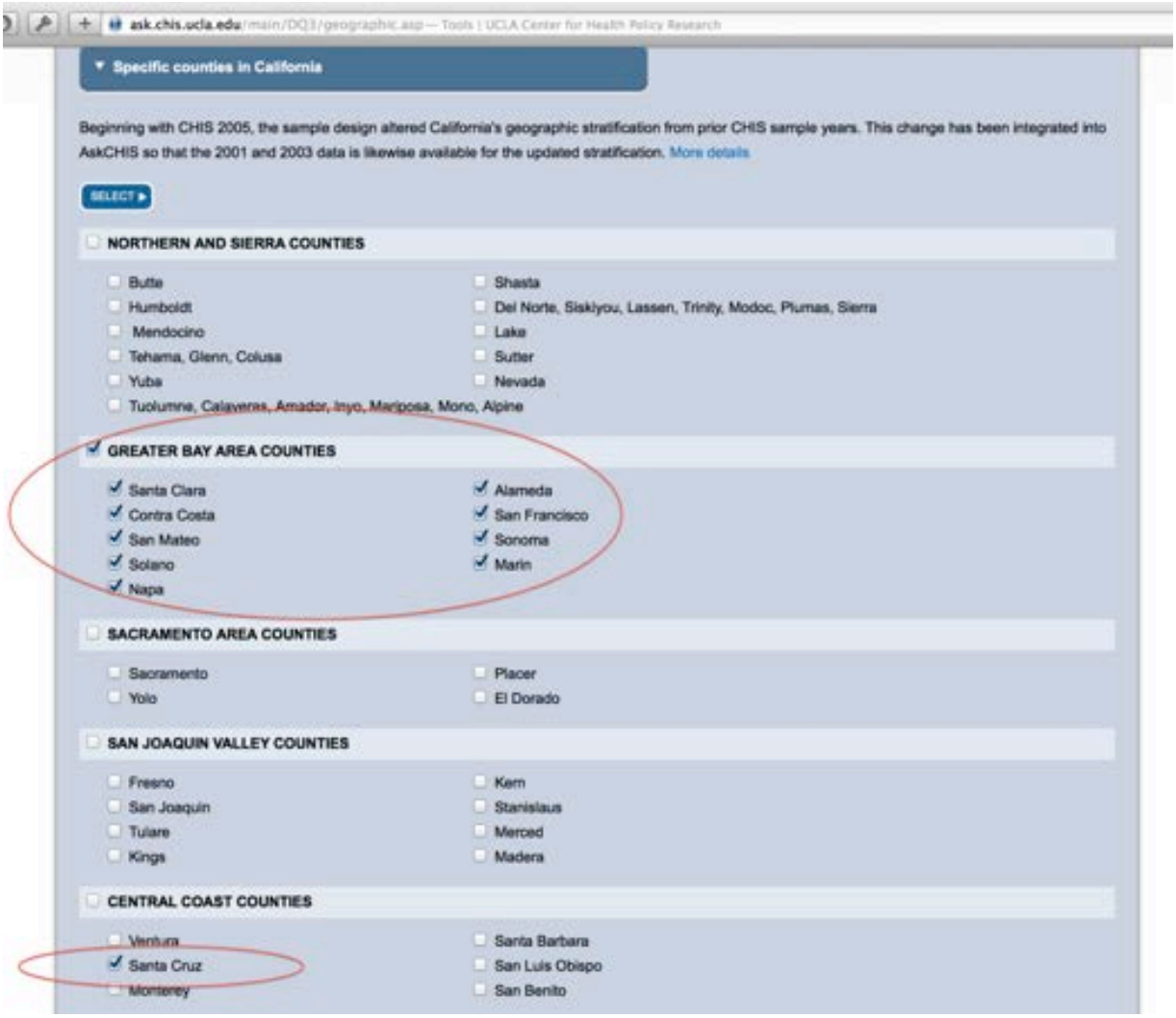
STEP 04. Click on the "Main Topic" tab at the top of the screen. Select "Public Program Participation" then click the "Select" button next to "Food security (ability to afford

enough food)" to select food security as the main topic. For other years or related data, scroll through the list of main topics to find the topic area or year of interest.

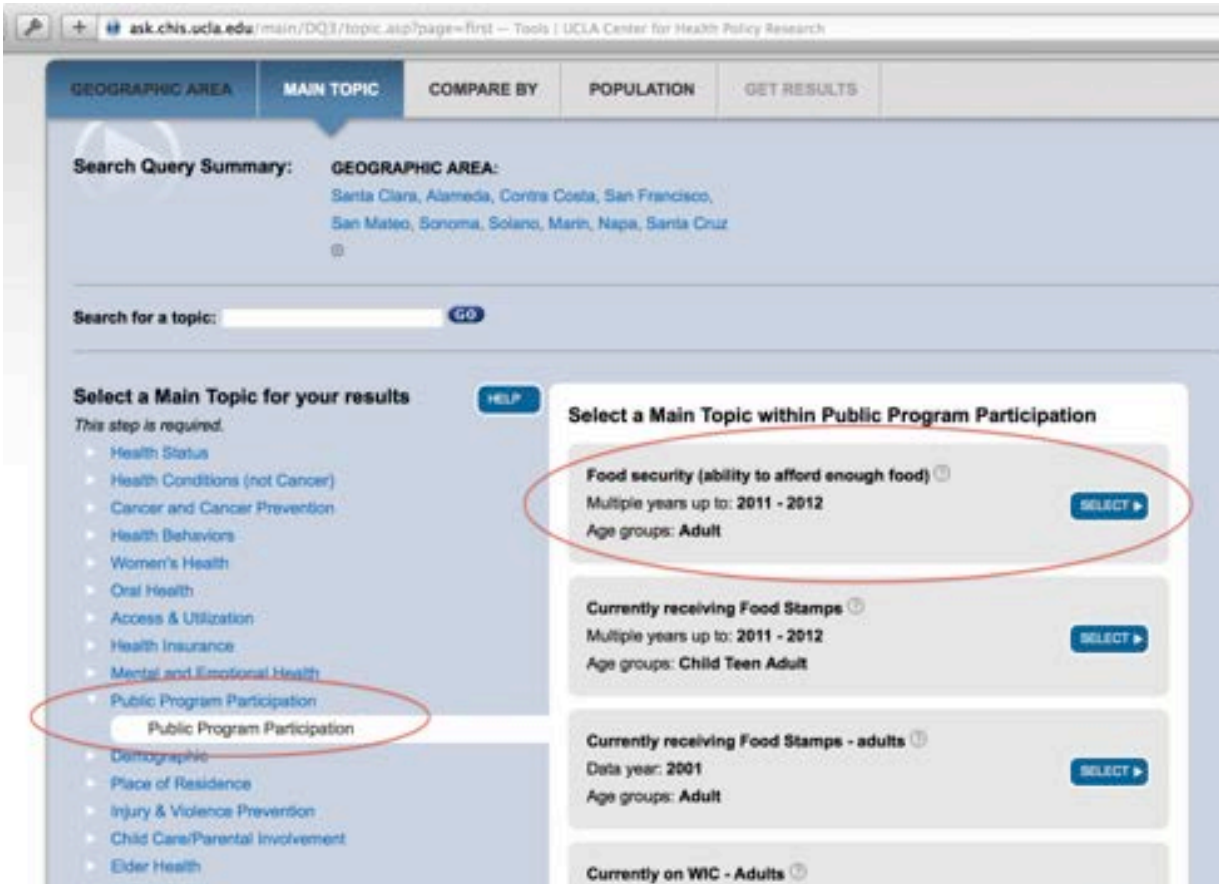
STEP 05. Click on the "Compare By" tab at the top of the screen. To compare food security by race/ethnicity, click on "Demographic" from the list of topics.

STEP 06. To compare food security by race/ethnicity, click "Race/Ethnicity" from the list of demographic topics. On the right AskCHIS will display be a list of available race/ethnicity variables. Select "Race—OMB/Department of Finance" by clicking the "Select" button next to the variable. To see the categories for the variable, click on the

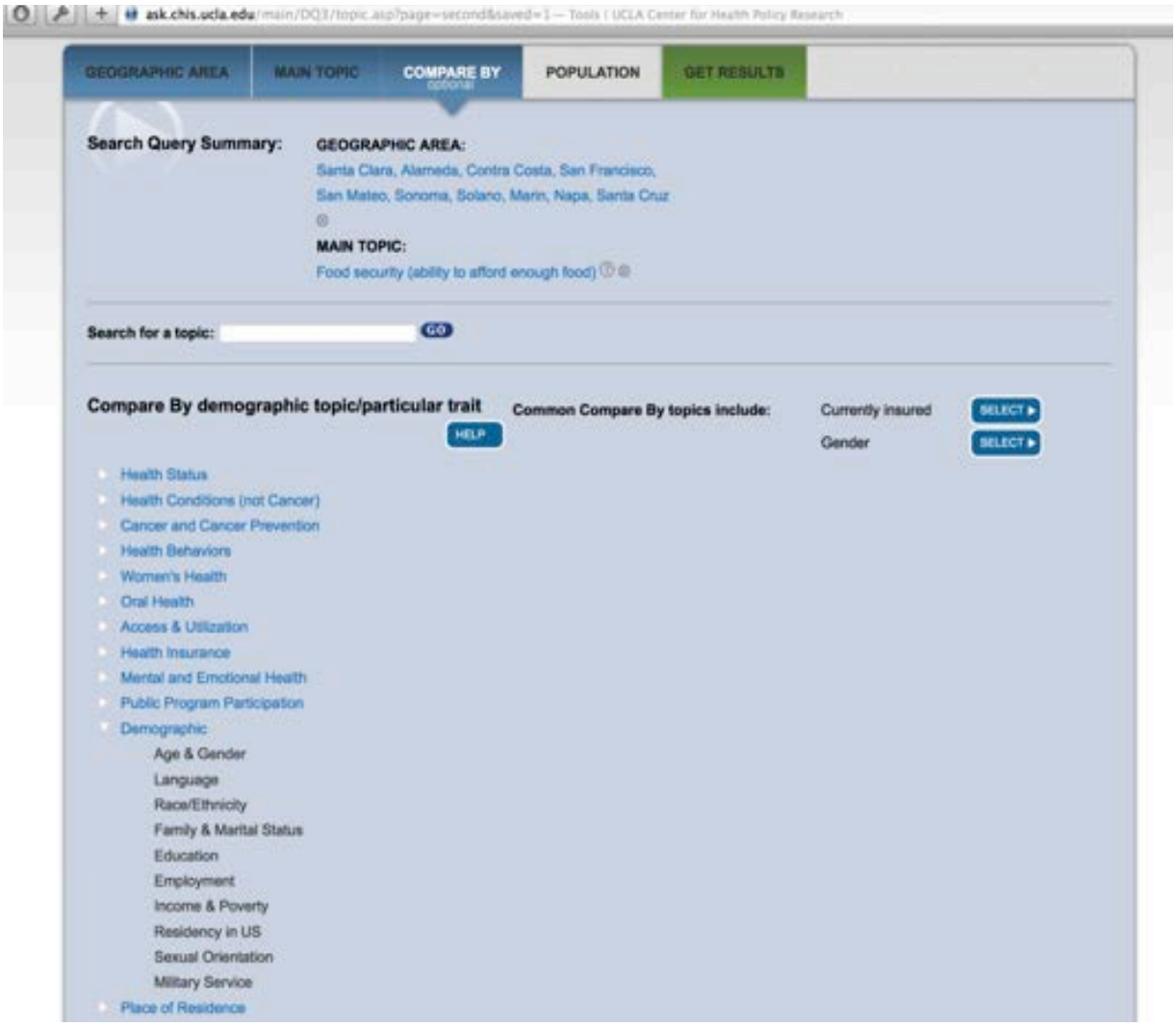



ask.chis.ucla.edu/main/DQ3/geographic.asp — Tools | UCLA Center for Health Policy Research
Specific counties in California
Beginning with CHIS 2005, the sample design altered California's geographic stratification from prior CHIS sample years. This change has been integrated into AskCHIS so that the 2001 and 2003 data is likewise available for the updated stratification. More details
SELECT
NORTHERN AND SIERRA COUNTIES
Butte
Humboldt
Mendocino
Tehama, Glenn, Colusa
Yuba
Tuolumne, Calaveras, Amador, Inyo, Mariposa, Mono, Alpine
Shasta
Del Norte, Siskiyou, Lassen, Trinity, Modoc, Plumas, Sierra
Lake
Sutter
Nevada
GREATER BAY AREA COUNTIES
Santa Clara
Contra Costa
San Mateo
Solano
Napa
Alameda
San Francisco
Sonoma
Marin
SACRAMENTO AREA COUNTIES
Sacramento
Yolo
Placer
El Dorado
SAN JOAQUIN VALLEY COUNTIES
Fresno
San Joaquin
Tulare
Kings
Kern
Stanislaus
Merced
Madera
CENTRAL COAST COUNTIES
Ventura
Santa Cruz
Monterey
Santa Barbara
San Luis Obispo
San Benito

question mark symbol next to the variable title. To use different race/ethnicity classifications or race/ethnicity variables from previous administrations of CHIS, scroll through the list of variables to find the categories of interest.



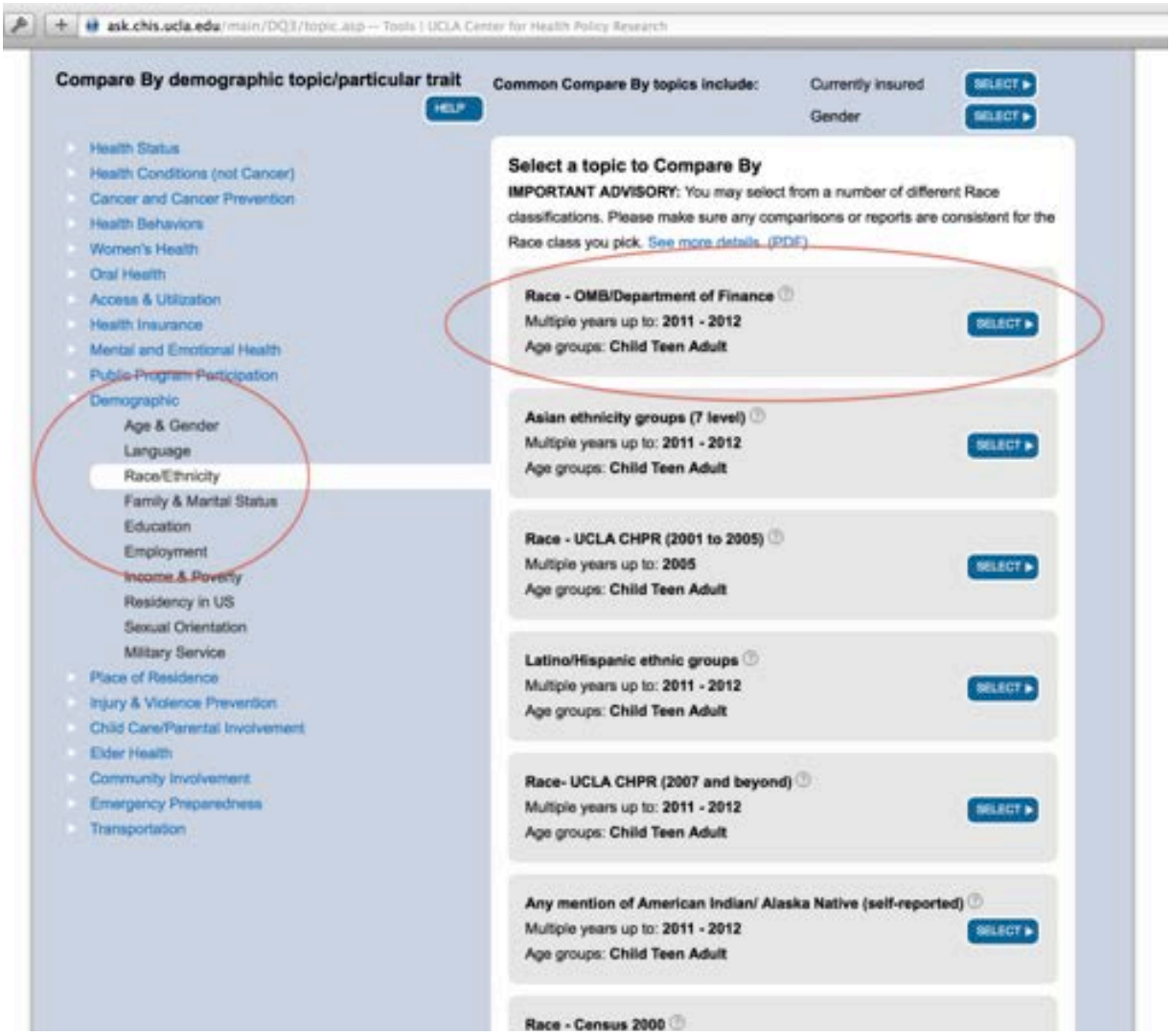
STEP 07. Click on the "Population" tab at the top of the screen. This screen gives users the option to limit the population included in the results. Users can select a specific age



range, race/ethnicity, gender, or federal poverty level as part of their query.

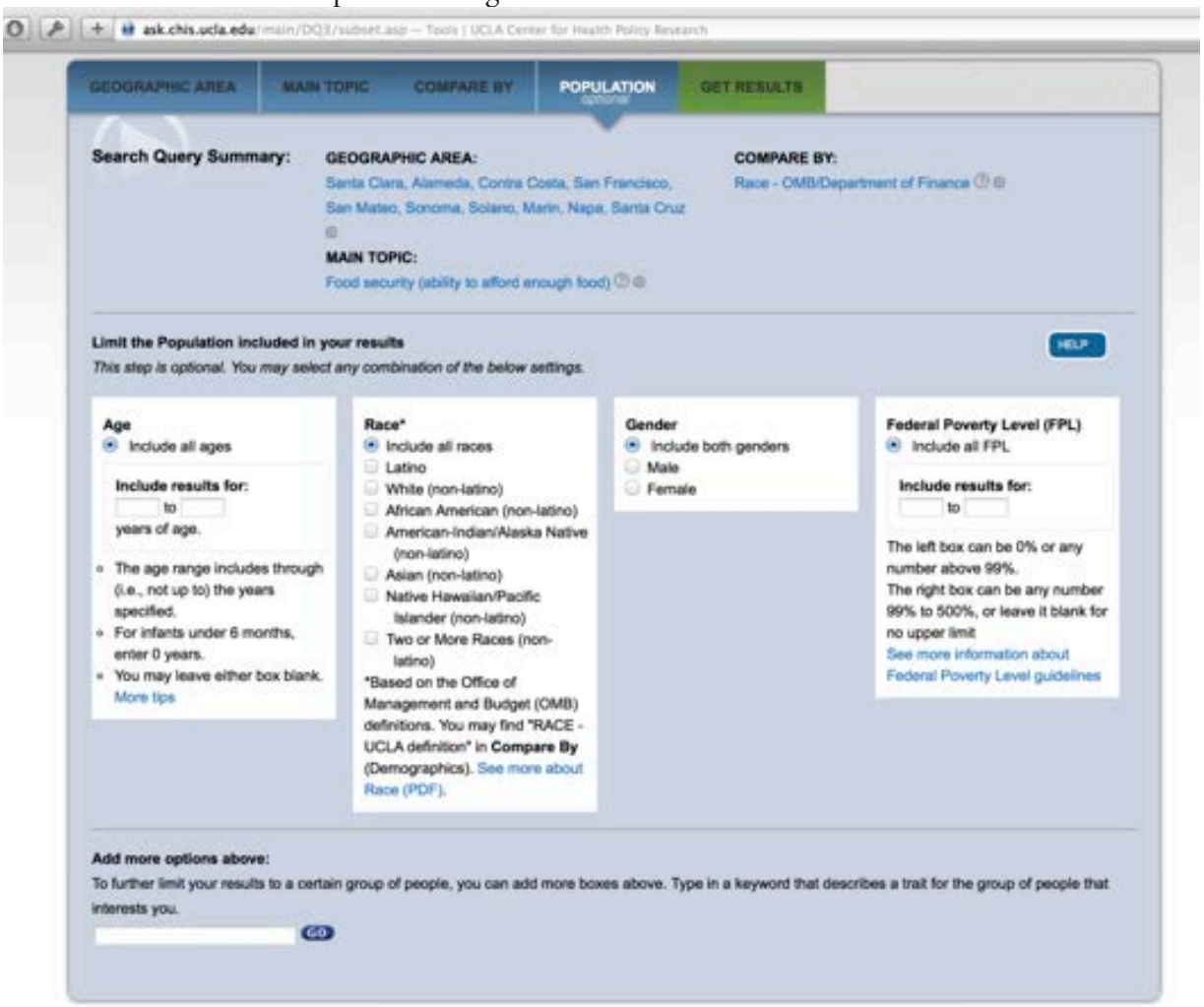
In this example, ensure that the "Include all" option is selected for each of the categories (because we want to compare results for all low-income adults), then click the "Get Results" tab at the top of the page.

STEP 08. The resulting search query screen shows food security among low-income adults by race/ethnicity. Each cell contains the percentage of low-income adults who are food



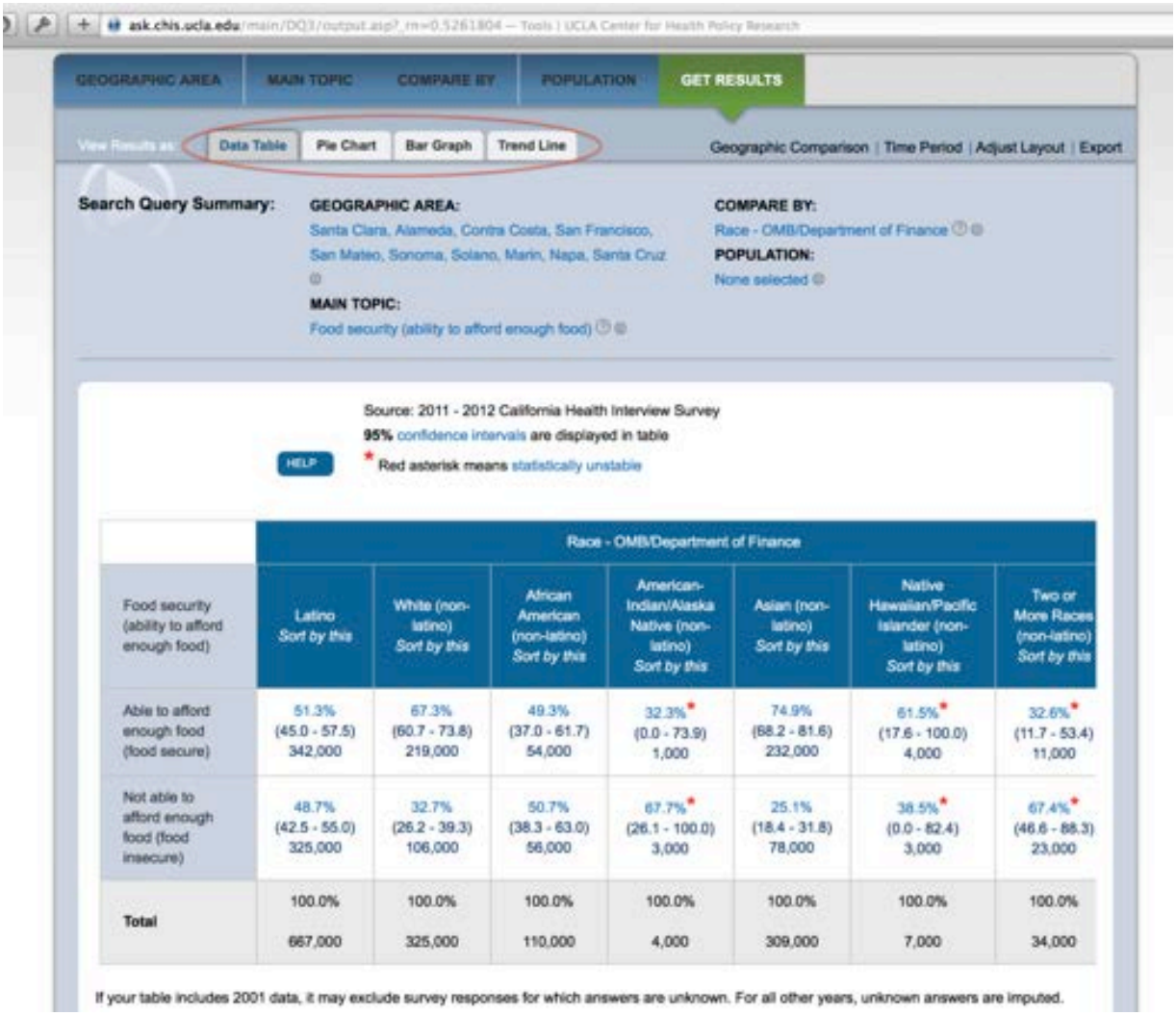
secure or food insecure within a racial/ethnic group, along with the confidence interval, and estimated count (estimated number of low-income adults in the Bay Area). For example, in the Bay Area, 51.2% of low-income Hispanic/Latino adults experienced food insecurity in the past year, compared to only 28.9% of low-income White (non-Hispanic/Latino) adults.

Cells marked with a red asterisk mean that the data may be statistically unstable due to a small sample size or high relative standard error. Unstable cells should be viewed



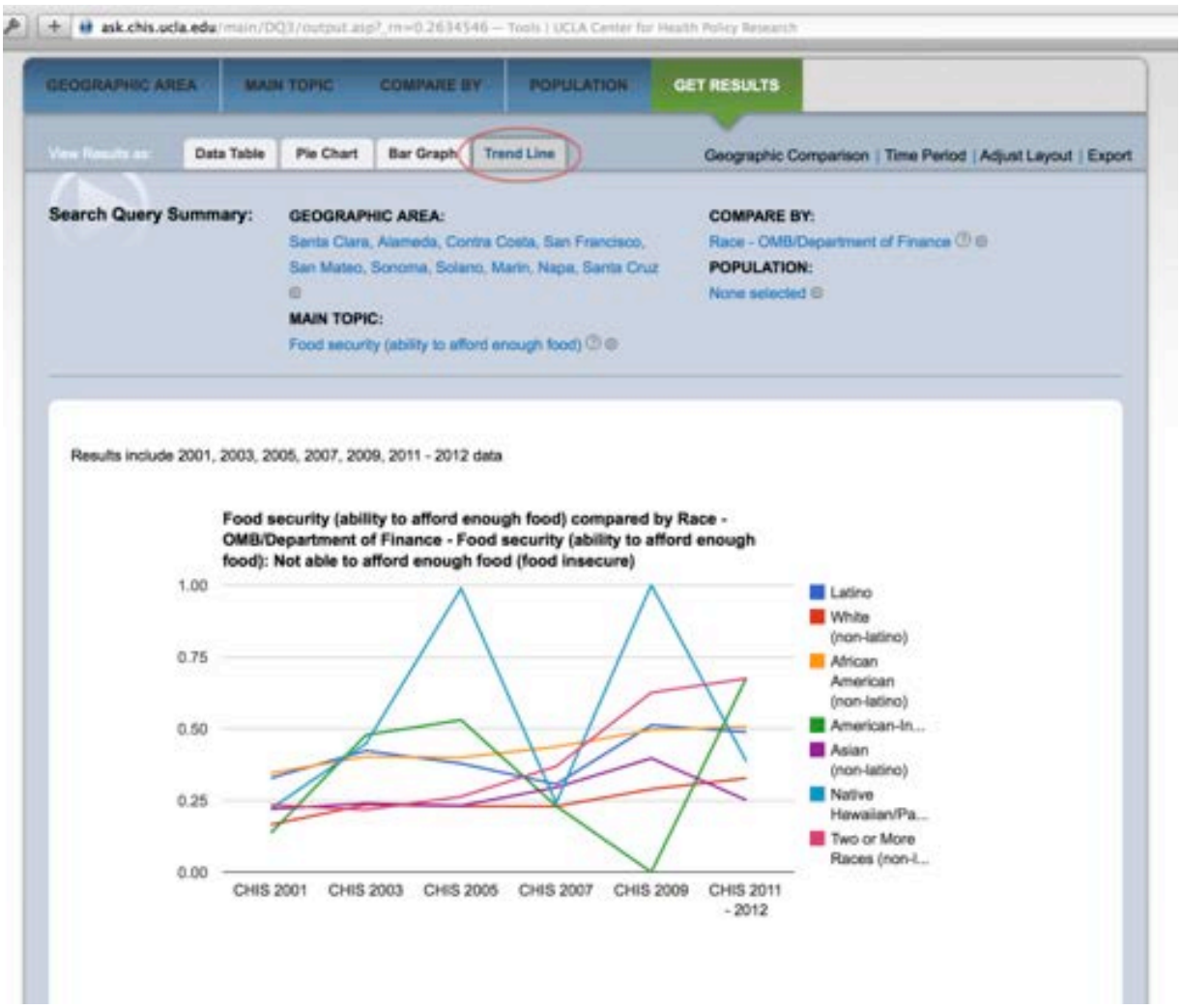
with caution and clearly indicated as unstable if ever presented publicly. For a detailed discussion on statistical stability in CHIS, please visit the methodology section at http://healthpolicy.ucla.edu/chis/design/Pages/methodology.aspx. Results can be viewed as a data table, pie chart, bar graph, or trend line by clicking on these tabs at the top of the screen.

STEP 09. Identify the racial/ethnic groups with statistically unstable results in step 8. In the example above, estimates for American-Indian/Alaska Natives and Native Hawaiian/Pacific Islanders are statistically unstable.



STEP 10. Run trend analysis of food insecurity for the region and by racial/ethnic groups by clicking the "Trend Line" tab.

STEP 11. Interpret the trend chart to determine priority populations among racial/ethnic groups with statistically stable estimates.


ask.chis.ucla.edu/main/DQ3/output.asp?_rn=0.2634546 — Tools | UCLA Center for Health Policy Research
GEOGRAPHIC AREA
MAIN TOPIC
COMPARE BY
POPULATION
GET RESULTS
View Results as:
Data Table
Pie Chart
Bar Graph
Trend Line
Geographic Comparison | Time Period | Adjust Layout | Export
Search Query Summary:
GEOGRAPHIC AREA:
Santa Clara, Alameda, Contra Costa, San Francisco, San Mateo, Sonoma, Solano, Marin, Napa, Santa Cruz
MAIN TOPIC:
Food security (ability to afford enough food)
COMPARE BY:
Race - OMB/Department of Finance
POPULATION:
None selected
Results include 2001, 2003, 2005, 2007, 2009, 2011 - 2012 data
Food security (ability to afford enough food) compared by Race - OMB/Department of Finance - Food security (ability to afford enough food): Not able to afford enough food (food insecure)
1.00
0.75
0.50
0.25
0.00
CHIS 2001
CHIS 2003
CHIS 2005
CHIS 2007
CHIS 2009
CHIS 2011 - 2012
Latino
White (non-latino)
African American (non-latino)
American-In...
Asian (non-latino)
Native Hawaiian/Pa...
Two or More Races (non-l...

APPENDIX D

Download and Analysis Steps for the
Healthy Community Data and Indicators Project

For LHDs in California, the Healthy Community Data and Indicators Project of the California Department of Public Health has collected and compiled data from many sources. As of October 2014, the project includes 21 indicators in various domains: meets basic needs of all, quality and sustainability of environment, adequate levels of economic, social development, health and social equity, and social relationships that are supportive and respectful. For details see http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx.

Follow these steps at the above link to download data from the California Air Resources Board. Epidemiologists from areas outside California would need to contact their state air resources board for these data.

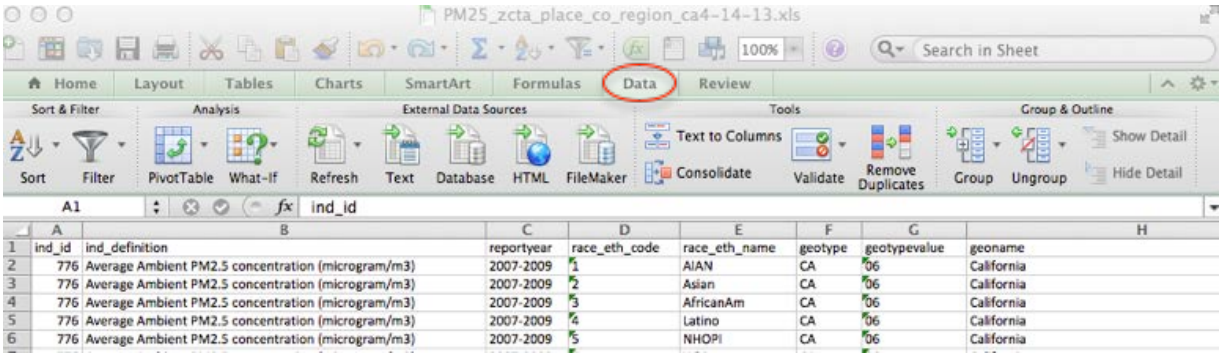
STEP 01. To the left of the indicator of interest, click the PDF icon for a summary of information about the indicators, the data source, and other information. To download the dataset, click the Excel icon to the left of the indicator. This will start the download of the spreadsheet. Other indicators may have downloadable data available as a zipped file.

STEP 02. When the spreadsheet has finished downloading, open it. The indicator spreadsheet will have four tabs. For PM2.5, the first tab is called "PM25_zcta_place_co_region_ca," and contains the data of interest. The second tab, "Data Dictionary," contains information on each of the columns in the first tab. The third tab, "DataFilteringInstructions" contains information on how to select geographic areas of interest. These instructions are also contained in this SDOH Guide. The fourth tab, "MPO_County list" provides a MPO (metropolitan planning organizations) region-to-county crosswalk. This is especially important when analyzing data by region in the California.

STEP 03. **Data filtering instructions**

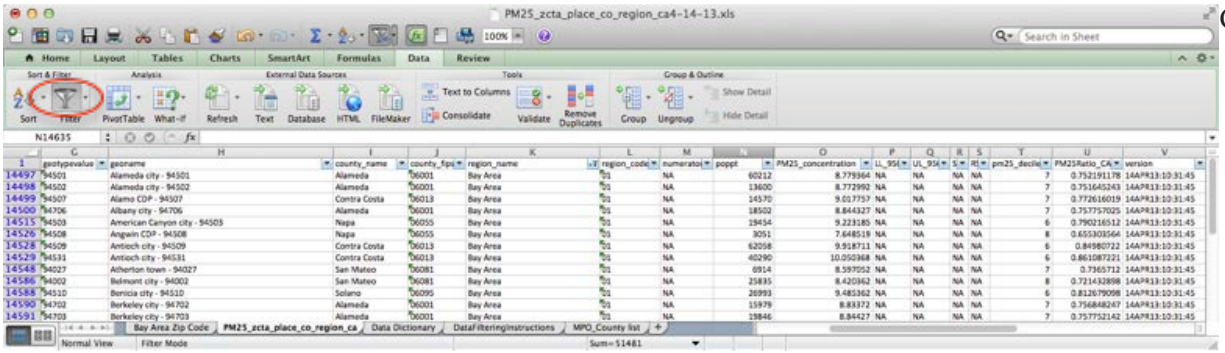
The following procedures demonstrate how to set up a file for mapping zip code data for the San Francisco Bay Area.

A. Place cursor in the worksheet.



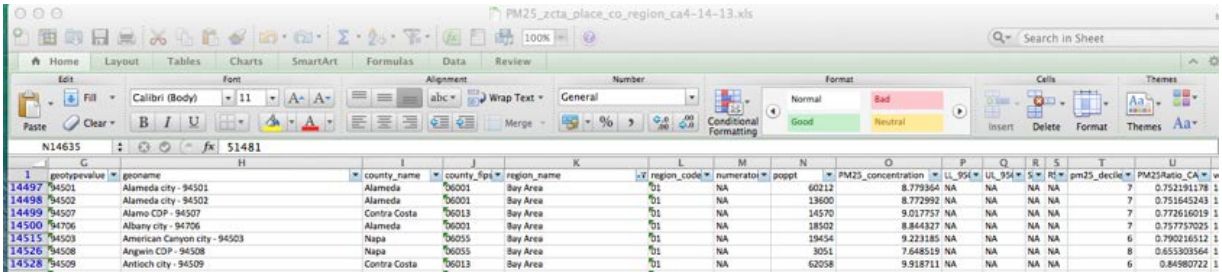
	A	B	C	D	E	F	G	H
1	ind_id	ind_definition	reportyear	race_eth_code	race_eth_name	geotype	geotypevalue	geoname
2	776	Average Ambient PM2.5 concentration (microgram/m3)	2007-2009	1	AIAN	CA	06	California
3	776	Average Ambient PM2.5 concentration (microgram/m3)	2007-2009	2	Asian	CA	06	California
4	776	Average Ambient PM2.5 concentration (microgram/m3)	2007-2009	3	AfricanAm	CA	06	California
5	776	Average Ambient PM2.5 concentration (microgram/m3)	2007-2009	4	Latino	CA	06	California
6	776	Average Ambient PM2.5 concentration (microgram/m3)	2007-2009	5	NHOPI	CA	06	California

B. Click the ”Data” tab on top row of tool bar.

C. 

Click the “Filter” icon. Filter picklist arrows will appear in the columns.

D. Click on the Filter picklist arrow in the “geotype” column and select “ZC” for zip code followed by “Bay Area” in the “region_name” column. You can select geographies by city or county as well.



E. Results will look like this:

F. Click on "select all" if you want to start over again.

	Fields to filter		
Filter Selection	Reportyear	geotype	county_name
Multiple Baay Area cities for a single year	2006	PL	
Multiple cities within a single county (e.g., Napa)	2006	PL	Napa
County totals in the Bay Area	2006	CO	

G. For selecting other geographies:

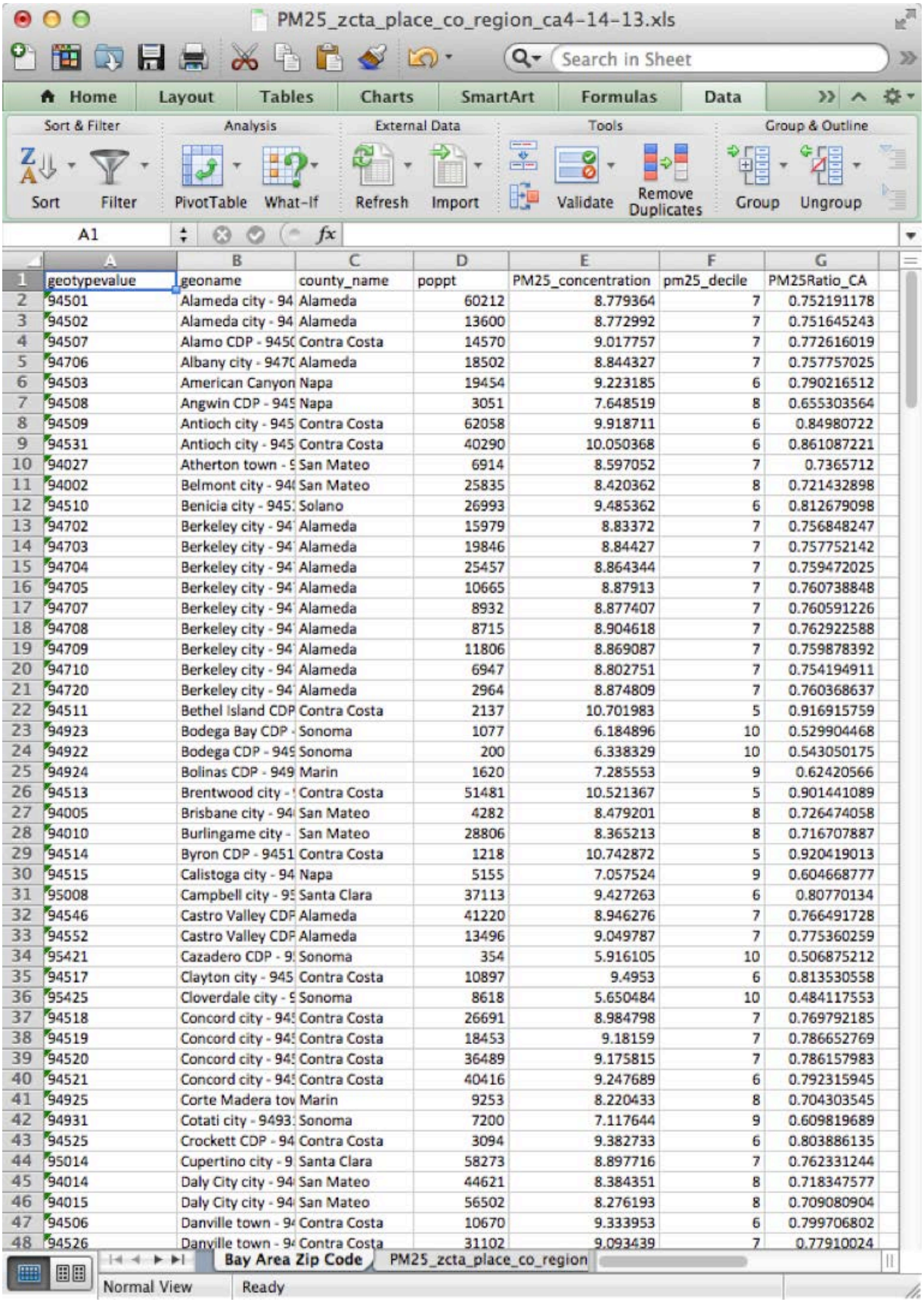
STEP 04. Preparing Excel spreadsheet for mapping

When preparing to map these data by zip code for a region like the San Francisco Bay Area, for example, not all columns will be necessary for mapping purposes.

A. Once the desired geographic area has been selected, copy and paste the new spreadsheet with the filtered data into a separate tab on the worksheet. The new worksheet tab will only contain the filtered data. Keep the original as is in a separate tab.

B. In the tab that contains the filtered spreadsheet, delete all columns except for "geotypevalue," "geoname," "county_name," "poppt," and "PM25_concentration." Two other data columns, "pm25_decile" and "PM25Ratio_CA," can also be used for analysis purposes, particularly if mapping statewide mean concentrations. The spreadsheet should look like this.

C. The map can now be created using natural breaks as determined by ArcGIS using the mean concentrations provided in "PM25_concentration." Categories can also be assigned to each of the mean concentrations using an "IF" formula statement.

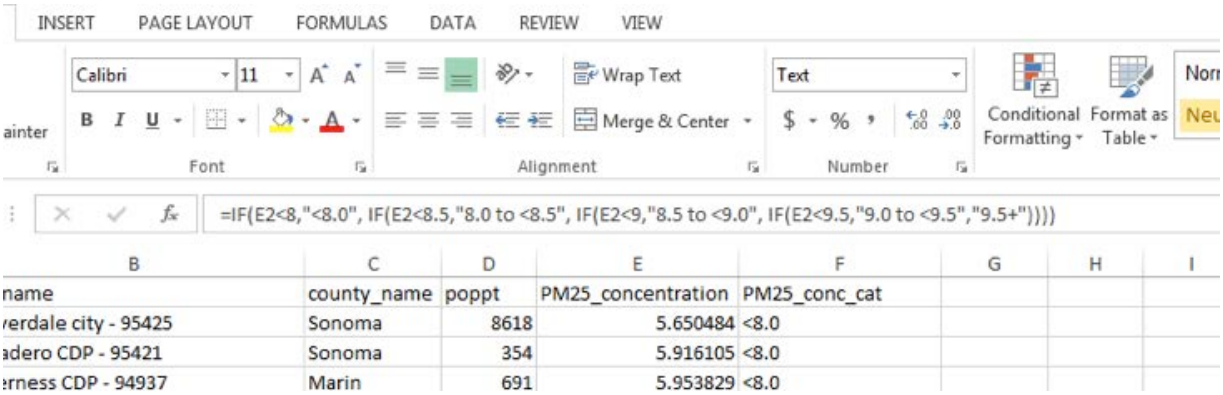


	A	B	C	D	E	F	G
1	geotypevalue	geoname	county_name	poppt	PM25_concentration	pm25_decile	PM25Ratio_CA
2	94501	Alameda city - 94	Alameda	60212	8.779364	7	0.752191178
3	94502	Alameda city - 94	Alameda	13600	8.772992	7	0.751645243
4	94507	Alamo CDP - 945(	Contra Costa	14570	9.017757	7	0.772616019
5	94706	Albany city - 947(	Alameda	18502	8.844327	7	0.757757025
6	94503	American Canyon	Napa	19454	9.223185	6	0.790216512
7	94508	Angwin CDP - 945	Napa	3051	7.648519	8	0.655303564
8	94509	Antioch city - 945	Contra Costa	62058	9.918711	6	0.84980722
9	94531	Antioch city - 945	Contra Costa	40290	10.050368	6	0.861087221
10	94027	Atherton town - 9	San Mateo	6914	8.597052	7	0.7365712
11	94002	Belmont city - 94(	San Mateo	25835	8.420362	8	0.721432898
12	94510	Benicia city - 945	Solano	26993	9.485362	6	0.812679098
13	94702	Berkeley city - 94	Alameda	15979	8.83372	7	0.756848247
14	94703	Berkeley city - 94	Alameda	19846	8.84427	7	0.757752142
15	94704	Berkeley city - 94	Alameda	25457	8.864344	7	0.759472025
16	94705	Berkeley city - 94	Alameda	10665	8.87913	7	0.760738848
17	94707	Berkeley city - 94	Alameda	8932	8.877407	7	0.760591226
18	94708	Berkeley city - 94	Alameda	8715	8.904618	7	0.762922588
19	94709	Berkeley city - 94	Alameda	11806	8.869087	7	0.759878392
20	94710	Berkeley city - 94	Alameda	6947	8.802751	7	0.754194911
21	94720	Berkeley city - 94	Alameda	2964	8.874809	7	0.760368637
22	94511	Bethel Island CDP	Contra Costa	2137	10.701983	5	0.916915759
23	94923	Bodega Bay CDP -	Sonoma	1077	6.184896	10	0.529904468
24	94922	Bodega CDP - 949	Sonoma	200	6.338329	10	0.543050175
25	94924	Bolinas CDP - 949	Marin	1620	7.285553	9	0.62420566
26	94513	Brentwood city - 9	Contra Costa	51481	10.521367	5	0.901441089
27	94005	Brisbane city - 94(	San Mateo	4282	8.479201	8	0.726474058
28	94010	Burlingame city -	San Mateo	28806	8.365213	8	0.716707887
29	94514	Byron CDP - 9451	Contra Costa	1218	10.742872	5	0.920419013
30	94515	Calistoga city - 94	Napa	5155	7.057524	9	0.604668777
31	95008	Campbell city - 95	Santa Clara	37113	9.427263	6	0.80770134
32	94546	Castro Valley CDP	Alameda	41220	8.946276	7	0.766491728
33	94552	Castro Valley CDP	Alameda	13496	9.049787	7	0.775360259
34	95421	Cazadero CDP - 9	Sonoma	354	5.916105	10	0.506875212
35	94517	Clayton city - 945	Contra Costa	10897	9.4953	6	0.813530558
36	95425	Cloverdale city - 9	Sonoma	8618	5.650484	10	0.484117553
37	94518	Concord city - 945	Contra Costa	26691	8.984798	7	0.769792185
38	94519	Concord city - 945	Contra Costa	18453	9.18159	7	0.786652769
39	94520	Concord city - 945	Contra Costa	36489	9.175815	7	0.786157983
40	94521	Concord city - 945	Contra Costa	40416	9.247689	6	0.792315945
41	94925	Corte Madera tov	Marin	9253	8.220433	8	0.704303545
42	94931	Cotati city - 9493	Sonoma	7200	7.117644	9	0.609819689
43	94525	Crockett CDP - 94	Contra Costa	3094	9.382733	6	0.803886135
44	95014	Cupertino city - 9	Santa Clara	58273	8.897716	7	0.762331244
45	94014	Daly City city - 94	San Mateo	44621	8.384351	8	0.718347577
46	94015	Daly City city - 94	San Mateo	56502	8.276193	8	0.709080904
47	94506	Danville town - 94	Contra Costa	10670	9.333953	6	0.799706802
48	94526	Danville town - 94	Contra Costa	31102	9.093439	7	0.77910024

D. In the example provided, we decided to divide the mean PM 2.5 concentration into five categories, "< 8.0," "8.0 to <8.5," "8.5 to <9.0," "9.0 to <9.5," and "9.5+."

E. Use this formula to define categories, changing the number parameters as needed:

=IF(E2<8,"<8.0", IF(E2<8.5,"8.0 to <8.5", IF(E2<9,"8.5 to <9.0", IF(E2<9.5, "9.0 to <9.5", "9.5+"))))



B	C	D	E	F	G	H	I
name	county_name	poppt	PM25_concentration	PM25_conc_cat			
erdale city - 95425	Sonoma	8618	5.650484	<8.0			
adero CDP - 95421	Sonoma	354	5.916105	<8.0			
erness CDP - 94937	Marin	691	5.953829	<8.0			

F. Before mapping, check that field being used to join the Excel file to the mapping file is defined as a "TEXT" field. In this case, the field that will be mapped is "geotypevalue" which contains zip codes, but this can vary depending on what field will be joined to data in ArcMap.

G. The map is colored using the previously defined categories calculated in Excel. Zip codes with lower mean concentrations of PM2.5 (<8.00) are shaded green; Zip codes with the highest mean concentrations of PM2.5 (9.50+) are shaded red. Mapping the mean concentrations of PM2.5 in the Bay Area shows the geographic variability of PM2.5 in the region. Zip codes in the eastern part of the Bay Area, namely in parts of Solano, Contra Costa, Alameda, and Santa Clara Counties, have higher mean concentrations of PM2.5 relative to other Bay Area Zip codes.

A NOTE ON DATA RELIABILITY AND THE COEFFICIENT OF VARIATION

The HCI project includes the coefficient of variation (CV) (also known as the relative standard error or RSE) for most indicators, especially those based on surveys such as the American Community Survey. Most of the indicators collected by the HCI calculate a coefficient of variation (listed as a relative standard error) using this formula:

$$CV_p = (SE_{estimate} / estimate_p) * 100$$

Where:

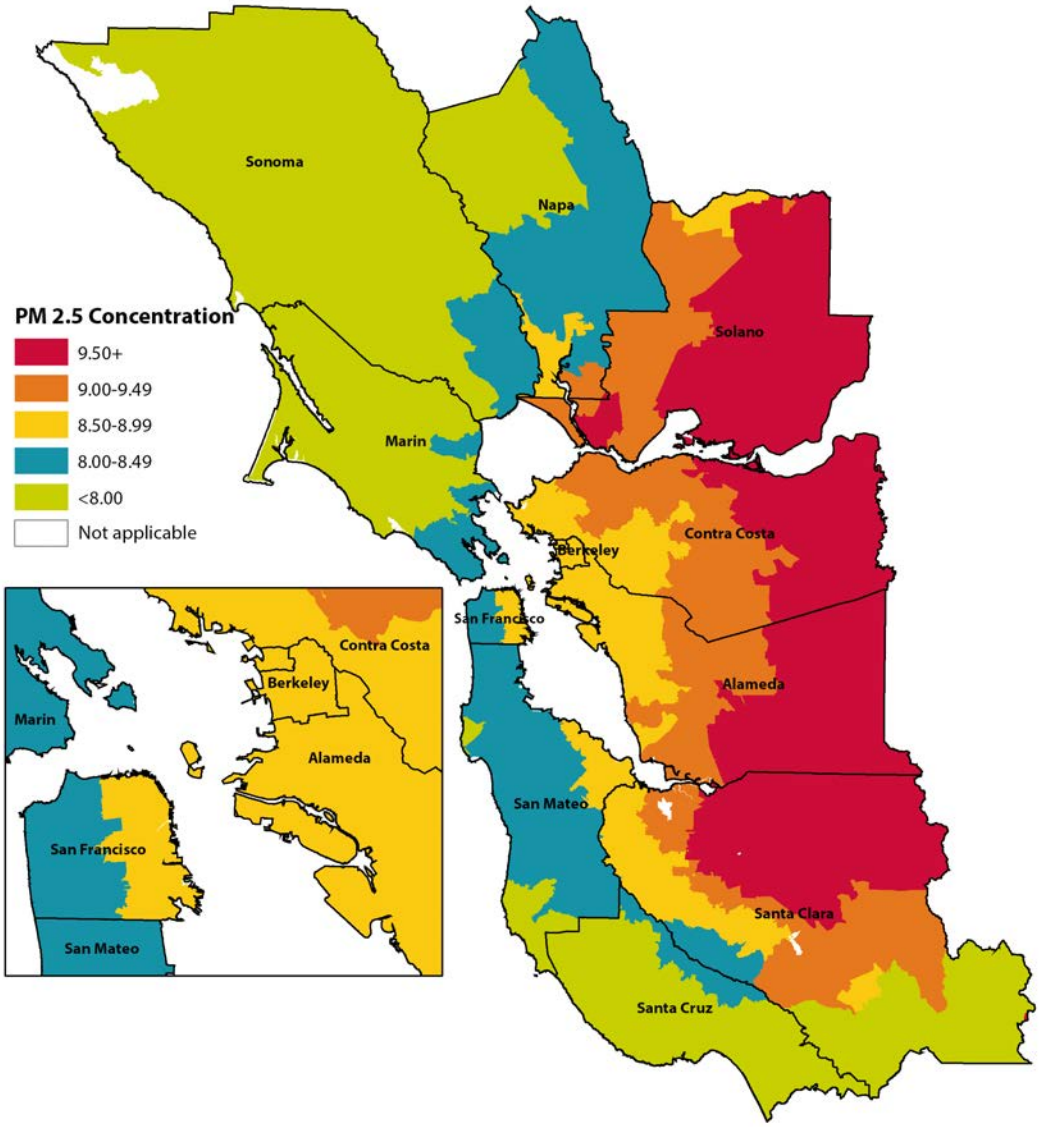
CV_p = the coefficient of variation for a percentage estimate

$SE_{estimate}$ = the standard error for an estimate

estimate = the estimate

A lower CV indicates the estimate is reliable, higher CV means it is less so. If the CV is greater than 30%, the data is generally considered unstable and should be indicated as such on a map, if displayed at all.

FIGURE D-1: ANNUAL MEAN AMBIENT CONCENTRATION OF FINE PARTICULATE MATTER (PM2.5), BARHII REGION, 2007-2009.



APPENDIX E

Technical Notes and Limitations for the American Community Survey and Other Data Sources

POVERTY

There are many ways to analyze income and poverty for public health. Poverty is better to look at than household income in at least one respect—it adjusts for the size of the household. A household income of $100,000 is much different for a household of two people versus a household of eight. The poverty line is based on household size as well as income. The poverty rate is reported by individuals or by families, although poverty status is attributed from the household. The household poverty status is based on total household income and the number of people in the household according to the poverty guidelines from the U.S. Department of Health and Human Services. The poverty line is adjusted for Alaska and Hawaii, but for no other geographies. Thus cost of living is not reflected in calculating poverty.

The poverty line, though, is considered much too low to sustain even a very meager lifestyle. Thus many government programs' eligibility is determined by some multiple of poverty income. For this reason, the American Community Survey, in indicator C17002, reports on persons with ratios ranging from 50% of poverty level to 200%. Other tables (e.g., B17001) report the poverty level to 500% and over.

The American Community Survey, combined with the decennial Census from 2000 and previous, allows trend analysis of poverty rates. For Census 2000 data, the Census Bureau's American Factfinder may be used. For decennial Census data before 2000, the easiest site to use is the National Historical Geographic Information System at http://www.nhgis.org. This site gives both data from the decennial Census back to 1790 as well as ArcGIS-compatible boundary files.

To download the poverty data from the American Community Survey, use the methods outlined in Appendix B and look for indicator C17002. This is the data on individual poverty for all races/ethnicities combined. You can also download data for individual races/ethnicities; these are in the data following B17001, and include B17001A for Whites and B17001B for African Americans/Blacks.

MEDIAN HOUSEHOLD INCOME

Median household income, indicator B19013 in the American Community Survey, is the standard method of measuring income. Another way to measure income, and a good way to compare between areas, is to calculate the percentage of households in the top income brackets versus the percentage in the lowest income brackets. For the American Community Survey, indicator B19001 may be used. The lowest bracket is less than $10,000 and the highest bracket is $200,000 or more.

GEOGRAPHIES WITH SMALL NUMBERS

Census tracts may have unreliable or unstable estimates because they are truly sparsely populated or have too few people per year living below poverty or other ACS indicators. Areas with few inhabitants typically include rural areas, restricted areas (e.g., airports, reservoirs, military bases), public open spaces (e.g., parks) or unincorporated areas. However, because in some Census tracts the non-response rate to surveys like the ACS might be higher than average due to population characteristics such as immigration status or race/ethnicity, a health department must determine through local assessment efforts if there are populations in their jurisdiction whom the ACS does not represent.

STATISTICAL RELIABILITY AND STANDARD ERRORS

Statistical reliability is one of the most difficult subjects to explain to people unfamiliar with data; however, it is one of the most important. When possible, this guide explains how to calculate standard errors and relative standards errors for indicators to assess data reliability. Assessing the data reliability through the relative standard error (RSE) is important to prevent misinterpretation of data, which could lead to inappropriate policies and poor resource allocation decisions. Generally, BARHII recommends the following for any indicator with a RSE greater than 30%: clearly indicate the estimate as unreliable on any map, table, or narrative with the following language: "these data are statistically unreliable, interpret with caution"; avoid using those estimates in any epidemiologic, or financial modeling, consider local data collection in those areas or use a different indicator.

Statistical reliability of estimates could be improved by aggregating estimates to a higher geographical level, aggregating over time, or by collapsing categories.

APPROXIMATE STANDARD ERRORS FOR ACS DATA

The ACS uses a replicate-based methodology to calculate the standard errors of the sample weighted estimates it publishes. To create categories that go beyond those published by the ACS, standard errors for sums, differences, ratios, proportion, or products are derived using an approximate method that is documented in *Accuracy of the Data*, available at http://www.census.gov/acs/www/data_documentation/documentation_main/. The standard errors obtained by the approximate method could either underestimate or overestimate the true standard error. Further, as the number of estimates involved in a sum or a difference increases, the approximate standard error will become increasingly different from the standard errors derived using the replicate method. Although

the accuracy of the standard errors could be improved by using PUMS data. These data are not available for smaller geographical areas such as Census tracts for confidentiality.

POISSON AND BINOMIAL STANDARD ERRORS

When working with data different to the ACS, standard errors might not be available. It is possible to approximate the standard error for Poisson (counts) and binomial variables (proportions) as follows:

Poisson standard error (counts) example: annual injury rate per 10,000 people

$$Rate = \frac{Number\ of\ injuries\ in\ a\ year}{Total\ population} * 10{,}000$$

$$Standard\ Error\ for\ the\ Rate = \frac{Rate}{\sqrt{Number\ of\ injuries\ in\ a\ year}} * 10{,}000$$

$$Relative\ Standard\ Error\ for\ the\ Rate = \frac{Standard\ Error}{Rate} * 100 = \frac{1}{\sqrt{Number\ of\ injuries\ in\ a\ year}} * 100$$

$$Proportion = \frac{Number\ of\ people\ with\ access\ to\ parks}{Total\ population}$$

$$Standard\ Error\ for\ the\ Proportion = \sqrt{\frac{Proportion * (1 - Proportion)}{Total\ Population}}$$

$$Relative\ Standard\ Error\ for\ the\ Rate = \frac{Standard\ Error}{Rate} * 100 = \sqrt{\frac{(1 - Proportion)}{Proportion * Total\ Population}} * 100$$

Binomial standard error (proportion) example: access to parks versus no access to parks

CONFIDENCE INTERVALS

In this guide, BARHII recommends calculating 90% confidence intervals for American Community Survey data because those are based on margins or error published by the Census. While a 95% confidence interval is a standard most often used in statistics and epidemiology, BARHII recommends to consider an 80% confidence interval for many of the social and economic indicators presented if less statistical precision is needed for a program or policy objective.

COLLINEARITY AND CONFOUNDING FACTORS: EFFECTS IN THE INTERPRETATION OF INDICATORS

Although they are important concepts in the literature about the SDOHs, this guide does not discuss collinearity or confounding, For example, a collinear relationship between poverty and educational attainment exist, potentially confounding the analysis between one of these determinants and health outcomes. Nevertheless, we believe that this limitation does not discredit the recommendations in this guide for these reasons: 1) The expertise required to properly account for collinearity in the SDOHs may be beyond the expertise of most LHDs, and is, therefore, a topic best reserved for research institutions. 2) One such landmark research project, the Harvard Health Disparities Geocoding Project, analyzed many SDOHs in various combinations, morbidity, and mortality and found that poverty alone consistently identified social gradients in health (citation below). This research supports this guide's recommendations, especially recommendation 3 in the introductions, which recommends using poverty to identify places with the greatest health inequity, although collinearity between poverty and other SDOHs may exist.

AGGREGATES OVER TIME AND TIME DISCONTINUITIES

The advantage of aggregating data over time is an improved reliability of the estimates. The ACS combines population or household data from multiple years to produce statistically reliable numbers for small counties, neighborhoods, and other local areas. In general for any given area, the larger the sample and the more months included in the data, the greater the confidence in the estimate.

The ACS collects data continuously and then aggregates the results over a specific time period to produce one-, three-, and five-year annualized estimates of population or household. In contrast, the decennial Census typically collected data between March and August. As a consequence, estimates might not be comparable between the ACS and the decennial Census. One advantage of spreading data collection evenly across the entire period is that it avoids over-representing any particular month or year within the period.

> *The key trade-off to be made in deciding whether to use single-year or multiyear estimates is between currency and precision. Multiyear estimates should, in general, be used when single-year estimates have large RSEs or when the precision of the estimates is more important than the currency of the data. Multiyear estimates should also be used when analyzing data for smaller geographies and smaller populations in larger geographies. Multiyear estimates are also of value when examining change over nonoverlapping time periods and for smoothing data trends over time.*
>
> U.S. Census Bureau, 2008

Differences in data collection may cause time discontinuities: changes in a survey question or changes in the sampling universe (e.g., including or excluding group quarters).

CENSUS TRACT BOUNDARY CHANGES

Census tract boundaries can change each decennial Census. Census tracts with a significant change in population and in boundaries should be accounted for in any trend analysis. The Census publishes geographic relationship files that show the comparability for the same type of geography over different periods of time (e.g., the relationship between places in 2010 and places in 2000), including estimates on how the Census 2010 population is distributed within the boundaries of Census 2000 geographies. This information is available at http://www.census.gov/geo/maps-data/data/relationship.html.

ACS DATA CENSORING

Because of privacy concerns, the Census tract is the smallest level of geography available for all social and economic indicators in the American Community Survey.

The ACS publishes one-year estimates for areas with at least 65,000 people, three-year estimates are available for all areas with at least 20,000 people, and five-year estimates are available for all geographic areas down to the block group level.

RACIAL AND ETHNIC CLASSIFICATION BIAS

Understanding the SDOHs at a race or ethnic level is also challenging because the data often fail to account for different ethnicities within a race. Most SDOH indicators in their current form use broad race/ethnic categories (Asian, African American/Black, White, Other/Unknown, Multirace). These categorizations can be misleading. For example, an indicator will often describe the number of Asian people, but it fails to break out by Asian ethnicity (e.g., Korean, Chinese, Vietnamese). Furthermore, Pacific Islanders are often grouped together with Asians. Similarly, the category Hispanic/Latino does not account for the different countries of origin or cultures (e.g., Mexico, Argentina, Spain), and the category American Indian/Alaskan Native includes hundreds of tribes. These categories make it difficult to capture accurate race/ethnicity data, as people who complete the information may be identified incorrectly by someone else, or may not identify with the limited categories. In addition, these groupings make it difficult to develop population-specific health interventions because one ethnicity may have different cultural beliefs and practices about health behaviors (e.g., tobacco, diet) than another, although they share the same racial category. While some ethnicity-specific data are available at the Census tract, block group, and block levels, stratification by social or economic factors is limited. This is a significant limitation of SDOH indicators that can only be currently remedied by place-based population assessment and advocacy for more precise collection and reporting about race and ethnicity in SDOH datasets.

NON-RESPONSE RATE AND IMPUTATION

The U.S. Census Bureau estimates that the ACS non-response rate is about 10% for the overall population, but it might rise to 15 to 20% among undocumented migrants. One study indicated

that ACS non-respondents are different from respondents, and are more likely to be male, African American/Black, and between 25 and 44 years. To increase the accuracy of the population counts, the U.S. Census Bureau imputes the existence and number of people living at address with no response. The imputation methods either use rules to determine acceptable answers or use answers from similar housing units or people who provided the item information.

GROUP QUARTERS FACILITIES

A group quarters (GQ) facility is a facility owned or managed by an entity or organization to provide housing and possibly services for the residents, whom are usually unrelated people. GQs include college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, workers' dormitories, and facilities for people experiencing homelessness. Young adults and the elderly are more likely than other groups to be living in group quarter facilities. The ACS began including samples of the population living in group quarters in 2006; as a result, 2006 ACS data may not be comparable with data from earlier ACS surveys. GQs are defined according to the housing and/or services provided to residents and are identified by Census GQ type codes. 2010 Group Quarters Classifications in the American Community Survey are found at http://www.census.gov/acs/www/Downloads/data_documentation/CodeLists/2010_ACS_Code_Lists.pdf.

It is important to understand what percentage of the population lives in group quarters in a particular geographical area especially at small geographies like Census tracts or in rural areas where GQs could represent a large fraction of the population. Figures 1 and 2 show examples of the percentage of the population that lives in GQ in two regions of California; in the rural county of Lassen almost a third of the population lives in institutionalized GQ (correctional institutions).

In order to avoid misleading estimates it is important to remove Census tracts where large group quarter populations are located from certain calculations like poverty.

STATISTICAL SIGNIFICANCE TESTING

Significance testing is the determination of whether the difference between two estimates is not likely to be from random chance (sampling error) alone. It is not recommended to rely on overlapping confidence intervals as a test for statistical significance. It is also not recommended to conduct significance testing using statistically unreliable estimates (RSEs >30%).

Details on how to conduct a test comparing between two years or two geographical regions can be found in *Instructions for Applying Statistical Testing* at http://www.census.gov/acs/www/data_documentation/documentation_main/.

When using ACS data, the Census Bureau recommends that when comparing between two different geographic areas, make comparisons within the same estimate type: one-year estimates should only be compared with other one-year estimates, but never with three- or five- year estimates. The Census Bureau also recommends that, when comparing over time, compare periods that do not

FIGURE E-1: PERCENTAGE OF THE POPULATION LIVING IN GROUP QUARTERS BY GROUP QUARTER TYPE, COUNTIES IN THE BAY AREA, CALIFORNIA, APRIL 2010

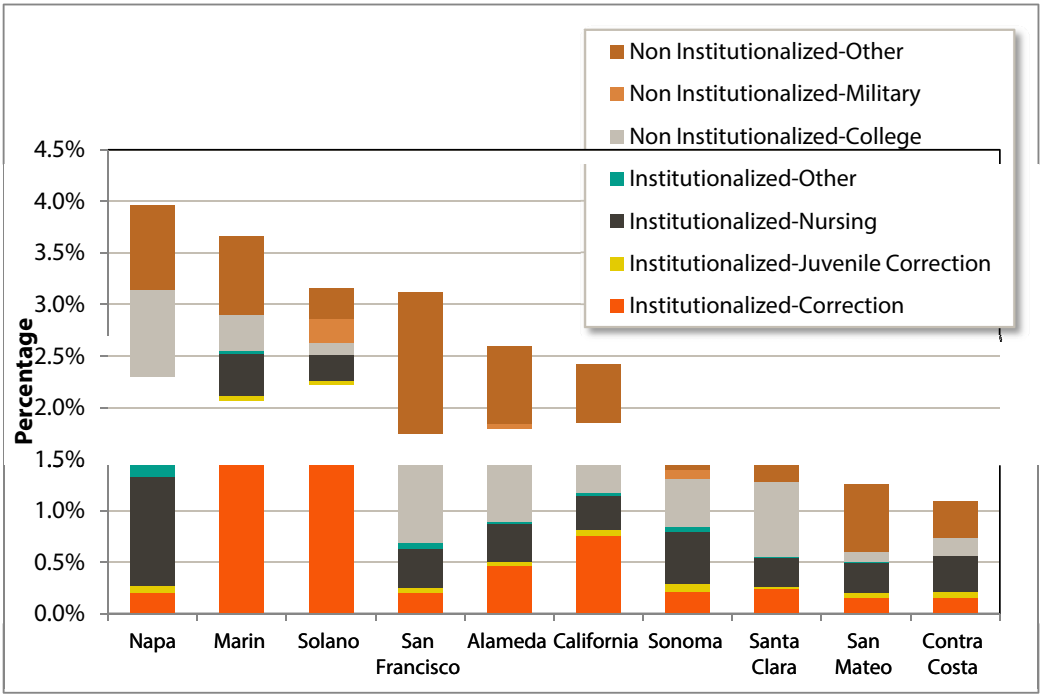
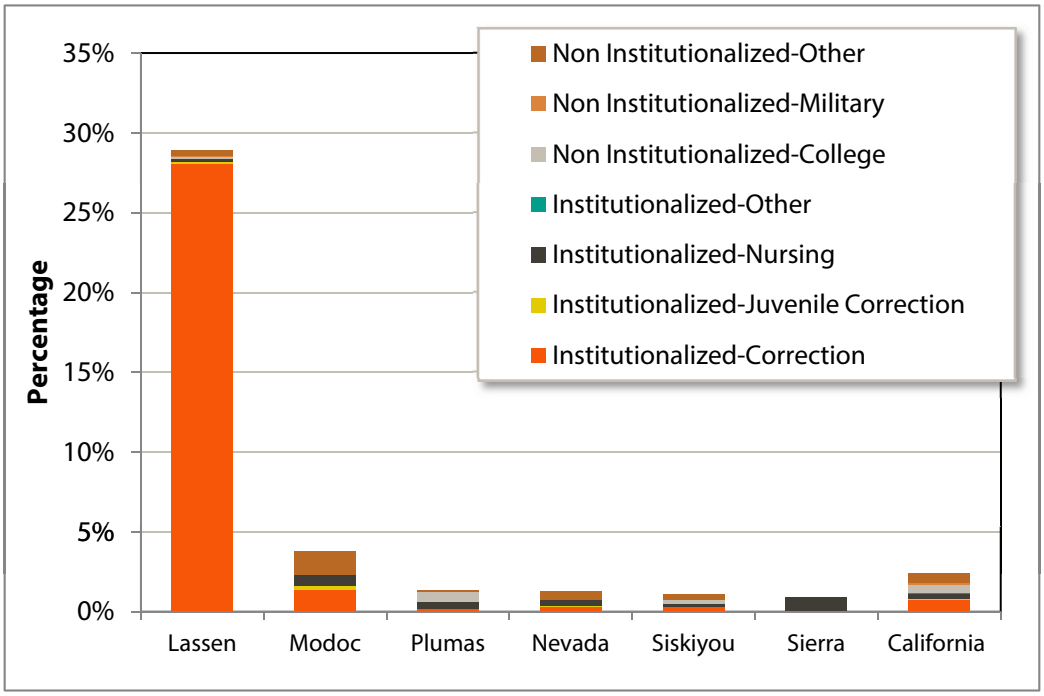


FIGURE E-2: PERCENTAGE OF THE POPULATION LIVING IN GROUP QUARTERS BY GROUP QUARTER TYPE, COUNTIES IN THE NORTHEAST SIERRA REGION, CALIFORNIA, APRIL 2010



overlap—comparing 2005–2007 estimates with 2008–2010 estimates, for example. This means waiting longer to identify a trend.

DATA QUALITY AND VALIDITY

For some indicators it might not be known if the data owners (sources) have rigorously validated the data. Without localized confirmation, errors could result in an inaccurate portrayal of the indicator. BARHII recommends that SDOH indicators be validated when feasible, primarily through local data collection efforts and especially in priority areas identified.

It is important to be aware and acknowledge the potential problems with data quality when using external data sources to construct indicators. These problems might include low response rates that lead to missing data, systematic error or bias, potential misclassification of observations, or geocoding errors. For example, the Statewide Integrated Traffic Records System (SWITRS) of the California Highway patrol is a database that serves as a means to collect and process data gathered from a collision scene. This is a valuable resource for road traffic injury data by occurrence, but it is known to undercount both fatal and severe injuries compared to death certificates and hospitalizations.

NUMERATOR AND DENOMINATOR COMPARABILITY ISSUES

Based on the availability and structure of an indicator, its numerator and denominator may reflect occurrences of anyone in a place whether they reside in that area or not. As an example, in injuries per capita indicators, road traffic injuries are by occurrence while population is by residence.

REGIONALLY ADJUSTED AND INFLATION-ADJUSTED ECONOMIC INDICATORS

Inflation affects the comparability of dollar denominated data such as income, rent, home value, and energy costs, across time periods. The ACS adjusts dollar-denominated data amounts using inflation factors based on the Consumer Price Index (CPI). This adjustment is done at the national level; the ACS does not adjust for differences in costs of living across different geographic areas.

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APPENDIX F

Social Determinants of Health (SDOH) Indicators List

ECONOMIC			
CATEGORY	**WHAT TO MEAURE**	**INDICATOR MEASUREMENT**	**DATA SOURCE**
PERSONAL INCOME	**Income Distribution**	Income distribution comparisons	American Community Survey (ACS)
			Healthy Communities Data and Indicators (HCI) Project of California
		Gini coefficient	ACS
			HCI
INEQUALITY	**Measures of debt**	Municipal credit ratings/access to credit	Standard & Poors bond ratings
		Per capita and percentage of budget spent on long-term public debt	California State Controller
	Circulation and exit of wealth in a community	Percentage of locally owned businesses or land	Local business permit or assessors databases
JOB SECURITY	**Unemployment rates**	Unemployment rates	California Employment Development Department
			HCI
			US Department of Labor, Bureau of Labor Statistics
	Emplyment	Total employment by race/ethnicity, sex, occupation, and industry	ACS
JOB QUALITY	**Living wage**	Prevalence of employed individuals making a wage below area self-sufficient or living wage	HCI
			MIT Poverty in America Living Wage Calculator; and ACS
HOUSING STRESS / SECURITY	**Housing cost burden**	Percentage paying >30% and >50% of income for housing	ACS
			HCI

ECONOMIC			
CATEGORY	**WHAT TO MEAURE**	**INDICATOR MEASUREMENT**	**DATA SOURCE**
COMMUNITY FINANCIAL INFRASTRUCTURE	**Mortgage loan interest rates and approval rates**	Mortgage loan approval rates by income level and by race/ethnicity	Home Mortgage Disclosure Act (HMDA)
		Underserved communities	Community Reinvestment Act
		Prevalence of mortgages in high-risk markets with high interest rates	U.S. Department of Housing and Urban Development
		Prevalence of mortgages originated by subprime lenders	HMDA
		Prevalence of retail banking services	Dun & Bradstreet and other business databases
		Government direct investment in local business (accountability indicators)	Piece together from news sources, city, county board meeting notes, and other public records.
	Measures of debt	Frequency and amount of small business loans	Community Reinvestment Act
			Small Business Administration
FOOD INSECURITY	**Food prices and foregoing meals**	Ability to afford enough food; percentage foregoing meals from poverty subgroup	California Health Interview Survey (CHIS)
			HCI
HEALTH CARE STRESS/ SECURITY	**Percentage foregoing health care due to cost**	Percentage delayed or didn't get medical care, prescription, test, or treatment	CHIS
		Oral Health Assessment	California Department of Education
COST OF LIVING	**Measures of income growth and cost of living**	Change in income distribution	ACS
		Local cost of living	Bureau of Labor Statistics, Consumer Price Index
		ACCRA cost of living index	Council for Community and Economic Research
PERSONAL WEALTH	**Distribution of wealth**	Distribution of wealth (income and assets)	Panel Study of Income Dynamics
			IRS Statistics of Income
		Percentage and number of local jobs filled by local residents	ACS — special extraction

SERVICE			
CATEGORY	**WHAT TO MEAURE**	**INDICATOR MEASUREMENT**	**DATA SOURCE**
COMMUNITY AND PUBLIC SUPPORT SERVICES	**Subsidized housing**	Number of public housing units in geog area; ratio of enrolled to qualified to population; number or percentage enrolled and on wait list for PH; number of open/available public housing units; measure of turnover; percentage receiving public housing subsidies	Local housing agency
	Public assistance	Percentage of population on General Assistance, Medi-Cal, CalWORKs, CalFresh (food stamps)	California Department of Social Services
			Local social service agencies
		Percentage of total eligible on General Assistance, Medi-Cal, CalWORKs, CalFresh (food stamps) using ratio of income to poverty	American Community Survey (ACS)
PREDATORY LENDING	**Percent of predatory lending outlets**	Car title loan shops, paycheck advance, check cashing, pawn shops	Dun & Bradstreet and other business databases
EDUCATION	**Kindergarten readiness**	Number and percentage of children that are Kindergarten ready	First 5, state/county resource & referral networks
CHILD CARE	**Child care**	Number of subsidized licensed center/family child care slots per 100 low-income children	First 5, state/county resource & referral networks
		Number of after-school slots per 100 low-income children	State/county resource & referral networks
PUBLIC SAFETY	**Law enforcement intervention by type, frequency, and location**	Crime reports rate by type (violent and/or property)	Uniform Crime Reports
			Healthy Communities Data and Indicators (HCI) Project of California
		Domestic violence	California Health Interview Survey (CHIS)
	Incarcerated	Percentage incarcerated	California Department of Corrections and Rehabilitation

SERVICE			
CATEGORY	**WHAT TO MEAURE**	**INDICATOR MEASUREMENT**	**DATA SOURCE**
HEALTH CARE	**Source of payment**	Percentage Medi-Cal, Medicare, private insured, out of pocket	MEDS database
			California Office of Statewide Healthy Planning and Development (OSHPD)
			Birth records
			Payer mix at private physician's offices by geographic area. Ingenix nomative health database and other local data collection
	ED utilization	Unnecessary emergency department visits	OSHPD
	Health care providers	Number and density of health care providers by type; accepting MediCal	National Plan and Provider Enumeration System
			Local social service agencies
			California Medical Board (CMB)
CHILD DEVELOP MENT	**Home visitation programs**	Number and percentage of families in the county serviced by home visitation programs	Local social service agencies
			California Maternal and Early Childhood Home Visiting Survey
			Family Health Outcomes Project (FHOP) surveys

PHYSICAL			
CATEGORY	**WHAT TO MEAURE**	**INDICATOR MEASUREMENT**	**DATA SOURCE**
ENVIRON MENTAL QUALITY	**Air, Water, and Soil**	Population within 1/4 mile of fixed source	California Environmental Protection Agency Enforcement and Complicance History Toxic Release Inventory, local hazardous waste data, Clean Water Act data, Clean Air Act data
	Air contamination	Peak concentration of CO, lead, NOx, ozone, SO2, PM10, and PM2.5	EPA Air Trends
			Healthy Communities Data and Indicators (HCI) Project of California
			Local air districts
	Water Contamination	Contaminants in drinking water	EPA drinking water data and databases
			HCI
	Pesticide Use	Pounds of chemicals	California Department of Pesticide Regulation
		History of pounds of chemicals	California Department of Public Health Environmental Health Investigations Branch
	Population exposed to busy roadways	Percentage population within 500 feet of high-volume mobile source	CalTrans
ENVIRON MENTAL INFRA STRUCTURE	**Percentage within x miles to park, open, or green space**	Percent of population who live within 1/2 mile of a park, beach or open space	California Protected Areas Database; and American Community Survey (ACS); decennial census
			HCI
	Parks: public perception of safety	Public perceptions of safety and access in their neighborhood	California Health Interview Survey (CHIS)
	Housing deterioration	Broken window index	U.S. Postal Service vacant units data
	Housing: measures of crowding	Average persons per room	ACS
		Persons per area of residential quarters	ACS; and Local assessor's data

PHYSICAL			
CATEGORY	**WHAT TO MEAURE**	**INDICATOR MEASUREMENT**	**DATA SOURCE**
TRANSPORTATION	**Access to local bus or rail link**	Access to local bus or rail link	Transit providers; and ACS; decennial census
			HCI
	Biking and walking	Biking and walking	Walkscore.com
LAND USE	**Alcohol, tobacco, & fast food outlets**	Number and density of alcohol outlets	California Alcohol and Beverage Commission
			HCI
		Number and density of fast food stores	Network for a Healthy California
			Dun & Bradstreet and other business databases
			Local environmental health agency
		Number and density of tobacco outlets	County tobacco programs
		RFEI (retail food environment index) or other measure of food access	Network for a Healthy California or Dun & Bradstreet and other business databases
			Local environmental health agency
			HCI
	Neighborhood completeness indicators	Availability of key public services	Dun & Bradstreet and other business databases
		Availability of key retail services	Dun & Bradstreet and other business databases

SOCIAL			
CATEGORY	**WHAT TO MEAURE**	**INDICATOR MEASUREMENT**	**DATA SOURCE**
HOUSE HOLD / FAMILY	**Family structure/living arrangements**	Household type	American Community Survey (ACS)
ORGANIZED SOCIAL CONNEC TIONS	**Community organizations**	Number of organizations/1000 residents	HealthyCity
		Participation	California Health Interview Survey (CHIS)
	Civic spaces	Availability of theaters, arenas, meeting halls, public rooms	Business permit, sales tax and assessors databases
SOCIAL INDICATORS	**Social indicators**	Social isolation, relations, and capital	CHIS
POLITICAL POWER	**Voters**	Voters/registered voters	Healthy Communities Data and Indicators (HCI) Project of California
		Registered voters/eligible	HCI
CULTURE	**Linguistic isolation**	English language learners	ACS
	Gentrification	Several measures available, measuring individual and housing characteristics	ACS; decennial census
DIVERSITY	**Diversity**	Diversity index	ACS; decennial census
RACISM	**Internalized**	Meaures of self-efficacy	California Healthy Kids Survey (CHKS)
	Inter-personal	Differentials in medical procedure utilization; patterns of hiring, retention, and promotion; differentials in criminal sentencing; formal discrimination complaints	Electronic medical records; human resource documents; state, federal and local court records; agency grievance reports
	Institutional	Lawsuits against institutions	State, federal, and local court records
EDUCATION	**Educational attainment**	Percentage 25+ yrs graduated high school	ACS
		Percentage 25+ yrs graduated bachelor degree	HCI

BAY AREA REGIONAL HEALTH INEQUITIES INITIATIVE

http://barhii.org

Peter Lee, Ex. Dir.
Covered California

April 5, 2016

RE: Support for Covered California's proposal in Attachment 7

Dear Mr. Lee:
As a community based environmental justice organization we know only too well the disparities in health and life expectancy in our community of west Oakland. Our children experience five times the frequency of emergency room visits for asthma than does the average child in California. A child born and raised in west or east Oakland can expect 11 fewer years of life than a child born just a few miles away in the Oakland hills. Chronic respiratory disease, cancer and diabetes is a legacy in our community of black and brown people. We know that the Affordable Care Act points to a new direction in health care and wellness and we commend Covered California for make those national goals a reality in our state.

We support Covered California's proposal in Attachment 7 to require health plans to demonstrate year-over-year reductions in health disparities starting in 2017 on: diabetes, hypertension, asthma and behavioral health.

We know from bitter experience that communities of color are disproportionately impacted by chronic diseases, the leading cause of death in the United States and the biggest contributor to health care costs.

We commend and support Covered California's focus on improving the quality of care by eliminating health disparities will improve health outcomes for our communities.

- We support requiring health plans to share performance data for all of their members, even enrollees outside of Covered California. This will help to demonstrate the broader commitment of health plans to eliminating health disparities and ensure Covered California has sufficient data to make progress towards these ambitious goals in 2017.
- And we support Covered California's use of innovative quality metrics such as community level hospital discharge data to identify gaps in care that can lead to costly, avoidable hospitalizations down the road.

Thank you for this important policy advocacy!

Brian Beveridge, Co-Exec Dir

West Oakland Environmental Indicators Project

ASIAN AMERICANS
ADVANCING
JUSTICE
LOS ANGELES

April 6, 2016

Peter Lee, Executive Director
Covered California
1601 Exposition Blvd
Sacramento, CA 95814

RE: 1332 Waiver Support

Dear Mr. Lee and Members of the Covered California Board,

Asian Americans Advancing Justice – Los Angeles (Advancing Justice-LA) is writing on behalf of the Health Justice Network (HJN), a statewide collaborative comprised of over 50 community-based organizations, health care providers, and small business groups. HJN promotes culturally and linguistically competent health care services for Asian American, Native Hawaiian, and Pacific Islander (AANHPI) and other vulnerable communities, including immigrants and limited-English proficient populations, and works to increase access to affordable, quality health care through outreach, education, enrollment and advocacy. We are writing to strongly urge you to submit a Section 1332 state innovation waiver to include, among other provisions, permission from the federal government to allow all eligible Californians, regardless of immigration status, to purchase health coverage under the state's marketplace.

The submission of a Section 1332 state innovation waiver is critically important to the AANHPI communities in California, particularly as the fastest growing racial groups in California.[1] According to the U.S. Census Bureau, California's Asian American population grew 34% between 2000 and 2010, while its NHPI population grew 29%.[2] Although there are no official estimates of the number of undocumented Asian American immigrants in California, it has been estimated that there are about 1.3 million immigrants from Asia who were undocumented in the United States in 2011 and over 32% of the country's foreign born Asian American population lives in California.[3] Based on these numbers, there may be at least 416,000 undocumented Asian Americans living in California, or 15% of the state's undocumented residents.[4]

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[1] Asian Americans Advancing Justice (formerly Asian American Center for Advancing Justice), *A Community of Contrasts, Asian Americans, Native Hawaiians and Pacific Islanders in California*, at 3, 14; available at http://advancingjusticela.org/mediaandpublications/publications/communitycontrastsasian-americansnativehawaiiansandpacificislande0.

[2] *Id.* at 15. This is contrasted with the state's Latino population, which grew 28%, while its White population decreased 5% over the same decade. *Id*.

[3] *Id.*

[4] *Id.*

Currently, the Patient Protection and Affordable Care Act (ACA) specifically excludes undocumented immigrants from purchasing their own insurance through the Covered California. Section 1332 of the ACA allows the state to submit a waiver to remove this barrier to the health insurance market by permitting California to seek permission from the federal government to allow any otherwise eligible Californian, regardless of immigration status, to purchase their own health coverage through the California's marketplace, without advance premium tax credits. The prolonged and continued exclusion of undocumented immigrants, who contribute greatly to our economy, from federal and state health programs, is contrary to the long held American value of fairness and equal opportunity for integration into our country, as well as promoting the health and well-being of everyone in our society. It also does not serve the common good to leave hundreds of thousands of Californians without health coverage or treatment for preventable ailments and chronic conditions. Immigrants are the backbone of this state and denying immigrants of access to health care simply because of their immigration status is counter intuitive in ensuring we have healthy residents and a healthy workforce. The Section 1332 waiver will ensure that many in our communities will have access to quality, affordable health care and address a significant inequity in our health care system.

As Covered California is aware, the passage of SB 75/4 will allow any eligible, low-income child up to age 19 to obtain full-scope Medi-Cal, regardless of immigration status ,and is expected to benefit hundreds of thousands of children. Our organization is leading efforts in Los Angeles and Orange Counties to provide outreach, education, and enrollment to immigrant families about the upcoming changes for undocumented children under Medi-Cal through SB 75/4. It will be crucial during our outreach and enrollment efforts if we are able to provide information about comprehensive opportunities for entire families, including any health programs for adults who may be undocumented. Moreover, SB 10, currently pending in the state legislature, would direct the state to submit a Section 1332 waiver to allow undocumented immigrants to buy unsubsidized coverage through Covered California using their own money and authorize non-qualified health plans that mirrored Qualified Health Plans (QHPs) to provide coverage for undocumented immigrants. The Section 1332 waiver would ensure that everyone, regardless of immigration status, would be able to treat preventable conditions early rather than resort to costly emergency room visits. California will be stronger when all Californians have access to health care.

In addition to the inclusion of the provision to allow undocumented families to buy health coverage through Covered California, we urge the Board to explore the following options pursuant to a Section 1332 waiver:
1) Streamline enrollment and reduce churn between Covered California and Medi-Cal, including the developing proposals set forth by Western Center on Law & Poverty's letter, such as allowing Newly Qualified Immigrants (NQI) in state-funded Medi-Cal to stay in Medi-Cal rather than be required to enroll in a Covered California QHP (with Medi-Cal covering those services not provided by the QHP) by transferring the premium tax credits owed to the beneficiaries to the Department of Health Care Services;

2) Fix the "family glitch," which according to some estimates has left an estimated 144,000 Californians, including 72,000 children without an affordable insurance option,[5] (although this may be challenging given the deficit neutrality requirements of the waiver, it may be possible in the longer term by basing the "affordability" of employer-sponsored insurance on the cost of covering the family, not the cost of individual coverage); and
3) Require coverage of adult dental and vision services as part of the state's Essential Health Benefits benchmark to reduce the need for stand-alone plans and integrate those services into overall health benefits.

We urge you to approve the submission of a Section1332 waiver with the provision to allow undocumented immigrants access to the marketplace, as well as consideration of the three recommendations above. The waiver is an opportunity to find cost-effective, innovative solutions to improve our health care system and reduce health disparities. We can use the waiver to remove the barriers to access that many immigrant families experience in California by ensuring that no one is locked out of care by the state marketplace. Covered California can continue its reputation as a trendsetter and leader for the rest of the nation by boldly being the first statewide marketplace to open its doors to all residents regardless of immigration status. Thank you for your consideration in taking a step towards true health equity for all Californians.

Sincerely,

Doreena Wong
Health Access Project Director
Asian Americans Advancing Justice-Los Angeles

[5] Ken Jacobs et al., *Proposed Regulations Could Limit Access to Affordable Health Coverage for Workers' Children and Family Members* (Berkeley: Center for Labor Research and Education, University of California, Berkeley, and Center for Health Policy Research, University of California, Los Angeles, December 2011).

February 22, 2016

Mr. Peter Lee, Executive Director
Covered California
1601 Exposition Blvd
Sacramento, CA 95815

Via email to 1332@covered.ca.gov

SUBJECT: Patient Protection and Affordability Act
Section 1332 State Innovation Waiver

Dear Mr. Lee:

The California Association of Health Underwriters (CAHU) appreciates the opportunity to offer our comments regarding the development of a State Innovation Waiver (Waiver) as authorized by Section 1332 of the Patient Protection and Affordable Care Act (ACA).

CAHU is the state's largest association the health insurance agents. Our licensed members provide reliable insurance advice, act as the consumer's advocate when dealing with carries and provide a number of essential services relating to the individual and group insurance coverage and obligations post enrollment. Our members also act as a trusted and effective marketing channel for health information for all consumers and potential consumers of health care insurance coverage. Altogether, CAHU provides a unified voice for more than 32,000 California health insurance and benefit professionals throughout the state representing more than 15 million California health insurance consumers. CAHU also trains and mobilizes our diverse agent members to help serve all California throughout our Diversity Task Force.

CAHU believes that the 1332 Waiver allows states extraordinary flexibility for redesigning many of the key elements of the landmark federal health reform law. CAHU commends Covered California for initiating a public process for considering potential options and proposals. Nearly 15,000 Certified Insurance Agents (CIA's) are on the front-line for Covered California in every community in the state. Almost 200,000 consumers, 45% of the total, were enrolled by CIA's during the 2015-16 Open Enrollment Period. Licensed, certified health insurance agents' direct experience with consumers, small employers, their employees and families gives agents a unique understanding of what they want, need and find affordable. CAHU hopes to share our perspective through this stakeholder process on the Waiver.

Recognizing that innovation can be a "double edged sword" that could result in unintended consequences, the Section 1332 Waiver process establishes important guardrails to protect

consumers and the marketplace. Working within this framework, we will work to be effective partners with Covered California and other stakeholders to advance proposals that to achieve the following goals:

- Enrollment Process Simplification
- Greater Affordability
- Improvement of Covered California for Small Business

Overview:

With the close of the third open enrollment period, CAHU joins Covered California in celebrating the success in enrolling almost 440,000 new consumers. It is an impressive achievement in which we all may take pride.

Going forward, that strong foundation gives us all an opportunity to evaluate the potential for new strategies and approaches that will increase enrollment and reduce the number of uninsured in California. We know it will be harder, and will require more innovation and creativity.

According to CalSIM 1.91 projections, about 770,000 Californians remain uninsured in 2016, even in the enhanced model. Most will be subject to tax penalties. Our collective challenge is to find ways of reaching out and persuading these uninsured individuals to enroll and – equally important, stay enrolled in affordable, accessible health insurance coverage.

Building Covered California's membership helps to spread out administrative costs, and allows for enhanced purchasing power in negotiations with health plans. Currently, almost 90% of Covered California's current membership is eligible for federal subsidies. Finding new, innovative and creative ways to attract non-subsidy eligible members should be the overarching goal of all stakeholders and Covered California. In short, our goal is to find ways to cover more people, and increase enrollment in Covered California. A 1332 Waiver may help us get there.

Goal #1: Enrollment Process Simplification.

Since the October 1, 2013 launch, Covered California has made enormous progress in improving the consumer's experience in the enrollment and renewal process. However, CAHU also recognizes more work needs to be done.

The 2015 NORC Consumer Tracking Survey released last fall reported a concerning levels of dissatisfaction among individual who visited the Covered California website but did not purchase. When these uninsured, non-purchasers were asked about the website as a place to shop, 60% said that they were "not very" or "not at all " satisfied.

This finding is echoed in the user experience research conducted as part of the California Heath Care Foundation 's February eligible to enroll in or renew a Covered California health plan did so during their observed research session. Streamlining and simplifying the 2016 report on

online enrollment. The report found that only 1 of the 31 individuals to enroll in or renew a Covered California health plan did so during their observed research session.

CAHU believes that streamlining and simplifying the enrollment process will reduce frustration and improve the consumer experience. Certified Agents appreciate Covered California's ongoing efforts to improve the website design and CAlHEERS functionality, the 1332 waiver may offer an opportunity for greater innovation.

- **Aligning the Eligibility Rules for Covered California and Medi-Cal.** An on-going source of confusion and unnecessary complexity are a baffling array of differences in the ground rules for determining eligibility between Covered California and Medi-Cal. For example, there are differences in the way income is counted, in how eligibility is verified, and when the enrollment start date begins. These differences can delay eligibility determinations, impede automated determinations (meaning that the consumer or an eligibility worker may have to take some manual action outside the automated application and eligibility system. The 1332 Waiver process – perhaps in combination with a Medicaid 1115 Waiver could provide a vehicle for addressing these alignment issues. Options to simplify and the streamline the process should also consider protections for consumers and beneficiaries.

- **Fixing the Password Glitch.** For both consumers and Certified Insurance Agents, the current security protocol password creation in CalHEERs is both unnecessarily frustrating and time consuming. Federal security rules now require consumers who wish to begin an account with Covered California to select a password that meets specific protocols. The required standards include a prohibition on the use of dictionary names or words. Additionally, there is a requirement to change the member password every 60 days for those who use a one-time use password, as most do. As noted in the CHCF report, new enrollees received multiple error messages because they had not followed the eight requirements for creating a password. The 1332 Waiver may offer some flexibility to establishing a protocol that is consistent with industry standards, maintains security, and is more consumer-friendly.

- **Allowing Enrollment of Undocumented Residents.** Prohibiting undocumented residents to enroll in unsubsidized coverage through Covered California creates an uneven playing field between the "inside and outside" marketplace and results in unnecessary confusion. Currently, undocumented residents can enroll in coverage in the outside market, but are unable to enroll in the state exchange. Removing this barrier would simplify the enrollment process and make it easier, in particular, for mixed status families in which one family member may be undocumented. The approach offered in SB 10 (Lara) appears promising.

Goal #2: Greater Affordability

Affordability continues to be the most significant concern for the remaining uninsured. According to the 2015 Kaiser Family Foundation survey, when asked why they haven't signed up for coverage, 44% of the uninsured said that insurance was too expensive. Further, those with coverage can be surprised by higher than expected out-of-pocket costs for deductibles, co-pays and co-insurance. These concerns are magnified for individuals for whom a small income change may result in a dramatic reduction in Advanced Premium Tax Credits or cost sharing subsidies.

CAHU is mindful that 1332 Waiver proposals must not increase the federal deficit. We also recognize that Covered California has been a leader in holding down premium increases, an outcome that has results in significant federal savings. Efforts to implement payment and delivery system reforms, as well as quality and cost containment initiatives are likely to achieve long term savings. To the extent these savings can be trended and quantified, the 1332 Waiver may be an opportunity to capture and reinvest the federal savings on proposals that improve affordability for California consumers.

- **Fix the Family Glitch.** The so called "family glitch," now prevents dependents from accessing federal tax credits when an employed family member has access to "affordable" employer-sponsored insurance. The problem with the current system is that "affordability" of employer-sponsored insurance for spouses and dependents is based on the cost of individual coverage – not on the cost of covering the family. CAHU believes the 1332 waiver could be used to define affordability of employer-sponsored insurance on the basis of family coverage, rather than individual coverage. More children and dependents would be eligible for federal subsidies, and those increased costs would need to be offset by demonstrated savings. The most recent federal guidance on 1332 Waivers also suggests potential administrative barriers relating to the Internal Revenue Service's capacity for implementing differing tax rules among the states.

- **Smooth Subsidy Cliffs**. The current structure for federal subsidies relies on income "bright lines" that establish eligibility for APTC and out-of-pocket cost sharing reduction. For example, in a household with older consumers, $1 might be the difference for total income that is under the 400% Federal Poverty Level and therefore eligible for thousands of dollars in federal subsidies; or over the limit and not eligible for any premium assistance. Similarly, $1 might be the difference for a Medi-Cal beneficiary whose income exceeds the 139% of FPL, thereby losing Medi-Cal eligibility and becoming Exchange eligible. Smoothing out the "subsidy cliffs" and establishing a less jagged continuum would improve affordability.

- **Copper Plans for Consumers Above 400% FPL.** According to the CalSIM 1.91 projection of enhanced enrollment, about 150,000 individuals are in households with incomes over 400% of FPL, and are uninsured. Without the availability of federal subsidies to reduce

premium costs, affordability becomes a critical factor. For example, during the 2015-16 Open Enrollment Period, 48% of the non-subsidized new enrollment opted for Bronze and Minimum Coverage products compared to 32% of the subsidized enrollees. To attract uninsured consumers above 400% of FPL, Covered California should explore more affordable coverage options that have greater cost-sharing than is currently allowed in the marketplace. For example, so-called Copper Plans would have an actuarial value of 50% compared to 60% for Bronze. These plans could be coupled with a required Health Savings Account (HSA). Covered California would have exclusive authority to offer Copper Plans, as it does now for Minimum Coverage plans. Although we are mindful of the pitfalls of high deductible plans, non-subsidized individuals face greater risks by remaining uninsured

Goal #3: Improve Covered California for Small Business

We continue to believe that small business and their employees can benefit by participating in Covered California for Small Business (formerly known as SHOP). Since January 2016, even more small businesses are now eligible as a result of the phase-in that allows employers with 51 to 100 employees to participate. However, the 1332 Waiver gives us an opportunity to revisit some of the structural issues of the program and consider innovative approaches that may enhance its competitiveness and yield greater enrollment.

There is no denying that small businesses need help. Small employers often pay up to 18 percent more than large employers to provide health insurance, in part because large employers have the economy of scale to negotiate lower premiums, provider reimbursement rates, and administrative costs; and often have better, more stable risk profiles. Covered California for Small Business can help "level the playing field" through tax credits, greater choice of health plans, and pooled negotiating power with health plans to get a better deal. But we are also concerned that continued low enrollment is indicative of structural issues that are hindering its ability to compete. As of June 30, 2015, about 18,000 consumers were enrolled in health plans offered by Covered California for Small Business. This is projected to grow to 84,000 by June 2018.

CAHU appreciates Covered California's efforts to rebrand, improve operations, and enhance level of service to its participating small businesses. But more fundamental reforms maybe necessary. As the small group marketplace expands to include employers with up to 100 employees, the 1332 Waiver gives us a timely opportunity for a broader discussion of options that enhance the viability and competitiveness of Covered California for Small Business. This discussion could address the following issues:

- **Restructure Tax Credits.** Federal tax credits offered to participating small business can provide a compelling incentive for employers to offer coverage for their employees. However, the current credits are narrowly applied and benefit a limited number of small employers. The 1332 Waiver may allow an exploration of more innovative approaches

for restructuring or reallocating the funding for the small business tax credits. For example, Hawaii's recent draft 1332 Waiver proposal, submitted in September 2015, includes a redirection of $46 million of federal funding that would otherwise pay for small business tax credits and instead allocate the funds into a "Premium Supplementation Fund" to assist employers with less than eight employees. To the extent the 1332 Waiver allows flexibility on the allocation of the small business tax credit, CAHU believes Covered California should consider approaches that incentivize small employers to offer coverage, potentially blending and leveraging federal subsidy dollars and employer dollars. When small employers with 50 or fewer employees provide coverage to low income workers, the federal government saves the cost of APTC subsidies for which the employees would be eligible for. The 1332 Waiver could provide a mechanism for capturing these savings and redirecting them to broaden eligibility for the tax credits, or provide cost sharing reduction subsidies for low income employees to help them pay their out-of-pocket costs.

- **Greater Choice of Plans.** There are currently only six health plans that participate in Covered California for Small Business. Giving employers and their employees more choice would make the program more attractive. For example, Covered California could require all of its Qualified Health Plans to participate in the small business program. Medi-Cal Managed Care plans in some counties may wish to participate under certain conditions. The 1332 Waiver allows us to consider a variety of options, although we recognize that some solutions may not require the waiver of federal law. The 1332 Waiver process provides an opportunity for considering "out-of-the box" options that would otherwise be off the table.

Conclusion

The 1332 Waiver process offers a unique opportunity to brainstorm, think out-of-the-box and re-imagine a better way for achieving the fundamental goals that are at the core of the Affordable Care Act in California. CAHU welcomes this opportunity to put our ideas on the table, and to be part of a process that brings other stakeholders together with Covered California to find common ground and problem solve. To the extent we can adopt policies that bend the cost curve, the waiver gives us a vehicle for capturing the savings and reinvesting them to improve affordability, and expand coverage.

Developing a 1332 Waiver requires a significant commitment of resources, expertise and time to explore the most viable options, determine their feasibility, and build consensus that will allow the passage of authorizing legislation. Technical experts, actuaries, and an on-going dialogue with CMS are all necessary for the development of a successful waiver package. CAHU believes this effort is worthwhile, and commit to working with Covered California and other stakeholders to get it right.

Given the complexities of develop a comprehensive waiver package, we suggest a two-step process. Covered California should take lead in identifying incremental yet important reforms that

can immediately improve operations and administration, particularly in areas that have the potential to boost enrollment. If a consensus can be reached on these technical fixes, CAHU supports moving forward toward a waiver proposal that can be submitted this year. A longer term process that considers broader reforms and addresses more fundamental issues should be initiated along with a commitment of resources to research, analyze, vet and recommend a waiver package in 2017.

Thank you for initiating this process and allowing us to share our initial suggestions toward the development of a 1332 State Innovation Waiver. CAHU and Certified Insurance Agents are strong partners of Covered California and we are commitments to its success. CAHU looks forward to working with you on this and future efforts.

Sincerely,

Michael Lujan, RHU, CHRS
California Association of Health Underwriters 2015-2016 President

Cc: Members, California Health Benefit Exchange Board

California Association of Health Underwriters
2520 Venture Oaks Way, Suite 150 Sacramento, CA 95833
800.322.5934 www.CAHU.org

February 24, 2016

Diana Dooley, Chair
Covered California Board

Peter Lee
Executive Director, Covered California

Covered California
1601 Exposition Blvd
Sacramento, CA 95815

Re: Covered California's 1332 Waiver Forum – Allow Undocumented Californians and DACA Recipients to Purchase a Health Plan through Covered California

Dear Ms. Dooley and Mr. Lee,

I am writing on behalf of the California Black Health Network to urge Covered California to seek a 1332 Waiver that allows undocumented people and Deferred Action for Childhood Arrivals (DACA) recipients to purchase a health plan through Covered California, with their own money.

The California Black Health Network is a statewide policy and advocacy organization established in 1978. Our organization's mission is to improve the health status of people of African descent in California and to eliminate health disparities through legislative, administrative, and media advocacy. We believe that allowing undocumented Californians and DACA recipients to purchase a health plan is the first step to addressing the inequity in our health system.

Current policy specifically excludes undocumented people and DACA recipients from purchasing their own health insurance through Covered California due to their immigration status.[1] It does not reflect our values as a state, or serve the common good, to leave hundreds of thousands of workers, students, and family members without treatment for preventable ailments. Allowing undocumented people and DACA recipients to access Covered California ensures everyone has the opportunity to view and choose from a wide range of health care plans.

[1] In 2010 Congress passed the Affordable Care Act that excluded undocumented immigrants from participation in state Exchanges and the Medicaid expansion. Existing rules excluded the undocumented from Medi-Cal were maintained. In August of 2012, President Obama's administration established regulations preventing those approved for Deferred Action from access to exchanges under the Affordable Care Act.

Currently there is legislation moving in Sacramento that would make our healthcare system more inclusive. One of the provisions in SB 10 (Lara) would direct the state to apply for a waiver under Section 1332 of the Affordable Care Act, to allow all Californians regardless of immigration status to purchase health care coverage through Covered California with their own money. While this proposal does not include subsidies, it is a significant step forward as it removes an unjust barrier to health coverage and would make California's implementation of the ACA more inclusive.

Covered California can set a powerful model for the nation by being the first statewide exchange open to all residents regardless of immigration status. We urge Covered California to support the above mentioned proposal by seeking the 1332 Waiver. Let's ensure that we fulfill the vision of the Affordable Care Act by expanding opportunities for health coverage to all who call California home. When all Californians have access to coverage, our health system is stronger and more cost-effective for everyone.

Sincerely,

Sandra Poole

Sandra O. Poole, MPA
Interim President/ CEO
California Black Health Network

March 1, 2016

Diana Dooley, Chair
Covered California Board

Peter Lee
Executive Director, Covered California

Covered California
1601 Exposition Blvd
Sacramento, CA 95815

Re: Covered California's 1332 Waiver – Allow Undocumented Californians and DACA Recipients to Purchase a Health Plan through Covered California

Dear Ms. Dooley and Mr. Lee,

I am writing on behalf of the California Primary Care Association, and in partnership with our Health4All Coalition partners, to urge Covered California to seek a 1332 Waiver that allows undocumented people and Deferred Action for Childhood Arrivals (DACA) recipients to purchase a health plan through Covered California. The California Primary Care Association (CPCA), is the statewide leader and recognized voice of California's community clinics and health centers (CCHCs) and the patients they serve. CPCA represents 1,100 non-profit CCHCs that provide comprehensive, quality health care services to more than 5.6 million low-income, uninsured and underserved Californians who might otherwise not have access to health care. Our comments below are consistent with those we provided during public comment at Covered California's Section 1332 State Innovation Waiver Meeting held on February 23, 2016.

Current policy specifically excludes undocumented people and DACA recipients from purchasing their own health insurance through Covered California due to their immigration status.[1] It does not reflect

[1] In 2010 Congress passed the Affordable Care Act that excluded undocumented immigrants from participation in state Exchanges and the Medicaid expansion. Existing rules excluded the undocumented from Medi-Cal were maintained. In August of 2012, President Obama's administration established regulations preventing those approved for Deferred Action from access to exchanges under the Affordable Care Act.

our values as a state, or serve the common good, to leave hundreds of thousands of workers, students, and family members without treatment for preventable ailments. Allowing undocumented people and DACA recipients to access Covered California ensures everyone has the opportunity to view and choose from a wider range of health care plans.

Currently there is legislation moving in Sacramento that would make our healthcare system more inclusive. One of the provisions in SB 10 (Lara) would direct the state to apply for a waiver under Section 1332 of the Affordable Care Act, to allow all Californians regardless of immigration status to purchase health care coverage through Covered California with their own money. While this proposal does not include subsidies, it is a significant step forward as it removes an unjust barrier to health coverage and would make California's implementation of the ACA more inclusive.

Additionally, we believe the Section 1332 waiver also serves as an opportunity to reevaluate California's approach to providing comprehensive coverage to the Newly Qualified Immigrant (NQI) population. The Affordability and Benefit program for NQIs is a program to help pay for private insurance for newly qualified immigrants who are subject to and have not met the five year bar requirement and are not pregnant, 21 years of age or older and less than 65 years of age, have no child(ren) under the age of 21 living in the home who are eligible for Medi-Cal, have household income that equals or is below 138% of the Federal Poverty Level (FPL), and are otherwise eligible for Medi-Cal benefits if not for the five-year bar requirement. This program is still under development and not expected to be operational until 2017. Once operationalized, such persons will be required to enroll into Exchange coverage. DHCS will pay, on behalf of the individual, insurance premiums minus their applicable premium tax credits and cost sharing charges so that the individual has the same cost sharing charges as he/she would have had under Medi-Cal.

As implementation discussions continue, CPCA, as well as consumer organizations, have growing concerns that the current program design will be unintentionally burdensome for the consumer and broader system and will not allow consumers the expanded access they need and deserve. Most importantly to CPCA, this program puts continuity of care at risk, destabilizes current treatment, and divides families between programs of coverage. Lastly, we fear, as income and household conditions change, as pregnancy is reported, and/or persons hit their "fifth year," consumers will be regularly moving between Medi-Cal and Covered CA. For these reasons, we would like to encourage dialog on how we can use the 1332 waiver to provide Newly Qualified Immigrants with comprehensive coverage in Medi-Cal by applying premium tax credit funds to the Department of Health Care Services. This promising proposal was first introduced by Western Center on Law and Poverty at the February 23rd meeting. We believe this solution avoids continuity of care issues, keeps one program of coverage for the whole family, and simplifies the delivery of other Medi-Cal services to this population. We also believe there are no additional costs to the federal government. Of great importance, sending the premium tax credits to DHCS in order to keep newly qualified immigrants in

a state-only Medi-Cal program meets the 4 “guardrails” or requirements of the 1332 waiver: coverage, affordability, comprehensive, and federal deficit neutrality.

We thank Covered California for being a national leader – creating the space of stakeholder engagement and starting this critical conversation. Covered California can set a powerful model for the nation by being the first statewide exchange open to all residents regardless of immigration status. We urge Covered California to support the above mentioned proposal by seeking the 1332 Waiver. Let’s ensure that we fulfill with the vision of the Affordable Care Act by expanding opportunities for health coverage for all who call California home.

Sincerely,

Carmela Castellano-Garcia
President and CEO
California Primary Care Association

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CPEHN
California Pan-Ethnic Health Network

March 2, 2016

Mr. Peter Lee, Executive Director
Covered California
1601 Exposition Blvd.
Sacramento, CA 95815
Via electronic submission to: 1332@covered.ca.gov

Re: Section 1332 State Innovation Waiver

Dear Mr. Lee:

The California Pan-Ethnic Health Network (CPEHN) appreciates the opportunity to provide comments regarding Covered California's stakeholder process to develop a State Innovation Waiver as authorized by Section 1332 of the Patient Protection and Affordable Care Act (ACA). The 1332 waiver provides an important opportunity for Covered California to increase access to health coverage and improve the experience of enrollees.

We urge Covered California to move forward with the following proposals for submission in 2016:

- **Allow undocumented immigrants to purchase health coverage in the Exchange:** Under current law, undocumented immigrants can purchase health coverage for their eligible family members through Covered California but are prohibited from purchasing coverage for themselves in the exchange. As a result some "mixed immigration status" families have chosen to forgo purchasing coverage for their eligible family members. SB 10 (Lara) would allow undocumented immigrants to buy unsubsidized coverage through Covered California using their own money. The bill would specifically authorize non-qualified health plans that mirrored QHPs to provide coverage for undocumented in the exchange.

  Additionally, allowing undocumented immigrants to purchase coverage in Covered California will help to dispel immigration enforcement myths and ensure all of California's immigrant populations feel welcome to purchase coverage in the exchange. It would also allow mixed immigration status families to apply together, albeit with different subsidy levels. Because coverage would be unsubsidized the only cost to the exchange would be an administrative one.

- **Streamline enrollment and reduce churn by aligning coverage and other rules between programs, especially Covered California and Medi-Cal:** California, like several other states, has a lack of alignment between

the Medi-Cal program and state exchange rules. For example, differences in income eligibility for children and adults has resulted in a substantial number of mixed status families with kids in Medi-Cal and parents in Covered California. Additionally, women who become pregnant in Covered California with incomes up to 321% Federal Poverty Level (FPL) are eligible for zero cost Medi-Cal as well as Covered California. Rather than switching back and forth between programs, or continuing the status quo with families in different plans, Covered California could use this opportunity to align eligibility rules and improve continuity of care for these populations.

We are also supportive of additional proposals put forward by Western Center on Law & Poverty that would streamline enrollment and reduce churn for example, by allowing Newly Qualified Immigrants (NQIs) in state-only Medi-Cal to remain in Medi-Cal by bringing the premium tax credits they are eligible for to the Department of Health Care Services (DHCS), and providing a transition bridge month for Medi-Cal beneficiaries at risk of losing health coverage due to incompatible deadlines for applying for and gaining access to coverage through a transfer of one month's premium tax credits to DHCS.

- **Additional proposals for 2017 and beyond:** Moving forward, we urge Covered California to start exploring, developing and modeling affordability improvements for submission in 2017 including proposals to provide premium and cost-sharing assistance to exchange enrollees, including undocumented immigrants, family members impacted by the "family glitch" and those over 400% FPL living in high-cost areas of the state. Additionally, we would encourage Covered California to explore opportunities to improve benefits by for example, by exploring the option of adding adult dental and vision as part of QHP benefit packages.

Conclusion: Covered California has an important opportunity to improve access to health care coverage for Californians through both short-term and longer-term waiver proposals. We urge Covered California to act swiftly to advance these landmark proposals.

Thank you for your time.

Sincerely,

Director Policy Analysis, CPEHN

March 1, 2016

Covered California Board
1601 Exposition Blvd
Sacramento, CA 95815

RE: Section 1332 Waiver Proposal Comments

Dear Members of the Covered California Board:

We are thankful for the opportunity that the Covered California Board is providing to discuss prospective proposals for utilizing the Section 1332 innovation waiver option to extend and improve health insurance for Californians. While children do not constitute a large percentage of Covered California's consumers, we believe that the 1332 waiver process could be used to strengthen exchange coverage for children to ultimately achieve comparability with Medi-Cal, which offers the model benefits and cost sharing for children. Opportunities are available even though the current federal guidelines are restrictive.

The California Children's Health Coalition–comprised of The Children's Defense Fund-California, Children Now, The Children's Partnership, United Ways of California, California Coverage & Health Initiatives (CCHI) and PICO-California–would like to share our recommendations and comments on possible Section 1332 waiver proposals for California.

Coverage Options in Covered California for Undocumented Immigrants

We support SB 10 (Lara), which, in part, would allow undocumented immigrants to buy coverage through Covered California without government subsidies. We would recommend a Section 1332 waiver proposal to make this feasible. The specific proposal would allow non-qualified health plans that mirror qualified health plans (QHP) into the California Health Benefits Exchange to serve those immigrant families in California that are otherwise excluded from purchasing coverage within Covered California.

This approach would be especially helpful in allowing Covered California to be a one-stop shop for mixed-immigration status families, a common circumstance in California. One in six children in California have at least one parent who is an undocumented immigrant and 81% of these children are citizens.[1] Even if different family members qualified for different subsidy levels or some family members did not qualify for subsidies at all, a one-stop shop approach would go a long way to reducing barriers to enrollment by providing a single point of entry for all family members.

[1] Manuel Pastor and Enrico A. Marcelli, "What's at Stake for the State: Undocumented Californians, Immigration Reform, and Our Future Together" (Los Angeles: USC Center for the Study of Immigrant Integration, 2013).

Offering coverage inside Covered California would complete the state's mission of providing insurance options for all kids in California by making coverage available to undocumented immigrant children who do not qualify for Medi-Cal under the new expansion (SB 75), as well as offering a one-stop shop for the whole family. Exercising this option also serves to increase enrollment for children who already qualify for health insurance coverage, but have not yet applied due to the unequal access to coverage for some family members.

With regard to the 1332 guardrails, this proposal would 1) increase coverage options for an otherwise ineligible population; 2) provide non-QHPs that mirror QHPs, with which the affordability of coverage would be unchanged; 3) provide identical QHP benefits to non-QHPs offered to immigrants; and 4) not incur new federal costs because immigrants will be purchasing Covered California QHP coverage without subsidies and paying the assessment fee as part of the premium.

This proposal is narrow, targeted and ripe for inclusion in a 1332 proposal submission this year in order to meet the unique needs of California's diverse population.

Research Needed on Families with Multiple Insurance Options

There are often assumptions made that families are better off if they are enrolled in the same insurance plan. For example, the question was raised in the creation of the ACA, whether CHIP-eligible children should instead be moved into exchanges with their parents in order for them to have the same plan. Ultimately, the decision was made to continue children's CHIP coverage as a separate child-centered insurance program. The comprehensive scope of benefits and very low cost sharing provided under CHIP insurance far outweigh the convenience of a single family insurance plan. A recent study by the Kaiser Family Foundation asked families whether they did, in fact, value a single family plan versus separate CHIP plans for their children while the parents were covered under exchange plans.[2] The findings were clear and consistent: families valued the better benefits and affordability of lower cost sharing provided to their children under CHIP over the convenience of a single family plan under the exchange.

That said, there is an important question to ask: How are families faring under a separate program system, with parents enrolled in QHPs in Covered California and children enrolled in Medi-Cal? Neither agency tracks nor reports how many of these families there are or details on their specific application, enrollment, renewal, plan selection and utilization experience. This is not currently included in the joint AB x1 1 reporting data on Medi-Cal and Covered California applicants and enrollees.

Research is needed to determine if there are specific barriers to coverage as a result of being in separate plans, and if so, whether there are discrete policy fixes to these barriers. For example, children often see different health providers than their parents and thus, being in the same plan may not be as important to the continuity of their care. If the whole family receives care from the same clinic, it might be of value for families to have that clinic in the network of both plans.

We recommend that there be an in-depth examination of these families' experiences to inform possible solutions tailored to the particular needs of these families, which could provide possible recommendations for future 1332 proposals. As a result, we would not recommend submitting, at

[2] Robin Rudowiz, "Children's Coverage: What Matters Most to Parents Results from Focus Groups in 6 Cities" (Menlo Park: Kaiser Family Foundation, June 2015).

this time, a proposal aimed at families with members in different insurance options, prior to research. The priority must be to maintain a comprehensive child-specific benefit package with very low cost sharing for CHIP/Medi-Cal children.

Providing "Pediatric Services" EHB to Covered California Children

To date, federal guidance has not defined the "pediatric services" essential health benefits (EHB), other than noting the inclusion of "oral and vision services." The "pediatric services" category of EHB should broadly and comprehensively ensure that children receive the services they need to grow and develop. Pediatric services are not just limited to oral and vision care, but include a full range of services from preventive and primary care to ancillary services utilized by children with special health care needs, such as physical, speech and occupational therapy, home health care, durable medical equipment, hearing services, and personal care. The current Marketplace benchmark plans are designed for adults and should be supplemented to provide an adequate pediatric benefit.

In the absence of federal guidance, a 1332 waiver proposal (and subsequent state legislation) could provide an opportunity to improve Covered California children's benefits. So as not to run afoul of the 1332 waiver requirement to be deficit neutral, Covered California could offer a non-QHP plan that is a Medi-Cal contracted plan, which is less expensive, yet more comprehensive than QHPs. The non-QHP plan with Medi-Cal pediatric services would meet all the Medi-Cal contractual agreements (including benefits and capitation rates), but the non-QHP plan and its members would be included in the risk pool for Covered California and offered to Covered California-eligible children (namely those above the CHIP income threshold). The details would need further refinement, but a focus on children's health benefits in Covered California warrants attention and improvement to meet the pediatric services EHB.

This proposal would in fact advance the intent of the 1332 innovation waiver authority and meet the 1332 guardrails: 1) the benefit package change would not impact who is eligible for coverage as it is offered to all already-eligible Covered California children; 2) affordability would be greatly improved for families; 3) by design, the benefits would exceed those currently provided and yet conform with the federal EHB "pediatric services" category; and 4) while the benefits and cost sharing would be greatly improved for Covered California children, the Medi-Cal-contracted non-QHPs would cost far less than the current QHPs.

We would recommend that this targeted 1332 waiver proposal be considered for inclusion in this year's submission.

Bridge Coverage when Transitioning from Medi-Cal to Covered California

State law already requires that Medi-Cal and Covered California agencies work together to ensure that those transitioning from one insurance program to another are moved without a break in coverage and without requesting additional information that one program already has. However,

most cases, end up with a gap in coverage. Currently, the Department of Health Care Services (DHCS) requires only 10-day notices of termination and Covered California special enrollment regulations require someone losing coverage to enroll in a plan prior to the last day of coverage, in order to have their new coverage in place the next month. Under the best case scenario, both

options, and make a selection. As a result, families are left with gaps in coverage.

We support a proposal to allow those beneficiaries losing Medi-Cal to maintain Medi-Cal coverage for an additional month (either via its own 1115 waiver or more likely in a state-only program) and use a 1332 waiver to collect the premium tax credits for which that person is eligible for rather than have those credits sent directly to a QHP. This would give beneficiaries an extra month to change programs and choose a QHP, and thus, avoid a gap in coverage. Should Medi-Cal beneficiaries be able to select a QHP and move to Covered California immediately, they can do so. However, many Medi-Cal beneficiaries do not receive information about Covered California until the last days of the month and then need some time to figure out which plans they can use to keep their same providers or even get help in understanding how premium tax credits and cost-sharing reduction plans work.

The 1332 waiver analysis for this proposal with regards to the four guardrails is as follows: 1) as this population is already entitled to premium tax credits (and cost-sharing reductions in many cases) without a waiver and is in the process of being sent to Covered California for plan selection, there is no change to the number of people covered; 2) coverage via Medi-Cal is more affordable than coverage through Covered California, thus meeting the affordability requirement; 3) coverage under Medi-Cal is more comprehensive in scope of benefits than under Covered California's QHPs, thus meeting the comprehensive requirement; and 4) this population is already entitled to

the waiver does not increase the federal deficit. (In fact, because the capitation costs under Medi-Cal are likely lower than QHP premiums, the premium tax credits will likely be lower for the bridge period, thus creating small savings.)

We would recommend that this narrow and targeted 1332 waiver proposal be included in this year's waiver submission.

Fix the "Family Glitch"

The "family glitch" created by federal interpretation of the "affordability" test for exchange coverage has left an estimated 144,000 Californians, including 72,000 children without an affordable insurance option.[3] It appears that the most likely solution is a federal one. Given the strict deficit neutrality requirements of section 1332 waivers, a 1332 proposal to fix the "family glitch" may be extremely difficult, but it is one of only a few options for our state to advance such a remedy without state funding. It is worth the continuing effort to explore creative opportunities under section 1332, as well as efforts for federal change, that can help extend the promise of the ACA and the intent of section 1332 waivers to further improve coverage options for families.

As this proposal has challenges in meeting deficit neutrality requirements, we would recommend considering options for a "family glitch" fix 1332 waiver in the longer term, perhaps when 1332 waiver guidelines are modified to create more flexibility for progressive innovations like this.

Thank you again for this opportunity to outline our comments and provide suggestions for some useful 1332 waiver proposals. We look forward to the ongoing discussion of these ideas and others.

---

[3] Ken Jacobs et al., "Proposed Regulations Could Limit Access to Affordable Health Coverage for Workers' Children and Family Members" (Berkeley: Center for Labor Research and Education, University of California, Berkeley, and Center for Health Policy Research, University of California, Los Angeles, December 2011).

Sincerely,

Ted Lempert
President
Children Now

Corey Timpson
Director
PICO California

Mark Diel
Executive Director
California Coverage & Health Initiatives

Mayra Alvarez
President
The Children's Partnership

Peter Manzo
President & CEO
United Ways of California

Alex Johnson
Executive Director
Children's Defense Fund – California

COALITIONFOR HUMANEIMMIGRANT RIGHTS OF LOSANGELES

CHIRLA
Coalition For Humane Immigrant Rights of Los Angeles

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California State University, Los Angeles

Alma Salazar
Member
Vice President Education & Workforce Development
LA Area Chamber of Commerce

* *Organizations have been listed for identification purposes only.*

February 22, 2016
Diana Dooley, Chair
Covered California Board

Peter Lee
Executive Director, Covered California

Covered California
1601 Exposition Blvd
Sacramento, CA 95815
Kenneth Hahn Hall of Administration
500 W. Temple St.
Los Angeles, CA 90012

RE: Covered California's 1332 Waiver Forum – Allow Undocumented Californians and DACA Recipients to Purchase a Health Plan through Covered California

Dear Ms. Dooley and Mr. Lee,

On behalf of the Coalition for Humane Immigrant Rights of Los Angeles (CHIRLA), a regional organization that works to advance the rights of immigrants and refugees in Los Angeles County and beyond, I write to urge Covered California to seek a 1332 waiver that allows undocumented people and Deferred Action for Childhood Arrivals (DACA) recipients to purchase a health plan through Covered California, with their own money.

Current policy specifically excludes undocumented people and DACA recipients from purchasing their own health insurance through Covered California due to their immigration status.[1] It does not reflect our values as a state, or serve the common good, to leave hundreds of thousands of workers, students, and family members without treatment for preventable ailments. Allowing undocumented people and DACA recipients to access Covered California ensures everyone has the opportunity to view and choose from a wide range of health care plans.

Currently there is legislation moving in Sacramento that would make our healthcare system more inclusive. One of the provisions in SB 10 (Lara) would direct the state to apply for a under Section 1332 of the Affordable Care Act, to allow all Californians regardless of immigration status to purchase health care coverage through Covered California with their own money. While this proposal does not include subsidies, it is a significant step forward as it removes an unjust barrier to health coverage and would make California's implementation of the ACA more inclusive.

Covered California can set a powerful model for the nation by being the first statewide exchange open to all residents regardless of immigration status. For all the aforementioned, CHIRLA strongly supports the implementation of the 1332 waiver and respectfully urges you to also support it. If you have any questions, contact Jacqueline Mejia at jmejia@chirla.org

Sincerely,

Joseph Villela
Director of Policy & Advocacy

[1] In 2010 Congress passed the Affordable Care Act that excluded undocumented immigrants from participation in state Exchanges and the Medicaid expansion. Existing rules excluded the undocumented from Medi-Cal were maintained. In August of 2012, President Obama's

administration established those approved for Deferred Action from access to exchanges under the Affordable Care Act.
regulations preventing

THE GREENLINING INSTITUTE
1918 UNIVERSITY AVENUE, 2ND FLOOR
BERKELEY, CA 94704
GREENLINING.ORG

February 23, 2016

Diana Dooley, Chair
Covered California Board

Peter Lee
Executive Director, Covered California

Covered California
1601 Exposition Blvd
Sacramento, CA 95815

Re: Covered California's 1332 Waiver Forum – Allow Undocumented Californians and DACA Recipients to Purchase a Health Plan through Covered California

Dear Ms. Dooley and Mr. Lee,

I am writing on behalf of the Greenlining Institute to urge Covered California to seek a 1332 Waiver that allows undocumented people and Deferred Action for Childhood Arrivals (DACA) recipients to purchase a health plan through Covered California, with their own money.

The Greenlining Institute is a statewide policy and advocacy organization that strives to achieve racial and economic justice. We believe that race, income, and documentation status should never be barriers to good health. Over the past two years we have conducted interviews with undocumented young people in California who have shared their barriers to accessing health care. One young man when asked what he would tell decision-makers if given the chance said,

> *"I don't expect you to understand me. I don't expect you to know what it feels like to lie to your brother that he's going to go to the doctor when I know that I can't afford to take him. I do expect you to help us because we're still humans. We still get sick and sickness does not discriminate."*

Current policy specifically excludes undocumented people and DACA recipients from purchasing their own health insurance through Covered California due to their immigration status.[1] It does not reflect our values as a state, or serve the common good, to leave hundreds of thousands of workers, students, and family members without treatment for preventable ailments. Allowing undocumented people and DACA recipients to access

[1] In 2010 Congress passed the Affordable Care Act that excluded undocumented immigrants from participation in state Exchanges and the Medicaid expansion. Existing rules excluded the undocumented from Medi-Cal were maintained. In August of 2012, President Obama's administration established regulations preventing those approved for Deferred Action from access to exchanges under the Affordable Care Act.

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Covered California ensures everyone has the opportunity to view and choose from a wide range of health care plans.

Currently there is legislation moving in Sacramento that would make our healthcare system more inclusive. One of the provisions in SB 10 (Lara) would direct the state to apply for a waiver under Section 1332 of the Affordable Care Act, to allow all Californians regardless of immigration status to purchase health care coverage through Covered California with their own money. While this proposal does not include subsidies, it is a significant step forward as it removes an unjust barrier to health coverage and would make California's implementation of the ACA more inclusive.

Covered California can set a powerful model for the nation by being the first statewide exchange open to all residents regardless of immigration status. We urge Covered California to support the above mentioned proposal by seeking the 1332 Waiver. Let's ensure that we fulfill with the vision of the Affordable Care Act by expanding opportunities for health coverage for all who call California home.

Sincerely,

Orson Aguilar
President
The Greenlining Institute

Anthony Galace
Bridges to Health Director
The Greenlining Institute

HEALTH ACCESS CALIFORNIA

BOARD OF DIRECTORS

Brian Allison
AFSCME

Nancy "Nan" Brasmer
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Sonya Young
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March 1, 2016

Diana Dooley, Chair, Board of Directors
Peter Lee, Executive Director
Covered California
1601 Exposition Boulevard
Sacramento, CA 95815
Via-email to: boardcomments@covered.ca.gov

RE: Support for a 1332 Waiver on Immigrant Inclusivity

Dear Ms. Dooley and Mr. Lee,

On behalf of the statewide health care consumer advocacy coalition, Health Access California writes to support California's submission of a 1332 waiver this year to allow all Californians, regardless of immigration status, to buy plans through Covered California—and to begin development and modeling of other proposals for streamlining enrollment and improving affordability for Covered California members.

Phase One on Immigrant Inclusivity: Under current law, undocumented immigrants can purchase individual coverage, using their own dollars—and some do. But today, undocumented adults are excluded from Covered California—they must go to a broker or health plan to purchase coverage in the outside market.

Health Access proposes that Covered California sell undocumented immigrants non-QHP health plans that "mirror" exchange plans. The proposal would not include exchange subsidies—that's another fight for another day, recognizing the financing, and other issues involved with offering subsidies. This proposal has been in the California Legislature for over a year. As part of SB 4(Lara), it received bipartisan support from California Legislature, including unanimous Democratic support and also Republican votes. This idea has emerged as the consensus position of Democratic presidential candidates, and is currently pending in the HEAL Act in Congress. We have been in communication with consumer advocates in other states that are also looking at this idea.

Beyond an important symbolic victory for inclusion, this proposal helps solves two real problems:

- It provides a positive message for those eligible but unenrolled who are concerned of immigration enforcement (which shows up as real concern in focus groups and surveys as well as data on the remaining uninsured).
- It would allow mixed-immigration status families to apply together, just with different subsidy levels.

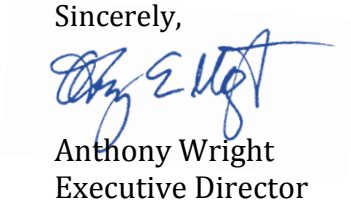
The proposal also abides by President Obama's commitment not to use federal money for undocumented coverage. Now that even the administrative costs of exchanges are no longer federally subsidized, this proposal would meet the spirit of the President's commitment. Without subsidies, this is not a debate about the use of governmental resources, but goes to core issue of inclusion vs. exclusion.

California's history and policy has been one of immigrant inclusivity, such as covering "deferred action" immigrants in full-scope Medi-Cal, including those Permanently Residing Under the Color of Law (PRUCOL) and the "DREAM Act" children under DACA, and potentially those under President Obama's most recent executive order DAPA. Several counties have long provided safety-net health services to the undocumented, through programs like Healthy San Francisco and My Health LA—and in the past year additional counties like Sacramento, Contra Costa, Monterey, and the rural counties of CMSP all extended health benefits to undocumented and uninsured Californians. Medi-Cal also is taking additional steps this year with the coverage of all children under 266% of poverty level regardless of immigration status. We hope that Covered California aligns with other programs and allows all Californians, regardless of immigration status, to be able to sign up for coverage. We urge that this be done this year.

Phase Two Affordability and Alignment: We propose that work continue on possible further Section 1332 waiver options to improve affordability through savings generated from delivery system reform and to better align coverage between Medi-Cal and Covered California for specific populations, including pregnant women, newly qualified immigrants (under the five year bar), and mixed families with kids on Medi-Cal and parents in Covered California, as well as those whose coverage shifts back and forth between Medi-Cal and Covered California. More policy work and thinking, as well as scoring, is needed to develop these concepts in a way that is workable for California and Californians. We would propose that this be the second phase of work on Section 1332 waiver possibilities that could be submitted as soon as 2017.

We appreciate Covered California's ongoing work to implement and improve the Affordable Care Act, and for seriously reviewing the options and opportunities for future steps under a Section 1332 waiver. We look forward to working with you on these efforts, and thank you for your consideration.

Sincerely,



Anthony Wright
Executive Director

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lalgbtcenter.org

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February 25, 2016
Diana Dooley, Chair
Covered California Board

Peter Lee
Executive Director, Covered California

Covered California
1601 Exposition Blvd
Sacramento, CA 95815

Re: Covered California's 1332 Waiver Forum – Allow Undocumented Californians and DACA Recipients to Purchase a Health Plan through Covered California

Dear Ms. Dooley and Mr. Lee,

I am writing on behalf of the Los Angeles LGBT Center (Center) to urge Covered California to seek a 1332 Waiver that allows undocumented people and Deferred Action for Childhood Arrivals (DACA) recipients to purchase a health plan through Covered California, with their own money.

The Center has been providing services and advocating on behalf of the Lesbian, Gay, Bisexual, and Transgender (LGBT) community since 1969 and today is the largest LGBT organization in the world, providing health and human services as well as community support to more than 504,000 client visits annually. The organization's mission is to build a world where LGBT people thrive as healthy, equal and complete members of society. In service of this mission, The Center provides high quality, culturally-competent healthcare at the only Federally Qualified Health Center in California specifically for LGBT people. In partnership with the state and other LGBT organizations, we have enrolled thousands of community members in Covered California health plans.

Current policy specifically excludes undocumented people and DACA recipients from purchasing their own health insurance through Covered California due to their immigration status. It does not reflect our values as a state, or serve the common good, to leave hundreds of thousands of workers, students, and family members without treatment for preventable ailments. Allowing undocumented people and DACA recipients to access Covered California ensures everyone has the opportunity to view and choose from a wider range of health care plans.

Currently there is legislation moving in Sacramento that would make our healthcare system more inclusive. One of the provisions in SB 10 (Lara) would direct the state to apply for a waiver under Section 1332 of the Affordable Care Act, to allow all Californians regardless of immigration status to purchase health care coverage through Covered California with their own money. While this proposal does not include subsidies, it is a significant step forward as it removes an unjust barrier to health coverage and would make California's implementation of the ACA more inclusive.

Covered California can set a powerful model for the nation by being the first statewide exchange open to all residents regardless of immigration status. We urge Covered California to support the above mentioned proposal by seeking the 1332 Waiver. Let's ensure that we fulfill the vision of the Affordable Care Act by expanding opportunities for health coverage for all who call California home.

Sincerely,

Dave Garcia

Director of Policy and Community Building

Los Angeles LGBT Center

SIREN SERVICES IMMIGRANT RIGHTS & EDUCATION NETWORK

March 1, 2016

Diana Dooley, Chair
Covered California Board

Peter Lee
Executive Director, Covered California

Covered California
1601 Exposition Blvd
Sacramento, CA 95815

Re: Covered California's 1332 Waiver Forum – Allow Undocumented Californians and DACA Recipients to Purchase a Health Plan through Covered California

Dear Ms. Dooley and Mr. Lee:

I am writing on behalf of Services, Immigrant Rights, and Education Network (SIREN) to urge Covered California to seek a 1332 Waiver that allows undocumented people and Deferred Action for Childhood Arrivals (DACA) recipients to purchase a health plan through Covered California, with their own money.

SIREN is an immigrant rights non-profit organization whose mission is to empower low-income immigrants in Silicon Valley through community organizing, immigration legal services, and policy advocacy. Our organization works closely with DACA-recipients and undocumented community members who, due to their immigration status, are unable to purchase health insurance through Covered California in order to address their medical needs. This issue is particularly acute for those immigrants who are ineligible for full-scope Medi-Cal or are unable to purchase coverage through their employer and, as a result, refrain from seeking medical care until their health concerns exacerbate into medical emergencies. These community members are in great need of coverage options to make sure they able to adequately take care of their health.

SIREN SERVICES IMMIGRANT RIGHTS & EDUCATION NETWORK

Current policy specifically excludes undocumented people and DACA recipients from purchasing their own health insurance through Covered California due to their immigration status.[1] It does not reflect our values as a state, or serve the common good, to leave hundreds of thousands of workers, students, and family members without treatment for preventable ailments. Allowing undocumented people and DACA recipients to access Covered California ensures everyone has the opportunity to view and choose from a wider range of health care plans.

Currently there is legislation moving in Sacramento that would make our healthcare system more inclusive. One of the provisions in SB 10 (Lara) would direct the state to apply for a waiver under Section 1332 of the Affordable Care Act, to allow all Californians regardless of immigration status to purchase health care coverage through Covered California with their own money. While this proposal does not include subsidies, it is a significant step forward as it removes an unjust barrier to health coverage and would make California's implementation of the ACA more inclusive.

Covered California can set a powerful model for the nation by being the first statewide exchange open to all residents regardless of immigration status. We urge Covered California to support the above mentioned proposal by seeking the 1332 Waiver. Let's ensure that we fulfill with the vision of the Affordable Care Act by expanding opportunities for health coverage for all who call California home.

If you have any questions, please do not hesitate to contact me at priya@siren-bayarea.org or (408) 453-3003 x103.

Sincerely,

Priya Murthy
Policy and Organizing Program Director
Services, Immigrant Rights, and Education Network (SIREN)

[1] In 2010 Congress passed the Affordable Care Act that excluded undocumented immigrants from participation in state Exchanges and the Medicaid expansion. Existing rules excluded the undocumented from Medi-Cal were maintained. In August of 2012, President Obama's administration established regulations preventing those approved for Deferred Action from access to exchanges under the Affordable Care Act.

Al Schubert
SVP & General Manager
Health Plans / Policy

March 1, 2016

SUBMITTED ELECTRONICALLY
Via 1332@covered.ca.gov

Peter V. Lee
Executive Director
California Health Benefit Exchange
2535 Capitol Oaks Drive Suite 120
Sacramento CA 95833

RE: 1332 State Innovation Waiver

Dear Mr. Lee:

Vision Service Plan ("VSP") appreciates the opportunity to provide comments to the California Health Benefit Exchange ("Exchange") in regards to expanding on our comments at the public hearing on the 1332 state innovation waiver. The following comments from VSP are focused on utilizing the 1332 state innovation waiver to have adult vision care become an essential health benefit (EHB), and to increase access to that benefit by giving stand-alone vision plans the right to provide coverage directly through the Exchange.

VSP is the nation's largest provider of eye care coverage, with 60 years of experience in the eye care field. VSP provides vision benefits on a not-for-profit basis through a national network of independent private-practice eye doctors. VSP currently covers 72 million individuals in the United States, and it provides eye health benefits for more than 56,000 employer clients. VSP clients include federal, state, and local government employers, as well as private employers.

SUMMARY

Last week, Covered California made an important decision to provide access to vision coverage for adults through VSP Vision Care, and we are grateful for the pathway provided through which consumers can access affordable, quality eye care. This was a critical step forward in closing the gap in access to eye care. With the potential for a 1332 state innovation waiver, we believe there is an opportunity to officially close the gap in access to eye care by making adult vision care an EHB, and give stand-alone vision plans the right to provide that care directly within the Exchange. While we are not advocating for subsidies to apply to adult vision care, we do believe that it is critical that stand-alone vision plans be able to contract directly with the Exchange, similar to a qualified health plan. Offering vision as an EHB to adults in California directly

through stand-alone vision plans contracted with the Exchange is essential for the following reasons:

- **Avoiding market segmentation and gaps in coverage:** The vision coverage market today is based on family coverage. Failure to allow stand-alone vision coverage in Exchanges bifurcates vision coverage between adults and children, resulting in market disruption and possible loss of coverage and the reduction of coverage choices. This bifurcation is particularly troublesome because benefit decisions are normally made as a family.

- **Stand-alone coverage is by far the predominant method of delivery of vision care:** Stand-alone vision plans initially were chosen by private and public employers as a means of filling gaps in (or the lack of) vision coverage bundled in major medical plans. This trend has continued, such that today, approximately 90% of vision care in the United States is delivered through a stand-alone vision plan, as estimated by the National Association of Vision Care Plans (NAVCP).

- **Stand-alone coverage provides greater overall health benefits:** A study conducted by HCMS Group, a human capital risk management firm, (HCMS)[1] has shown that individuals with stand-alone coverage (as compared to vision coverage bundled with a major medical plan) are far more likely to obtain regular comprehensive eye exams, leading not only to better vision health, but also to a much higher frequency of the early detection of chronic diseases such as diabetes and hypertension.

- **Stand-alone vision coverage leads not only to better vision health but also to early detection of chronic diseases compared to vision coverage that is bundled as part of a major medical plan:** A study conducted by NAVCP [2] indicates that the value of stand-alone vision care include wellness benefits and the early recognition of chronic diseases. The study found that persons with stand-alone vision coverage (as compared to coverage bundled in a major medical plan) were twice as likely to obtain regular eye health examinations and preventive services, allowing for early diagnosis and prevention of eye conditions, as well as chronic conditions such as type 2 diabetes and hypertension. This is in large part because the stand-alone vision coverage is focused on a particular benefit. Stand-alone plans are thus naturally encouraged to focus on providing and demonstrating value for the beneficiary and differentiating themselves from their vision plan peers. Further, the study found that children whose parents have stand-alone vision coverage are more than twice as likely to receive eye care, compared to children with parents in bundled plans.

[1] The study was conducted by HCMS Group. Information about the study may be found on their website at http://www.hcmsgroup.com/vsp-press-release-employers-offering-vision-insurance-save-billion-on-healthcare/.
[2] The study was conducted by the National Association of Vision Care Plans (NAVCP). Information regarding the study (the "NAVCP Study") may be found on their website at http://navcp.org/documents/NAVCP_PressRelease_FINAL.pdf.

Early diagnosis of such chronic diseases benefit the individual, but also the health care system as a whole, as early detection can reduce downstream tertiary care costs. These benefits may be reduced if only embedded coverage is permitted. The National Association of School Nurses[3] has recognized the importance of stand-alone vision plans in promoting primary eye care for children to aid in early learning.

Meanwhile, VSP's own data has demonstrated to its clients and to its network of providers how important the company's efforts have been to require providers to check for early signs of certain chronic diseases, such as diabetic retinopathy, an early indicator of pre-diabetes and diabetes. This can be detected via a dilated retinal exam, a test that provides a unique, non-invasive view of a patient's vascular health via retinal capillaries. An eye doctor can detect diabetic retinopathy up to seven years prior to the onset of external symptoms of diabetes. Additionally, the preventive benefits of comprehensive eye care can deliver huge dividends to employers. The study by HCMS Group[4] found that for every dollar invested in a comprehensive eye exam, employers saw a $1.45 return on investment through lower healthcare costs, improved employee productivity, and lower turnover rates. Thus, it is important that adults continue to have easy access to eye care coverage through stand-alone vision plans.

- **Stand-alone coverage ensures a balance of quality, comprehensiveness and affordability:** Because stand-alone vision plans are focused entirely on vision, plan enrollment reflects individuals' views on vision coverage specifically. VSP and other insurers providing stand-alone plans have a natural incentive to monitor consumer preferences and reactions and to adapt their vision coverage accordingly. This same incentive is not present in the case of vision coverage that is bundled with a major medical plan; individuals choose such plans based on the major medical coverage, not on the specifics of vision coverage.

- **Stand-alone vision plans account for diverse health needs across many populations:** ACA section 1302(b)(4)(G) requires HHS to take into account diverse health needs across many populations in establishing EHB. The stand-alone nature of VSP plans has been a significant positive factor in enabling VSP vision plans to meet diverse health needs not only with respect to vision care, but with respect to overall health.

  For example, as a not-for-profit stand-alone plan, VSP has been able to develop the industry's broadest provider network, which expands access and choices for patients, and to develop other innovations, such as a nation-wide health information technology platform that improves efficiency and provides important clinical data for chronic disease management and prevention. Again, these innovations are a result of being a stand-alone vision plan and the unique expertise that is developed through a sole commitment to eye care.

[3] In 2010, the National Association of School Nurses submitted a letter to then House Speaker Nancy Pelosi and Senate Majority Leader Harry Reid expressing support of stand-alone vision plans and the need to protect access to them for adults and children. An official copy of the letter can be provided from VSP.
[4] See footnote 1.

Early diagnosis of such chronic diseases benefits the individual and also the health care system as a whole by saving downstream cost. Meanwhile, VSP's own data has demonstrated to its network of providers and to its clients how important the company's efforts have been to require providers to check for early signs of certain chronic diseases, such as diabetic retinopathy, an early indicator of pre-diabetes and diabetes.

SUMMARY

Eye care delivered through stand-alone vision plans provides proven, positive impact on a person's well-being and helps keep healthcare costs down. Including vision as an EHB for adults within the Exchange would make overall offerings more diverse and attractive to consumers, and help close a critical gap in access to eye care. Pursuing this action would build upon the accomplishments of the Exchange and help ensure the ongoing mission to provide uniform coverage options within a competitive marketplace continues to be met.

We are encouraged and hopeful that within your 1332 state innovation waiver application, you will move to include vision care as an EHB for adults and allow stand-alone vision plans to provide that care directly to consumers in the Covered California marketplace. We are willing to partner with Covered California to assist in this effort.

VSP appreciates the opportunity to comment. We look forward to answering any questions you have and providing any necessary support. Please feel free to contact VSP with any questions or comments regarding this issue.

Sincerely,

Al Schubert
Sr. Vice President and General Manager of Health Plans / Policy
VSP Vision Care
916-851-5027
Al.Schubert@VSP.com

March 1, 2016

Diana Dooley, Chair and Members
Covered California Board
1601 Exposition Boulevard
Sacramento, CA

Sent via email to 1332@covered.ca.gov

Re: § 1332 Waiver

Dear Members of the Covered California Board,

We appreciate the productive discussion in California about how § 1332 waivers can be used to improve health coverage. On behalf of Western Center on Law & Poverty, the National Health Law Program and the Legal Aid Society of San Mateo County, following are our suggestions for what California should seek in a § 1332 waiver. We propose several improvements to make the current system work – changes we would like in the near future to improve system functionality while the state develops potentially broader proposals for future waiver endeavors.

Access for Immigrants

We strongly support California applying through a § 1332 waiver to allow undocumented immigrants to purchase coverage through Covered California. Though undocumented immigrants are not eligible for Exchange subsidies, it is a matter of fairness and equity to allow all Californians access to coverage channels to the maximum extent possible. We think it important that a family applying for coverage together through the joint Covered California/Medi-Cal application be able to obtain or purchase coverage for every member of the family rather than the current reality where some members can get coverage through the Covered California portal and others have to buy coverage in the outside individual market.

Were California to pursue this element in a § 1332 waiver individuals would not be enrolled in qualified health plans (QHPs) *per se* as people can only enroll in QHPs if they meet the immigration eligibility requirements. Rather, they would enroll in parallel plans after applying through www.CoveredCA.com. Allowing all members of a family to enroll in some

form of health coverage through the same portal is valuable and sends a welcoming message to all Californians. It will also hopefully lead to some increased enrollment of people eligible for subsidies but unenrolled. In addition to providing needed health coverage to these families, this could bring additional membership into Covered California – likely younger, healthier individuals which would help the already strong risk mix.

§ 1332 Waiver Requirements:

The four guardrails for § 1332 waivers are met for this proposal:

- *Coverage*: this proposal would not decrease those eligible for coverage;
- *Affordability*: this make no change to affordability as undocumented immigrants are not eligible for subsidies currently or under the proposal;
- *Comprehensiveness*: there is no impact; and
- *Deficit Neutrality*: there will be no meaningful change to those receiving subsidies. To the extent that some already-eligible family members come into subsidized QHPs from the "welcome mat" effect they are currently eligible for such subsidies and could improve the risk mix.

<u>Encouraging Participation of Medi-Cal Plans in Covered California</u>

Because of the frequency with which people move between Medi-Cal and Covered California and the many "mixed coverage" families with parents enrolled in QHPs and children and/or pregnant women enrolled in Medi-Cal, we urge that California take steps in its § 1332 waiver to encourage participation of Medi-Cal plans in Covered California. Today, LA Care is the only public Medi-Cal plan that participates in Covered California. Contra Costa Health Plan originally participated but had to drop out of Covered California in part because of the onerousness of having to participate in the individual market outside the Exchange and collect premiums.

Some 10 million Californians are enrolled in a Medi-Cal health plan – 75% of the Medi-Cal population. For those who have an increase in income and move to Covered California many have to change to a different health plan because their health plan is not available in Covered California. This means an income and coverage change will likely also mean having to change doctors and other providers because of a new provider network. California can improve continuity of care for these individuals by taking steps to encourage Medi-Cal plans to participate in Covered California by removing several barriers discussed below.

Another advantage of making it more feasible for Medi-Cal plans to participate in Covered California is it would enable families where some members are in Medi-Cal and others are in Covered California to be in the same plan.

Specifically a § 1332 waiver should waive for Medi-Cal plans:

- The requirement to participate in the individual market outside the individual market.
- Needing to collect premiums if it would be feasible for Covered California to collect the premiums.
- The requirement to serve all consumers both subsidized up to 400% FPL and unsubsidized. One option would be to have the Medi-Cal plans only cover people through Covered California whose income goes over 138% who they had as Medi-Cal members and adults with children in Medi-Cal up to 266% (the Medi-Cal income cut-off for most children).

If this is included in California's § 1332 waiver application, one consideration will be whether to waive the inclusion of these plans in the determination of the second lowest cost silver plan – upon which the subsidies are based.

§ 1332 Waiver Requirements:

The four guardrails for § 1332 waivers are met for the proposal to encourage Medi-Cal plans to participate in Covered California:

- *Coverage*, and *Comprehensiveness*: there is no impact to these elements, and
- *Affordability* and *Deficit Neutrality*: if the Medi-Cal plans are included in the calculation of the second lowest cost silver plan this proposal could increase affordability of coverage through Covered California for consumers and decrease the federal subsidies.

Newly Qualified Immigrants Wrap

California law calls for moving Medi-Cal expansion adults (under age 65, not pregnant, not eligible for Medicare) who are subject to the 5-year bar to Covered California (immigrants who have less than 5 years in a "qualified immigration status" or do not meet an exception).[1] The Department of Health Care Services (DHCS) will pay their premium, minus the premium tax credits they are eligible for and DHCS will cover any cost sharing. All newly qualified immigrants will be enrolled in one special silver plan to allow for this. The newly qualified immigrants who do not enroll in Covered California will receive only restricted scope benefits. Current understanding is that once the program opens in 2017, those who enroll outside of Covered California's open enrollment will be in Medi-Cal until the next open enrollment. If they have a special enrollment qualifying event at the time of application, however, they will be required to enroll in Covered California.

As DHCS and Covered California are working on the business rules to set up this program, a number of challenges have been identified, including continuity of care issues as some newly qualified immigrants may be placed first in Medi-Cal fee for service, then moved to Medi-Cal managed care, and then moved into Covered California. When they reach the 5th year in a

[1] Cal. Welf. & Inst. Code § 14102.

qualified immigration status, they will be moved back to Medi-Cal fee for service, and then Medi-Cal managed care again. Other details have also not been worked out such as how beneficiaries, once enrolled in Covered California, will receive additional Medi-Cal services such as adult dental or in-home supportive services. Beneficiaries who report a pregnancy also have the potential to move to Medi-Cal and then back again, depending on where they are in the five years. Additionally, Medi-Cal children who become adults may also be moved to the NQI wrap for a short period of time until they reach their fifth year in qualified status. On top of all this, we know that newly qualified immigrants are largely limited English proficient, so communication about the complexities of the wrap program, the need to involve DHCS in tax reconciliation – even for those who are not otherwise required to file taxes, and navigating more than one managed care system will be challenging.

Instead of sending the Newly Qualified Immigrants to Covered California, why not bring the premium tax credits they are eligible for to DHCS to keep them in Medi-Cal? This avoids continuity of care issues, keeps them with the same coverage as other family members, and simplifies the delivery of other Medi-Cal services to this population. Reconciliation of the premium tax credits could be handled by DHCS after income redetermination because the beneficiaries would not be receiving the credits directly, which is far simpler than the current plan of having beneficiaries repay DHCS or DHCS reimburse beneficiaries. As this population is already eligible for and going to be enrolled in Covered California, there are no additional costs to the federal government. DHCS need only identify which Medi-Cal recipients are NQI eligible but would not otherwise need to move them.

§ 1332 Waiver Requirements

Sending the premium tax credits to DHCS in order to keep newly qualified immigrants in a state-only Medi-Cal program meets the four guardrails of the 1332 waiver:

- *Coverage*: this would cover the same number of newly qualified immigrants as without a waiver;
- *Affordability*: coverage via Medi-Cal is just as affordable as coverage through Covered California that is subsidized by DHCS;
- *Comprehensiveness* coverage under Medi-Cal is as comprehensive as coverage under Covered California with additional Medi-Cal benefits, and
- *Federal Deficit Neutrality*: DHCS would only be drawing the premium tax credits this population is otherwise eligible for under the Affordable Care Act and this population is currently required to apply for under Welf. & Inst. Code § 14102. This last requirement is further bolstered by the fact that under the current plan, should any individual refuse to enroll in the NQI wrap program through Covered California, the federal government would still be required to reimburse the state for any restricted-scope services received by this population.

Funding for Transition Bridge Month

State law requires DHCS and Covered California to work together to ensure that when a recipient for one program becomes eligible for the other, they are moved without a break in coverage or additional requests for information that one program already has.[2] Medi-Cal recipients who become eligible for Covered California due to increase in income or reduction in household size currently are not being moved seamlessly from Medi-Cal to Covered California and in most cases end up with a gap in coverage. Given current DHCS practices which require only 10 day notices of termination and Covered California special enrollment regulations that require someone losing coverage to enroll in a plan prior to the last day of coverage to have coverage in place the next month (see 10 CCR 6504(h)(3)), even under the best case scenario, that is very little time to notify and educate a Medi-Cal beneficiary as to what their choices are and how to enroll.

Instead, DHCS could hold these persons losing Medi-Cal in Medi-Cal for an additional month (either via its own § 1115 waiver or in a state-only program) and use a § 1332 waiver to collect the premium tax credits that person is eligible for rather than have those credits sent directly to a qualified health plan. That would give beneficiaries an extra month to change programs and avoid a gap in coverage. Should Medi-Cal beneficiaries decide to move to Covered California immediately, they can do that. But many Medi-Cal beneficiaries do not receive information about Covered California until the last days of the month and then need some time to figure out which plans they can use to keep their same providers or even get help in understanding how premium tax credits and cost-sharing reduction plans work.

1332 Waiver Requirements:

The 1332 waiver analysis is similar to that in the NQI wrap with regards to the 4 guardrails:

- *Coverage*: as this population is already entitled to premium tax credits (and cost-sharing reductions in many cases) without a waiver in the process of being sent to Covered California for plan selection, there is no change to the number of people covered;
- *Affordability*: coverage via Medi-Cal is more affordable than coverage through Covered California, thus meeting this requirement;
- *Comprehensiveness*: coverage under Medi-Cal is more comprehensive than coverage under Covered California, thus meeting this requirement, and
- *Deficit Neutrality*: this population is already entitled to premium tax credits and, in many cases, cost-sharing reductions, thus meeting the requirement that the waiver not increase the federal deficit.

Benefits Proposals

[2] Cal. Welf. & Inst Code 15926(h)

One of the waivable provisions in a § 1332 waiver are the Essential Health Benefits (EHB) requirements. Below are two proposals regarding benefit improvements that California can make with a § 1332 waiver.

I. Pediatric Services EHB category

A. Improve the EHB pediatric services category by supplementing it with Medi-Cal benefits.

A robust and comprehensive EHB is critically important for children. The health plans used as EHB benchmarks were developed for adults and without adequate consideration of children's health needs. The U.S. Department of Health and Human Services (HHS) established a special supplementing method for pediatric oral and vision care because many of the EHB benchmark plan options did not cover those services. Yet most EHB benchmark plans do not cover a category of benefits titled "pediatric services" in general. For example, California's EHB benchmark plan does not identify separate pediatric services, therefore children receive the same coverage that adults do, with the exception of oral and vision care.

Recommendation:

We recommend that Covered California request a waiver of the provisions at 45 C.F.R. § 156.100 and § 156.110 that set the EHB pediatric services standard based on the state's benchmark plan, and instead:

1) Supplement the entire pediatric services category with the health benefits received by children under the Medi-Cal program, including the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) benefit standard.

In California, Medi-Cal benefits will be the standard for EHB pediatric dental services beginning in 2017, so this proposal expands that standard to other pediatric services as well. This change helps ensure children enrolled in Covered California receive the health care they need, and also helps ensure children transitioning from Medi-Cal to Covered California continue to receive the same benefits.

2) Supplement certain pediatric services with Medi-Cal benefits.

If the state determines that supplementing the entire pediatric services category is a long-term approach that it is not ready to undertake this year, then for 2017 it should supplement just certain pediatric services with Medi-Cal benefits. For example, California's EHB benchmark plan does not cover hearing aids or audiology services. These are areas where Covered California can make improvements for 2017 by diverging from the EHB benchmark approach and covering these benefits as they are covered under Medi-Cal.

By using the § 1332 waiver to supplement the pediatric services category with Medi-Cal benefits, the state is making these benefits part of the EHB, and is not creating a new benefit

mandate that would require the state to defray the cost.[3] The state is also supplementing pediatric services with Medi-Cal benefits, which is not an option through the EHB benchmark approach, and hence requires the waiver. In terms of the cost of adding a benefit like hearing aids to the benefits package, reports have shown that covering hearing aids has only a small impact on premiums.[4]

1332 Waiver Requirements:

- *Coverage:* There is no change in the number of people covered in these pediatric services proposals.
- *Affordability*: The proposals do not undercut any of the affordability protections in the ACA. APTCs, out-of-pocket limits, and cost-sharing reductions remain the same.
- *Comprehensiveness*: The proposals provide coverage that is more comprehensive than what is currently available without the waiver.
- *Deficit neutrality*: If there is an increase in premiums, there would be an increase in federal spending in APTCs. Yet, these pediatric services proposals will likely save federal funds, and therefore balance out any costs involved. By improving the pediatric services available to enrollees, children will be healthier by receiving the health care they need. This may lead to health care savings and savings in educational costs as well.

II. Adult Dental and Vision Services

A. Require coverage of adult dental and vision services as part of the state's EHB benchmark.

Pursuant to 45 C.F.R § 156.115, an issuer of a plan offering EHB may not include routine non-pediatric dental services nor routine non-pediatric eye exam services. Therefore even if the state's EHB benchmark plan covers adult dental and vision services, they must be excluded.

Recommendation:

[3] Assembly Bill 2004, was introduced by Assemblymember Bloom on February 16, 2016, mandating coverage by private health plans of hearing aids for all enrollees under 18 years old. Yet, per federal regulations, if a state requires a Qualified Health Plan to offer benefits in addition to those included in the EHB benchmark plan, the state has to defray the cost of covering the additional benefits if the mandate is enacted on or after January 1, 2012. So the state would have to defray the cost of this new mandate unless it is covered as a habilitative service (to help a child *gain* a new skill that he/she did not have before) versus a rehabilitative service (to help the child *regain* a skill that he/she had before but lost.) Yet hearing aids are considered an essential part of habilitative ***and*** rehabilitative care and should be covered for both purposes.

[4] James Highland et al., Compass Health Analytics, Inc., Actuarial Assessment of House Bill 52: An Act to Provide Access to Hearing Aids for Children (June 2012), *available at* http://chiamass.gov/assets/docs/r/pubs/12/mb-child-hearing-aids-actuarial.pdf. House Bill 52 (HB52), which was before the 2011-2012 session of the Massachusetts legislature, mandated insurance coverage for hearing aid devices and related services and supplies for minor children age 21 or younger. This report projected that adding hearing aid coverage would have a mid-level cost of $0.04 PMPM representing 0.008% of annual premium for five years for fully-insured plans that would be subject to the proposed mandate.

We recommend that Covered California request a waiver of 42 C.F.R. § 156.115(d), which excludes coverage of adult dental and vision services as part of the EHBs, and instead require coverage of these services. In fact, the benchmark selected for 2017 already covers some vision services including routine vision screenings that are preventive care services and eye exams for refraction to determine the need for vision correction and to provide a prescription for eyeglasses. Under this waiver proposal, the vision benefits that are already included in the state's EHB benchmark plan would be provided to adults. In terms of dental benefits for adults, ensuring preventive dental services are covered may lead to improved health outcomes and long-term cost-savings, therefore we recommend that these services be provided to adults as part of the EHB as well.

1332 Waiver Requirements:

- *Coverage*: This proposal does not impact the number of individuals receiving coverage.
- *Affordability*: This proposal does not undercut any of the affordability protections in the ACA. APTCs, out-of-pocket limits, and cost-sharing reductions remain the same.
- *Comprehensiveness*: This proposal provides coverage that is more comprehensive for adults than what is currently available without the waiver.
- *Deficit neutrality*: Adding adult dental and vision services may have an impact on the cost of premiums. If there is an increase in premiums, there would be an increase in federal spending in APTCs. Yet, covering adult dental and vision services is likely to save federal funds because state residents will be healthier. There are many studies that show that good oral health has a significant impact on overall health. There may also be savings in terms of productivity at work, and other areas where the federal savings will offset any costs.

Thank you for your consideration of our comments as California designs its § 1332 waiver.

Sincerely,

Jen Flory and Elizabeth Landsberg
Western Center on Law & Poverty

Kim Lewis and Michelle Lilienfeld
National Health Law Program

Trinh Phan, Legal Aid Society of San Mateo County

cc: Jennifer Kent, Director, Department of Health Care Services