



Economic and Policy Effects on Demand for VA Care

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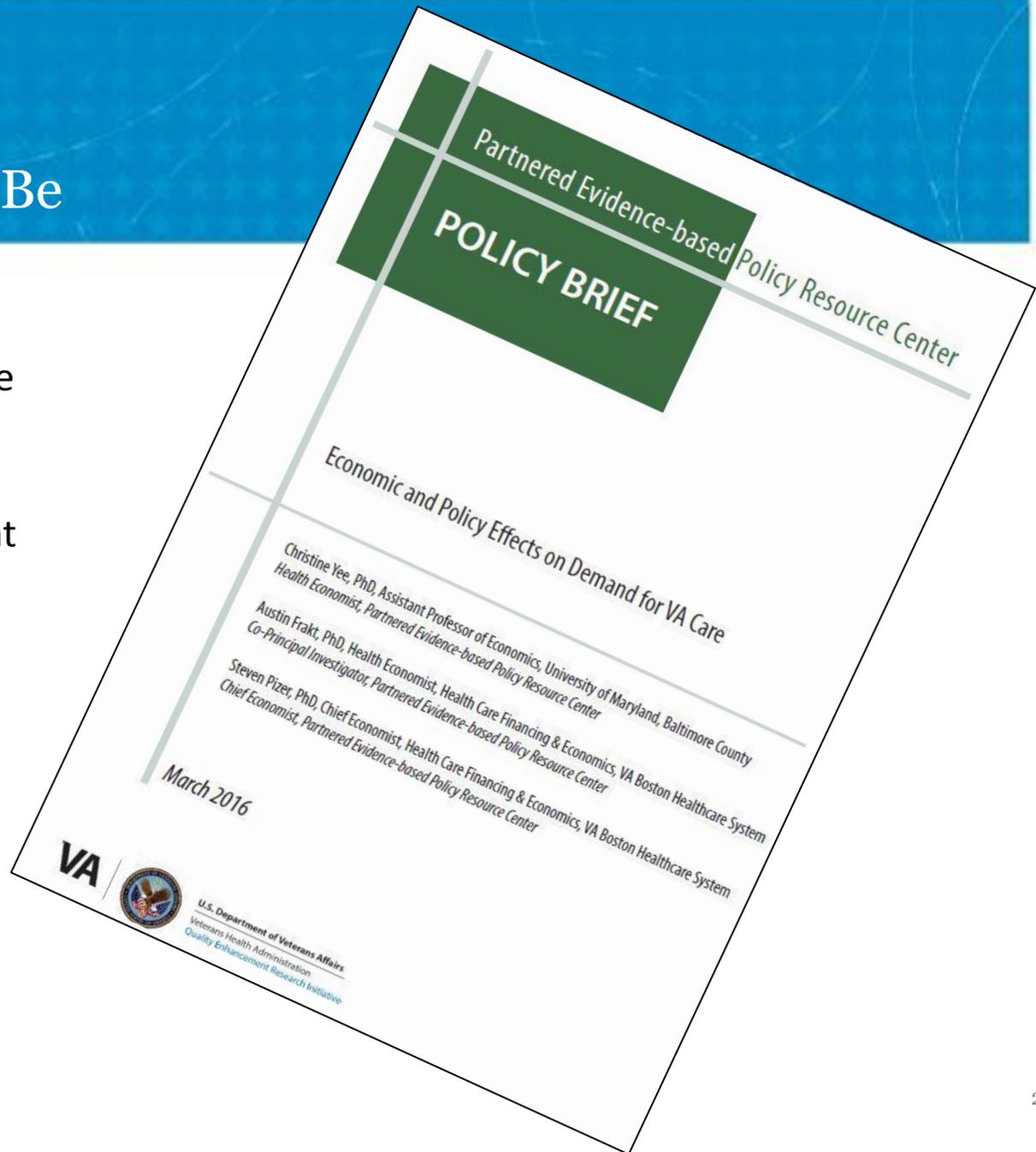
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State of Knowledge Be

- Summarized in a recent PEPRc Policy Brief (more on PEPRc in a moment)
- It informed preliminary planning for management of VA Choice by OPP and OMB
- Co-authored by Christine Yee and Steve Pizer



Partnered Evidence-based Policy Resource Center

PEPReC

Partnered Evidence-based Policy
Resource Center

- A new HSR&D/QUERI resource center to
 - Provide timely, rigorous data analysis
 - Support development of high-priority policy, planning, and management initiatives
 - Plan quantitative program evaluations with randomized designs
- Core Mission 1: Collaborate with VA operations partners to
 - Accurately forecast the demand for VA care
 - Efficiently deploy resources where they are most needed
 - Monitor performance, including access to care
 - Make sound decisions about major new investments
- Core Mission 2: Collaborate with operations partners and researchers to design and implement randomized program evaluations
- Co-PIs: Julia Prentice & Austin Frakt
- Chief Economist: Steve Pizer

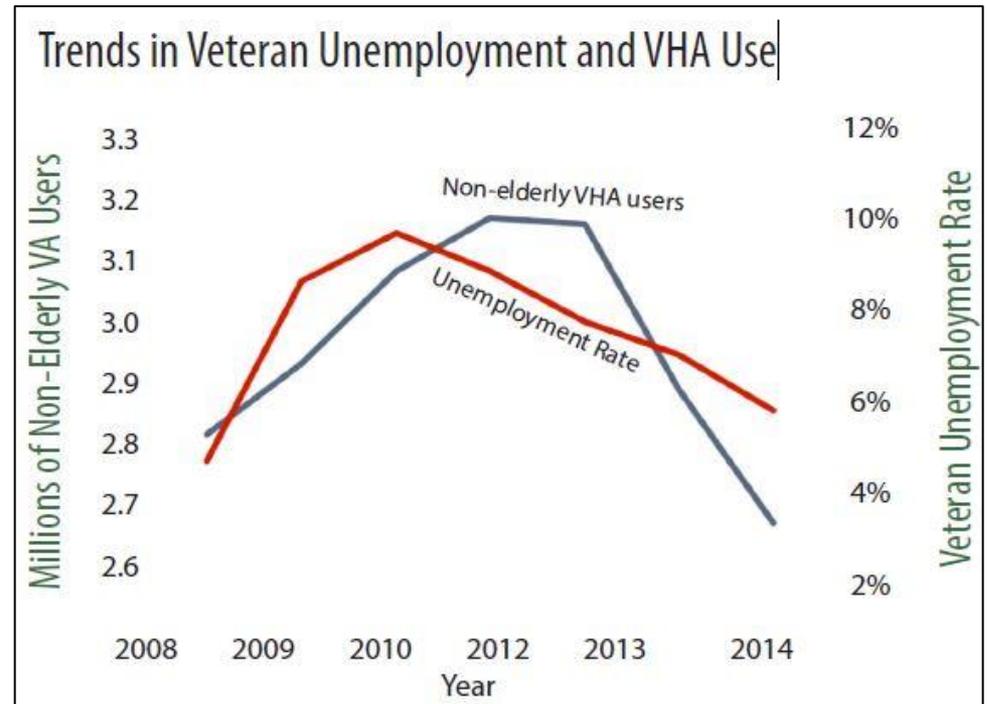
Key Points from the Policy Brief

- Veterans have non-VHA choices health care coverage and provision
 - 77% of VHA enrollees have a non-VHA source of health care coverage
 - Half outpatient visits of non-elderly VHA enrollees are outside the VHA
- Economic and policy changes affect accessibility of those other choices
- Hence, they affect VHA demand
- Policy Brief examines three external factors
 - Economic climate
 - Medicaid policy
 - Medicare options



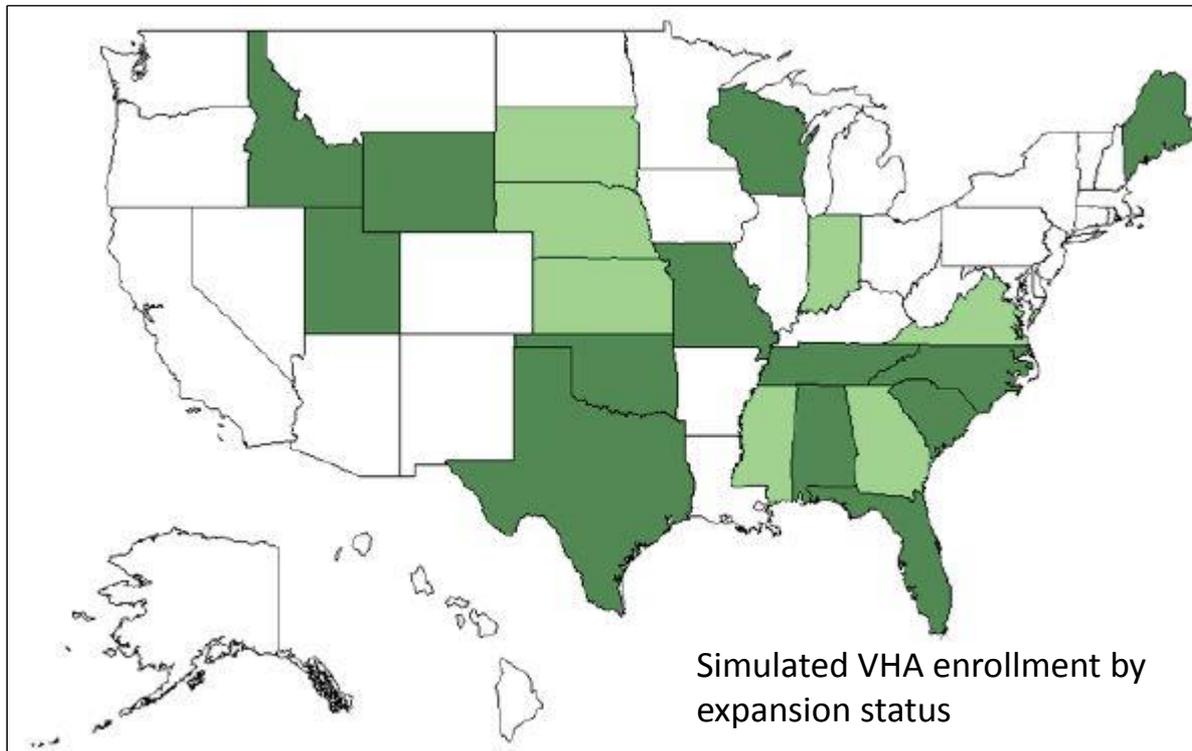
Economic Climate

- Higher unemployment → fewer veterans have jobs and employer-sponsored coverage
- Lower home prices depress resources → fewer vets buy coverage, can afford cost sharing
- During the recession, VHA enrollment in Massachusetts grew from 3% of veterans to 12% (Wong et al. 2014. *AJMC* 20(8):629-636)
- VHA enrollment and use grows with the unemployment rate and lower housing prices (Frakt et al. 2015. *Healthcare* 3(3):123–128)



Medicaid Policy

- Simulation: VHA inpatient and outpatient use higher by 6% and 13% due to non-expansion, respectively (Frakt et al. 2015. *Healthcare* 3(3):123–128)



White: State expanded Medicaid (as of 1/1/2016)

Light green: 1%-12% greater expected VHA enrollment due to non-expansion

Dark green: 13%+ greater expected VHA enrollment due to non-expansion

Medicare Options

- Veterans are willing to pay \$300 more per year for private, supplemental Medicare coverage (Medigap) to avoid waiting five more days for a VHA appointment (Pizer and Prentice. 2011. *JHE* 30: 626-636)



Carolyn M. Clancy, MD, Deputy Under Secretary for Health Organizational Excellence

“Veterans’ access to VA care is impacted by changes in the economy as well as the broader U.S. health delivery system, including State responses to ACA–facilitated Medicaid expansion and differential cost-sharing requirements of private and public insurers.”

External Determinants of Veterans' Demand of VA Healthcare

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Collaborators

Co-Investigators

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- VA ADUSH Office for Policy and Planning (10P1A)
- VA Office of Productivity, Efficiency & Staffing (OPES)

Background

- VHA demand influenced by factors external to the VA, particularly among those aged 18-64
 - Policy changes: Medicaid expansion
 - Private coverage
 - Economic conditions
 - Non-VA provider availability
- Important for improved anticipation of needs of Veterans
 - Budget planning (ADUSH Office of Policy and Planning)
 - Staff planning (Office of Productivity Efficiency and Staffing)

Background

- Extend previous work
 - Wong et al. (2013, 2014, 2015) – Economy/Unemployment
 - Frakt et al. (2015) – Medicaid policy & housing price index
- Recent data – 2014 – ACA Medicaid expansion
- Add other external determinants
 - private employer-sponsored insurance (ESI) coverage
 - Provider availability (non-VA)
- Methodology – individual-level data

Objective

To develop a comprehensive model to estimate the sensitivity of VA healthcare utilization to changes in area-level economic conditions, public policy, private coverage and non-VA provider availability.

Hypotheses

Association of VA healthcare utilization with area- level external factors:

- Medicaid coverage - Negative
- Employer coverage – Negative
- Unemployment – Positive
- Non-VA provider availability – Negative
- Housing price index
 - Negative (asset effect)
 - Positive (rental effect)

Data Sources

Veteran-Level Data FY2008-2014

- ADUSH Enrollment File
- Managerial Cost Accounting System (“DSS”): Inpatient Cost, Outpatient Cost & Pharmacy Data Files
- National Patient Care Database: Inpatient, Outpatient Data Files

Area-Level Data FY2008-2014

- Census Bureau American Community Survey
- Urban Institute TRIM Medicaid Eligibility Data
- AHRQ MEPS Insurance Survey
- Area Health Resources File, HRSA
- Federal Housing Finance Agency (FHFA)

Study Population

All Veterans in ADUSH Enrollment Files FY2008-2014 aged 18+

- Once enrolled, stays enrolled until death
- Unit of time: Year
- Exclusions:
 - Enrolled only one year
 - Relocated across counties
 - Missing key fields: DOB, sex, zip code, external determinants

Outcomes

Primary

- Total annual VHA use (2010 \$), top-coded at \$100k (covering acute inpatient + outpatient + pharmacy)

Secondary

- Use of any VHA services (0/1)

External Determinants: Measures

- % Medicaid eligible
 - State-specific eligibility rules applied to a common population (AHRQ MEPS 1998 sample), 2008-2014
 - For 2014, ACA Medicaid eligibility rule applied to Medicaid expansion states (N=26)
- % eligible for employer sponsored insurance (ESI)
 - State-level measure from AHRQ MEPS/Insurance
- 18-64 unemployment ratio (Veteran-specific)
 - State-level measure of % Veterans unemployed out of Veterans population (American Community Survey)
- # MDs / 1,000 population (non-VA)
 - County-level measure from AHRF
- Housing price index
 - State-level index from FHFA

Subgroups

- Priority category
 - 1-4, 5-6 and 7-8 from ADUSH Enrollee File
- Racial/ethnic minorities
 - % of zip code population that is non-White (non-Hispanic); from American Community Survey
 - Low (<20%), Moderate (20%-50%), High (>50%)
- Income
 - Median household income at zip code level; from American Community Survey
 - Low ($\leq 133\%$ FPL), Moderate (133%-200% FPL), High (>200% FPL)

Regression Model

Linear Regression Model with Individual Fixed Effects

$$\Delta y_{it} = \beta_0 + \beta_1 * \Delta x_{1it} + \dots + \alpha_1 * \Delta ext_{1t} + \dots + u_{it}$$

1. Estimates based on longitudinal variation at individual level
2. Individual geographic relocation not a source of change in external determinants
3. Examined age 18-64 and 65+ person/observations separately; not all external determinants included in 65+ regression
4. Explore for differential estimates by time
5. Explore specification robust to correlation among external determinants

Table 1. Study Population, 2008-2014

	Age 18-64	Age 65+
N	4,926,214	4,527,701
Mean years of follow-up	5.3	5.1
Female %	11.6%	2.2%
Priority category		
1 to 4	44%	29%
5 to 6	24%	24.6%
7 to 8	30%	47.1%
Unknown	2%	0.3%
Race/ethnicity - % residing in		
Low minority % areas	58%	72%
Moderate minority % areas	28%	20%
High minority % areas	14%	8%

Table 1. Study Population, 2008-2014 (cont'd)

	Age 18-64	Age 65+
Income - % residing in		
Low income areas	27%	27%
Moderate income areas	54%	55%
High income areas	19%	18%

Table 2. VHA Utilization Trends, 2008-2014

	2008	2011	2014
Annual individual VHA utilization (2010\$)			
Age 18-64	\$3,974	\$4,451	\$4,151
Age 65+	\$3,521	\$4,197	\$4,305
% using any VHA services			
Age 18-64	59.3%	59.1%	54.5%
Age 65+	64.4%	61.7%	59.7%

Table 3. VHA Utilization: Individual-level changes

	2009	2010	2011	2012	2013	2014
% veterans with change in VHA-use status from previous year	9.5%	9.7%	9.7%	9.7%	9.7%	8.7%
Mean change in individual annual value of VHA utilization from previous year (2010\$)	\$488	\$456	\$449	\$179	\$352	\$395

Table 4. External Determinants: Trends & Variation
Age 18-64: 2008-2014

	2008	2011	2013	2014	[5%, 95%] range in area-level annual change
% Medicaid eligibility	7.2%	8.1%	8.4%	10.9%	[-5%, 35%]
% ESI coverage	78.1%	78.0%	78.0%	75.4%	[-7%, 6%]
Unemp. Ratio, %	22.3%	25.6%	25.6%	25.0%	[-12%, 18%]
#MDs/1,000 population	2.46	2.48	2.53	2.61	[-11%, 10%]
Housing price index (1991 Baseline = 100)	189.6	169.4	191.5	204.1	[-8%, 11%]

Table 5. Model Estimates

% Change in total utilization associated with 10% increase in external determinant

	Age 18-64	Age 65+
% Medicaid eligibility		
2014	-0.17%*	-0.03%
2013	-0.05%	0.27%
2012	0.04%	-0.03%
2011	0.07%	-0.17%
2010	0.32%*	0.11%
2009	0.77%*	<0.01%
2008	1.35%*	-0.44*
% ESI coverage	-1.39%*	-
Unemployment ratio	0.56%*	-
#MDs / 1000 population	0.03%*	0.04%*
Housing price index	0.36%*	1.16%*

* denotes p-value < 0.05

Table 6. Change in 2014 national VHA utilization associated with external determinants (million \$, 2010)

	Age 18-64	Age 65+	Total
Medicaid eligibility	-\$96	\$4	-\$92
% ESI coverage	\$86	-	\$86
Unemployment ratio	-\$26	-	-\$26
#MDs / 1000 population	\$2	\$2	\$4
Housing price index	\$40	\$105	\$145
Total net change	\$6	\$111	\$117
% VHA spending 2013	0.03%	0.6%	0.3%

Table 7a. Model Estimates & 2014 VHA Utilization Change
Medicaid Expansion States (N=26)

	Model Estimates, 2014 (% change in spending associated with 10% increase in external determinant)		Change in Medicaid Expansion states, million \$
	Age 18-64	Age 65+	
Medicaid eligibility	-1.53%*	-0.61%*	-\$386
% ESI coverage	-2.86%*	-	\$88
Unemployment ratio	1.18%*	-	-\$27
#MDs / 1000 population	1.35%*	2.54%*	\$98
Housing price index	0.23%	0.74%*	\$34
Total net change			-\$192
% VHA spending 2013			1.0%

* denotes p-value < 0.05

Table 7b. Model Estimates & 2014 VHA Utilization Change
Medicaid Non-Expansion States (N=24)

	Model Estimates, 2014 (% change in spending associated with 10% increase in external determinant)		Change in Medicaid Expansion states, million \$
	Age 18-64	Age 65+	
Medicaid eligibility	-0.02%	0.32%*	-\$29
% ESI coverage	0.73%	-	-\$22
Unemployment ratio	1.05%*	-	-\$24
#MDs / 1000 population	0.02%	0.03%*	\$1
Housing price index	-1.03%*	0.84%*	\$32
Total net change			-\$42
% VHA spending 2013			0.1%

* denotes p-value < 0.05

Table 7c. Model Estimates: Change in spending associated with
 10% increase in external determinants
 Priority Groups – Age 18-64

	Priority 1-4	Priority 5-6	Priority 7-8
Medicaid eligibility	-0.04%	-0.21%*	-0.44%*
% ESI coverage	-0.70%*	-1.70%*	-2.41%*
Unemployment ratio	0.55%*	-0.06%	0.53%
#MDs / 1000 population	0.03%	0.06%	0.01%
Housing price index	-0.08%	0.99%*	0.08%

* denotes p-value < 0.05

Table 7d. Model Estimates: Change in spending associated with
 10% increase in external determinants
 Areas by % Minority Population – Age 18-64

	Low	Moderate	High
Medicaid eligibility	-0.23%*	-0.11%	-0.04%
% ESI coverage	-1.75%*	-1.61%*	-1.54%
Unemployment ratio	0.66%*	1.31%*	-0.35%
#MDs / 1000 population	0.02%	0.05%	2.50%*
Housing price index	-0.35%	1.02%*	0.70%

* denotes p-value < 0.05

Conclusions

- Changes in the external factors examined are associated with change in VA healthcare utilization
- Modest sensitivity at the national level, but sizable sensitivity in selected regions and subpopulations
 - Medicaid expansion in 2014 reduced VA use
 - Reduction in employer-sponsored insurance coverage, especially among priority 7-8 Veterans, increased VA use
 - Increase in provider availability (non-VA) increased VA use among Veterans residing in high minority areas

Limitations

- External factors confounded with unobserved factors
 - VA provider supply
- Collinearity among external factors
- Study population does not capture all VHA eligible

Sensitivity Analysis

Findings robust to

- Collinearity among external factors
- Study population limited to VHA users in baseline year (2008)

Implications

- Projection of VA healthcare use should incorporate the potential role of external determinants
- More research needed to improve models to address collinearity across external determinants and identify superior measures that better capture Veterans' experience

Questions?

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