



Using the National Health Interview Survey to Evaluate State Health Reform: Findings from New York and Massachusetts

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Study Objective

Evaluate the impacts of the health reform efforts in New York and Massachusetts on insurance coverage and access to and use of health care using the National Health Interview Survey (NHIS)

Why the National Health Interview Survey?

- Currently the best national data source for comprehensive evaluations of health reform in the states
- National survey of the non-institutionalized civilian population in the US that provides information on health and health care use
- Conducted every year
- Although not designed to produce state-specific estimates, sample design provides representative samples for large states
 - NCHS publishes estimates of insurance coverage for the 20 largest states every year (Cohen and Martinez, 2010)

Challenges in Using the National Health Interview Survey for State-Level Studies

- State-level estimates only feasible for the largest states because of sample design and relatively small sample sizes for many states
 - Problem exacerbated by budget cuts in recent years
 - Problem also exacerbated if examining policy changes that affect subset of the population
- Access to state identifiers restricted to CDC Research Data Center (RDC)
 - Adds extra steps to analysis work
 - Slows project tasks (more difficult to do rapid turnaround projects)
 - However, staff at the RDC work hard to minimize delays

The State Health Reform Initiatives

- New York (2000)
 - Incremental reform: Expansion of public coverage for lower-income adults (Family Health Plus); new premium support program for working adults and small employers (Healthy New York)
- Massachusetts (2006)
 - Comprehensive reform: Expansion of public coverage (MassHealth), subsidized private coverage (CommCare), purchasing pool (CommChoice), requirements for employers, and an individual mandate, among other changes

Overview of Key Changes in Eligibility for Adults Under Health Reform in New York

	Pre-Reform	Post-Reform
Parents		
Public coverage	<100% FPL	<150% FPL
Premium support program	--	<250% FPL
Childless Adults		
Public coverage	<~50% FPL	<100% FPL
Premium support program	--	<250% FPL

Overview of Key Changes in Eligibility for Adults Under Health Reform in Massachusetts

	Pre-Reform	Post-Reform
Parents		
Public coverage	<133% FPL	<300% FPL
Premium assistance	<200% FPL	<300% FPL
Subsidized coverage	--	<300% FPL
Purchasing pool	--	>300% FPL
Childless Adults		
Public coverage	--	<300% FPL
Premium assistance	<200% FPL	<300% FPL
Subsidized coverage	--	<300% FPL
Purchasing pool	--	>300% FPL

Hypothesized Impacts of Reform

- New York
 - Expansion in coverage among lower-income adults targeted by the coverage expansions (both previously eligible and newly-eligible)
 - Gains in access to and use of care among those who obtain coverage
- Massachusetts
 - Expansions in coverage across the population, with the gains concentrated among the lower-income adults targeted by key elements of the expansion
 - Gains in access to and use of care among those who obtain coverage and those with expanded coverage as a result of the new minimum creditable coverage standards.

Data

- 1999-2008 National Health Interview Survey
- Sample: Adults 19 to 64
- Unit of analysis
 - Insurance estimates: Person file
 - Access and use estimates: Sample adult file
- Sample sizes
 - Person file:
 - MA = 4,477 adults ; 1,697 target adults
 - NY = 12,746 adults; 4,978 target adults
 - Sample adult file:
 - MA = 1,130 adults; 452 target adults
 - NY = 2,880 adults; 1,190 target adults
- Important limitations: Small sample sizes & short follow-up period for MA (~12 to 18 months)

Methods

- Exploit “natural experiments” in the study states to compare changes before and after health reform
- Estimate differences-in-differences (DD) models to control for other changes (beyond health reform) over the study time period
 - Compare pre-post reform change over time in the study state to change over time in a comparison group to isolate the effects of health reform
- Estimate models for the population targeted by health reform (lower-income adults) and all adults in the state

Difference-in-Differences Model

$$Y = \beta_0 + \beta_1 \text{ StudyState} + \beta_2 \text{ Post} + \beta_3 \text{ StudyState} * \text{ Post} + \varepsilon$$

Time Period	Study State	Comparison Group
Pre-reform Period	$\beta_0 + \beta_1$	β_0
Post-reform Period	$\beta_0 + \beta_1 + \beta_2 + \beta_3$	$\beta_0 + \beta_2$
Pre-Post Difference	$\beta_2 + \beta_3$	β_2
Difference-in-Differences	β_3	

Estimation

- Estimate linear probability models, controlling for rich set of covariates
 - Use SVY procedures in Stata to adjust for complex design of NHIS
 - Use NCHS recommended methods to account for the use of multiply-imputed income data
 - Follow NCHS guidance in using existing NHIS weights
- Conduct sensitivity analyses
 - Alternate comparison groups
 - Higher income adults in other large states (all & NE states)
 - “Income-eligible” childless adults in other states (all & NE states)
 - Alternate pre- and post- reform periods

Impacts on Health Insurance Coverage

DD Estimates of Impacts on Insurance Coverage for New York

	Target Adults	All Adults
Insured	3.6**	1.3
ESI Coverage	-3.5**	-2.9*
Public/Other Coverage	7.2***	4.2***

* (**) (***) Significantly different from zero at the 10% (5%) (1%) level.

BOLD indicates estimates that are generally consistent across alternate comparison groups.

DD Estimates of **Early** Impacts on Insurance Coverage for Massachusetts

	Target Adults	All Adults
Insured	5.0*	2.7**
ESI Coverage	-3.2	-0.2
Public/Other Coverage	8.2**	2.9**

* (**) (***) Significantly different from zero at the 10% (5%) (1%) level.

BOLD indicates estimates that are generally consistent across alternate comparison groups.

Impacts on Health Care Access and Use

DD Estimates of Impacts on Access to Care for New York

	Target Adults	All Adults
Had usual source of care	0.0	-2.5
Had any unmet need due to cost	0.7	0.6
Had any delay of needed care	6.3**	3.0

* (**) (***) Significantly different from zero at the 10% (5%) (1%) level.

BOLD indicates estimates that are generally consistent across alternate comparison groups.

DD Estimates of Impacts on Health Care Use for New York

	Target Adults	All Adults
Any office visit	-2.2	-2.4
Doctor visit	-5.4	-1.7
Nurse practitioner, PA, midwife visit	-3.1	3.3
Dental visit	-1.1	-1.9
Emergency room visit	-5.2	-1.2

* (**) (***) Significantly different from zero at the 10% (5%) (1%) level.

BOLD indicates estimates that are generally consistent across alternate comparison groups.

DD Estimates of **Early** Impacts on Access to Care for Massachusetts

	Target Adults	All Adults
Had usual source of care	3.6	0.5
Had any unmet need due to cost	-8.3*	-1.8
Had any delay of needed care	-10.2**	-2.1

* (**) (***) Significantly different from zero at the 10% (5%) (1%) level.

BOLD indicates estimates that are generally consistent across alternate comparison groups.

DD Estimates of **Early** Impacts on Health Care Use for Massachusetts

	Target Adults	All Adults
Any office visit	5.5	-2.9
Doctor visit	0.3	-6.0
Nurse practitioner, PA, midwife visit	19.2**	10.3**
Dental visit	7.6	2.5
Emergency room visit	7.4	4.6

* (**) (***) Significantly different from zero at the 10% (5%) (1%) level.

BOLD indicates estimates that are generally consistent across alternate comparison groups.

Summary

- New York
 - Incremental reform had modest impact on coverage for target population of lower-income adults
 - No evidence of improvements in access to and use of care, reflecting the small gain in coverage; some suggestion of increased barriers to care
- Massachusetts
 - More comprehensive reform effort yielded more substantial gains in coverage overall and for lower-income adults
 - Some significant gains in access to and use of care in the early period under health reform, likely reflecting gains in coverage and minimum creditable coverage standards
 - *Caveats:*
 - Very early impacts of health reform
 - Small sample sizes, especially for access and use measures

Lessons for Using the NHIS for State-Level Evaluations

- Valuable source of state-level estimates of insurance coverage, access and use of care
- Allows for stronger evaluation design than is possible with a survey for a single state (DD versus pre-post)
- However, current samples sizes aren't adequate for many states
 - More of an issue if using the sample adult or focusing on population subgroups in the states (e.g., lower-income adults)
 - Need larger sample sizes now to provide baseline for studying impacts of health reform
- Timing of data availability is slow in rapidly-changing policy environment

Strategies to Make the NHIS More Useful for Analyses of Health Reform in the States

- Expand state sample sizes
- Add questions to address issues of importance under health reform: e.g., affordability, provider capacity, quality of care
- Include state identifiers in public use files
- Shorten time lag for release of the data
- Provide access to data in user-friendly formats, such as on-line systems for simple tabulations

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