Implications of the Affordable Care Act for Use of VA Primary Care: Lessons from the Massachusetts Health Reform

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  – Adam Batten (VA Puget Sound)
  – Chuan-Fen Liu, PhD (VA Puget Sound)
Poll

• Are you affiliated with VA?
  – Yes
  – No
Poll

• What is your primary professional role?
  – Researcher
  – Clinician
  – Operations
  – Hospital administration
  – Student/Fellow
  – Other
Massachusetts Health Care Reform

- April 2006 law enacting major health reform
- Key components:
  - **Individual mandate** – Requirement that everyone in Massachusetts have health insurance coverage
  - **Expansion of health insurance market**
    - Establishment of Commonwealth Health Insurance Connector
    - Subsidies to low income households
  - **Medicaid expansion**
    - Increased enrollment caps
    - Higher provider payment rates
- VA not directly affected by health reform law

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1Holahan and Blumberg (2006). *Health Affairs* 25(6).
Health Care Reform Associated with:

- Lower rate of uninsurance\(^1\)
  - 6.6% point decrease among non-elderly adults
- Greater private insurance enrollment\(^1\)
  - 3.1% point increase in employer-sponsored coverage
- Greater Medicaid enrollment\(^2\)
  - 19.4% point increase among low-income parents

Health Care Reform Associated with:

- Greater use of primary care\(^3\)
  - 3% point increase in probability of having a primary care visit
- Greater use of preventative care\(^4\)
  - 5.5% increase in colonoscopy rates
- Longer average wait times for appointment with an internist\(^5\)
  - 33 days in 2006 to 50 days in 2009
- Limited data examining potential impact on Veterans and VA

\(^3\) Miller (2012). *Inquiry* 49(4).

\(^4\) Van Der Wees, et al. (2013). *Milbank Quarterly* 91(4).

Veterans Affairs Health Care System (VA)

- Largest integrated health care system in the U.S.
- Safety net provider for many Veterans
- Eligibility Criteria:
  - Service-connected disabilities
  - Low income
  - Special circumstances (i.e. Purple Heart Awardee)
VA Health Care System

- **Outpatient copayments:**
  - Primary care ($15)
  - Specialty care ($50)

- **Exempt from copayments if:**
  - ≥ 50% service connected disability
  - Income below national thresholds
Veterans Have Many Health Options
Veterans Have Many Health Options

Health Coverage - Age 65+

Year

Percent of Veterans

2003 2005 2007 2009 2011 2013

VA

Medicaid

Medicare

Private Insurance

Other

No Coverage
Dual VA and Non-VA Use is Common

Dual Coverage - Age 65+

Percent of VA Enrolled Veterans


- VA-Medicare
- VA-Medicaid
- VA-Private Insurance
- VA Only
Conceptual Model: Stock and Flow

• Example: Household wealth
  – Stock of wealth at a given point in time
  – Inflows: Increase wealth stock
  – Outflows: Decrease wealth stock
Wealth Stock
Wealth Stock

Inflows

Job Income
Dividend Income
Interest Payments
Wealth Stock

Inflows

Job Income  Dividend Income  Interest Payments

Wealth Stock

Outflows

Rent  Food and Dining  Health Care Costs
Applying Stock and Flow Model to VA Use

- **Stock:** Population of VA users
- **Inflows:** New VA users
- **Outflows:**
  - Veterans no longer using VA
  - Veterans who die
VA Users

Inflows
- New Enrollees
- Old Enrollees Recently Using VA

Outflows
- Veterans no longer using VA
- Deceased Veterans
How Health Care Reform Affects Veterans

- Changes in VA primary care use due to enrollment changes
- Three major components of health reform:
  1. Individual Mandate (inflow)
  2. Expansion of health insurance market (outflow)
  3. Medicaid Expansion (outflow)
Composition of VA Population May Change

- VA primary care utilization may change even if health reform does not change net VA enrollment
- Characteristics of VA user “stock” following health reform may change
  - Changes in health need among remaining VA users
  - Changes in market for non-VA care
Changes in Veterans’ Health Need

- Self-selection among Veterans who remain in VA
  - Copayment-exempt status
  - High reliance on VA care
- Veterans who leave VA
  - Less reliant on VA care
- Removing less reliant Veterans increases average VA use
Changes in Veterans’ Health Need

• Younger previously uninsured Veterans
• Veterans enrolling in non-VA programs who would enroll in VA in the absence of health care reform
Changes in Market for Non-VA Care

• Health reform externalities for dual users of VA and non-VA care
  – Increasing non-Veterans’ access to community providers may result in difficulty obtaining appointments for Veterans
  – Supply constraints in short run
  – Continued users of VA may shift primary care to VA
Goal of this research

• To examine whether health care reform in Massachusetts was associated with changes in VA primary care use.
Data

- VA Administrative Databases
  - Corporate Data Warehouse
  - Outpatient Care Files
- Fee-for-Service Medicare Data
  - Carrier File
  - Outpatient File
- Area Health Resource File
- RUCA ZIP Code files
Study Design

• Natural experiment
  – Massachusetts Veterans subject to health reform starting in June 2006
  – Exogenous change in health policy
Study Design

- Treatment and control group determined by exposure to health reform

<table>
<thead>
<tr>
<th>Group</th>
<th>State of Residence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment Group</strong></td>
<td>Veterans residing in Massachusetts</td>
</tr>
<tr>
<td><strong>Control Group</strong></td>
<td>Veterans residing in all other New England States</td>
</tr>
<tr>
<td></td>
<td>(Connecticut, Maine, New Hampshire, Rhode Island, Vermont)</td>
</tr>
</tbody>
</table>
Study Timeline

Massachusetts Veterans

Oct 2004 Not Subject to Reform

Jun 2006 Subject to Reform

Oct 2004 Not Subject to Reform

Sep 2008

Other New England Veterans
Study Sample

• 262,335 unique Veterans present in the Primary Care Management Module (PCMM) and residing in New England
  – Reflects nearly all active VA primary care users
  – Present in PCMM if any VA use within 24 months

• Exclusions:
  – Veterans who lived in both Massachusetts and other New England states (N=3,870)
  – Veterans missing covariate data (N=2,070)

• Final Study Sample: 256,395 VA users present in PCMM during period FY2005-Q1 to FY2008-Q4
Study Sample

• **Unit of analysis**: Repeated Veteran-quarter observations
• Analyses stratified by age group (under 65 and 65+) to account for Medicare eligibility.
Outcomes

- Count of quarterly primary care visits in:
  - **VA** – defined by stop codes
  - **Fee-for-service Medicare** – calculated using algorithm based on CPT and provider specialty codes\(^1\)

Statistical Analysis

• Difference-in-difference (DID) approach
  – Account for common trends among all Veterans
  – Calculate pre-post change in primary care use for:
    • Massachusetts Veterans
    • Other New England Veterans
  – Subtract pre-post changes
Statistical Analysis

• Fixed effects negative binomial regression
  – Mundlak correction
  – Account for time-invariant unobserved patient variables affecting primary care use

• Control Variables:
  – Individual demographics
  – Health status and comorbidity
  – Prior VA use
  – Economic conditions
  – Seasonality
  – County-level characteristics
### Descriptive Statistics – Under 65 Massachusetts VA Users

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baseline (FY2005-Q1)</th>
<th>Study End (FY2008-Q4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean/SD)</td>
<td>53.2 (9.3)</td>
<td>52.2 (11.3)</td>
</tr>
<tr>
<td>Male</td>
<td>93.3%</td>
<td>92.5%</td>
</tr>
<tr>
<td>Exempt from Copayments</td>
<td>79.9%</td>
<td>85.2%</td>
</tr>
<tr>
<td>Race - White</td>
<td>66.8%</td>
<td>66.9%</td>
</tr>
<tr>
<td>Race - Black</td>
<td>6.1%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Elixhauser Score (mean/SD)</td>
<td>1.7 (1.5)</td>
<td>1.6 (1.6)</td>
</tr>
<tr>
<td>Miles to Nearest VA (mean/SD)</td>
<td>6.2 (5.1)</td>
<td>6.5 (5.2)</td>
</tr>
<tr>
<td>Local Unemployment Rate (mean/SD)</td>
<td>5.5 (0.9)</td>
<td>6.0 (0.9)</td>
</tr>
<tr>
<td># VA Users</td>
<td>19,093</td>
<td>23,148</td>
</tr>
</tbody>
</table>
# Descriptive Statistics – Under 65 Other New England VA Users

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baseline (FY2005-Q1)</th>
<th>Study End (FY2008-Q4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean/SD)</td>
<td>53.6 (9.1)</td>
<td>53.1 (10.8)</td>
</tr>
<tr>
<td>Male</td>
<td>92.8%</td>
<td>92.3%</td>
</tr>
<tr>
<td>Exempt from Copayments</td>
<td>74.8%</td>
<td>81.3%</td>
</tr>
<tr>
<td>Race - White</td>
<td>72.6%</td>
<td>73.3%</td>
</tr>
<tr>
<td>Race - Black</td>
<td>5.0%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Elixhauser Score (mean/SD)</td>
<td>1.7 (1.6)</td>
<td>1.6 (1.6)</td>
</tr>
<tr>
<td>Miles to Nearest VA (mean/SD)</td>
<td>12.4 (10.2)</td>
<td>12.0 (9.8)</td>
</tr>
<tr>
<td>Local Unemployment Rate (mean/SD)</td>
<td>5.5 (1.3)</td>
<td>6.5 (1.5)</td>
</tr>
<tr>
<td># VA Users</td>
<td>26,434</td>
<td>32,392</td>
</tr>
</tbody>
</table>
## Descriptive Statistics – Age 65+ Massachusetts VA Users

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baseline (FY2005-Q1)</th>
<th>Study End (FY2008-Q4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean/SD)</td>
<td>76.9 (6.4)</td>
<td>77.9 (6.9)</td>
</tr>
<tr>
<td>Male</td>
<td>97.5%</td>
<td>97.5%</td>
</tr>
<tr>
<td>Exempt from Copayments</td>
<td>64.9%</td>
<td>68.3%</td>
</tr>
<tr>
<td>Race - White</td>
<td>95.5%</td>
<td>95.6%</td>
</tr>
<tr>
<td>Race - Black</td>
<td>2.8%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Elixhauser Score (mean/SD)</td>
<td>1.8 (1.6)</td>
<td>1.6 (1.6)</td>
</tr>
<tr>
<td>Miles to Nearest VA (mean/SD)</td>
<td>6.6 (4.9)</td>
<td>6.8 (5.0)</td>
</tr>
<tr>
<td>Local Unemployment Rate (mean/SD)</td>
<td>5.4 (1.0)</td>
<td>6.0 (0.9)</td>
</tr>
<tr>
<td># VA Users</td>
<td>37,257</td>
<td>37,175</td>
</tr>
</tbody>
</table>
### Descriptive Statistics – Age 65+ Other New England VA Users

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baseline (FY2005-Q1)</th>
<th>Study End (FY2008-Q4)</th>
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<tbody>
<tr>
<td>Age (mean/SD)</td>
<td>76.5 (6.3)</td>
<td>77.2 (6.9)</td>
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<tr>
<td>Male</td>
<td>97.9%</td>
<td>97.9%</td>
</tr>
<tr>
<td>Exempt from Copayments</td>
<td>53.8%</td>
<td>56.9%</td>
</tr>
<tr>
<td>Race - White</td>
<td>96.8%</td>
<td>96.4%</td>
</tr>
<tr>
<td>Race - Black</td>
<td>2.0%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Elixhauser Score (mean/SD)</td>
<td>1.8 (1.5)</td>
<td>1.6 (1.6)</td>
</tr>
<tr>
<td>Miles to Nearest VA (mean/SD)</td>
<td>11.1 (9.1)</td>
<td>11.1 (8.7)</td>
</tr>
<tr>
<td>Local Unemployment Rate (mean/SD)</td>
<td>5.4 (1.1)</td>
<td>6.4 (1.5)</td>
</tr>
<tr>
<td># VA Users</td>
<td>45,769</td>
<td>47,452</td>
</tr>
</tbody>
</table>
# Active VA Users by Group

![Graph showing the number of active VA users by group over time. The graph displays two lines, one for Mass and one for Other NE, indicating an overall increase in users from 2005-Q1 to 2008-Q4.](image)
Difference in Enrollment Rate Decreasing

User Rate = \# of VA users / \# of all Veterans in group
Total Primary Use Increasing for Under 65 VA Users
Total Primary Use for Age 65+ VA Users

VETERANS HEALTH ADMINISTRATION
Rate of Primary Care Use for Under 65 VA Users

Visit Rate = # of VA Primary Care Visits / # VA Users

Visits Per User
Increasing Differences in Visit Rates

Visit Rate = # of VA Primary Care Visits / # VA Users
Rate of Primary Care Use for Age 65+ VA Users

Visit Rate = # of VA Primary Care Visits / # VA Users
Increasing Differences in Visit Rates

Visit Rate = \# of VA Primary Care Visits / \# VA Users
### Health Reform Associations – Under 65 VA Users

<table>
<thead>
<tr>
<th>Net Effect</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Under 65 VA Users</strong></td>
<td></td>
</tr>
<tr>
<td>0.022 visits</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td><strong>Continuous Enrollees</strong></td>
<td></td>
</tr>
<tr>
<td>0.036 visits</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

* Difference-in-difference estimates after adjusting for Veteran covariates and fixed effects
** Net effects reflect change in quarterly PC visits attributable to health reform
# Health Reform Associations – Age 65+ VA Users

<table>
<thead>
<tr>
<th>Net Effect</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Age 65+ VA Users</td>
<td></td>
</tr>
<tr>
<td>0.022 visits</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Continuous Enrollees</td>
<td></td>
</tr>
<tr>
<td>0.021 visits</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>FFS Medicare Visits</td>
<td></td>
</tr>
<tr>
<td>-0.031 visits</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

*Difference-in-difference estimates after adjusting for Veteran covariates and fixed effects
** Net effects reflect change in quarterly PC visits attributable to health reform
Extrapolating DID Estimates

- Health care reform associated with a 0.022 increase in per-quarter VA visits
  - ~ 1 additional visit per 45 VA users
  - 89,089 VA users residing in Massachusetts in FY2008-Q4
  - 1,980 additional primary care visits attributable to health reform
  - ~ 160 additional visits per week
Limitations

- Veterans living in Massachusetts may be legal residents of another state
- Only VA and fee-for-service Medicare primary care use measured
- Generalization of results should consider unique characteristics of New England Veterans
Policy Implications

• Key ACA components also in Massachusetts Health Care Reform

• Results may inform changes in VA use in the post-ACA era
  – Health reform may slow the growth in VA enrollment by providing other health care options
  – Greater use of primary care among Veterans who remain in VA
  – VA an important source of care for age 65+ Veterans likely due to higher overall demand among non-VA providers
Thank You!

Edwin S. Wong, PhD
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Development Center of Excellence

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