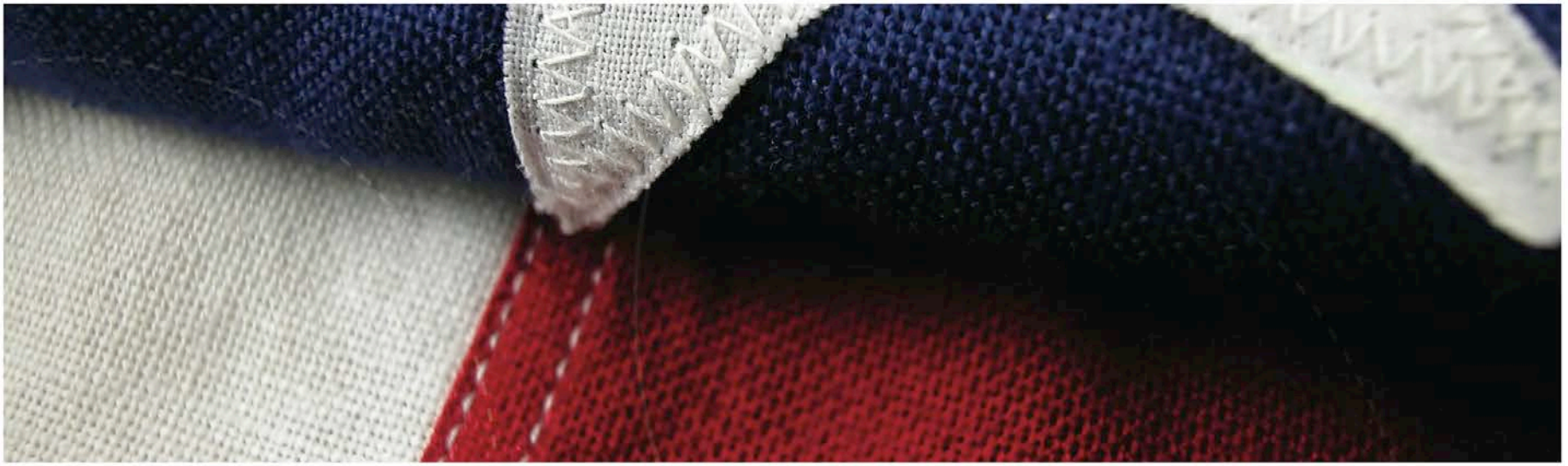

Health Care Reform and Veterans' Dual Use of VA and Non-VA Outpatient Services

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VA Puget Sound HSR&D

Career Development Awardee Cyberseminar Series

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Defining EXCELLENCE in the 21st Century

Acknowledgements

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  - Paul Hebert, PhD (VA Puget Sound)
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Poll Question

- Do you conduct research or work in the following areas (select all that apply)?
  - Health economics
  - Health policy
  - Mental and behavioral health
  - Access to care
  - Care coordination

Massachusetts Healthcare Reform (MHR)

- April 2006 law enacting major health reform
- Key components:
  - **Individual mandate**
    - Everyone required to have health insurance
    - VA enrollment counts as credible coverage
  - **Expansion of health insurance market**
    - Establishment of Commonwealth Health Insurance Connector
    - Subsidies to low income households
  - **Medicaid expansion**
    - Increased enrollment caps
- VA and VA enrollees not *directly* affected by health reform law

[1]Holahan and Blumberg (2006). *Health Affairs* 25(6).

MHR Associated with More Insurance Coverage

- 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

[1]Long SK, et al. (2009). *American Economic Review* 99(2).

[2]Sonier J, et al. (2013). *Health Affairs* 32(7).

MHR Associated with Greater Outpatient Use

- 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).
[5]Ku L, et al. (2009). *Kaiser Family Foundation*.

Goal of this research

- To examine whether Massachusetts Health Reform (MHR) affected Veterans' use of VA and non-VA outpatient health services:
  - Categories of use: mental health
  - Population of Veterans dually enrolled in VA and fee-for-service Medicare

Why Examine Veteran Impacts from MHR?

- Key components of health reform present in Affordable Care Act
- Natural experiment - exogenous change in law
- Well defined treatment and control groups

Dual Use of VA and Non-VA Care

- VA enrollees are not precluded from obtaining care through non-VA sources, independent of VA
- Prior research indicates dual use of VA and non-VA care is very common

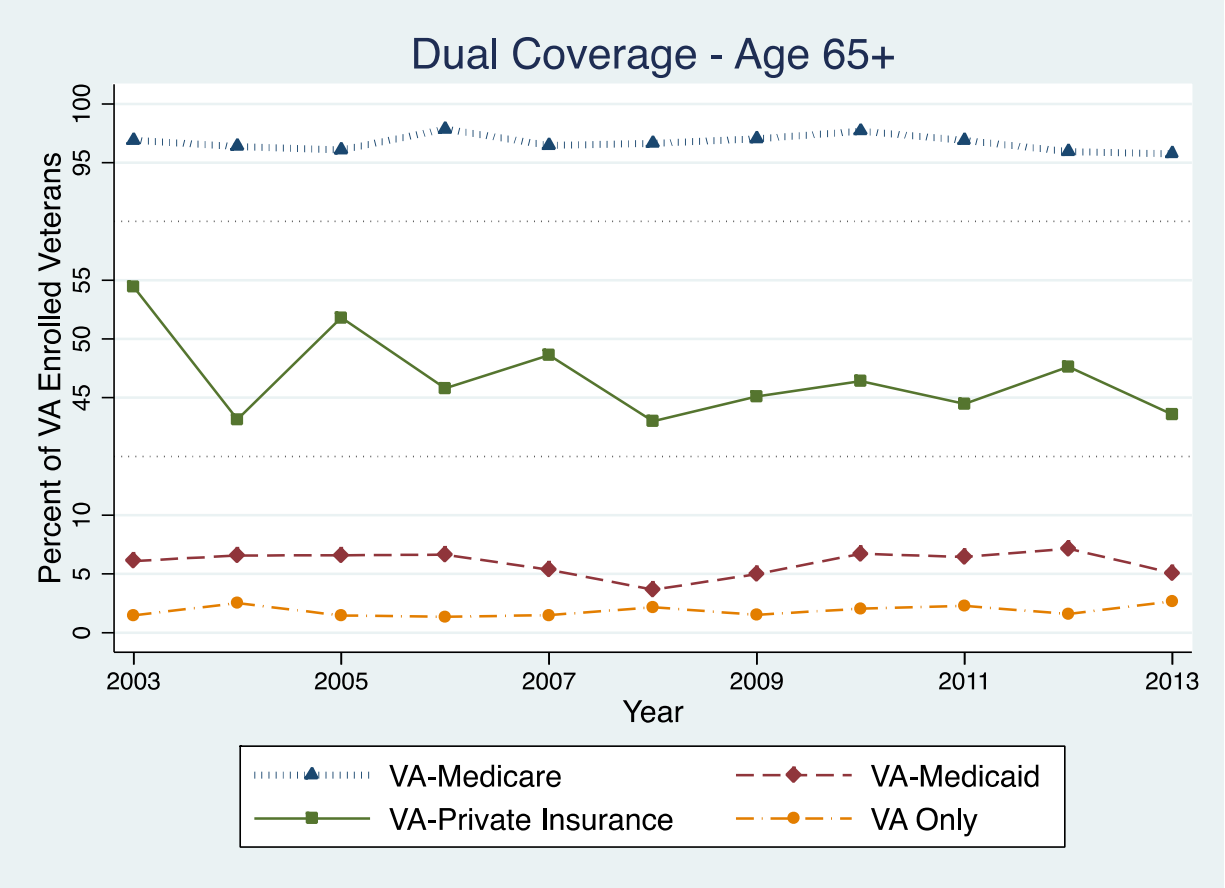
Poll Question

- Approximately what percentage of VA enrollees were dually enrolled in at least one other health insurance source in 2015?
  - A) 30%
  - B) 40%
  - C) 60%
  - D) 80%

Poll Question

- Approximately what percentage of VA enrollees were dually enrolled in Medicare in 2015?
  - A) 30%
  - B) 40%
  - C) 50%
  - D) 60%

Dual VA and Non-VA Use is Common



Source: 2003-2013 Current Population Surveys

Economic Spillover Effects

- Policies that target a given group, but *indirectly* influence a non-target group
- Spillover effects may occur simultaneous to direct effects
- Often represent unintended consequences

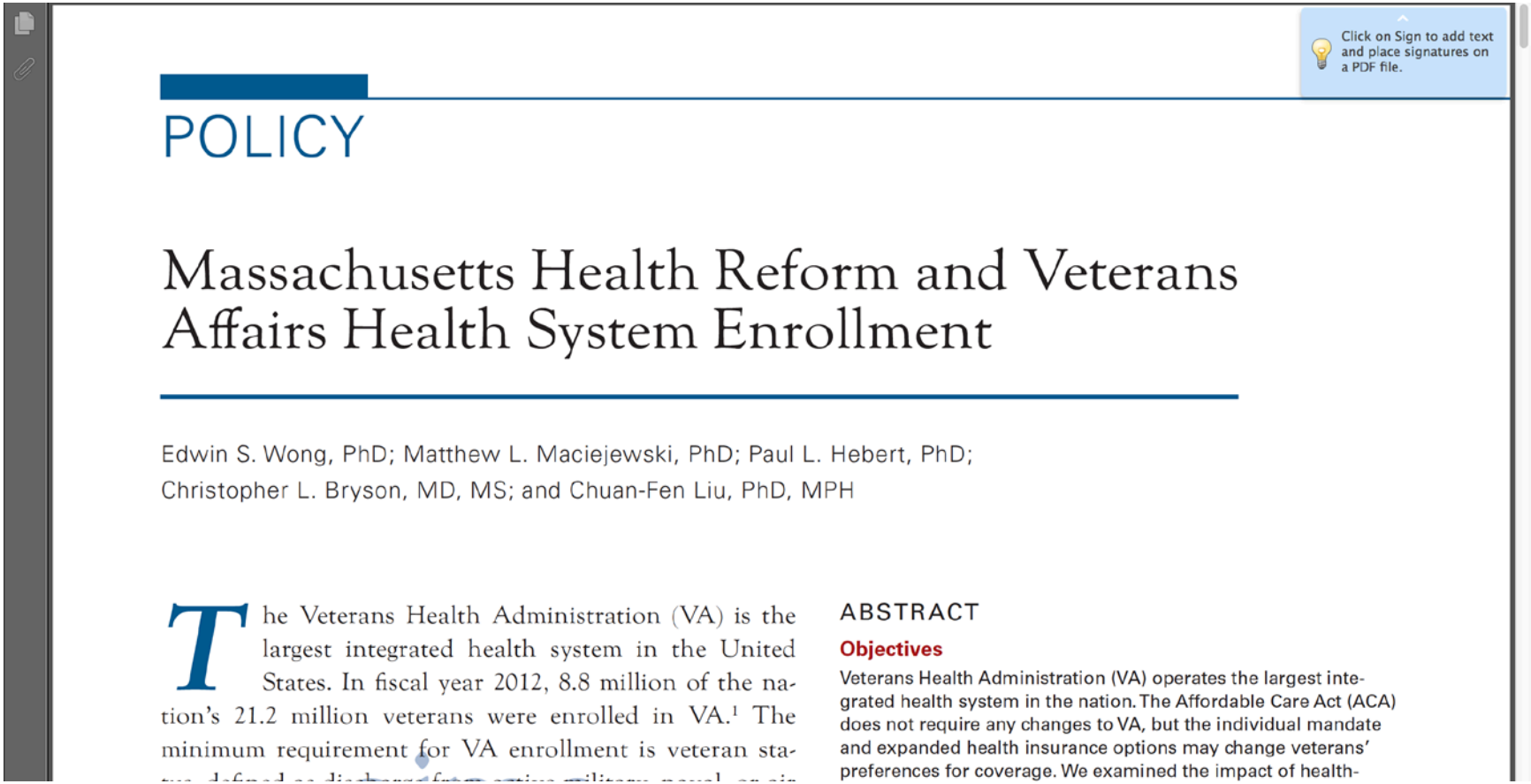
Poll Question

- Which of the following scenarios represents a spillover effect?
  - Raising minimum wage, ↑ income of low-wage workers
  - Law limiting plane landing hours, ↑ well-being of locals
  - Medicaid expansion, ↑ access among previously uninsured

Potential Spillover Effects on VA-Medicare Dual Enrollees

- Individual mandate may indirectly reduce VA outpatient capacity
  - Greater VA enrollment and use among previously uninsured
  - Fewer appointment slots
  - VA outpatient services ↓
  - Medicare outpatient services ↑

Health Care Reform and VA Enrollment



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POLICY

Massachusetts Health Reform and Veterans Affairs Health System Enrollment

Edwin S. Wong, PhD; Matthew L. Maciejewski, PhD; Paul L. Hebert, PhD; Christopher L. Bryson, MD, MS; and Chuan-Fen Liu, PhD, MPH

The Veterans Health Administration (VA) is the largest integrated health system in the United States. In fiscal year 2012, 8.8 million of the nation's 21.2 million veterans were enrolled in VA.[1] The minimum requirement for VA enrollment is veteran sta-

ABSTRACT

Objectives

Veterans Health Administration (VA) operates the largest integrated health system in the nation. The Affordable Care Act (ACA) does not require any changes to VA, but the individual mandate and expanded health insurance options may change veterans' preferences for coverage. We examined the impact of health-

Summary of Prior Findings

- Effect of MHR on VA enrollment contingent on state of economy
- Marked increased in VA enrollment among Massachusetts Veterans during Great Recession
  - Veterans losing employer-sponsored coverage enrolled in VA to meet the individual mandate

Relevance to Current VA Policy and Planning

- Challenges faced by VA in providing timely access to care receiving greater attention
- Recent initiatives increasing VA enrollees' access to care in the community
- VHA Commission on Care
  - Recommendation #1: Establish high-performing integrated community health care networks, … , from which Veterans will access high-quality health care services
- **Key question**: To what extent do VA enrollees seek out non-VA options available in the community?

Data

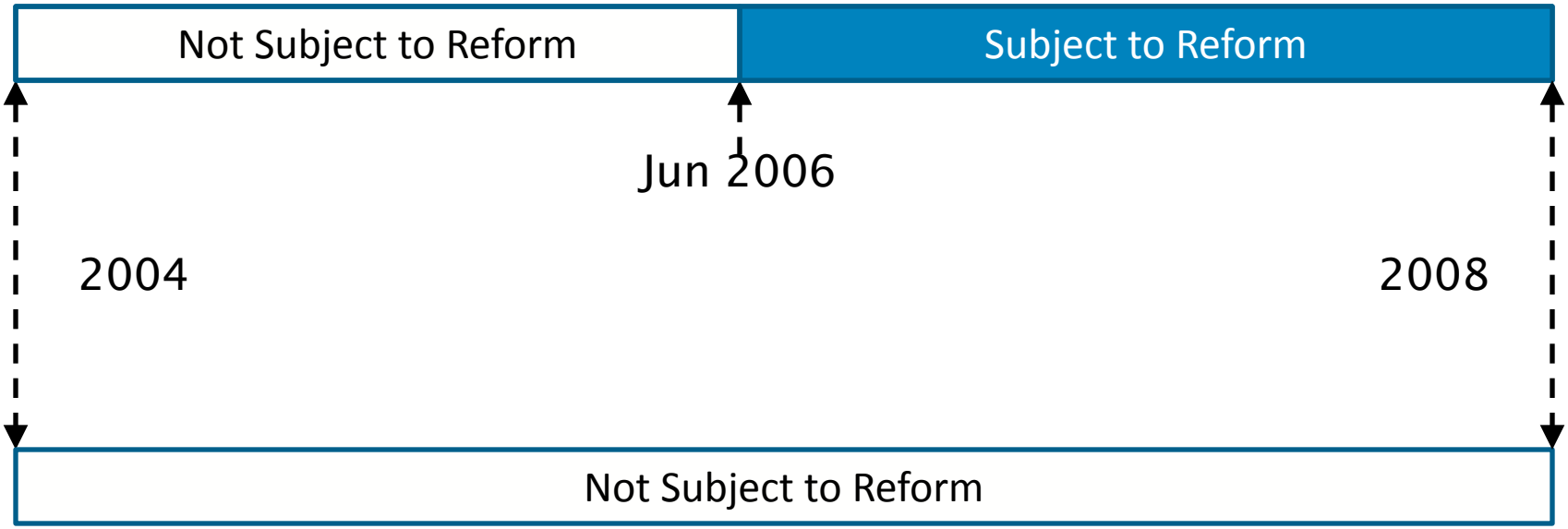
- VA Administrative Databases
  - Corporate Data Warehouse
  - Outpatient Care Files
  - VA National Enrollment Dataset
- Fee-for-Service Medicare Data
  - Carrier File
  - Outpatient File
- Area Health Resource File
- VA Site Tracking System

Study Design

- Natural experiment
  - Massachusetts Veterans subject to health reform starting in June 2006
  - Exogenous change in health policy

Study Timeline

Massachusetts Veterans



Other Non-Massachusetts Veterans

Study Design

- Treatment and control group determined by exposure to health reform

Group	State of Residence
Treatment Group	Veterans residing in Massachusetts (MA)
Control Group	Comparable veterans residing in all other U.S. states (non-MA)

- Sensitivity analysis using control group of Veterans in other New England states yielded quantitatively similar results

Study Population

- Inclusion criteria:
  - 2 VA outpatient visits or 1 VA inpatient visit in FY2003
  - Enrolled in fee-for-service Medicare in both FY2004 and FY2008
- Exclusions:
  - Lived in both MA and other U.S. states
  - Died before 2008
  - Missing covariate data
- 1.2 million VA enrollees
- 10% random sample of Veterans in control group
- **Unit of analysis**: Veteran-year observations

Definition of Outpatient Use

- Face-to-face office visits in outpatient setting
- Provider specialty code + Evaluation and Management Current Procedural Terminology (CPT) code[1]

[1]Burgess JF, et al. (2011). *Health Econ* 20(2).

Outpatient Use Measures

- 5 measures of mental health use:
  - Number of visits per year in VA
  - Number of visits per year in Medicare
  - Binary measure denoting whether had ≥ 1 visit in VA
  - Binary measure denoting whether had ≥ 1 visit in Medicare
  - Categorical measure denoting: 1) all VA use, 2) dual VA and Medicare use and 3) all Medicare use

Empirical Strategy

- Difference-in-difference (DID) approach
  - Account for common trends among all Veterans
  - Calculate pre-post change in outpatient use for:
    - MA Veterans
    - Other Non-MA Veterans
  - Standard errors clustered by state

Statistical Analysis

- Mental Health Use
  - Two-part models to account for high frequency of zeros
    1. Logistic regression to model probability of any mental health use
    2. Negative binomial regression to model conditional visit counts
  - Calculate average treatment effect (ATE) for (1), (2) and unconditional visits [$E(y \mid \mathbf{X}) = Pr(y>0 \mid \mathbf{X})*E(y \mid y>0, \mathbf{X})$]
  - Standard errors for unconditional visits estimated using bootstrap procedure

Statistical Analysis

- Dual use of VA and Medicare among mental health users
  - Ordered logistic regression
  - Estimate change in probability of 1) all Medicare, 2) dual use and 3) all VA associated with MHR
- Control Variables
  - Individual demographics
  - Comorbidity
  - Characteristics of Veterans' residence county
  - Provider supply
  - State fixed effects

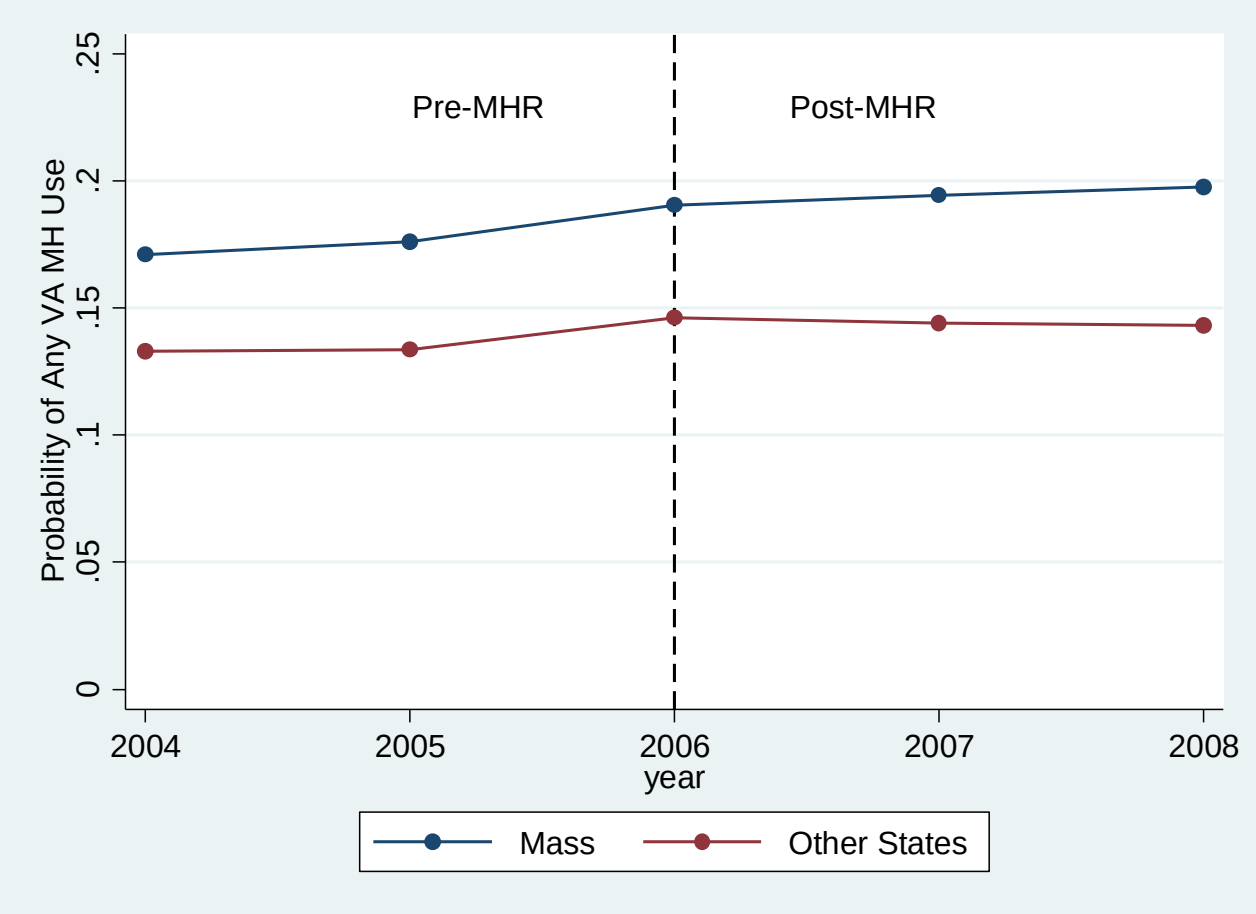
Selected Descriptive Statistics at Baseline

Variable	MA N=20,892	Non-MA N=114,048
Age (mean/SD)	73.6 (8.8)	72.4 (9.0)
Male (%)	97	98
Married (%)	65	72
Race – White (%)	96	90
Copay Exempt – Disability (%)	33	27
Copay Exempt – Income (%)	28	34
Original Medicare Eligible by Age (%)	78	76
< 5 Miles to Nearest VA (%)	46	27
> 40 Miles to Nearest VA (%)	2	30
Gagne Comorbidity Score (mean/sd)	0.64 (1.6)	0.50 (1.6)

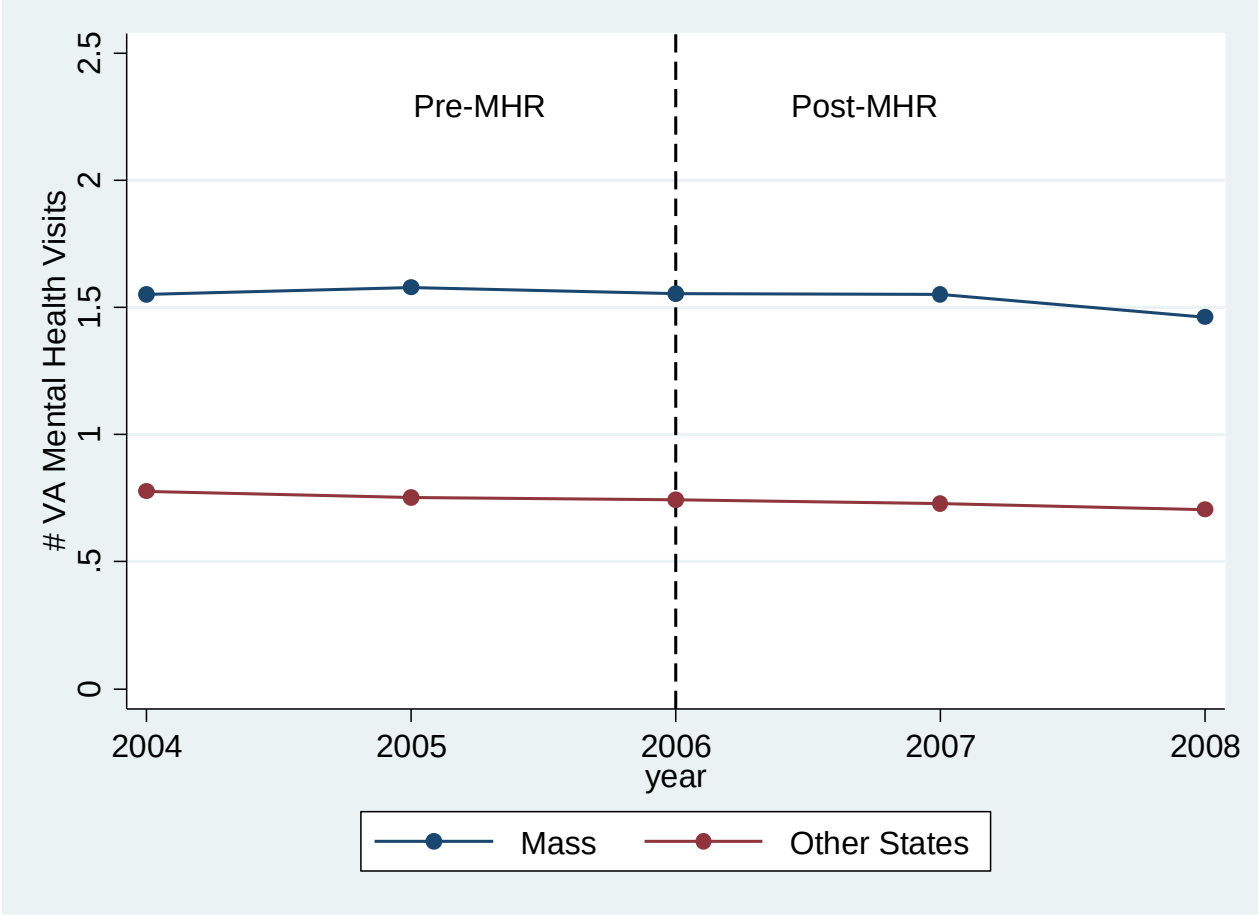
Selected Descriptive Statistics at Baseline (cont'd)

Variable	MA N=20,892	Non-MA N=114,048
# VA MH Providers per 1,000 Veterans (mean/sd)	5.1 (1.8)	2.1 (0.9)
# Non-VA MH Providers per 1,000 population (mean/sd)	1.2 (0.8)	0.4 (0.4)
County Unemployment Rate (mean/sd)	5.2 (0.9)	5.6 (2.1)

Parallel Trends in Probability of Any VA Mental Health Use



Largely Parallel Trends in VA Mental Health Visits

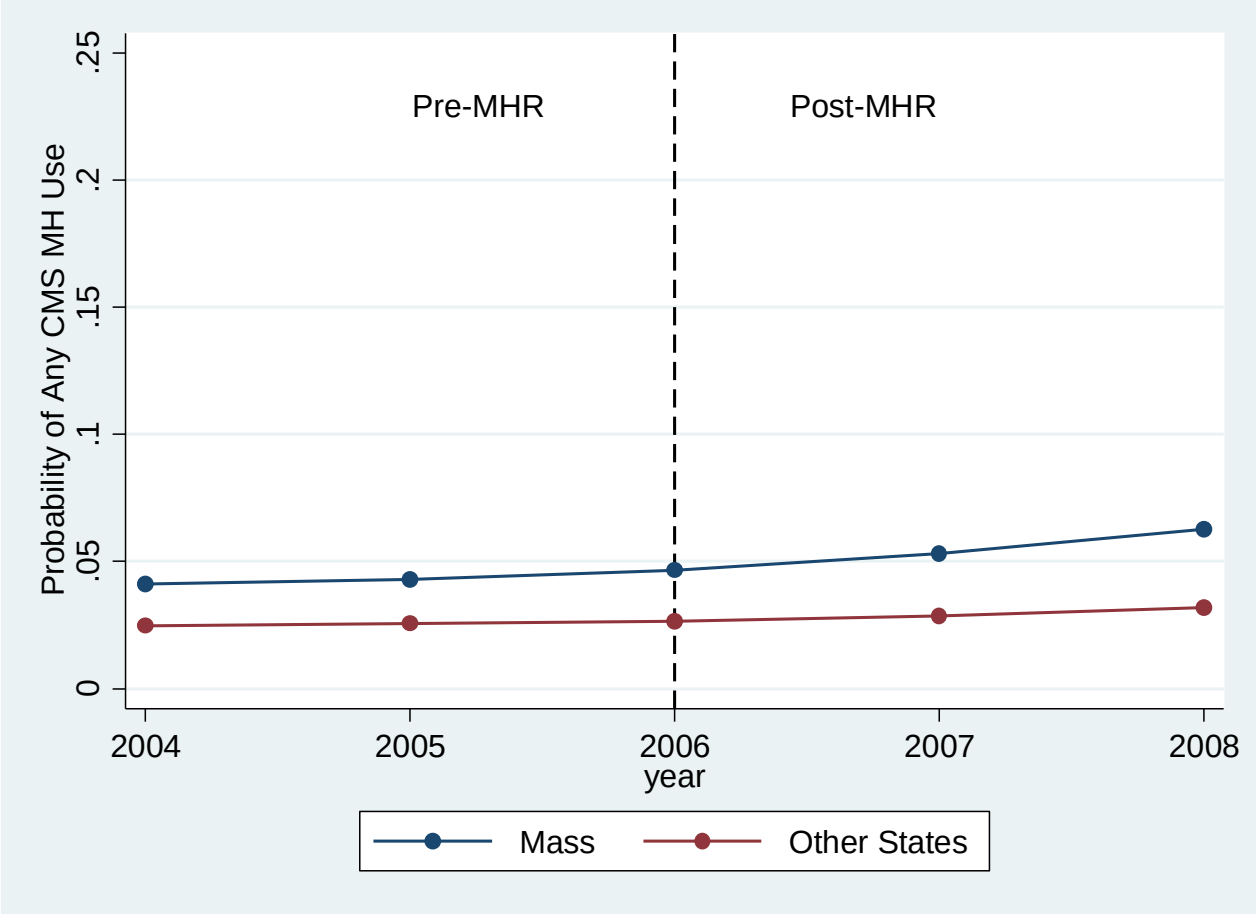


Adjusted Results – VA Mental Health Use

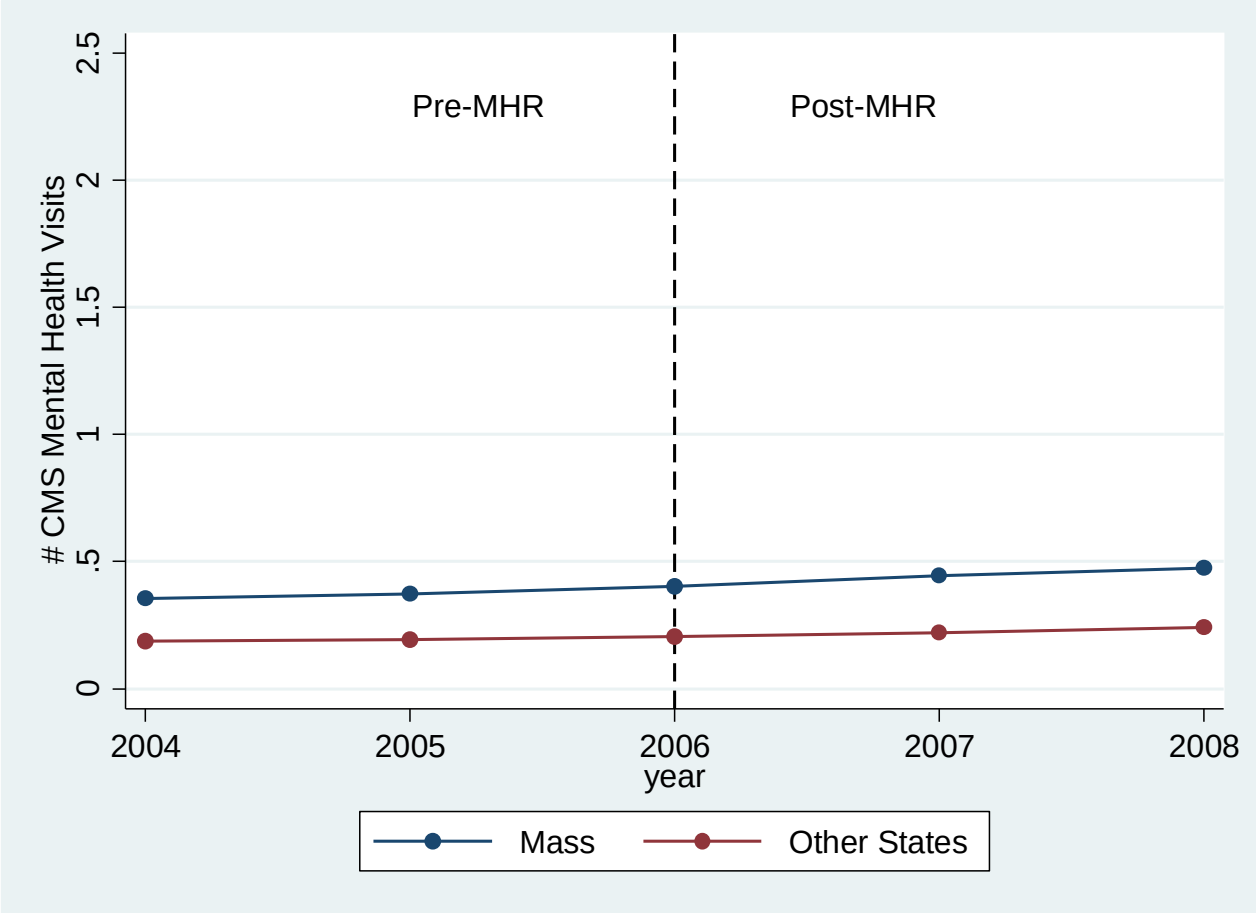
	Effect	Lower 95%	Upper 95%
Probability of Any VA Use[1]	0.11% pts	-0.36% pts	0.59% pts
Visits among Users[2]	**-0.440**	**-0.668**	**-0.211**
Visits among all[3]	**-0.060**	**-0.108**	**-0.012**

- No change in probability of using any VA mental health
- Small decline in VA mental health visits attributable to MHR

Increasing Probability of Any Medicare Mental Health Use among MA Veterans



Largely Parallel Trends in Medicare Mental Health Visits

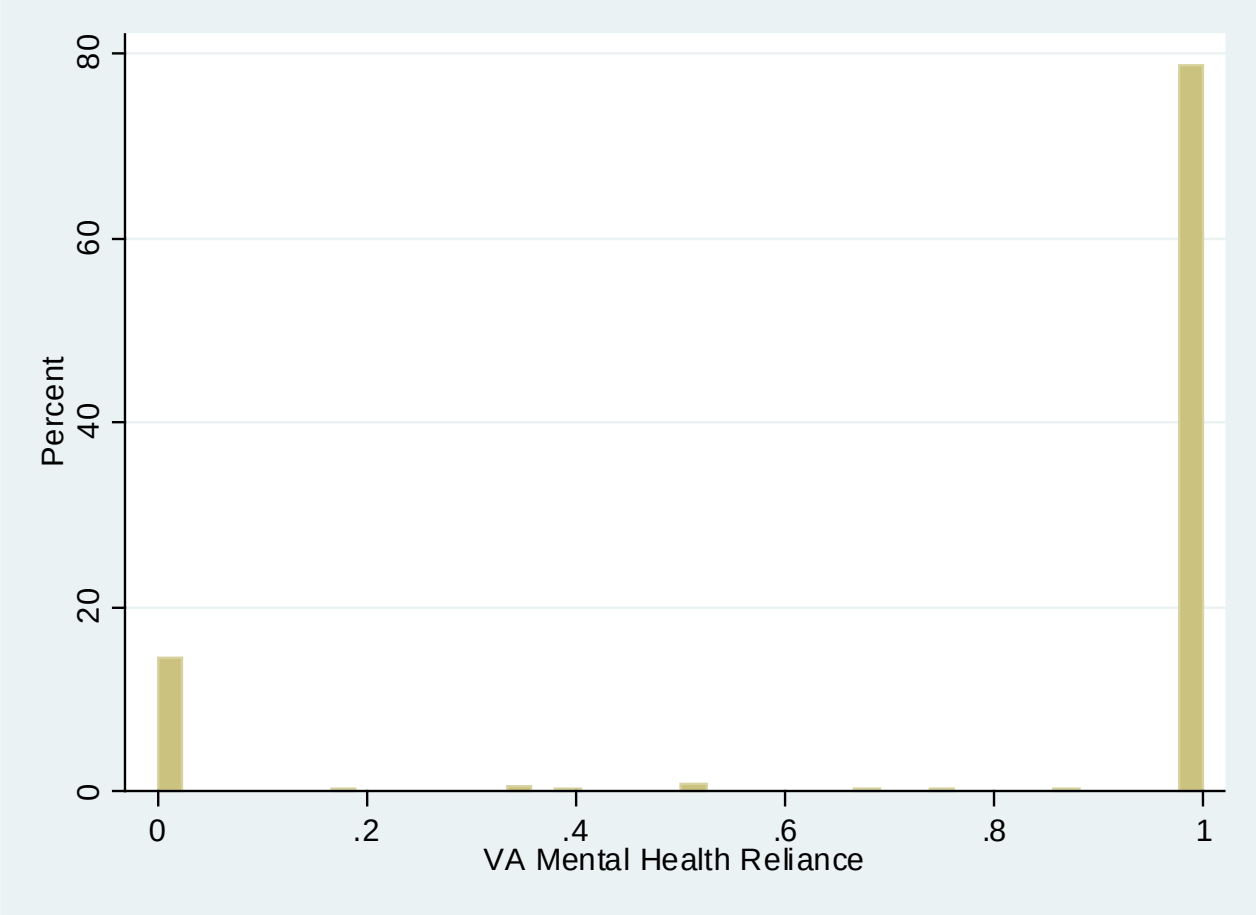


Adjusted Results – Medicare Mental Health Use

	Effect	Lower 95%	Upper 95%
Probability of Any Medicare Use[1]	**0.36% pts**	**0.23% pts**	**0.49% pts**
Visits among Users[2]	-0.427	-0.978	0.124
Visits among all[3]	0.011	-0.012	0.034

- Small increase in probability of using any mental health through Medicare
- No significant change in number of mental health visits

Reliance on VA Mental Health is Bimodal



Unadjusted Percentage of Mental Health Dual Users

	Pre-MHR	Post-MHR	Group Diff	Diff-in-Diff
	Mean	Mean		
Non-MA	6.1%	5.4%	-0.7% pts	
Mass	7.8%	7.4%	-0.4% pts	0.3% pts

Estimated among sample of patients using any mental health

Adjusted Results – Dual Use

	Effect	Lower 95%	Upper 95%
All Medicare Use	**0.8% pts**	**0.3% pts**	**1.3% pts**
Dual Use	**0.3% pts**	**0.1% pts**	**0.5% pts**
All VA Use	**-1.1% pts**	**-1.8% pts**	**-0.4 % pts**

- MHR associated with:
  - Lower probability of seeking all mental health services from VA
  - Greater probability of obtaining some or all mental health services from Medicare

MHR and Already Insured Individuals

- Mixed evidence of spillover effects among Medicare beneficiaries
- Joynt et al. (2014) found 0.14 increase in annual outpatient visits per patient (p=0.125)
- Bond and White (2013) found changes in primary care use attributed to MHR differed by zip code level of insurance rate
  - 6.9% decrease in visits among Medicare beneficiaries in areas with highest rate of uninsurance

Key Findings

- MHR modestly decreased number of VA mental health visits among users, but did not change likelihood of seeking any VA mental health services
- MHR concurrently increased Veterans' likelihood of obtaining mental health services through Medicare
- MHR decreased Veterans' likelihood of receiving all mental health services from VA

Limitations

- Veterans living in MA may be legal residents of another state
- Only VA and fee-for-service Medicare outpatient care use measured
- Generalization of results should consider unique characteristics of MA

Future Directions

- Analysis of heterogeneous effects by level of uninsurance in local area
- Estimation of indirect effects
  - Incorporate excess demand measures
  - Estimator allowing for treatment to affect observed confounders
- Account for potential cohort effects introduced by Vietnam veterans aging into dual VA-Medicare population

Conclusions

- Some evidence of spillover effects influencing VA's capacity to deliver mental health services
- Implications for care coordination as Veterans have increasingly greater provider options
- Key ACA components also in MHR
  - Estimates relevant for demand projections and fiscal planning in post-ACA era

Thank You!

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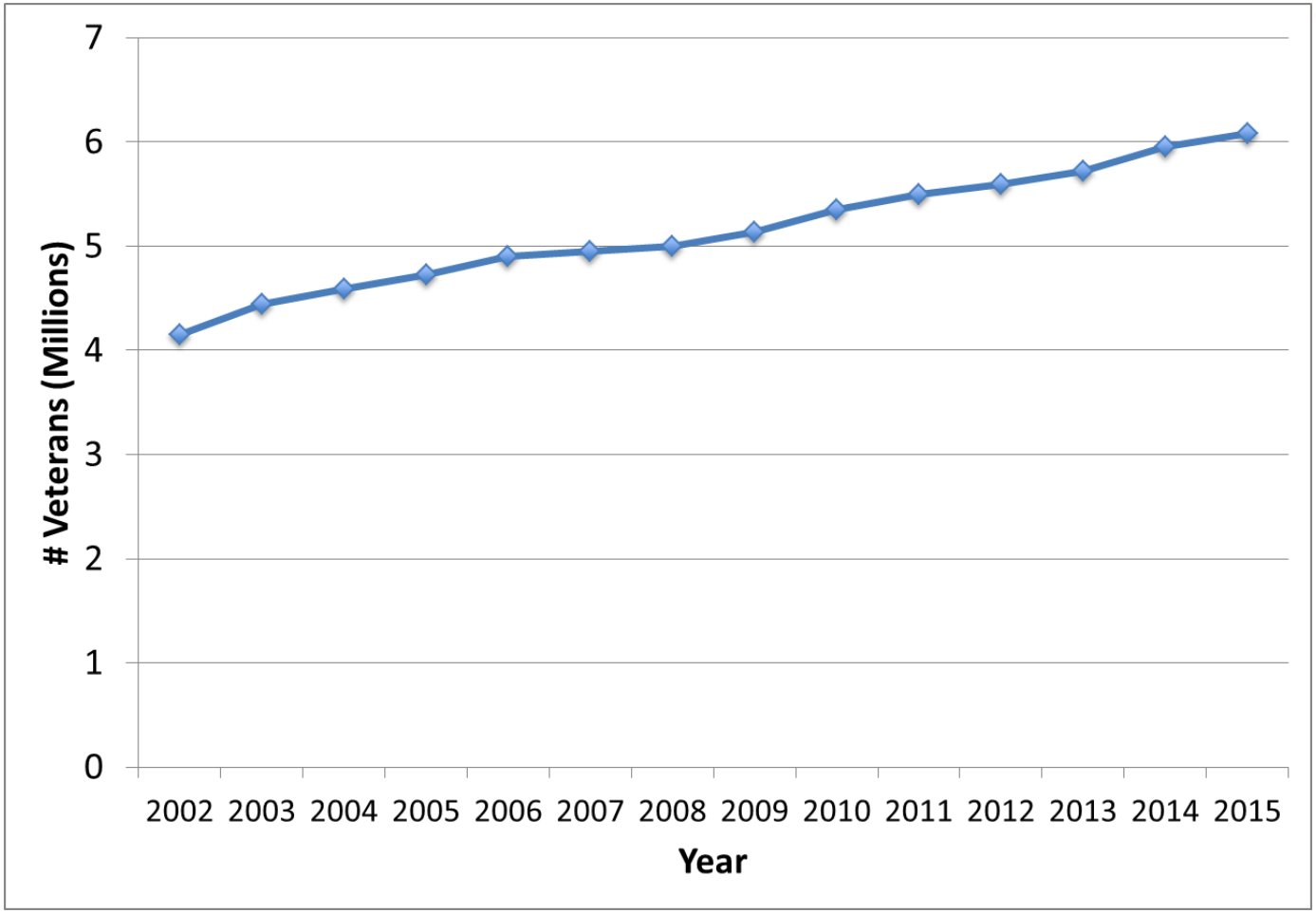
Steady Growth in Active Users of VA



Adjusted Results – VA Mental Health Use

	Effect	Lower 95%	Upper 95%
Probability of Any VA Use	-0.66% pts	-2.66% pts	1.35% pts
Visits among Users	-0.243	-0.647	0.161
Visits among all	-0.062	-0.128	0.005

- Models estimated over subsample of Veterans residing in New England States (MA, CT, ME, NH, RI, VT)

Adjusted Results – Medicare Mental Health Use

	Effect	Lower 95%	Upper 95%
Probability of Any Medicare Use	**0.25% pts**	**0.05% pts**	**0.45% pts**
Visits among Users	-0.456	-1.045	0.534
Visits among all	0.008	-0.027	0.043

- Models estimated over subsample of Veterans residing in New England States (MA, CT, ME, NH, RI, VT)

Adjusted Results – Dual Use

	Effect	Lower 95%	Upper 95%
All Medicare Use	2.0% pts	-0.5% pts	4.5% pts
Dual Use	0.6% pts	-0.2% pts	1.4% pts
All VA Use	-2.6% pts	-5.6% pts	0.1 % pts

- Models estimated over subsample of Veterans residing in New England States (MA, CT, ME, NH, RI, VT) and had any mental health use