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ORIGINAL PAPER

Rural Veterans' Perspectives of Dual Care

Preethy Nayar · Bettye Apenteng · Fang Yu · Peter Woodbridge · Ann Fetrick

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Abstract The purpose of this study was to develop an in-depth understanding of the barriers and enablers of effective dual care (care obtained from the Veterans Health Administration [VHA] and the private health system) for rural veterans. Telephone interviews of a random sample of 1,006 veterans residing in rural Nebraska were completed in 2010. A high proportion of the rural veterans interviewed reported receiving dual care. The common reasons cited for seeking care outside the VHA (or VA [Veterans Administration]) included having an established relationship with a non-VA provider and distance to the nearest VA medical center. Almost half of the veterans who reported having a personal doctor or nurse reported that this was a non-VA provider. Veterans reported high levels of satisfaction with the quality of care they receive. Ordinal logistic regression models found that veterans who were Medicare beneficiaries, and who rated their health status higher had higher satisfaction with dual care. The reasons cited by the veterans for seeking care at the VHA (quality of VHA care, lower costs of VHA care, entitlement) and veterans perceptions about dual care (confused about where to seek care for different ailments, perceived lack of coordination between VA and non VA providers) were significant predictors of veterans' satisfaction with dual care. This study will guide policymakers in the VA to design a shared care system that can provide seamless, timely, high quality and veteran centered care.

P. Nayar (✉) · B. Apenteng · P. Woodbridge · A. Fetrick
Department of Health Services Research & Administration, College of Public Health, University of Nebraska Medical Center, Omaha, NE 68198-4350, USA
e-mail: pnayar@unmc.edu

F. Yu
Department of Biostatistics, College of Public Health, University of Nebraska Medical Center, Omaha, NE 68198-4350, USA

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Introduction

The Veterans Health Administration (VHA) is the largest integrated health care system in the United States providing comprehensive care for veterans [1]. As of August 2011, the system comprised of 152 hospitals, 804 community outpatient centers (CBOCs) and 280 Vet Centers [2]. The VHA provides healthcare to eligible veterans through regional delivery networks, with tertiary care referral hubs located in urban areas [3]. There are approximately eight million enrolled veterans receiving care from the VHA [2].

Between 1995 and 1997 the VHA underwent a radical organizational transformation in response to poor public perception about a system that was seen as inefficient, bureaucratic, fragmented and uncoordinated [1, 4, 5]. The health care system was redesigned to improve management accountability, care coordination, quality improvement, resource allocation and information management [1]. Today, the VHA has improved the quality of healthcare delivered to veterans through performance measurement, reliance on a system-wide integrated electronic health record (EHR) system, the use of clinical decision systems integrated with EHRs, an expansion of primary care and an increased focus on patient-centered care coordination [1, 4, 5]. Despite these improvements, Kizer and Dudley [1] note that "there are myriad opportunities for further improvements in [the VHA's] processes and outcomes." They add that the system faces the challenge of meeting the expectation of providing higher quality and better services in the face of changing veteran population demographics, increase in the prevalence of chronic diseases, increased demand for

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new technology and perhaps most importantly, increased competition for federal funding.

The National Rural Health Association notes that “time and distance prevent up to four million rural veterans from getting their healthcare benefits through a Veterans Hospital Administration (VHA) facility” [6]. Most of the estimated 22 million US veterans are concentrated in rural and non metropolitan areas [6, 7]. Given the regionalization strategy of the VHA, many rural veterans are likely to face barriers with respect to access to healthcare. In fact, studies point out that rural veterans suffer poorer physical and mental health status relative to urban veterans [3, 8, 9].

In a cross sectional study, using the 1999 Large Health Survey of veteran enrollees, Weeks et al. [3] examined the differences in health status of rural and urban veterans. The authors utilized a modified version of the Medical Outcomes Survey SF-36 instrument to assess the physical and mental health as well as social and emotional functioning of rural and urban veterans. The findings from this study indicated that after controlling for socioeconomic factors and regional location, rural veterans had lower overall health-related quality of life scores. Particularly, they presented with significantly higher physical co-morbidities but lower mental co-morbidities relative to urban and suburban veterans. Other studies support Weeks et al’s findings of increased physical co-morbidities [8] and decreased mental co-morbidities [9] among rural veterans. These findings persist when comparisons are made longitudinally, although the higher mental co-morbidities experienced by urban veterans appear to diminish over time [10].

The VHA, in recognition of these disparities, has made efforts to improve access of healthcare for their rural veteran population, particularly in primary care [11]. Community-Based Outpatient Centers (CBOCs) were established in 1996 to reduce traveling distance for veterans, waiting times and operating cost for providing care; improve access to care for underserved veterans; and also to improve patient satisfaction [12]. In 1999, approximately 39 % of CBOCs were located in rural areas [11].

Despite these advances, many rural veterans still have restricted access to the VA Health System [11, 13]. As a result many veterans seek healthcare from providers outside the VHA. The estimates of dual care users vary depending on where care is sought and the conditions for which care is being sought. For example, Kramer et al. [14] report that 25 % of veterans utilized both the VHA and the Indian Health Service (IHS). On the other hand, Lui et al. [15] point out that 48.8 % of depressed primary care patients seek care both in VHA and non-VHA facilities. These patients utilized non-VHA systems for acute care services, particularly for their physical health needs. While many studies have explored the predictors of dual care use among US veterans [8, 11, 16, 17], there is scarcity of research on the perception of veterans on the care they receive from VHA and non-VHA providers, as well as their perception on the overall quality of the dual care system. Obtaining information from the veterans, who utilize the dual care system, on their experiences with the present system could provide some useful insights on how the system can be improved to provide care that is safe, patient-centered, coordinated and of the highest quality.

Kramer et al. [18] attempted to fill this research gap by conducting focus group interviews with veterans and healthcare provider participants. The veterans in this study utilized the VHA and the IHS for their healthcare. The veterans voiced out concern about the lack of coordination in the dual care system and felt there was a strong need to improve coordination between the VHA and IHS providers. They reported having to manage their own healthcare across the two systems.

Prior studies have not focused exclusively on the perceptions of rural veterans on the current system of dual care, with regards to the coordination of their healthcare and on the quality of care they receive. Dual care was defined in this study as care received by veterans, from both the VHA and the private healthcare system. The purpose of this study was to develop an in-depth understanding of the barriers and enablers of effective dual care for rural veterans. To accomplish this, data from rural veterans in Nebraska was gathered, through telephone interviews, to examine their perspectives on dual care provided to rural veterans. The information obtained from the interviews will help VHA policy makers design an effective shared care system for rural veterans. The characteristics of such a system would be such that veterans would receive care both within their communities and at the VHA health care centers. The key issues that this study addresses are the barriers to and enablers of effective dual care; and the determinants of satisfaction with dual care, as perceived by rural veterans.

Methods

Telephone interviews of a random sample of rural veterans in Nebraska were conducted, to examine their perspectives on the current model of dual care for veterans.

The telephone interview questionnaire was guided by a review of the literature. The questionnaire also used questions adapted from the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) Health Plan Survey Version 4.0), designed by the Agency for Healthcare Research and Quality [19]. The definition of rural used in this study is the definition of rural or non-metro used by the VA (non-metro counties having less than 50,000 population).

The sample size estimation for the telephone interviews was based upon attaining adequate precision to estimate a proportion giving a specified response to an interview question. A total of 1,000 completed telephone interviews will produce a 95 % confidence interval equal to the sample proportion plus or minus 0.03, when the estimated proportion is 0.50. An estimated proportion of 0.50 was used as a conservative estimate. The sampling frame of rural veterans was obtained from the database used for Centers for Disease Control (CDC) Behavioral Risk Factor Surveillance System (BRFSS) interviews. From this sampling frame, a random sample of rural veterans in Nebraska was obtained and 1,006 telephone interviews were completed with veterans who have received or were currently receiving care at the VHA and were residing in rural Nebraska. Respondents were contacted via phone, and verbal consent for the interview was obtained and recorded. Participation in the interview was voluntary, and veterans were assured that their responses would be anonymous. The survey responses were descriptively summarized using frequencies and percentages. Ordinal logistic regression models were analyzed to examine the factors influencing veterans' perceptions of the quality of care they receive within the dual care system. The data were analyzed using SAS 9.2 software (SAS Institute Inc, Cary, NC) and Stata 12 software.

Results

Respondent Characteristics

The majority of the veterans interviewed in this study were male (N = 977; 97.1 %) and white (N = 976; 97.6 %) and this is representative of the veteran population in Nebraska. Only seven (0.7 %) of the 1,006 veterans interviewed self identified as of Hispanic or Latino ethnicity. Most of the respondents (N = 553; 54.9 %) did not provide age information. Of the remainder (N = 453), the majority (N = 421; 92.9 %) were 55 years and older. The majority of the respondents (N = 870; 86.6 %) had a high school degree or higher. A significant proportion (N = 425; 42.4 %) of the veterans interviewed in this study reported having a chronic or recurring illness. Almost half of the respondents (N = 494; 49.1 %) reported having some disability. Although only 57 (5.7 %) respondents rated their overall health as excellent, 662 (65.9 %) rated their overall health as either very good or good. More than three-quarters (N = 801; 79.6 %), of the veterans interviewed were also Medicare beneficiaries. Less than a quarter (N = 137; 13.6 %) reported receiving Medicaid, and only 10 veterans (1.0 %) received healthcare from the Indian Health Service. Over two-thirds of the respondents (N = 707; 70.5 %) reported having private insurance.

Access to Care

The majority (N = 862; 85.7 %) of the veterans interviewed reported having a personal doctor or nurse. Of the 862 veterans who reported having a personal doctor or nurse, 390 (45.5 %) saw their personal doctor/nurse at the VA health system, and nearly half (N = 421; 49.1 %) identified a non-VA provider as their personal doctor/nurse. Almost half (N = 448; 44.5 %) of the respondents reported living over 50 miles away from the nearest VA Medical Center (VAMC), including 134 veterans (13.3 %) who reported living over 100 miles away. Two-thirds of the respondents (N = 674; 67.2 %) reported living within 25 miles of the nearest CBOC, and 122 veterans (12.2 %) reported residing over 50 miles from the nearest CBOC.

The veterans were also asked to identify their reasons for using the VA health system. Almost two-thirds (N = 629; 62.5 %) of the veterans interviewed reported using the VA healthcare system because they were entitled to the services the VA provided. Over half (N = 617; 61.3 %) reported using the VA because it was cheaper for them to receive healthcare services from the system. About half of the veterans (N = 495; 49.2 %) cited the high quality of care provided by the VA as their reason for using the health system. Almost half of the veterans (N = 465; 46 %) used the VA because they had an established relationship with their VA healthcare provider, and less than a third (N = 289; 28.7 %) reported utilizing the VA health system because it was close by. Most of the veterans reported using the VA health system most for their medication (N = 691; 68.7 %), primary care (N = 556; 55.3 %), service-related injury or illness (N = 339; 33.7 %) and specialty care (N = 321; 31.9 %). About 11 % reported using the VA most for mental and behavioral healthcare (N = 108; 10.7 %). Nine out of every 10 (N = 922; 91.7 %) of the veterans interviewed in this study were either very satisfied or satisfied with the quality of care they received at the VA (Table 1).

Perceptions about Dual Care

The majority (N = 909; 90.5 %) of veterans interviewed had received care outside of the VA system. Only one out of ten interviewed veterans (N = 95; 9.5 %) reported never receiving care outside of the VA system (Table 1). Not counting emergency room (ER) visits, 680 (74.8 %) of the respondents who reported seeking care outside the VA acknowledged seeing a non-VA healthcare provider at least once in the last 12 months. Having an established a relationship with a non-VA personal doctor was the most frequently cited reason (N = 409; 45.0 %) for why dual-care users received care outside the VA, followed by distance to the nearest VA facility (N = 321; 35.3 %). Only

Table 1 Access to care (N = 1,006)

Survey question	Frequency	%
Have a personal doctor?		
Yes	862	85.7
No	141	14.0
Where do you see your personal doctor?		
The VA health system	390	45.5
Indian health service	1	0.1
Private non-VA provider	421	49.1
Non-VA emergency department	13	1.5
Other	26	3.0
Distance to nearest VAMC		
Less than 5 miles	115	11.4
5-10 miles	46	4.6
11-25 miles	103	10.2
26-50 miles	291	28.9
51-100 miles	314	31.2
Over 100 miles	134	13.3
Distance to nearest CBOC		
Less than 5 miles	389	38.8
5-10 miles	120	12.0
11-25 miles	165	16.5
26-50 miles	125	12.5
51-100 miles	88	8.8
Over 100 miles	34	3.4
Reasons for receiving care at the VA*		
The VA hospital/clinic is close by	289	28.7
As a veteran, I'm entitled to VA healthcare services	629	62.5
It is cheaper for me to receive healthcare at the VA	617	61.3
The VA provides high quality healthcare	495	49.2
I have an established relationship with VA provider	465	46.2
Other	107	10.6
Satisfaction with the quality of care received at the VA		
Very dissatisfied	10	1.0
Dissatisfied	25	2.5
Neither satisfied nor dissatisfied	40	4.0
Satisfied	465	46.3
Very satisfied	457	45.5
Ever received healthcare outside the VA system?		
Yes	909	90.5
No	95	9.5

Totals may not add up to 1,006 due to missing data

"Don't know" responses are not reported in the table

Percentages are calculated based on non-missing data

Percentages may not add up to 100 due to rounding

* Multiple responses possible

28 respondents (3.1 %) reported dissatisfaction with the VA health system as one of their primary reasons for seeking care outside the VA.

In the last 12 months, the majority of the dual care users (N = 557; 61.3 %) had made at least one appointment with a non-VA provider. Of those who made appointments, only 13 (2.3 %) reported that they "*never*" got an appointment with a non-VA physician as soon as they wanted, and 90 (16.2 %) reported that they "*sometimes*" got an appointment as soon as they wanted. Over 80 % (N = 450; 80.8 %) reported that they "*usually*" or "*always*" got an appointment with a non-VA physician as soon as they wanted. When asked whether they had had any illness, injury, or condition that needed care right away outside of the VA, a third (N = 302; 33.2 %) said "*yes*". Of those who reported needing urgent care from non-VA providers in the last year, over two-thirds (N = 215; 71.4 %) reported "*always*" receiving urgent care as soon as they wanted it; 49 respondents (16.3 %) reported "*usually*" receiving urgent care as soon as they wanted it; 28 (9.3 %) reported "*sometimes*" receiving urgent care as soon as they wanted it; and only eight (2.7 %) reported "*never*" receiving urgent care as soon as they wanted it. Almost half of the veterans who reported seeking care outside the VA (N = 410; 45.3 %), reported needing care, tests or treatments in the last year. A large proportion (N = 328; 80.0 %) of respondents who needed care, tests, or treatment did not have difficulty getting the care their non-VA physicians thought was necessary.

The veterans were also asked, *"In the last 12 months, how much of a problem, if any, were delays in healthcare while you waited for approval from the VA?"* Eighty veterans who reported needing approval from the VA for tests, in the last year responded to this question. Of these, the majority, 49 (61.3 %) said delays were not a problem. Almost two-thirds of the respondents (N = 573; 63.0 %) who reported ever seeking care outside the VA, rated their satisfaction with the care they received outside the VA. Of these, about eight out of every 10 (N = 484; 84.5 %) were either very satisfied or satisfied with the healthcare they received outside the VA.

When asked how often their VA health care provider and non-VA health care provider agreed about their healthcare needs, about half (N = 257; 44.7 %), of those who responded to this question, reported that their providers "*always*" agreed about their healthcare needs, 122 veterans (21.2 %) said their providers "*usually*" agreed, and 61 veterans (10.6 %) said their providers "*sometimes*" agreed. When veterans who reported receiving dual care were asked how often their VA and non-VA providers communicated with each other, 277 (30.7 %) responded "*never*", 186 (20.6 %) said "*sometimes*", 101 (11.2 %) said "*usually*", 202 (22.4 %) said "*always*", and 135

(15.0 %) were not sure of the response to this question. The veterans were also asked how often they received conflicting advice about their health from their VA and non-VA providers. About two-thirds (N = 628; 69.6 %) of the respondents said "*never*", 148 respondents (16.4 %) said "*sometimes*", 32 (3.6 %) said *usually*, 52 (5.8 %) said "*always*", and 42 (4.7 %) were not sure of the response to the question.

Veterans who reported receiving dual care were asked how often they were confused about where (within or outside the VA) to seek care for their medical problems. Almost three-quarters (N = 657; 72.8 %) said they were "*never*" confused, 154 (17.1 %) said they were "*sometimes*" confused, 25 (2.8 %) said they were "*usually*" confused, 46 (5.1 %) reported "*always*" being confused, and 20 (2.2 %) were not sure of how to respond to this question.

When asked how often they felt they received well-coordinated care from their VA and non-VA providers in the last year, 134 (14.9 %) of the veterans said "*never*", 118 (13.1 %) said "*sometimes*", and 175 (19.4 %) said "*usually*". About half of the respondents (N = 400; 44.4 %) reported "*always*" receiving well-coordinated care from their VA and non-VA providers. Seventy-four veterans (8.2 %) were not sure of the response to this question.

When asked how much they agreed/disagreed with the statement, "*I often find myself relaying information about my healthcare from my non-VA provider to my VA provider and vice versa*," 428 respondents (48.0 %) either strongly agreed or agreed, and 227 (25.5 %) either strongly disagreed or disagreed. The remainder neither agreed nor disagreed or was unsure of the answer. When asked to rate the overall quality of care they received from the dual-care system, on a scale from 1 to 10, with 1 being poor and 10 being excellent, over a third (N = 337; 37.1 %) of respondents rated their care from both VA and non-VA providers as excellent. Less than a quarter (N = 133; 14.6 %) of respondents rated their overall dual care experience at 5 or less. On average, the veterans rated the overall quality of care they received from both VA and non-VA providers at 8.25 out of 10 (standard deviation = 1.94).

Veterans' Satisfaction with Dual Care

Ordinal logistic regression was used to identify the factors influencing veterans' satisfaction with the quality of care received in the dual care system. The original multivariate model controlled for demographic characteristics (gender, race, education); health conditions (chronic illness, disability and mental illness); insurance (Medicare, Medicaid and private insurance); distance to the nearest CBOC or VAMC; reasons for seeking care at the VHA (having an established relationship with a VA provider; costs; entitlement and high quality of VHA care); and perceptions about dual care (perceived lack of coordination between VA and non VA care, and confusion about where to seek care when needed). Ordinal logistic regression models with the Brant test for the proportional odds assumption were examined using Stata 12 software. Some of the variables in the original model violated the proportional odds assumption and were dropped from the final model. The odds ratios and 95 % confidence intervals from the final ordinal regression model are summarized in Table 2.

The ordinal regression model found that veterans who rated their health status higher had higher satisfaction with dual care (OR, 1.10; 95 % CI, 1.02–1.17). Medicare beneficiaries had higher satisfaction with dual care (OR, 1.6: 95 % CI, 1.23–2.27). Veterans who cited entitlement as the

Table 2 Ordinal regression: veterans' satisfaction with dual care (N = 908)

Covariate	Odds ratio	Standard error	95 % confidence interval
Medicare beneficiary	1.6784***	0.2615	1.236–2.278
Private insurance	0.9052	0.1314	0.681–1.203
Health status	1.1013**	0.0378	1.0295–1.1782
Chronic illness	1.1871	0.1536	0.9210–1.5300
Disability	0.9866	0.1286	0.7641–1.2739
Usual source of care VA	0.9204	0. 1401	0.6829–1.2405
Personal doctor VA	1.2213	0.1841	0.9088– 1.6414
Established relationship with VA provider	0 .7978	0.1121	0.6056–1.0509
Entitlement to VA care	0.6849**	0.0970	0.5189–0.9041
Low cost of VA care	0.7128*	0.0976	0.5450–0.9323
High quality of VA care	2.6609***	0.3849	2.0040–3.5331
Lack of coordination in dual care system	0.7516***	0.0478	0.6634–0.8514
Confused about where to seek care (within or outside the VA) for medical problems	0.5698***	0.0829	0.4284–0.7578

* p value < 0.05; ** p value < 0.01; *** p value < 0.001

reason that they seek care at the VA were less satisfied with dual care (OR, 0.68; 95 % CI, 0.51–0.90). Veterans who said that the lower costs of care at the VHA, was the reason they seek care at the VHA, were less likely to be satisfied with dual care (OR, 71, 95 % CI, 0.54–0.93). Veterans who said that high quality of care at the VHA was the reason they seek care at the VA, were more likely to be satisfied with dual care (OR, 2.66, 95 % CI, 2.0–3.5). If veterans were confused about where to seek care, this was associated with lower satisfaction with dual care (OR, 0.56; 95 % CI, 0.42–0.75). If the veterans perceive that there is lack of coordination between VA and non VA health care, they were less likely to be satisfied with dual care (OR, 0.75; 95 % CI, 0.66–0.85).

Discussion

A high proportion of rural veterans interviewed in this study reported receiving dual care, with only about 10 % reporting never having used care outside the VHA, and about 75 % reporting having seen a non- VHA provider at least once in the last 12 months. This proportion is much higher than that reported in the literature. Estimates in the literature of the prevalence of dual use among veterans have varied between about 25 and 45 %, depending on the setting and the type of care [14, 15]. The much higher proportion of dual use seen in this study could be explained by the fact that our sample focused on rural veterans who may be likely to use dual care more, because of geographical barriers to access to care. It is also significant to note here that although a high proportion of rural veterans in this study lived 25 miles or less from the nearest CBOC, indicating that CBOCs have somewhat mitigated the geographical access barriers that rural veterans face, one of the usual reasons that the veterans cited for seeking care outside the VHA included having an established relationship with a non-VA provider. In addition, almost half of the veterans who reported having a personal doctor or nurse reported that this person was a non-VA provider. Therefore, factors other than distance to the nearest VA facility appear to impact rural veterans' choice of provider. Certainly the importance of having an established relationship with a provider cannot be under-estimated in the veteran's choice of health care provider. In addition, entitlement and the lower costs of care and high quality of care in the VA were also frequently cited reasons for using VA care.

Overall, the veterans reported very positive experiences with the care they received outside the VHA in terms of timeliness and quality of care. The ease of scheduling appointments with a non VA provider also appears to be a reason for seeking care outside the VHA. Veterans interviewed reported high levels of satisfaction with the quality of care that they receive, and most did not report experiencing delays in care and also did not perceive the lack of coordination of care between VA and non-VA providers, as a major issue in the current dual-care system. The lack of communication between VA and non-VA providers was perceived as an issue by many veterans, and about half of the veterans find themselves relaying information between their VA and non-VA providers, indicating that information sharing between the VA and non-VA systems is a barrier to effective dual care. This finding mirrors the findings of a survey of non-federal physicians conducted by the research team in December 2010. The physicians surveyed also identified the lack of information sharing as a barrier to effective dual care. In order to streamline care between the VA and non VA systems, there needs to be ways to improve information sharing between the two systems of care, within the legal and operational constraints of the VA, rather than placing the onus of communication on the veterans themselves.

With regards to the determinants of veterans' satisfaction with dual care, several findings of this study are noteworthy. Veterans who are Medicare beneficiaries have higher satisfaction with dual care. As other studies have noted, Medicare appears to be providing complementary services to the veterans and contributing to higher satisfaction with care. Veterans with higher self-perceived health status were also found to have higher satisfaction with dual care. The reasons that veterans cite for using VHA services are important determinants of the satisfaction with dual care. Veterans who cite the high quality of care in the VHA as their reason for seeking VHA care are more satisfied with dual care. In contrast, those who cite the low costs of VA care, or entitlement as their reasons for seeking care are less satisfied with dual care. A note of caution here is that, since this is a cross-sectional study it is difficult to make any causal inferences based on these findings.

What is worthy of note is that veterans' perceptions about the current dual care system are significantly associated with their satisfaction with dual care. Those veterans who report being confused about which system (VHA or non-VHA) to use to seek care for different ailments, are less satisfied with dual care. Clearly, there is a need for educating veterans regarding expectations and services provided by the VHA. The VHA does provide informational materials to veterans regarding care provided within and outside the VHA, but there appears to be a role for VHA providers to reinforce this information during veteran visits to the VHA facilities. Furthermore, veterans who perceive the lack of coordination between VA and non-VA providers as a major issue are less satisfied with dual care. Clearly, veterans value coordination between the two systems of care in their perceptions of their care experiences.

Although CBOCs have addressed some of the access issues that rural veterans face, rural veterans continue to

receive much of their care from the non-VHA system, as evidenced by the high proportion of dual use found in this study. The demand for care outside the VHA is likely to increase with ageing of the veteran population. Future efforts to strengthen the dual care system for veterans should focus on the sharing of information between VA and non-VA providers as a means of providing seamless, timely, and high quality care to rural veterans. In addition, efforts to coordinate care between the two systems of care will likely reap benefits in terms of higher veteran satisfaction with care. Informing veterans about services provided within and outside the VHA and their responsibilities as informed and empowered consumers will also improve their satisfaction with dual care. Given that the VHA's goal is not "to mandate care to our veterans, but to provide a choice" [20], strengthening linkages with non- VHA providers will serve to improve the rural veterans' overall care experience. As found in other studies, the continuing high rates of high dual use mandate measures to improve the coordination of care between the VHA and private systems to avoid duplication and ensure the continuity of care delivered to veterans.

A limitation of this study is that the sample was restricted to one Mid Western state and represents a predominantly white, male veteran population. So, the findings may not be readily generalizable to other US states. It is possible that more diverse veteran populations face additional barriers to access to care and their use and satisfaction with dual care may not be similar to the findings of this study. In addition, the ability of a cross-sectional study in drawing causal inferences is recognized. Inspite of these limitations, the study provides actionable information to policy makers and VA providers that can help improve the quality of the veterans' care experiences both within and outside the VHA systems.

Conclusion

Factors other than distance to the nearest VA facility impact rural veterans' choice of provider. Rural veterans interviewed reported high levels of satisfaction with the quality of care they receive, and most do not experience delays in care or perceive the lack of coordination of care as a major issue in the current dual-care system. However, the lack of communication between VA and non-VA providers was perceived as an issue by many veterans, who find themselves relaying information between their VA and non-VA providers. Information sharing between the VA and non-VA systems is a thus found to be a barrier to effective dual care, and efforts to improve the quality of care provided to dual care veterans should specifically address the seamless transfer of information between the two systems of care. Given that the prevalence of dual use appears to be increasing, and an aging veteran population will likely drive up the use of dual care, it is expected that this study will guide policymakers in the VA to design a shared care system that can provide seamless, timely, high quality and veteran centered care.

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