



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)

The State Health Reform Initiatives

- New York (2000)
 - Incremental reform: Expansion of public coverage for lower-income adults; new premium support program for working adults and small employers
- Massachusetts (2006)
 - Comprehensive reform: Expansion of public coverage, subsidized private coverage, purchasing pool, requirements for employers, and 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
 - 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 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
- Limitations: Small sample sizes for MA; Short follow-up period for MA

The NHIS as a Resource for State-Level Analyses

- Provides detailed information on the health and health care use of the US Population
- Not designed to produce state-specific estimates, but the 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)
- Access to state identifiers restricted to RDC

Methods

- Exploit “natural experiments” in the study states
- Estimate differences-in-differences (DD) models to control for other changes (beyond health reform) over time
- Estimate models for target populations of reforms (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
- Conduct sensitivity analyses
 - Alternate comparison groups
 - Higher income adults in other large states (all & NE)
 - “Income-eligible” childless adults in other states (all & NE)
 - 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
 - No evidence of improvements in access to and use of care, reflecting the small gains in coverage
- 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 size, 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
- Current samples sizes can be limiting
 - More restrictive if using the sample adult or focusing on population subgroups
 - Recent budget cutbacks reduced sample sizes further
- **WHAT'S NEEDED:** Expanded sample sizes to support the evaluation of the impacts of national health reform in all states

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