State & Federal Services to

Veterans

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Veterans Health Administration Program Participation and State Health and Social Service Use
Among United States Veterans in Washington State

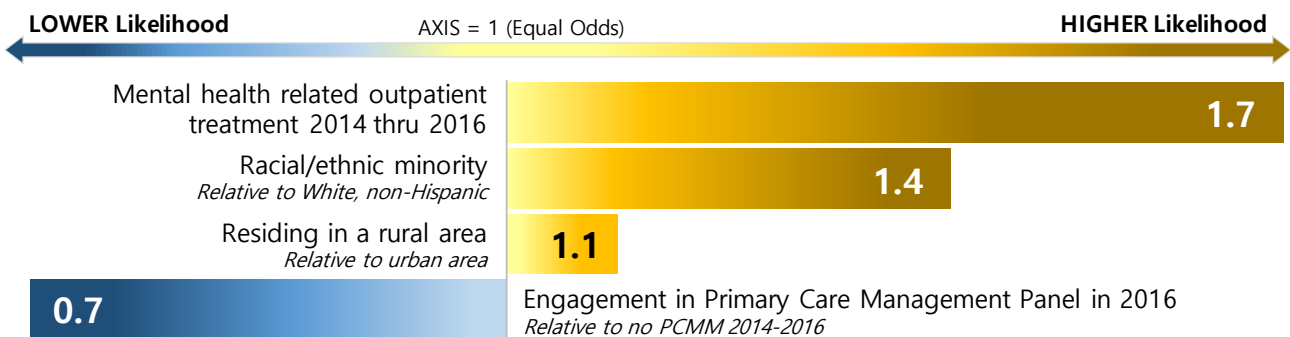Katie Bittinger, PhD • Andrés Soriano, BS • Barbara Lucenko, PhD • Barbara E.M. Felver, MES, MPA

THE U.S. DEPARTMENT OF VETERANS HEALTH ADMINISTRATION (VHA) is the largest integrated health care system in the United States (US). The VHA provides care to an especially vulnerable population of individuals, some of whom are also receiving state-funded health and social services. Prior research (Henzel et al. 2016, Bittinger et al. 2018) examined state service use by Veterans. These studies found that a substantial number of Veterans in Washington used state-funded social and health care services after discharging from the military. However, the frequency of state service use is not consistent across the Veteran population. This study uses a logistic regression approach to identify factors associated with state service use. Factors assessed in this study include demographic characteristics, military service-related factors, and VHA health care use.

KEY FINDINGS

1. Veterans residing in rural areas had an increased likelihood of using most categories of state social and/or health services.
2. Racial/ethnic minority Veterans had an increased likelihood of using all state social and/or health services.
3. Receiving a mental health service from the VHA is consistently associated with an increased likelihood of using state social and/or health services.
4. After controlling for other factors, engagement in the VHA's Primary Care Management Module (PCMM) is associated with a lower likelihood of using state social and/or health services.

FIGURE 1.

Veteran Characteristics and Services Associated with State Service Use
ODDS RATIO

LOWER Likelihood   AXIS = 1 (Equal Odds)   HIGHER Likelihood

Mental health related outpatient treatment 2014 thru 2016 — **1.7**

Racial/ethnic minority
Relative to White, non-Hispanic — **1.4**

Residing in a rural area
Relative to urban area — **1.1**

0.7 — Engagement in Primary Care Management Panel in 2016
Relative to no PCMM 2014-2016

Washington State
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Background

In 2016, 226,304 Veterans living in Washington State were enrolled with the VHA. As part of this enrollment, Veterans may also choose to enroll in the Primary Care Management Module (PCMM), a nation-wide program intended to support both primary care and non-primary care teams with the VHA system to effectively provide health care services. In 2016, 56 percent of Washington Veterans were enrolled in a PCMM. In addition to enrolling with the VHA, almost 17 percent (n=37,909) received at least one of the following services: Basic Food, aging and long term support services (ALTSA), child support services, child welfare services, and Medicaid enrollment.

FIGURE 2.
Overall State Service Use in CY 2016
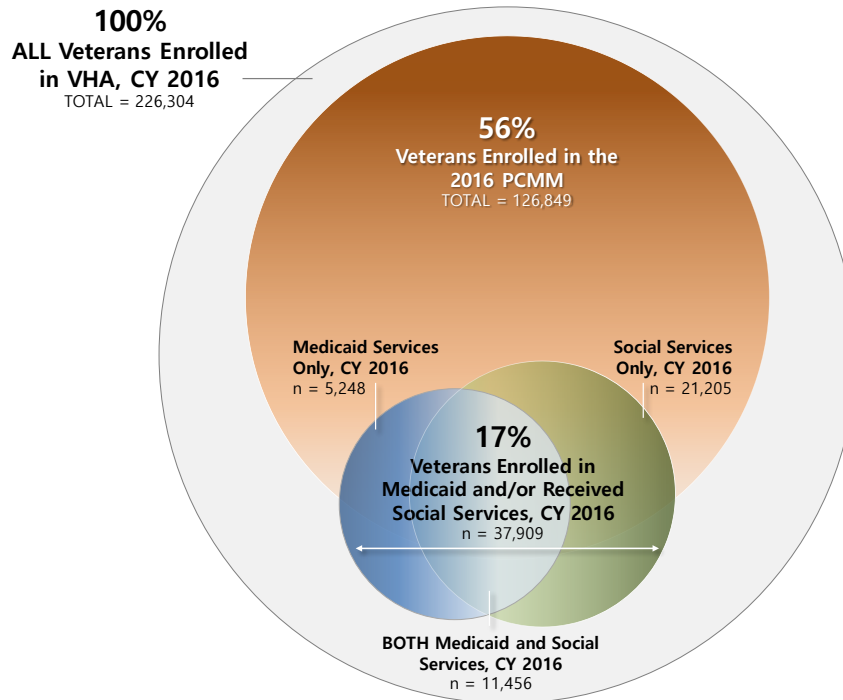
However, previous analyses showed that state-funded service use among veterans varies by demographic characteristics (see Bittinger et al. 2018 for more information). Service use also varies by Veteran characteristics, such as PCMM enrollment, as shown in Table 1 below.

TABLE 1.
State-Funded Service Use in CY 2016 by PCMM Enrollment

	PCMM Veterans	Non-PCMM Veterans	All Veterans
	N = 126,849	N = 99,455	N = 226,304
	PERCENT	PERCENT	PERCENT
Any State Service Receipt	**19.3%**	**13.5%**	**16.8%**
Social Service Receipt (Any)	**16.9%**	**11.3%**	**14.4%**
Basic Food	10.9%	5.7%	8.6%
Child Support Services	6.6%	5.1%	5.7%
Child Welfare Services	1.4%	1.2%	1.3%
Aging and Long Term Support Services	1.3%	1.2%	1.3%
Medicaid (Any)	7.9%	6.7%	7.4%

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Data and Methods

To understand what factors impact the use of state-funded services by Veterans in Washington State, this analysis used two sources of data: the DSHS Integrated Client Database (ICDB) and the Veterans Health Administration Corporate Data Warehouse. The ICDB provided information on use of state social and health services in CY 2016. The Veterans Health Administration Corporate Data Warehouse contains information on Veteran characteristics. These variables include demographics, military service, and use of VHA physical and behavioral health services. Table 2 provides a brief description of these variables. Additional details about the variables are included in the Technical Notes Section.

TABLE 2.
Summary of Variables

Veteran Characteristics (VHA Corporate Data Warehouse)	
Gender	Female Male
Age in 2016	18-24 years 25-34 years 35-44 years 45-54 years 55-64 years 65+ years
Race/Ethnicity	Any Minority Non-Hispanic White Unknown Race/Ethnicity
Urban/Rural residence	Based on zip code of residence in 2016
Operation Enduring Freedom (OEF) / Operation Iraqi Freedom (OIF) deployment	Yes No
Military service-related disabling condition evaluation as of 2016	Not evaluated for disabling condition 0 percent related 1-50 percent related 51-100 percent related
Mental health services	Mental health visit in 2016 Mental health related diagnosis in 2016 Mental health related outpatient treatment in 2016 Any mental health visit between 2014 - 2016 Any mental health related diagnosis between 2014 - 2016 Any mental health related outpatient treatment between 2014 - 2016
Primary care services	Primary care visit in 2016 Any primary care visit between 2014 - 2016
Engagement in the Primary Care Management Module (PCMM)	Engagement in PCMM in 2016 only Engagement in PCMM in 2015 and 2016 Engagement in PCMM in 2014, 2015, and 2016 No engagement in the PCMM between 2014 and 2016
State Service Use in CY 2016 (DSHS ICDB)	
Basic Food	Receipt of Basic Food
ALTSA	Receipt of any aging and long-term support service
Child support services	Receipt of child support services
Child welfare services	Receipt of child welfare services
Any social service use	Any use of Basic Food, ALTSA services, child support services, or child welfare services
Health service engagement	Enrollment in Medicaid
Any social or health service use	Use of any social service or enrollment in Medicaid

The goal of this analysis is to gain insight into the underlying differences in state service use rates. A logistic regression approach identifies the factors that increase or decrease the likelihood of using state-funded services. A separate logistic regression model was calculated for each state service. All Veteran characteristics were included in each state service logistic regression model to identify differences across state services.

Findings

Of the 226,304 Veterans in the CY 2016 cohort, 37,909 Veterans (about 17 percent) received a state-funded social or health service in 2016. Table 3 displays the odds ratios of significant predictors for each state-funded service. Characteristics shaded in yellow/brown indicate an increased likelihood of receiving the service, relative to the control group (indicated in parentheses). Characteristics shaded in blue indicate a decreased likelihood of receiving the service, relative to the control group. The darker the shade, the larger the magnitude of association. A summary of key patterns and characteristics of these analyses are described below.

Gender. Female Veterans were more likely to enroll in Medicaid and use ALTSA services when compared to male Veterans. In contrast, male Veterans were more likely to receive Basic Food, receive a child support service, and use any social service or state service more broadly.

Age. Compared to Veterans aged 35-44, younger Veterans were more likely to enroll in Medicaid or receive Basic Food. Older Veterans were more likely to use ALTSA services, but were less likely to use any other state service.

Race/Ethnicity. Veterans who identified as any racial or ethnic minority were more likely to use state-funded social and health services compared to non-Hispanic, white Veterans. This is one of the few factors that had a consistent and significant effect regardless of the state service examined. An "unknown race/ethnicity" category was also included to account for the 8 percent of Veterans who did not have race/ethnicity information. Veterans with an unknown race/ethnicity category were less likely to use most state services compared to non-Hispanic white Veterans.

Urban/Rural. Relative to urban residents, Veterans living in rural areas were more likely to use state services, except for ALTSA services. This may reflect a gap in VHA services in rural areas (e.g. lack of access to VHA medical services) and a gap in access to ALTSA services in rural areas.

OEF/OIF Deployment. Veterans who were deployed as part of OEF or OIF were less likely to use state services compared to those who were not deployed in either theater.

Military Service-related Disability. Veteran service-related disability status was divided into four categories: not evaluated for service-related disability, 0 percent service-related disability, 1 to 50 percent service-related disability, and 51 percent or greater service-related disability. Relative to those with 0 percent service-related disability, those with 1 to 50 percent and 51 percent or greater service-related disability were less likely to use any state service. Interestingly, Veterans who have not been evaluated for a service-related disability were more likely to enroll in Medicaid, receive Basic Food, or receive a child support service.

VHA Mental Health Service Receipt. Having an indicator of mental health treatment need or a mental health service was a strong and consistent predictor of using state-funded social and/or health services. In particular, having a mental health visit in 2016 was one of the few indicators to be consistently associated with an increased likelihood of use any state social or health service.

VHA Primary Care Service Receipt. Having a primary care visit in 2016 was a strong and consistent indicator of a decreased likelihood of using most state social or health services. However, it was not a significant predictor of child support service use.

Primary Care Management Module Participation. Compared to individuals who have not engaged with the PCMM over the past three years, those in the PCMM were less likely to use state social and health services, regardless of the length of engagement in PCMM.

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TABLE 3

Factors Associated with VHA Veteran Receipt of State Social or Health Services
CY 2016

ODDS RATIOS

Greater than 1 means higher likelihood of service receipt.
Less than 1 indicates lower likelihood of service receipt.

LOWER Likelihood ← 1 = equal odds → **HIGHER Likelihood**

Only statistically significant odds ratios (at p<0.05) shown
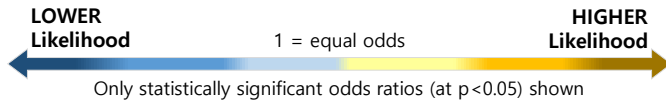
	Medicaid	Basic Food	ALTSA	Child Support	Child Welfare	Any Social Service	Any State Service
Demographic Characteristics							
Female (relative to male)	1.2	0.9	1.6	0.9		0.9	0.9
18 to 24 years (relative to 35 – 44)		1.2		0.5	0.2	0.7	
25 to 34 years (relative to 35 – 44)	1.6	1.3		0.7		0.9	1.1
45 to 54 years (relative to 35 – 44)	0.7	0.8	3.2	0.6	0.7	0.7	0.6
55 to 64 years (relative to 35 – 44)	0.8		9.4	0.2	0.3	0.5	0.5
65+ years (relative to 35 – 44)	0.2	0.3	17.5	0.03	0.1	0.2	0.1
Any Minority (relative to white, non-Hispanic)	1.3	1.4	1.4	1.5	1.2	1.4	1.4
Unknown Race/Ethnicity (relative to white, non-Hispanic)	0.8	0.7	0.6	0.9		0.8	0.8
Residing in a rural area (relative to an urban area)	1.3	1.2	0.7	1.1		1.1	1.1
Military Related Characteristics							
OEF or OIF Deployment (relative to non-OEF or OIF deployment)	0.7	0.6	0.1	0.8	0.8	0.7	0.7
Not evaluated for disabling condition due to service (relative to 0% related)	1.2	1.2		1.2		1.2	1.2
Disabling condition 1-50% due to service (relative to 0% related)	0.5	0.5	0.3	0.9		0.6	0.6
Disabling condition 51% or more due to service (relative to 0% related)	0.3	0.2	0.1	0.8		0.3	0.3
Receipt of VHA Physical and Behavioral Health Services							
Mental health visit in 2016	1.6	2.0	1.4	1.3	1.4	1.7	1.6
Mental health related diagnosis in 2016				0.89			0.9
Mental health related outpatient treatment in 2016	0.9						
Mental health visit 2014 thru 2016	1.4	1.6	1.8	1.3		1.5	1.5
Mental health related diagnosis 2014 thru 2016	1.7	1.7	1.4	1.4		1.5	1.5
Mental health related outpatient treatment 2014 thru 2016	1.5	1.6	3.3	1.5		1.7	1.7
Primary care visit in 2016	0.8	0.9	0.4		0.9	0.9	0.9
Primary care visit 2014 thru 2016	0.9		0.7				
Primary Care Management Module Engagement							
Engagement in PCMM in 2016 only (relative to not PCMM 2014-2016)		0.7	0.7	0.6	0.6	0.7	0.7
Engagement in PCMM in 2015 and 2016 (relative to not PCMM 2014-2016)	0.8	0.7	0.5	0.6	0.6	0.6	0.7
Engagement in PCMM in 2014, 2015, and 2016 (relative to no PCMM 2014-2016)	0.9	0.7	0.6	0.8	0.7	0.8	0.8

Discussion

The likelihood of using state social and/or health services varies across different groups of Veterans. Demographic characteristics, military service-related characteristics, receipt of VHA physical and behavioral services, and PCMM engagement all impact the likelihood of a Veteran using a state service.

Veterans residing in rural areas had an increased likelihood of using most state social and/or health services compared to Veterans living in urban areas. Racial/ethnic minority Veterans had an increased likelihood of using all state services compared to non-Hispanic, white Veterans. Older Veterans had an increased likelihood of receiving ALTSA services, but a decreased likelihood of using other services. Younger Veterans were more likely to receive Basic Food and enroll in Medicaid. Female Veterans were also more likely to enroll in Medicaid, as well as ALTSA services. In addition, receiving at least one outpatient mental health service from the VHA during the year was a consistent and strong predictor of using state social and/or health services during the same year. After controlling for demographic, military service-related, and receipt of VHA physical and mental health services, engagement in the VHA's PCMM had a lower likelihood of using state social and/or health services. This suggests that engagement with the PCMM can decrease cross-system service use.

These findings highlight the need for awareness and coordination across state and federal service delivery systems, particularly for vulnerable populations. However, the data presented here do not represent a complete picture of service use and could benefit from including additional information in future analyses. Many Veterans are age 65 and older and may be receiving services from Medicare, information that is not included in this study. In addition, this study focused on a single cohort of Veterans at one point in time. Cross-system service use may vary over time. Further work will ideally look at trends in use of services over time. Future analyses would also benefit from the addition of Medicare-based health indicators and additional details from VHA services such as specific mental health diagnoses and services and history of homelessness. Finally, the presence of substance use disorders among veterans may be an important and contributing factor to service use, but this information was not available for use in this analysis. Measuring substance use disorders and service use from both state and federal systems may add significantly to this model and benefit coordination of state and federal services and resources.

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STUDY DESIGN AND OVERVIEW

This study examines the social and health service use of Veterans in the state of Washington. In particular, this study is focused on Veterans who may receive services from both the Veterans Health Administration (VHA) and other state agencies (such as the Department of Social and Health Services and the Health Care Authority).

Matching procedures were used to identify Veterans actively enrolled in the VHA in CY 2016 who also appeared in the DSHS Integrated Client Database (ICDB). Analyses were restricted to those who were enrolled in Medicaid and/or received DSHS services in CY 2016. Of the 226,311 Veterans in the CY 2016 VHA cohort, 46 percent had previously received services from DSHS or enrolled in Medicaid (n=108,484). However, only 17 percent (n=37,909) received services in CY 2016.

STUDY POPULATION

Veterans with Medicaid and/or DSHS Service Receipt. Washington Veterans actively enrolled in the VHA for CY 2016 (who were alive for the entirety of CY 2016), who also enrolled in Medicaid and/or receive a DSHS service in CY 2016.

DATA SOURCES AND MEASURES

RDA leveraged data from two sources: the DSHS ICDB and the Veterans Health Administration Corporate Data Warehouse.

- **Veteran-specific measures:** All Veteran characteristics were derived from the Veterans Health Administration Corporate Data Warehouse.

  - **Demographic characteristics:** Gender, age, and race/ethnicity were reported for the 2016 cohort of Veterans. Residential zip codes were used to construct the urban/rural categorization.
  - **OEF/OIF Deployment:** Veterans who were part of Operation Enduring Freedom or Operation Iraqi Freedom.
  - **Service-related Disability:** Determined by the VHA to be disabled by an injury or illness that was incurred or aggravated during active military service. Not all Veterans pursue a service-related disability evaluation.
  - **Receipt of VHA primary care services:** Identification of receipt of any physical health service from a VHA provider in CY 2016.
  - **Receipt of VHA mental health services in CY2016:** Identification of any mental health diagnosis by the VHA or receipt of any outpatient mental health service from a VHA provider in CY 2016.
  - **Receipt of VHA mental health services 2014-2016:** Identification of any mental health diagnosis by the VHA or receipt of any outpatient mental health services from a VHA provider at any time between 2014 and 2016.
  - **Primary Care Management Module engagement:** Enrollment in the VHA Primary Care Management Module (PCMM) in CY 2016. The PCMM is a nation-wide program intended to support both primary care and non-primary care teams to effectively provide health care services.

- **State social and health service measures:** All state service measures were drawn from the DSHS ICDB.

  - **Medicaid:** Enrollment in any form of Medicaid in Washington during CY 2016.
  - **Basic Food:** Basic Food receipt was identified through data from the DSHS Automated Client Eligibility System (ACES) summarized in the ICDB. The Basic Food program is Washington's version of the U.S. Department of Agriculture's Supplemental Nutrition Assistance Program (SNAP). This program provides monthly benefits to buy food for low income persons and the benefit amounts are based on family size and income.
  - **Child support services:** Child support services include collection and disbursement of child support and custody issues. Child support services indicators were drawn from the ICDB and used to identify individuals who received at least one month of at least one of these services in CY 2016.
  - **Child welfare services:** Child welfare services include child protective services, foster parenting, and adoption services. Child protective services investigations and out-of-home placement indicators were drawn from the ICDB and used to identify individuals who received at least one month of at least one of these services in CY 2016.
  - **Aging and long-term support services:** Long-term care services were drawn from the ICDB. Aging and long-term services include home- and community-based services, adult protective services, and residential care services that are provided by the DSHS Aging and Long Term Support Services Administration.
  - **Any social service:** Receipt of any state social service including Basic Food, Child Support, Child Welfare, and/or Aging and Long Term Support services in CY 2016.
  - **Any state service:** Receipt of any state social service and/or enrollment in Medicaid in CY 2016.

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