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## Veterans' Reliance on VA Care by Type of Service and Distance to VA for Nonelderly VA-Medicaid Dual Enrollees

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### Abstract

**Background**—Not much is known about nonelderly veterans and their reliance on care from the Veterans Affairs (VA) health care system when they have access to non-VA care.

**Objectives**—To estimate VA reliance for nonelderly veterans enrolled in VA and Medicaid.

**Research Design**—Retrospective, longitudinal analysis of Medicaid claims data and VA administrative data to compare patients' utilization of VA and Medicaid services 12 months before and for up to 12 months after Medicaid enrollment began.

**Subjects**—Nonelderly veterans (below 65 y) receiving VA care and newly enrolled in Medicaid, calendar years 2006–2010 (N=19,890).

**Measures**—VA reliance (proportion of care received in VA) for major categories of outpatient and inpatient care.

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**Results**—Patients used VA outpatient care at similar levels after enrolling in Medicaid with the exceptions of emergency department (ED) and obstetrics/gynecology care, which decreased. VA inpatient utilization was similar after Medicaid enrollment for most types of care. VA-adjusted outpatient reliance was highest for mental health care (0.99) and lowest for ED care (0.02). VA-adjusted inpatient reliance was highest for respiratory (0.80) and cancer stays (0.80) and lowest for musculoskeletal stays (0.20). Associations between VA reliance and distance to VA providers varied by type of care.

**Conclusions**—Veterans dually enrolled in Medicaid received most of their outpatient care from the VA except ED, obstetrics/gynecology, and dental care. Patients received most of their inpatient care from Medicaid except mental health, respiratory, and cancer care. Sensitivity to travel distance to VA providers explained some of these differences.

### Keywords

veterans; Medicaid; access; health care utilization

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The Veterans Affairs (VA) health care system provides care to eligible veterans through 170 integrated delivery care systems throughout the US. Coverage expansions under the Affordable Care Act (ACA) and the VA MISSION Act of 2018, which extended the Veterans Choice Program (VCP) to pay for non-VA care, enhanced access to non-VA providers for many veterans. The VCP expanded opportunities for patients with long travel distances to VA providers (>40 miles), long waiting times for a VA service (>30 d), or other hardships to receive non-VA care.

Geographic access influences demand for VA care<sup>1–4</sup> as do other dimensions of access and quality of care.<sup>5–7</sup> The extent to which travel distance affects utilization may vary by clinical service, as some services may be less available onsite or have less urgency.<sup>8</sup> Patients outside the VA make similar choices in considering travel distance and service availability when they choose providers.

Low-income veterans may be simultaneously eligible for both VA and Medicaid by having incomes below the VA and state Medicaid eligibility levels and/or being disabled according to VA and Medicaid criteria. Recent studies found that veterans dually enrolled in VA and Medicaid maintained similar levels of VA utilization after Medicaid enrollment for all services as well as behavioral health services.<sup>9,10</sup> However, it remains unknown whether changes in VA reliance vary across primary care and other specialty care services.<sup>4,11,12</sup>

Given the growth of non-VA care paid by the VA and other payers, historical data on dual coverage and utilization of specific clinical services among nonelderly veterans can provide indications of future impacts. We examined VA-Medicaid dual enrollees' use of specific services in each system, whether they shifted certain types of care away from VA providers, and the impact of distance on VA reliance.

## METHODS

### Study Design and Data Sources

Our study design was previously described in detail.<sup>9</sup> Briefly, we conducted retrospective analysis of nonelderly veterans receiving care in the VA and newly enrolled in Medicaid for at least 1 month during calendar years 2006–2010. We limited analysis to prior users of VA care since some veterans may have enrolled in the VA many years prior without any intention of using VA care in the near future (Supplemental Digital Content 1, <http://links.lww.com/MLR/B697>). VA enrollees who were excluded due to no VA utilization had different categories of Medicaid eligibility, were less likely to have service-connected disabilities, and had higher income (all  $P < 0.0001$ ), but had similar age, sex, and race/ethnicity.

For all dually enrolled veterans, we measured utilization for specific categories of outpatient and inpatient care in the 12-month periods before and following enrollment in Medicaid. For those using a particular service, we estimated their VA reliance (proportion of total care provided by the VA while dually enrolled).

We obtained Medicaid Analytic eXtract (MAX) files linked to VA utilization data for all VA enrollees for calendar years 2006–2010 from the VA Information Resource Center for fiscal years 2005–2011. This study was approved by the Stanford University IRB.

### Outcomes

Our primary outcomes were measures of utilization covered by VA or Medicaid and VA reliance. Outpatient care was categorized as: primary care, specialty care, mental health, emergency department (ED), rehabilitation/physical therapy, obstetrics/gynecology, or dental care based on previously developed methods.<sup>13</sup> First, provider taxonomy codes in outpatient records, if available, were grouped into major provider types (eg, primary care, specialty care). Then Current Procedural Terminology/Healthcare Common Procedure Coding System codes or state-specific codes were grouped into several procedure types (eg, evaluation and management, mental health) based on Berenson-Eggers Type of Service (BETOS) codes.<sup>13</sup> Procedures without BETOS codes were assigned to Healthcare Cost and Utilization Project (HCUP) clinical classification categories.<sup>14</sup> Outpatient encounters were assigned a final category based on a combination of provider types and procedure code categories (Appendix, Supplemental Digital Content 2, <http://links.lww.com/MLR/B698>). Some outpatient visits (6%) could not be categorized, and are not reported here.

Inpatient care categories were based on prior methods using the principal diagnosis of the inpatient stay<sup>15</sup> and included cardiovascular, gastrointestinal, musculoskeletal, mental health, respiratory, cancer, and all other care.

We calculated VA reliance as VA utilization/(VA utilization+Medicaid utilization) for patients who had utilization within a care category.

## Covariates

Covariates included number of months of Medicaid enrollment, age, sex, race/ethnicity, marital status, VA priority group, Charlson Comorbidity Index, drive time to VA providers, state, Medicaid managed care or fee-for-service plan, and Medicaid eligibility category. We also included measures of state Medicaid reimbursement generosity, Medicaid quality of care, and generosity of Medicaid eligibility.<sup>16</sup>

## Analysis

We estimated mean numbers of outpatient visits and inpatient stays provided by VA or Medicaid per patient per month in each 12-month period before and after Medicaid enrollment whether patients used any care or not. For patients enrolled in Medicaid for <12 months, utilization postenrollment was measured for the dually enrolled period only. We also estimated the frequency of dual users and single-system users.

We ran beta-binomial regression models<sup>17</sup> predicting VA reliance in separate models for each type of outpatient and inpatient care category and adjusted for all patient and state Medicaid program characteristics. We estimated adjusted reliance and the association of >40 miles from VA care (one criteria for VCP eligibility) with reliance for each care category. We also conducted regressions using the log of driving distance to estimate the overall association between VA reliance and distance to VA providers.

We report incident rate ratios from beta-binomial models, which represent the difference in proportion of visits/stays occurring in the VA (VA reliance) associated with each unit change for a continuous variable or category of dummy variable. All regression analyses were conducted in Stata 14.0.

## RESULTS

Patient and state characteristics of the study sample were previously reported.<sup>9</sup> Among all dual enrollees, veterans had mean unadjusted numbers of VA outpatient visits that were similar or greater after Medicaid enrollment for most types of care (Fig. 1). Patients decreased their mean VA utilization of ED and obstetrics/gynecology care after Medicaid enrollment (both  $P<0.001$ ).

VA provided the majority of inpatient stays for mental health/substance use (71%), cardiovascular (56%), gastrointestinal (53%), and musculoskeletal (67%), and cancer-related stays (64%) for dually enrolled veterans (Fig. 2). Mean inpatient stays for mental health/substance abuse care declined modestly ( $P<0.001$ ) while they were similar or slightly higher for all other stays after Medicaid enrollment. Although dually enrolled, most patients used one system exclusively for each type of care while few used both systems (Table 1).

### Adjusted VA Reliance

In adjusted models of VA reliance, reliance was highest for mental health care (0.99), rehabilitation (0.90), and primary care (0.68) and lowest for ED (0.02), dental care (0.04), and obstetrics/gynecology (0.26) (Table 2). Driving distance of > 40 miles to VA providers had a strong, negative association on reliance for ED, dental care, and specialty care (all  $P<$

0.05), but not other types of outpatient care. In models using the log of driving distance to VA providers, longer distance to VA outpatient care was significantly related to lower VA reliance for all outpatient care except obstetrics/gynecology and rehabilitation care (Supplemental Digital Content 3, <http://links.lww.com/MLR/B699>).

VA inpatient reliance was highest for mental health (0.78), respiratory (0.80), and cancer care (0.80) in adjusted models and lowest for musculoskeletal (0.20), gastrointestinal (0.38), and cardiovascular care (0.48) (Table 2). Driving distance of > 40 miles to VA inpatient providers was negatively associated with VA reliance for mental health, cardiovascular care, and other care (all  $P < 0.01$ ) but not related for other types of inpatient care. In models using the log of distance to VA secondary care, results were mostly similar (Supplemental Digital Content 4, <http://links.lww.com/MLR/B699>).

## DISCUSSION

We found that nonelderly veterans dually enrolled in VA and Medicaid received most of their outpatient primary, mental health, and rehabilitation care from VA providers while they received more of their ED, obstetrics/gynecology, and dental care from Medicaid providers. Patients' lower reliance on VA providers for ED and dental care was partly due to patients' greater sensitivity to distance to VA providers for these types of services. VA reliance was reduced when driving distance was longer for most types of outpatient care, and long distances (> 40 miles) only negatively affected specialty, ED, rehabilitation, and dental care.

Dually enrolled patients were also sensitive to distance for cardiovascular inpatient care as demonstrated by their lower adjusted VA reliance. Patients relied less on VA providers for musculoskeletal and gastrointestinal inpatient stays and more on VA providers for mental health, respiratory, and cancer care.

Our findings likely reflect relative access to providers in the 2 systems. ED and inpatient cardiovascular care included care for emergent conditions, so it is unsurprising that they were among the most negatively affected by long distances to VA providers as patients likely benefited from more timely care from Medicaid providers closer to them. However, patients were reliant on VA primary care, mental health care, and rehabilitation care and less affected by longer travel distances for these services. Although our data do not cover widespread expansions in Medicaid, our results suggest that access to VA providers (eg, less wait time) may have been relatively higher than access to Medicaid providers during the study period.

Study patients were less reliant on VA specialty care, partly due to negative impacts of travel distance. Despite documented low referrals to specialty care in Medicaid,<sup>18</sup> Medicaid appeared to enhance patients' access to specialty care. VA reliance for obstetrics/gynecology care was especially low as the study period did not cover the expansion of women's health services in the VA, and many women have knowledge gaps or misperceptions about VA eligibility and services.<sup>19</sup> Although both VA and Medicaid offered limited benefits for comprehensive dental care,<sup>20</sup> there was low reliance on VA dental care.

Our results are consistent with prior reporting that travel distance was a particular access barrier for sicker patients, those with lower financial resources, those needing routine

specialty care, and those seeking emergency care.<sup>21</sup> Other factors such as quality and convenience may also have affected choice to use VA care.<sup>22</sup> Longer enrollment in Medicaid was associated with lower VA reliance, so Medicaid eligibility and/or administrative barriers may also decrease access to Medicaid care.

Our results on VA inpatient reliance are consistent with an earlier study that found low VA reliance for cardiovascular, gastrointestinal, and musculoskeletal conditions and higher reliance on mental health conditions for nonelderly adults.<sup>23</sup> Lack of personnel to provide onsite services may contribute to low VA inpatient reliance for some conditions.<sup>8</sup> It is unclear what led to higher reliance on VA inpatient care for cancer and respiratory conditions although some patients may have had barriers in accessing Medicaid providers<sup>24,25</sup> or been more likely to be referred to VA hospitals by VA physicians.

### Limitations

Although access has several dimensions,<sup>7</sup> we only focused on distance to providers as a measure of geographic access. We developed methods to categorize care that could be used in both VA and Medicaid data, and it is unknown whether differences in how procedures or provider taxonomies were recorded in each system may have affected how care was ultimately categorized. Veterans excluded from the study were less likely to have service-connected disabilities, so our results may not generalize to less frequent health care users. Study patients were more likely to be female, less likely to be white and have service-connected disabilities than early VCP users,<sup>26,27</sup> so our results may not have implications for all patients using non-VA care. Since the study period, the VA implemented the Patient Aligned Care Team model in VA primary care and virtual care has grown rapidly, so these factors may have increased access to VA primary care. We were unable to include any utilization provided outside of the VA and Medicaid.

### CONCLUSIONS

Our study suggests that expanded access to non-VA coverage may lead to higher uptake of time-sensitive services outside the VA. In addition, our work highlights potential shifts in specialty care and inpatient mental health from VA to non-VA providers which raises questions about the need for seamless care coordination systems for these sicker patients. Ongoing tracking of access and utilization will be critical for veterans as providers networks grow outside the VA system.

### Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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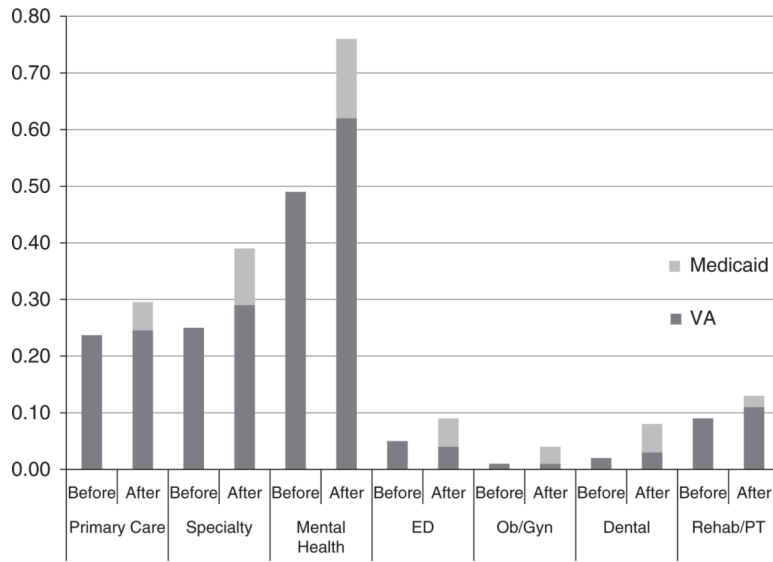


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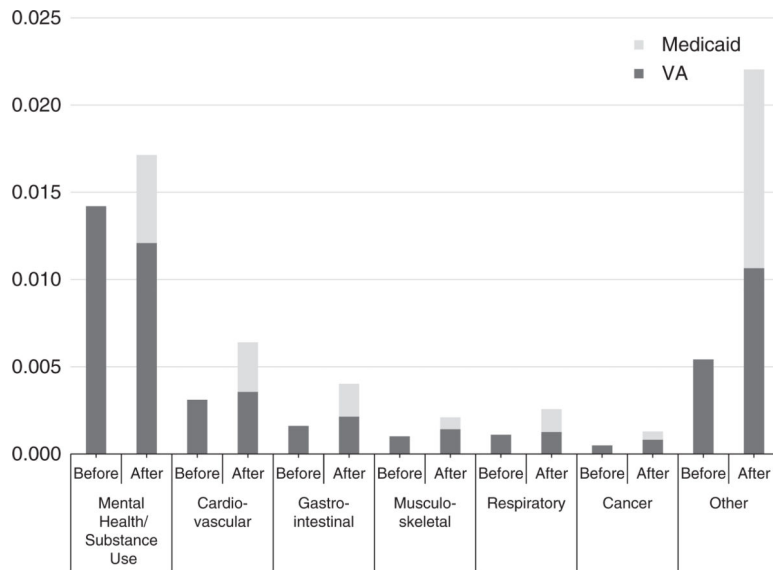
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**FIGURE 1.** Mean number of outpatient visits per patient per enrolled month, one year before and one year after gaining Medicaid coverage. ED indicates emergency department; Gyn, gynecology; Ob, obstetrics; Rehab/PT, rehabilitation/physical therapy; VA, Veterans Affairs.



**FIGURE 2.** Mean number of inpatient stays per patient per enrolled month, one year before and one year after gaining Medicaid coverage. VA indicates Veterans Affairs.

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**TABLE 1.**

Percentage of Patients Using Both Systems or Only One System While Dually Enrolled

	No. Patients Receiving Care	Percentage of Patients		
		Dual User <sup>*</sup>	Medicaid-only User	VA-only User
Outpatient care <sup>*</sup>				
Primary care	13,572	15.0	11.0	74.1
Specialty care	12,608	22.0	22.3	55.7
Mental health/substance use	8287	11.7	9.2	79.2
ED	6669	12.9	44.5	42.6
Dental	4321	4.5	68.5	27.0
Rehab/PT	3813	3.1	12.4	84.5
Obstetrics/gynecology	2011	8.6	52.6	38.9
Inpatient care				
Mental health/substance use	1348	12.6	25.7	61.7
Cardiovascular	616	8.0	39.0	53.1
Gastrointestinal	381	5.8	40.4	53.8
Musculoskeletal	263	2.3	31.9	65.8
Respiratory	258	5.8	46.5	47.7
Cancer	127	1.6	27.6	70.9
Other	761	4.1	40.9	55.1

<sup>\*</sup>User was defined as receiving at least one outpatient visit or hospital stay in a given system.

ED indicates emergency department; Rehab/PT, rehabilitation/physical therapy; VA, Veterans Affairs.

**TABLE 2.**

Effect of Distance to VA &gt; 40 miles on VA Reliance by Type of Care

	No. Patients Receiving Care	VA Reliance (Adjusted)	Incidence Rate Ratio for Driving Distance >40 Miles to VA Care $\pm$
Outpatient care <sup>†</sup>			
Primary care	13,572	0.69	0.93
Specialty care	12,608	0.47	0.82 <sup>**</sup>
Mental health/substance use	8287	0.99	0.85
ED	6669	0.02	0.74 <sup>*</sup>
Dental	4321	0.04	0.46 <sup>*</sup>
Rehab/PT	3813	0.89	0.70 <sup>*</sup>
Ob/Gyn	2011	0.27	0.76
Inpatient care <sup>‡</sup>			
Mental health/substance use	1348	0.77	0.65 <sup>*</sup>
Cardiovascular	616	0.47	0.57 <sup>*</sup>
Gastrointestinal	381	0.18	0.71
Musculoskeletal	263	0.20	0.56
Respiratory	258	0.80	0.68
Cancer	127	0.76	0.36
Other	761	0.70	0.65 <sup>*</sup>

<sup>†</sup>Outpatient care reliance adjusted for age, sex, Charlson Index, distance to primary care, VA priority group, and type of Medicaid eligibility.

<sup>‡</sup>Inpatient care reliance adjusted for age, sex, Charlson Index, and distance to secondary care.

$\pm$  indicates that adjusted mean reliance and IRR's were obtained from negative binomial models predicting VA reliance, IRR<1 means distance over 40 miles was associated with lower VA reliance; ED, emergency department; IRR, incident rate ratio; Rehab/PT, rehabilitation/physical therapy; VA, Veterans Affairs.

\* Significant at  $P<0.01$ .

\*\* Significant at  $P<0.05$ .