UC BERKELEY LABOR CENTER

UCLA CENTER FOR HEALTH POLICY RESEARCH

California Simulation of Insurance Markets (CalSIM)
Version 1.6

Health Insurance Coverage in California under the Affordable Care Act

Presentation to the California Health Benefit Exchange Board

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March 22, 2012

Table of Contents

We want to thank the following experts consulted regarding modeling assumptions and eligibility and enrollment estimates

Jonathan Gruber, Massachusetts Institute of Technology
Matthew Buettgens, Urban Institute
Peter Long, Blue Shield of California Foundation
David Auerbach, RAND
Marian Mulkey, California HealthCare Foundation
Richard Figueroa, The California Endowment
John Bertko, CMS Center for Consumer Information and Oversight
Patricia Keenan, CMS Center for Consumer Information and Oversight
Bob Cosway, Milliman USA
Branch McNeal, Mercer
Katie Marcellus, California Health Benefit Exchange
David Maxwell-Jolly, California Health Benefit Exchange
Peter V. Lee, California Health Benefit Exchange
Len Finocchio, Department of Health Care Services

Funding for this research was provided by the California Health Benefits Exchange.

The California Simulation of Health Insurance (CalSIM) model was developed with the generous support of The California Endowment.

Major factors affecting individual and firm decisions as applied in CalSIM

Firm Behavior

- Employer response determined by change in relative cost of job-based coverage and the cost of coverage in the exchange, taking into account:
  - Tax Benefit of job-based coverage
  - Employer penalty to not offer insurance
  - Value of Exchange subsidies available to employees
  - Differences in plan value
  - Employee insurance take-up decision
  - Age and health status of workforce

Individual Behavior

- Factors affecting individual coverage decisions
  - Starting source of coverage (without the ACA)
  - Change in cost to purchase insurance, accounting for the individual responsibility penalty and subsidies
  - Household income
  - English proficiency
  - Health status as indicated by the presence of chronic conditions
  - Factors for those eligible for Medi-Cal/Healthy Families:
    - Age
    - Health status
    - Race/Ethnicity
    - Employment status
    - Family size
  - Change in employer offering status
  - Documentation status as a factor of eligibility determination
  - Age as a predictor of premium

Comparison of the Base Scenario and Enhanced Scenario as applied in CalSIM

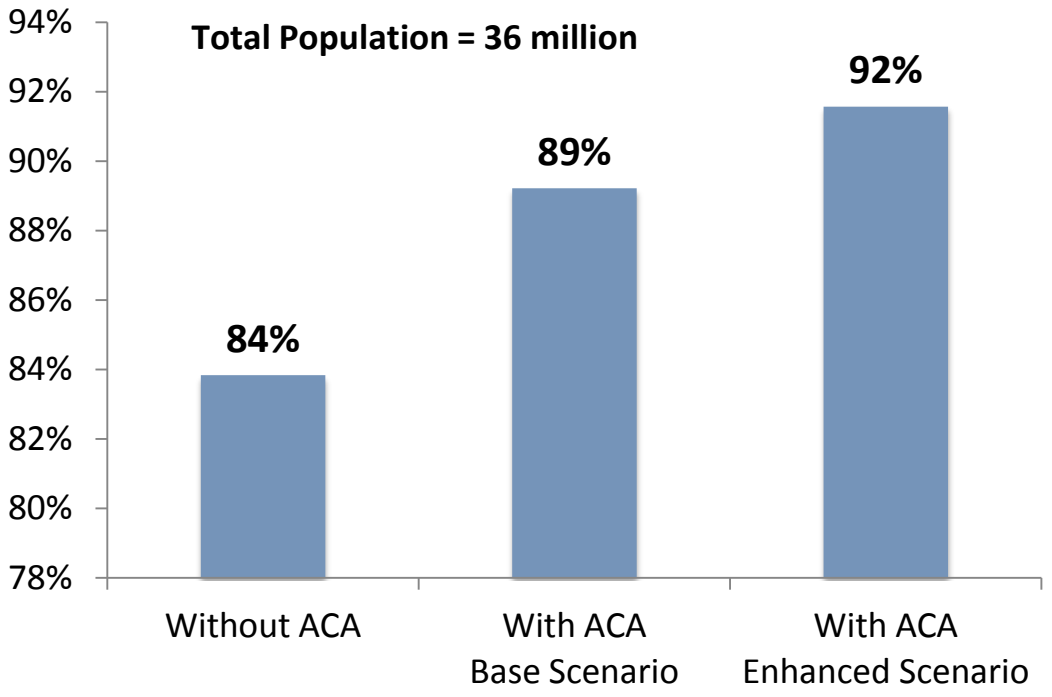
Base Scenario

- Propensities for individuals to take up coverage are based on the best available data from the health economics literature.
- Medi-Cal take-up for newly eligible is projected to match the current take-up rate in the state for the uninsured (61%).
- Medi-Cal and Healthy Families take-up for previously eligible, but uninsured, will be 10%.
- Limited English Proficient (LEP) individuals will be less likely to enroll.

Enhanced Scenario

- Factors taken into account:
    - Simplification of eligibility determination
    - Strong outreach and education
    - No-wrong door
    - Cultural sensitivity and language appropriate outreach and enrollment
    - Maximum use of pre-enrollment strategies
- Assumes 75% take-up for Medi-Cal for new eligibles and 40% for previously eligible but uninsured.
- Assumes 70% take-up of the uninsured into the subsidized exchange.

Exhibit 1. Percentage of Non-Elderly Population with Insurance in California, 2019



Note: Based on U.S. Census Bureau, Population Division, Interim State Population Projections, 2005.

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 2a. Changes Due to Policy in Types of Coverage for Californians under 65 Years Old (in Millions) 2019, *Base Scenario*

Type of Coverage	Without ACA 2019	Adding due to ACA	Leaving due to ACA	Net policy change	After ACA 2019
Employer Sponsored	19.78	0.35	-1.06	-0.71	19.07
Medi-Cal	5.90	1.26	-	1.26	7.15
Healthy Families	0.80	0.14	-0.33	-0.19	0.62
Other Public	1.26	-	-	-	1.26
Exchange with Subsidies	-	1.75	-	1.75	1.75
Individual Market/Exchange without Subsidies[1]	2.29	0.90	-1.08	-0.19	2.10
Uninsured, eligible for coverage	4.73	0.28	-2.22	-1.94	2.79
Uninsured, undocumented	1.06	0.07	-0.06	0.01	1.07

[1] Previous micro-simulation modeling literature estimates a range of 46-73% of this group will enroll through the Exchange.

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 2b. Changes Due to Policy in Types of Coverage for Californians under 65 years old (in millions) 2019, *Enhanced Scenario*

Type of Coverage	Without ACA 2019	Adding due to ACA	Leaving due to ACA	Net policy change	After ACA 2019
Employer Sponsored	19.78	0.35	-1.06	-0.71	19.07
Medi-Cal	5.90	1.62	-	1.62	7.51
Healthy Families	0.80	0.20	-0.33	-0.13	0.67
Other Public	1.26	-	-	-	1.26
Exchange with Subsidies	-	2.12	-	2.12	2.12
Individual Market/Exchange without Subsidies[1]	2.29	0.97	-1.11	-0.13	2.15
Uninsured, eligible for coverage	4.73	0.26	-3.00	-2.74	1.99
Uninsured, undocumented	1.06	0.7	-0.10	-0.03	1.03

[1] Previous micro-simulation modeling literature estimates a range of 46-73% of this group will enroll through the Exchange.

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 3a. Coverage by Source for Californians under 65 years old 2014-2019 (in millions), *Base Scenario*

Type of Coverage	Without ACA 2014	With ACA 2014	With ACA 2016	With ACA 2019
Employer Sponsored	19.15	19.15	19.10	19.07
Medi-Cal	5.71	6.64	6.89	7.15
Healthy Families	0.78	0.58	0.60	0.62
Other Public	1.22	1.22	1.24	1.26
Exchange with Subsidies	-	0.87	1.43	1.75
Individual Market/Exchange without subsidies	2.21	1.71	1.92	2.10
Uninsured, eligible for coverage	4.58	3.50	2.95	2.79
Uninsured, undocumented	1.03	1.00	1.00	1.07

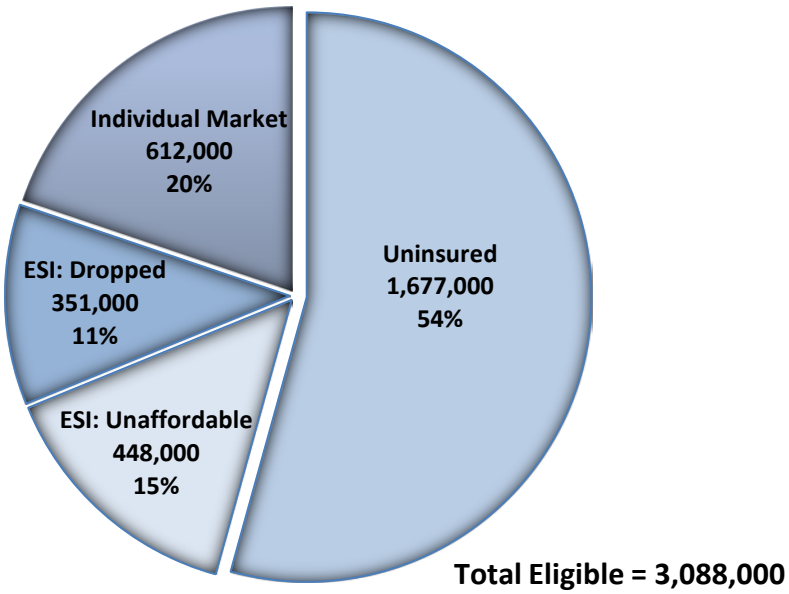
Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 3b. Coverage by Source for Californians under 65 years old 2014-2019 (in millions), *Enhanced Scenario*

Type of Coverage	Without ACA 2014	With ACA 2014	With ACA 2016	With ACA 2019
Employer Sponsored	19.15	19.14	19.08	19.07
Medi-Cal	5.71	7.14	7.36	7.51
Healthy Families	0.78	0.63	0.66	0.67
Other Public	1.22	1.22	1.24	1.26
Exchange with Subsidies	-	1.15	1.99	2.12
Individual Market/Exchange without subsidies	2.21	1.70	2.03	2.15
Uninsured, eligible for coverage	4.58	2.71	1.77	1.99
Uninsured, undocumented	1.03	0.98	1.00	1.03

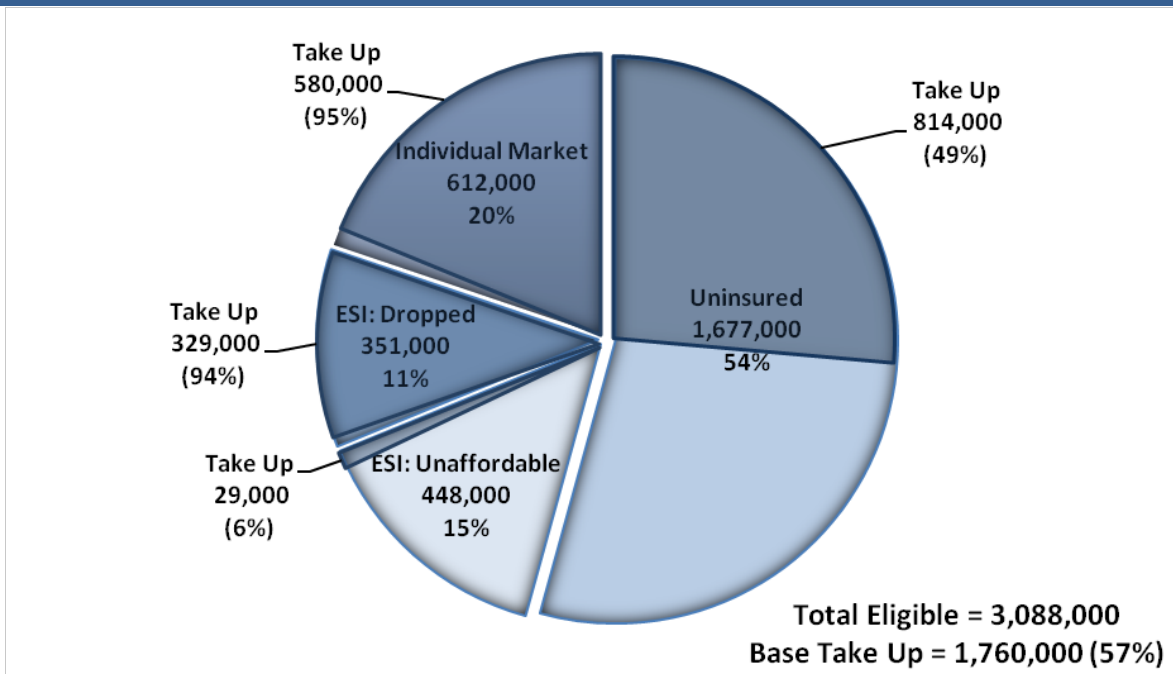
Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 4a. Exchange Subsidy Eligible by Source of Insurance without the ACA, 2019



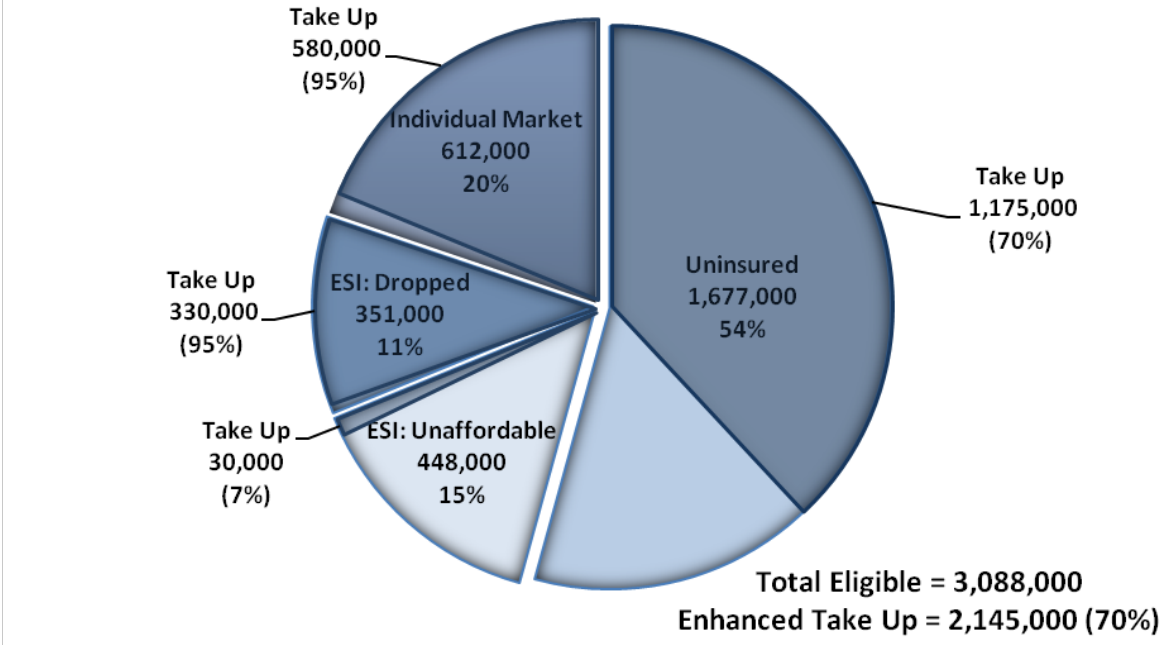
Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 4b. Share of Exchange Subsidy Eligible Taking Up Under Base Scenario, 2019



Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 4c. Share of Exchange Subsidy Eligible Taking Up Under Enhanced Scenario, 2019



Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 5. Income of Exchange Subsidy Eligible by Source of Insurance without the ACA, 2019

Income	Uninsured	ESI	Individual Market	Total
138% FPL or Less	128,000 8%	-	9,0 1%	137, 4%
139-200% FPL	572,000 34%	147,000 18%	170,000 28%	889,000 29%
201-250% FPL	373,000 22%	218,000 27%	87,000 14%	678,000 22%
251-400% FPL	604,000 36%	434,000 54%	346,000 57%	1,384,000 45%
Total	**1,677,000**	**799,000**	**612,000**	**3,088,000**

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 6. The Characteristics of Those Who Take Up Subsidized Exchange Coverage, 2019

	Base		Enhanced	
Total	**1,752,000**		**2,115,000**	
Race				
Latino	741,000	42%	1,012,000	48%
Asian	178,000	10%	203,000	10%
African American	83,000	5%	90,000	4%
White	692,000	39%	749,000	35%
Other	57,000	3%	61,000	3%
Gender				
Female	901,000	51%	1,074,000	51%
Male	850,000	49%	1,041,000	49%
Age				
0-18 years	142,000	8%	143,000	7%
19-29 years	416,000	24%	530,000	25%
30-44 years	536,000	31%	671,000	32%
45-64 years	658,000	38%	771,000	36%
Source of coverage, without ACA				
ESI: Dropped	329,000	19%	330,000	16%
ESI: Unaffordable	29,000	2%	29,000	1%
Individual Market	580,000	33%	580,000	27%
Uninsured	814,000	46%	1,175,000	56%
Income				
138% FPL or Less	81,000	5%	130,000	6%
139-200% FPL	604,000	34%	743,000	35%
201-250% FPL	352,000	20%	433,000	20%
251-400% FPL	715,000	41%	810,000	38%
LEP status (18 and older)				
Yes	517,000	30%	763,000	36%
No	1,100,000	63%	1,242,000	59%

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 7. The Characteristics of Those Who Are Eligible But Do Not Take Up Subsidized Exchange Coverage, 2019

	Base		Enhanced	
Total	**1,335,000**		**973,000**	
Race				
Latino	681,000	51%	411,000	42%
Asian	231,000	17%	207,000	21%
African American	45,000	3%	38,000	4%
White	356,000	27%	299,000	31%
Other	23,000	2%	19,000	2%
Gender				
Female	499,000	37%	327,000	34%
Male	836,000	63%	646,000	66%
Age				
0-18 years	50,000	4%	49,000	5%
19-29 years	448,000	34%	335,000	34%
30-44 years	353,000	26%	218,000	22%
45-64 years	484,000	36%	372,000	38%
Source of coverage				
ESI: Dropped	22,000	2%	20,000	2%
ESI: Unaffordable	419,000	31%	419,000	43%
Individual Market	32,000	2%	32,000	3%
Uninsured	863,000	65%	503,000	52%
Income				
138% FPL or Less	55,000	4%	7,000	1%
139-200% FPL	285,000	21%	146,000	15%
201-250% FPL	326,000	24%	246,000	25%
251-400% FPL	669,000	50%	574,000	59%
LEP status (18 and older)				
Yes	625,000	47%	380,000	39%
No	665,000	50%	523,000	54%

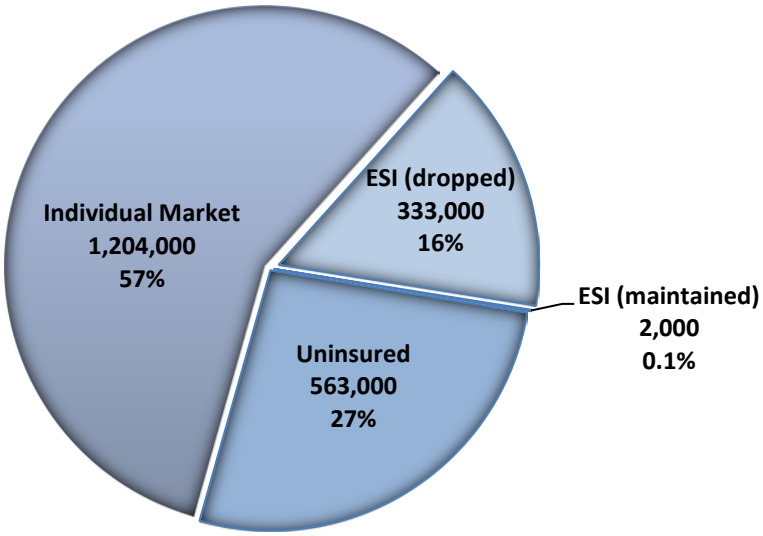
Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 8. Take-Up Rates by Population Characteristics among Exchange Subsidy Eligible, 2019

	Base	Enhanced
Race		
Latino	52%	71%
Asian	44%	50%
African American	65%	70%
White	66%	71%
Other	71%	76%
Gender		
Female	64%	77%
Male	50%	62%
Age		
0-18 years	74%	74%
19-29 years	48%	61%
30-44 years	60%	75%
45-64 years	58%	67%
Source of coverage, without ACA		
ESI: Dropped	94%	94%
ESI: Unaffordable	6%	6%
Individual Market	95%	95%
Uninsured	49%	70%
Income		
138% FPL or Less	60%	95%
139-200% FPL	68%	84%
201-250% FPL	52%	64%
251-400% FPL	52%	59%
LEP status (18 and older)		
Yes	45%	67%
No	62%	70%

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 9. Source of Previous Insurance Coverage for Those Who Take Up Coverage without Subsidies in the Exchange or Individual Market, *Base Scenario*, 2019



Total Enrolled = 2,099,000

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 10. The Characteristics of Those Who Take Up Coverage without Subsidies in the Exchange and Individual Market, *Base Scenario*, 2019

Total	**2,099,000**	
Catastrophic plan	335,000	16%
Race		
Latino	566,000	27%
Asian	301,000	14%
African American	90,000	4%
White	1,079,000	51%
Other	62,000	3%
Gender		
Female	1,007,000	48%
Male	1,092,000	52%
Age		
0-18 years	368,000	18%
19-29 years	782,000	37%
30-44 years	339,000	16%
45-64 years	610,000	29%
Source of coverage, without ACA		
ESI: Dropped	330,000	16%
ESI: Maintained	2,000	<1%
Individual Market	1,204,000	57%
Uninsured	563,000	27%
Income		
138% FPL or Less	218,000	10%
139-200% FPL	120,000	6%
201-250% FPL	111,000	5%
251-400% FPL	324,000	15%
Above 400% FPL	1,325,000	63%
LEP status (18 and older)		
Yes	275,000	13%
No	1,541,000	73%

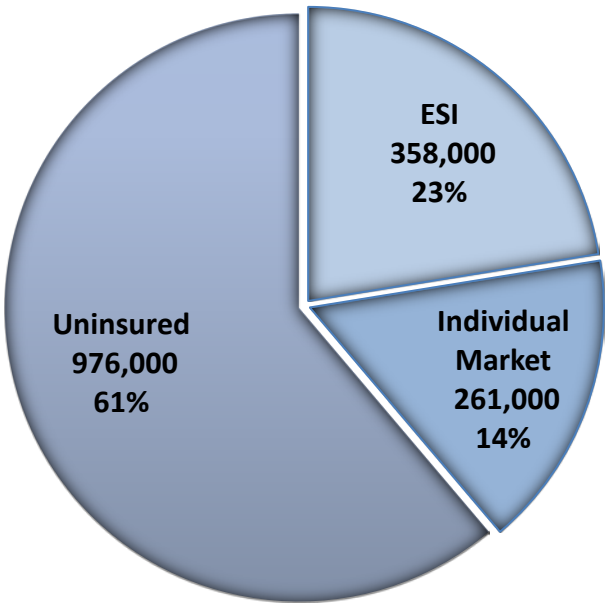
Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 11. Distribution of Chronic Conditions Among the Non-Elderly in the Individual Market, 2019

	Individual Market Without the ACA		Exchange and Individual Market with the ACA, *Base Scenario*		Exchange and Individual Market with the ACA, *Enhanced Scenario*	
No chronic conditions	1,666,000	73%	2,784,000	72%	3,167,000	74%
One or more chronic conditions	619,000	27%	1,067,000	28%	1,098,000	26%
Total	**2,285,000**		**3,851,000**		**4,265,000**	

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

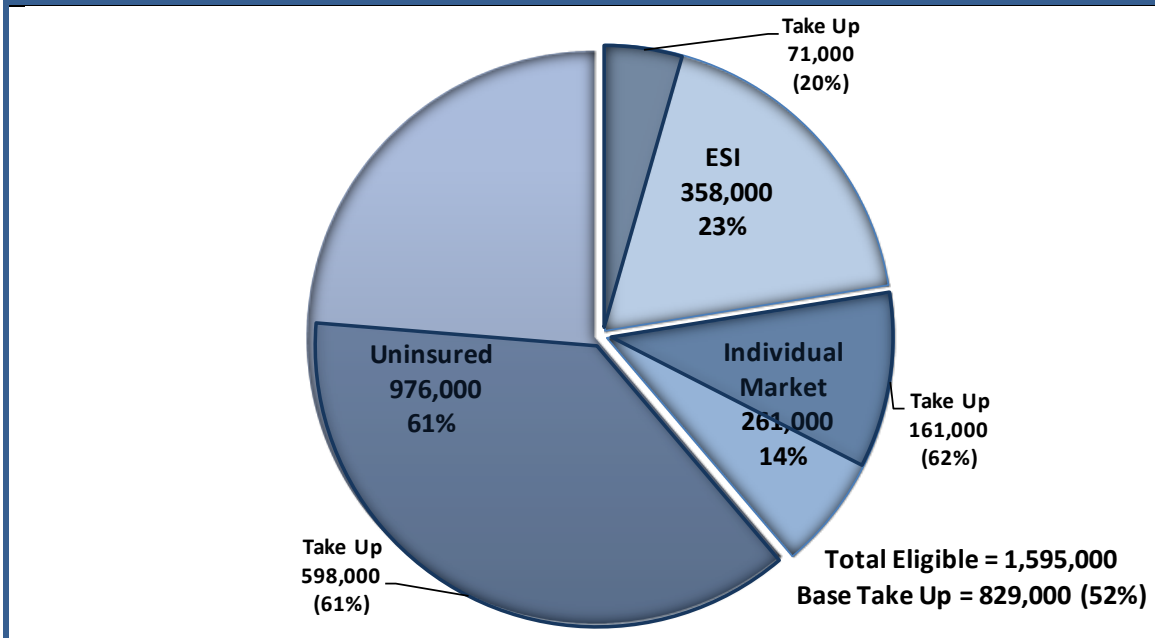
Exhibit 12. Newly Eligible for Medi-Cal by Source of Insurance without the ACA, 2019



Total Eligible = 1,595,000

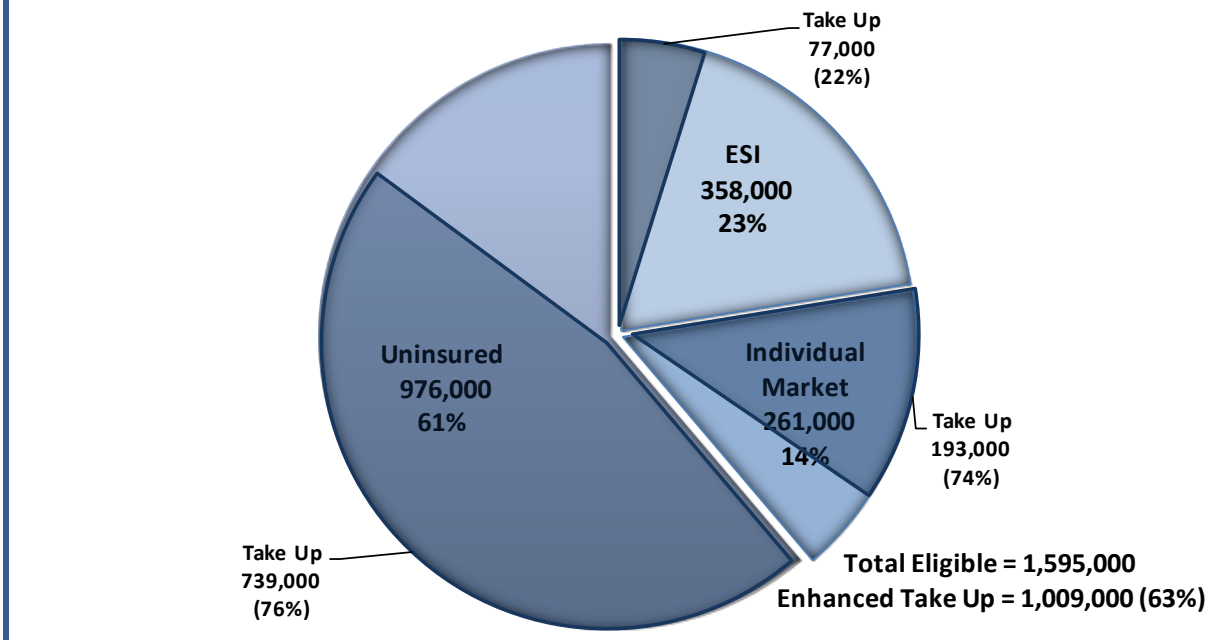
Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 13. Share of Newly Eligible for Medi-Cal Taking Up Under Base Scenario, 2019



Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 14. Share of Newly Eligible for Medi-Cal Taking Up Under Enhanced Scenario, 2019



Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 15. The Characteristics of the Newly Eligible for Medi-Cal Who Take Up, 2019

	Base		Enhanced	
Total	**829,000**		**1,009,000**	
Race				
Latino	444,000	54%	531,000	53%
Asian	60,000	7%	73,000	7%
African American	67,000	8%	78,000	8%
White	234,000	28%	297,000	29%
Other	25,000	3%	30,000	3%
Gender				
Female	467,000	56%	552,000	55%
Male	362,000	44%	457,000	45%
Age				
0-18 years	-		-	
19-29 years	212,000	26%	290,000	29%
30-44 years	273,000	33%	320,000	32%
45-64 years	344,000	41%	399,000	40%
Source of coverage, without ACA				
ESI: Dropped	34,000	4%	41,000	4%
ESI: Maintained	37,000	8%	36,000	4%
Individual Market	161,000	19%	193,000	19%
Uninsured	598,000	72%	739,000	73%
Income				
Less than 100% FPL	431,000	52%	558,000	55%
101-138% FPL	398,000	48%	451,000	45%
LEP status (18 and older)				
Yes	313,000	38%	386,000	38%
No	516,000	62%	623,000	62%

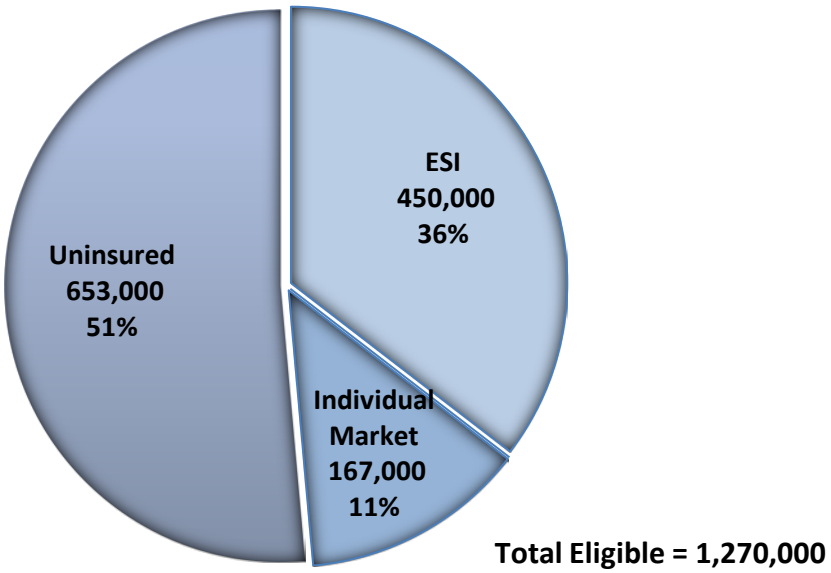
Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 16. The Characteristics of the Newly Eligible for Medi-Cal Who Do Not Take Up, 2019

	Base		Enhanced	
Total	**766,000**		**586,000**	
Race				
Latino	360,000	47%	273,000	47%
Asian	48,000	6%	34,000	6%
African American	61,000	8%	50,000	9%
White	273,000	36%	210,000	36%
Other	24,000	3%	19,000	3%
Gender				
Female	339,000	56%	333,000	57%
Male	428,000	44%	253,000	43%
Age				
0-18 years	-		-	
19-29 years	332,000	43%	253,000	43%
30-44 years	214,000	28%	167,000	28%
45-64 years	220,000	29%	165,000	28%
Source of coverage, without ACA				
ESI: Dropped	21,000	3%	13,000	2%
ESI: Maintained	267,000	35%	267,000	46%
Individual Market	100,000	13%	68,000	12%
Uninsured	378,000	49%	237,000	40%
Income				
Less than 100% FPL	402,000	52%	274,000	47%
101-138% FPL	364,000	47%	312,000	53%
LEP status (18 and older)				
Yes	254,000	33%	182,000	31%
No	512,000	67%	404,000	69%

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

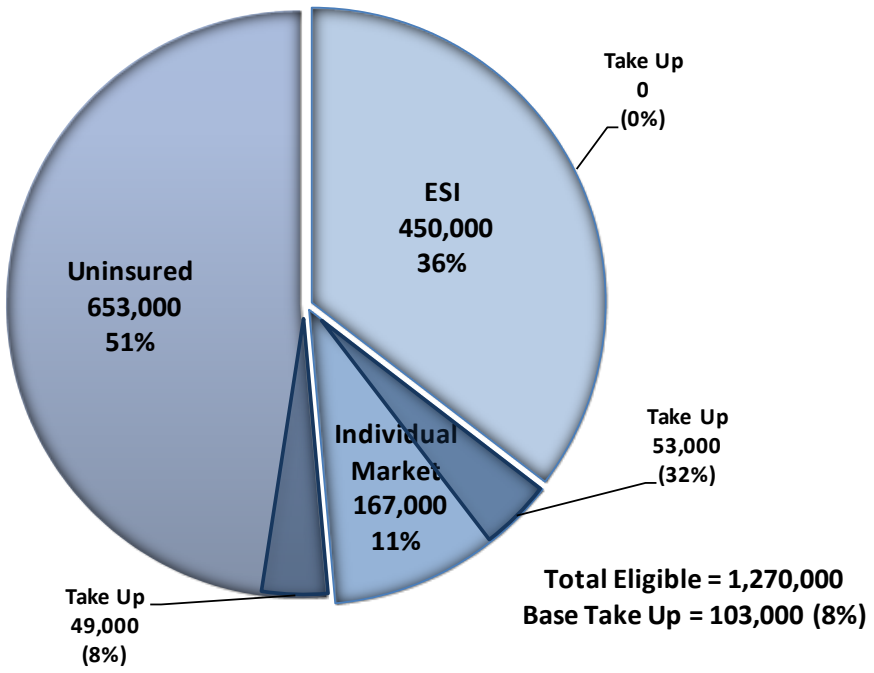
Exhibit 17. Non-Elderly Previously Eligible for Medi-Cal or Healthy Families but Not Enrolled by Source of Insurance without ACA, 2019



Note: Only includes incomes from 0-200% of FPL (age <1) and 0-138% of FPL for age 1 or over

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

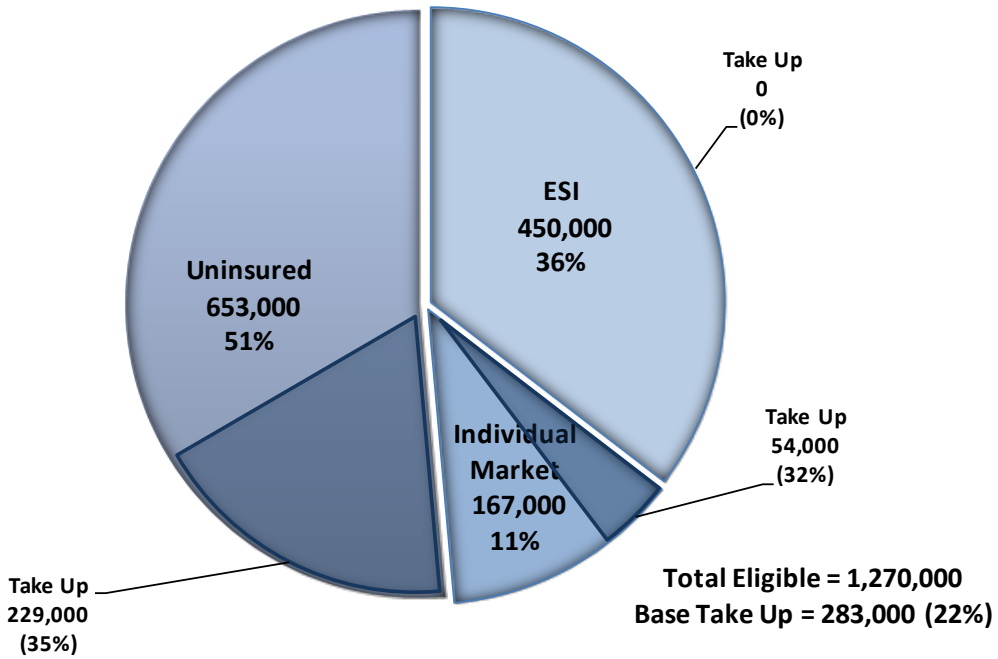
Exhibit 18. Share of Non-Elderly Previously Eligible for Medi-Cal or Healthy Families but Not Enrolled Taking Up *Medi-Cal* under Base Scenario, 2019



Note: Only includes incomes from 0-200% of FPL (age <1) and 0-138% of FPL for age 1 or over; does not include additional Healthy Families take-up.

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 19. Share of Non-Elderly Previously Eligible for Medi-Cal or Healthy Families but Not Enrolled Taking Up *Medi-Cal* under Enhanced Scenario, 2019



Note: Only includes incomes from 0-200% of FPL (age <1) and 0-138% of FPL for age 1 or over; does not include additional Healthy Families take-up.

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 20. The Characteristics of the Non-Elderly Previously Eligible for Medi-Cal or Healthy Families but Not Enrolled Who Take Up *Medi-Cal* with ACA, 2019

	Base		Enhanced	
Total	**103,000**		**283,000**	
Race				
Latino	53,000	51%	188,000	66%
Asian	7,000	7%	22,000	8%
African American	7,000	7%	12,000	4%
White	30,000	29%	54,000	19%
Other	5,000	5%	6,000	2%
Gender				
Female	58,000	56%	156,000	55%
Male	45,000	44%	127,000	45%
Age				
0-18 years	76,000	74%	140,000	49%
19-29 years	6,000	6%	35,000	12%
30-44 years	13,000	13%	72,000	25%
45-64 years	7,000	7%	36,000	13%
Source of coverage, without ACA				
ESI: Dropped	-		-	
ESI: Maintained	-		-	
Individual Market	53,000	51%	54,000	19%
Uninsured	49,000	48%	229,000	81%
Income				
Less than 100% FPL	70,000	68%	217,000	77%
101-138% FPL	33,000	32%	66,000	23%
LEP status (18 and older)				
Yes	14,000	14%	62,000	22%
No	20,000	19%	93,000	33%

Note: Table does not include previously eligible for Healthy Families over 138% of FPL.

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 21. The Characteristics of the Non-Elderly Previously Eligible for Medi-Cal or Healthy Families but Not Enrolled Who Do Not Take Up *Medi-Cal* with ACA, 2019

	Base		Enhanced	
Total	**1,167,000**		**987,000**	
Race				
Latino	704,000	60%	570,000	58%
Asian	113,000	10%	98,000	10%
African American	64,000	5%	59,000	6%
White	250,000	21%	226,000	23%
Other	36,000	3%	34,000	3%
Gender				
Female	568,000	49%	471,000	48%
Male	598,000	51%	516,000	52%
Age				
0-18 years	599,000	51%	535,000	54%
19-29 years	119,000	10%	91,000	9%
30-44 years	305,000	26%	246,000	25%
45-64 years	144,000	12%	115,000	12%
Source of coverage				
ESI: Dropped	47,000	4%	47,000	5%
ESI: Maintained	403,000	35%	402,000	41%
Individual Market	113,000	10%	113,000	11%
Uninsured	603,000	52%	423,000	43%
Income				
Less than 100% FPL	764,000	65%	616,000	62%
101-138% FPL	403,000	35%	370,000	37%
LEP status (18 and older)				
Yes	315,000	27%	236,000	24%
No	368,000	32%	326,000	33%

Note: Table does not include previously eligible for Healthy Families over 138% of FPL.

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 22. Characteristics of the Remaining Uninsured with ACA, 2019

	Base		Enhanced	
	Individuals	Percent of Remaining Uninsured	Individuals	Percent of Remaining Uninsured
Undocumented	1,073,000	28%	1,033,000	34%
Eligible for Medi-Cal or Healthy Families	1,130,000	29%	743,000	25%
Eligible for Exchange Subsidies	782,000	20%	429,000	14%
Eligible for Exchange without Subsidies	883,000	23%	820,000	27%
400% FPL or less	226,000	6%	211,000	7%
Greater than 400% FPL	657,000	17%	609,000	20%
Total	**3,862,000**		**3,025,000**	
Remaining uninsured exempt from individual penalty	54%		56%	

Source: UC Berkeley-UCLA CalSIM model, Version 1.6

Exhibit 23. Comparison Estimates of Those Who Take Up in the Exchange across Micro-Simulation Models

MODEL (in millions)	Exchange Enrolled Population Estimate- *California*		Exchange Enrolled Population Estimate- *National*	
	Subsidized	Unsubsidized	Subsidized	Unsubsidized
CalSIM: Base Scenario	1.76 (2019)	2.10* (2019)		
CalSIM: Enhanced Scenario	2.15 (2019)	2.12* (2019)		
CalSIM: May 2011 Board Meeting	2.39 (2019)	2.00* (2019)		
Lewin	2.29[1] (2011)	0.84[1] (2011)	22.06[2] (2011)	4.04[2] (2011)
Urban Institute	3.44[3] (2011)		8.5[4] (2011)	6.8[4] (2011)
Long and Gruber	4.01[5] (2016)			
RAND**	3.5[6] (2016)	2.1[6] (2016)	27.9[7] (2016)	
Congressional Budget Office			18.0[8] (2019)	5.0[8] (2019)

* Includes individuals enrolled in the non-group market outside of the exchange.

** Does not account for undocumented immigrants.

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Appendix 1: Methodology

The California Simulation of Insurance Markets (CalSIM) model is designed to estimate the impact of various elements of the ACA on employer decisions to offer insurance coverage and individual decisions to obtain coverage in California. The CalSIM model uses four data sources: the 2004–2008 Medical Expenditure Panel Survey (MEPS) Household Component (MEPS-HC) and the Person Round Plan (MEPS-PRPL) public use data files, the 2009 California Health Interview Survey (CHIS), California Employment Development Department (EDD) 2007 wage distribution, insurance offer, and firm size data, and the 2010 California Employer Health Benefits Survey (EHBS). CHIS, EDD and CEHBS provide weights and wage distributions that adjust the nationally-representative MEPS data to build a California-specific model. Once re-weighted, the MEPS-HC respondents are then assumed to represent the population of California. However, MEPS-HC does not include data on immigration status, and until 2007 did not report whether an individual was born in the United States. We therefore constructed a regression model using CHIS 2009 confidential data to predict the immigration status of MEPS-HC respondents based on a variety of socioeconomic, demographic and family characteristics. By accounting for immigration status within the individual dataset construction process, the CalSIM model is able to adjust Medi-Cal and Exchange eligible populations based on undocumented immigrant and recent legal permanent residence status before determining firm and individual coverage decisions, rather than imposing an ex post adjustment. This approach enables a more accurate picture of the Medi-Cal and Exchange eligible and enrolled populations in California. However, it is limited by the sensitivity of the logistic regression modeling approach and predicted immigration status propensity scores.

Individuals are then identified as workers and non-workers (i.e., the unemployed and the respective dependents/spouses of workers). Workers are assigned employer wage distribution characteristics from EDD 2007 data based on firm size and insurance offer status from their MEPS record. The firms are then statistically matched to the Employer Sponsored Insurance (ESI) data from the 2010 CEHBS, which contains additional information on the actuarial value of the health plans offered. The matched dataset is used to create synthetic firms consisting of workers and their families, who then choose to participate in different aspects of the ACA, such as taking up coverage or dropping coverage. These decisions, once made by the firm and linked to each employee and their families, allow for individual probabilities to be assigned for insurance choices depending on family characteristics such as household income, health status, cost, availability of other coverage options, and immigration status.

The CalSIM model was created by the UC Berkeley Center for Labor Research and Education and the UCLA Center for Health Policy Research with funding from The California Endowment.