

# Modeling Health Reform in California

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May 16, 2007

# Who Am I?

- Professor of Economics at MIT since 1992
- Years of research in health economics
  - Impact of taxes on health economy
  - “Crowdout” of private by public insurance
  - Impact of public insurance on health
- U.S. Treasury Department in 1997-1998
  - Development & implementation of S-CHIP

# Why Am I Here?

- 1998-99: Kaiser Family Foundation supported the development of modeling impacts of tax subsidies to insurance
- Important input into debate over role of tax subsidies
- Subsequently, model was expanded to consider broader range of health policies

# Other States

- Over last several years, used model to assist other states in health reform efforts
- Most notably Massachusetts
- Initial modeling of Romney plan
- Subsequent modeling of legislative options
- Appointed to Connector Board last year – overseeing implementation of reform plan

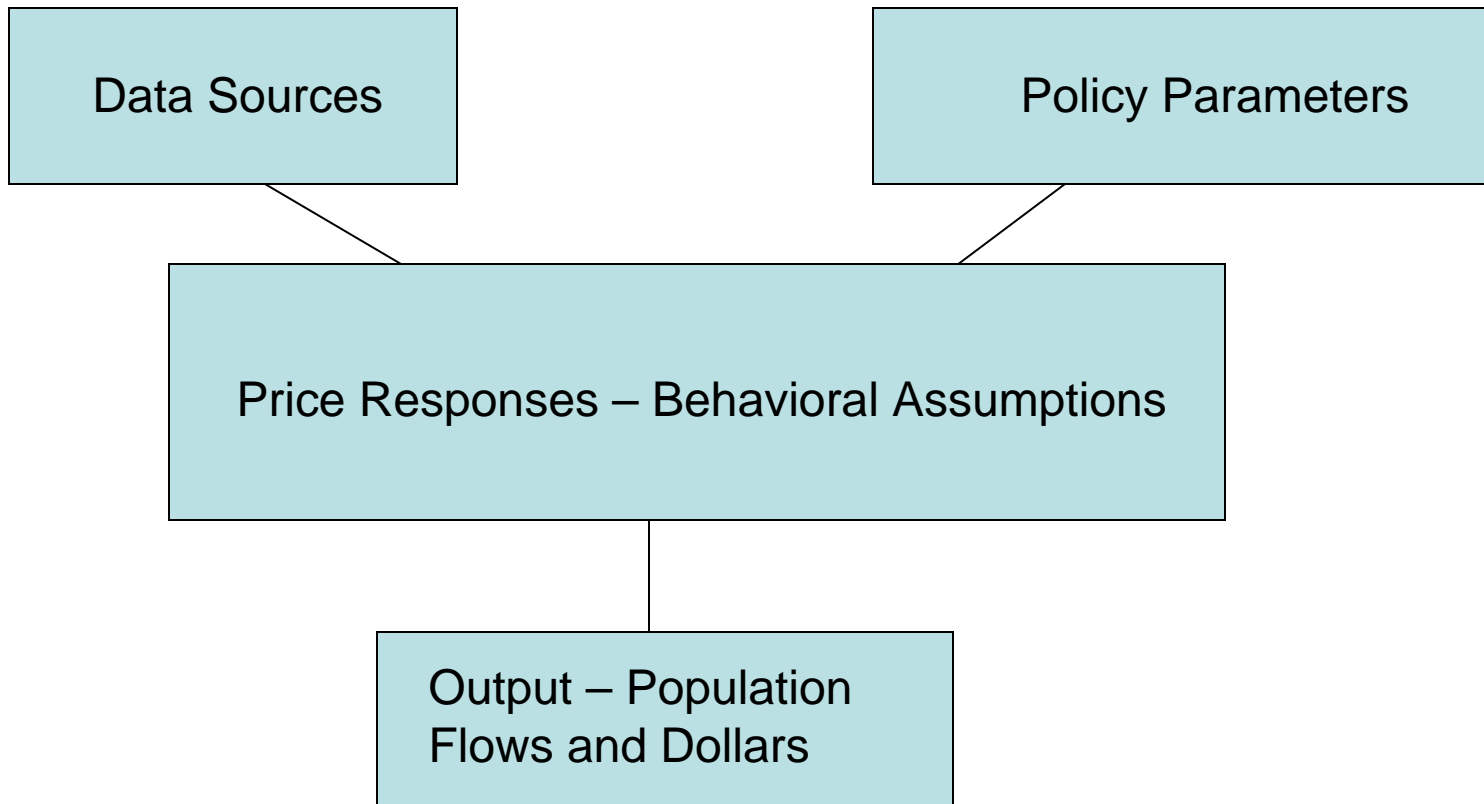
# Role in California

- Funded by The California Endowment and California HealthCare Foundation (CHCF) to develop model for evaluating reform
- Used model to evaluate Governor's proposal in February
- Have since evaluated legislative proposals
- Ongoing support from CHCF
- Coordinating closely with Rick Curtis and Ed Neuschler at IHPS

# Microsimulation Modeling

- This is a fancy name for modeling how policies impact the economy
- Key aspect is accounting for how individuals and firms react to policy interventions
- Translating the results of basic health economics research into policy outcomes

# Schematic of the Model



# Data

- Current Population Survey, recalibrated to match population totals from California Health Insurance Survey
  - 4.9 million uninsured in CA at any given time
  - Note that CPS has much larger number (6.5)
  - CHIS also has larger figure for uninsured at some point during the year (6.6)

# Table 1: Population Characteristics

<u>Insurance Category</u>	<u>Population Count</u>
Employer Provided	18.8 million
Non-Group	2.1 million
Public	6.6 million
Uninsured	4.9 million

# Table 2: Who Are the Uninsured?

<u>Documentation Status</u>	<u>Counts</u>
Documented adults	3.1 million
Undocumented adults	1.1 million
Documented kids	0.6 million
Undocumented kids	0.1 million
<u>Working Status</u>	
Full-time worker in family	3.9 million
Part-time worker in family	0.4 million
No worker in family	0.6 million
<u>Employer-Sponsored Insurance</u>	
Offered ESI	1.1 million
Not offered ESI	3.8 million

# Computing Behavioral Impacts

- Core of model translates what we know about firms and individuals into policy responses
- Convert the proposal into a series of changes in prices in the insurance market
  - For example, a \$1,000 credit towards a \$10,000 policy is a price subsidy of 10%
- Draw on best available evidence to model how individuals and firms respond to those price changes

# Example: Expanding Healthy Families

- To what extent will uninsured enroll if newly eligible?
- To what extent will those with non-group insurance drop that coverage to get lower-cost/higher-quality public insurance?
- To what extent will those with employer insurance move to cheaper public insurance?
- To what extent will employers react by dropping insurance or raising employee contributions?

# Key: Modeling Firm Behavior

- Model relies on survey data on individuals
- Create “synthetic firms” which simulate the distribution of co-workers for a given individual
- Then evaluate impact of policies on average across all workers in a firm
- Base employer responses on that average

# Strengths and Weaknesses

- Most reliable when comparing similar proposals that only differ along a small number of dimensions
- Relative impacts (e.g. SB vs. AB) more reliable than absolute impacts (SB vs. no reform)
- Estimates become more uncertain as we depart farther from existing experience in insurance market

# CAVEAT

- Model is constantly evolving as we learn more about details of proposals and the health economy of California
- Results here may change as more information becomes available
- View this as preliminary guideposts for thinking further about plan specification

# Governor's Proposal (I)

- Medi-Cal/Healthy Families Expansion
  - 100% of FPL for adults
  - 300% of FPL for kids
- Low-income individuals can purchase insurance through purchasing pool with subsidies
  - Free below 100% of poverty
  - 3% of income from 100-150% of FPL
  - 4% of income from 150-200% of FPL
  - 6% of income from 200-250% of FPL

# Governor's Proposal (II)

- Individual mandate
  - Applies to all documented adults and all children
  - Must buy at least a high deductible plan
- Individuals income-eligible for pool with employer insurance can bring employer contribution as a “voucher” to the pool
- Mandate Section 125 tax-sheltering of worker contributions for all employees
- Non-Offering Assessment
  - 4% of payroll for firms of more than 10 employees that do not offer health insurance to employees

# Governor's Proposal: Population Movements

(in millions)

Table 3: Net Changes in Population for Entire Population (Under Age 65)

Insurance Source	Before	After	Change
Public Insurance	6.6	8.1	1.5
Employer Provided	18.8	18.8	0
Non-Group	2.1	2.7	0.7
New Pool for Low Income	0	1.9	1.9
Uninsured	4.9	0.8 *	-4.1
Total	32.4	32.4	0

# Governor's Proposal: Where Do the Uninsured Go?

- Of the original 4.9 million uninsured
  - 1.2 million go to public insurance
    - 0.5 million children
    - 0.7 million adults
  - 0.9 million go to ESI
  - 1 million go to non-group insurance
  - 1 million go to purchasing pool
  - 0.75 million are undocumented receiving care through counties

# What Does It Cost?

- Total public insurance spending up by \$2.6 billion
  - State share is \$1.3 billion
- Total cost of Pool is \$5.1 billion
  - State share is \$1.2 billion
  - Federal share is \$1.2 billion
  - Employers spend \$1.3 billion
  - Enrollees spend \$1.4 billion
- So total state costs for covering uninsured are \$2.5 billion
- Payroll assessment raises \$1 billion
- Elements not modeled (e.g., Medi-Cal rate increase, provider assessment) comprise remainder of the \$12 billion proposal

# SB 48/AB 8 (I)

- Many common features
- Expand Medi-Cal/Healthy Families
  - 300% (through pool above 133%) of poverty for documented parents
  - 300% of poverty for all children
- Subsidized coverage through pool
- General take-up requirement for workers and their dependents
- Mandated Section 125 plan coverage

# SB 48/AB 8 (II)

- Employer “spending requirement” equal to 7.5% of Social Security wages for all full-time and part-time employees
- Employers then choose to “play” (by paying for health care directly) or “pay” the assessment to the Health Trust Fund for each group
  - Model assumes all employers choose to “pay” with respect to part-time employees
- Both plans exclude self-employed without employees
- Income-related premium contributions paid by those enrolling in the Pool

# SB 48/AB 8 (III)

- Contribution schedule to Pool
  - Free below 133% of FPL (100% for childless adults)
  - Above this income, a sliding scale based on income over poverty (see illustrations)
  - Capped at 50% of total costs (75% if only one working adult)
  - Capped at 100% for self-employed (since no employer contribution)

# How Much Will Employees in the Pool Pay Per Month for Basic Coverage?

## Single Worker with No Dependents

Income Relative to Poverty Level (%FPL)	Annual Income	Before Tax Savings, Worker's Monthly Payment	After Tax Savings, Worker's Monthly Payment	Worker's Payment (after tax savings) as a Percent of Income
100%	\$10,210	\$0	\$0	0.0%
200%	\$20,420	\$51	\$37	2.2%
300%	\$30,630	\$102	\$72	2.8%
400%	\$40,840	\$112	\$75	2.2%
500%	\$51,050	\$112	\$64	1.5%

# How Much Will Employees in the Pool Pay Per Month for Basic Coverage?

## Married Worker with Two Children and Non-Working Spouse

Income Relative to Poverty Level (%FPL)	Annual Income	Before Tax Savings, Worker's Monthly Payment	After Tax Savings, Worker's Monthly Payment	Family's Payment (after tax savings) as a Percent of Income
100%	\$20,650	\$0	\$0	0.0%
200%	\$41,300	\$155	\$121	3.5%
300%	\$61,950	\$310	\$219	4.2%
400%	\$82,600	\$448	\$308	4.5%
500%	\$103,250	\$448	\$288	3.3%

# AB 8 Plan Particulars

- Exclude firms with less than \$100,000 in aggregate payroll from employer assessment
- Premium assistance: Low-income parents and children who are eligible for employer coverage can use their employer contribution toward public- or pool-equivalent coverage and can also receive premium subsidies toward their required contributions

# SB 48/AB 8: Population Movements

(in millions)

Insurance Source	Before	SB 48 Change	AB 8 Change
Public Insurance	6.6	0.6	-0.8
Employer-Provided Insurance	18.8	-0.4	1.5
Non-Group Insurance	2.1	-1	-0.6
New Pool	0	4.1	3.2
Uninsured	4.9	-3.4	-3.4
Total	32.4		

# Similar Bottom Line, Different Mechanisms

- Reduction in uninsured is similar
- Senate plan: more reliance on Pool and public insurance
- Assembly plan: more reliance on employer-provided insurance

# Where Do Uninsured Go?

(in millions)

Insurance Source	Senate	Assembly	Governor's
Public Insurance	0.8	0.7	1.2
Kids	0.3	0.2	0.5
Adults	0.5	0.5	0.7
Employer-Provided Insurance	0.1	0.8	0.9
Non-Group Insurance	0.1	0	1
New Pool	2.4	1.9	1
Total Reduction	3.4	3.4	4.1

# Costs of Legislative Plans

Cost	Senate	Assembly
Pool	\$9.57 billion	\$7.44 billion
State spending	\$5.28 billion	4.04 billion
Federal spending	\$0.65 billion	0.64 billion
Individual premiums	\$3.63 billion	2.76 billion
Public Insurance	\$1.16 billion	-\$0.95 billion
State spending	\$0.58 billion	-\$0.37 billion
Federal spending	\$0.58 billion	-\$0.58 billion
Premium Assistance		\$1.76 billion
State spending	NA	0.88 billion
Federal spending		0.88 billion
State Tax Impacts	\$160 million	\$110 million
Payroll Fee Revenue	-\$6.64 billion	-\$5.04 billion
Net State Cost	-\$610 million	-\$380 million

# Addendum: Additional Analyses

Following his May 2007 presentation, Dr. Gruber was asked to provide population movement estimates. The following tables provide the additional analyses.

Notes:

- Although Dr. Gruber's model is built on the Census Bureau's Current Population Survey, population totals by insurance status and income are controlled to the 2005 California Health Interview Survey.
- Totals shown for Governor Schwarzenegger's plan differ very slightly from those originally released in February (and cited in previous slides) due to subsequent refinements in the model.
- "0.0" denotes less than 0.05 (50,000).

Table A1: Projected Changes in Coverage Status for Entire Population under Age 65 (in Millions)

	Before Reform	After Reform (might not sum due to rounding)		
		Governor's Plan	SB 48 (Perata)	AB 8 (Núñez)
Total Population	32.3			
Medi-Cal/Healthy Families	6.6	+ 1.6 = 8.2	+ 0.6 = 7.2	- 0.8 = 5.8
Employer Provided	18.8	- 0.1 = 18.7	- 0.4 = 18.4	+ 1.5 = 20.3
Non-Group	2.0	+ 0.8 = 2.9	- 1.0 = 1.1	- 0.6 = 1.5
Uninsured	4.9	- 4.0 = 0.8	- 3.4 = 1.5	- 3.4 = 1.5
New Pool	NA	+ 1.7 = 1.7	+ 4.1 = 4.1	+ 3.2 = 3.2

Table A2: Projected Changes in Coverage Status for Children under 19 (in Millions)

	Before Reform	After Reform (might not sum due to rounding)		
		Governor's Plan	SB 48 (Perata)	AB 8 (Núñez)
Total Population	10.4			
Medi-Cal/Healthy Families	3.6	+ 1.0 = 4.6	+ 0.2 = 3.9	- 0.9 = 2.8
Employer Provided	5.4	- 0.2 = 5.3	- 0.2 = 5.3	+ 1.0 = 6.4
Non-Group	0.6	- 0.1 = 0.5	- 0.3 = 0.3	- 0.1 = 0.4
Uninsured	0.8	- 0.7 = 0.0	- 0.5 = 0.2	- 0.6 = 0.1
New Pool	NA	0.0	+ 0.7 = 0.7	+0.6 = 0.6

Table A3: Projected Changes in Coverage Status for Adults (in Millions)

	Before Reform	After Reform (might not sum due to rounding)		
		Governor's Plan	SB 48 (Perata)	AB 8 (Núñez)
Total Population	21.9			
Medi-Cal/Healthy Families	2.9	+ 0.6 = 3.6	+ 0.4 = 3.4	+ 0.0 = 3.0
Employer Provided	13.4	+ 0.1 = 13.5	- 0.3 = 13.1	+ 0.5 = 13.9
Non-Group	1.5	- 0.2 = 1.3	- 0.7 = 0.8	- 0.4 = 1.0
Uninsured	4.1	- 2.2 = 1.9	- 2.8 = 1.3	- 2.7 = 1.4
New Pool	NA	+ 1.7 = 1.7	+ 3.4 = 3.4	+ 2.6 = 2.6

Table A4: People Remaining Uninsured after Reform  
by Family Income (in Millions)

	Before Reform	After Reform		
		Governor's Plan	SB 48 (Perata)	AB 8 (Núñez)
Total	4.9	0.8	1.5	1.5
Less than 133% FPL	1.3	NA	0.7	0.7
133% - 300% FPL	1.4	NA	0.4	0.4
More than 300% FPL	1.2	NA	0.4	0.4

Table A5: People Remaining Uninsured after Reform  
by Employment Status of Primary Earner in Family  
(in Millions)

	Before Reform	After Reform		
		Governor's Plan	SB 48 (Perata)	AB 8 (Núñez)
Total	4.9	0.8	1.5	1.5
Full-time at "Pay" Employers	2.6	NA	0.1	0.5
Part-time at "Pay" Employers	0.3	NA	0.0	0.1
Full-time at Offering Employers	0.9	NA	0.6	0.1
Part-time at Offering Employers	0.1	NA	0.0	0.0
Self-Employed	0.4	NA	0.2	0.3
Unemployed	0.6	NA	0.6	0.5

Table A6: Workers and Dependents Who Enroll in Pool  
by Family Income (in Millions)

	Governor's Plan	SB 48 (Perata)	AB 8 (Núñez)
Total	1.7	4.1	3.2
Less than 133% FPL	NA	0.8	0.6
133% - 300% FPL	NA	1.8	1.5
More than 300% FPL	NA	1.5	1.1

Table A7: Workers and Dependents Who Enroll in Pool  
by Employment Status of Primary Earner in Family  
(in Millions)

	Governor's Plan	SB 48 (Perata)	AB 8 (Núñez)
Total	1.7	4.1	3.2
Full-time at "Pay" Employers	NA	3.3	2.6
Part-time at "Pay" Employers	NA	0.4	0.3
Full-time at Offering Employers	NA	0.0	0.0
Part-time at Offering Employers	NA	0.1	0.1
Self-Employed	NA	0.2	0.2
Unemployed	NA	0.1	0.1