ORIGINAL RESEARCH

Factors Related to Attrition from VA Healthcare Use: Findings from the National Survey of Women Veterans

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BACKGROUND: While prior research characterizes women Veterans' barriers to accessing and using Veterans Health Administration (VA) care, there has been little attention to women who access VA and use services, but then discontinue use. Recent data suggest that among women Veterans, there is a 30 % attrition rate within 3 years of initial VA use.

OBJECTIVES: To compare individual characteristics and perceptions about VA care between women Veteran VA attriters (those who discontinue use) and non-attriters (those who continue use), and to compare recent versus remote attriters.

DESIGN: Cross-sectional, population-based 2008–2009 national telephone survey.

PARTICIPANTS: Six hundred twenty-six attriters and 2,065 non-attriters who responded to the National Survey of Women Veterans.

MAIN MEASURES: Population weighted demographic, military and health characteristics; perceptions about VA healthcare; length of time since last VA use; among attriters, reasons for no longer using VA care.

KEY RESULTS: Fifty-four percent of the weighted VA ever user population reported that they no longer use VA. Forty-five percent of attrition was within the past ten years. Attriters had better overall health ($p=0.007$), higher income ($p<0.001$), and were more likely to have health insurance ($p<0.001$) compared with non-attriters. Attriters had less positive perceptions of VA than non-attriters, with attriters having lower ratings of VA quality and of gender-specific features of VA care ($p<0.001$). Women Veterans who discontinued VA use since 2001 did not differ from those with more remote VA use on most measures of VA perceptions. Overall, among attriters, distance to VA sites of care and having alternate insurance coverage were the most common reasons for discontinuing VA use.

CONCLUSIONS: We found high VA attrition despite recent advances in VA care for women Veterans. Women's attrition from VA could reduce the critical mass of women Veterans in VA and affect current system-wide efforts to provide high-quality care for women Veterans. An understanding of reasons for attrition can inform organizational efforts to re-engage women who have attrited, to retain current users, and potentially to attract new VA patients.

KEY WORDS: Veterans; women's health; access to care; attrition.
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BACKGROUND

While prior research characterizes women Veterans' barriers to accessing and using Veterans Health Administration (VA) care, there has been little attention to women who access VA and use services, but then discontinue use.[1,2] Limited evidence suggests that a substantial proportion of women Veterans new to VA fall into this category, with approximately 30 % attrition within three years of first use.[3] Given that only a small proportion of women Veterans currently use VA,[1,4] a 30 % attrition rate is of concern, and potentially indicative of aspects of the healthcare system that need to be developed or improved.

Little is known about patients who leave a healthcare system. Attrition is often considered in terms of workforce shortages[5,6] or loss from clinical trials.[7] The phenomena of patients switching doctors and "doctor-shopping" have been examined,[8–11] but rarely have factors related to departure from an entire healthcare system been described. Existing literature indicates that satisfaction and perceptions of quality affect decision-making and healthcare behavior.[12] However, as is the case with many healthcare systems, satisfaction with VA is typically measured among those who are consumers of the system.[13,14] Those who leave the system receive less attention, and therefore less is known about them and their healthcare decision-making.

Early studies of VA service availability and quality of care for women Veterans found notable gaps in care.[15,16] A number of ensuing reforms led to expansion of VA women's

health services and a system-wide quality transformation,[17,18] lauded as an example for other healthcare systems.[19] It is unknown if women Veterans' perceptions of VA care or attrition from VA use differed before and after these VA reforms, which occurred in the late 1990s and early 2000s.

This paper begins to fill a gap in understanding about women Veterans who depart, or "attrit," from VA services, by examining to what extent attrition is driven by patient characteristics, patient perceptions of VA care, and contextual factors (e.g., available options). Our conceptual approach considers women Veterans as consumers of health care who have choices about the care that they use. To support this approach, we draw mainly from Consumer Choice Theory,[20] which posits that two forces drive consumer decisions: characteristics of the available options (both subjective and objective) and characteristics of the individual. With regard to the latter, in the present analysis we draw on aspects of the Andersen Behavioral Model,[21] particularly need characteristics (e.g., mental health), as determinants of healthcare utilization. We hypothesized that attriters would differ from non-attriters in their individual characteristics and in their perceptions of VA care. We further hypothesized that, among attriters, perceptions of VA would differ between those whose last VA use was before versus after the VA quality transformation, which we benchmark at 2001.

METHODS

Sample

We conducted the National Survey of Women Veterans (NSWV), a cross-sectional national telephone survey, in 2008–2009. As described in detail elsewhere,[22,23] the NSWV enrolled a population-based, stratified random sample of women Veterans. Stratification was based on VA use/nonuse and military service period, with oversampling of VA users and pre-Vietnam era and Operations Enduring and Iraqi Freedom (OEF/OIF) Veterans. Survey respondents represented all geographic regions and Veterans Integrated Service Networks. This study was approved by the Institutional Review Board of the VA Greater Los Angeles Healthcare System, and the survey was also approved by the U.S. Office of Management and Budget.

To create the sampling frame, we cross-linked Veterans Health Administration, Veterans Benefits Administration, and Department of Defense databases that, collectively, identified more than 50 % of the 1.8 million U.S. women Veterans.[22] Inclusion criteria were being a woman Veteran of the regular armed forces, or a member of the National Guards or Reserves who had been called to active duty. Exclusion criteria were current active military duty, VA employment, or institutionalization. Eighty-six percent of screened and eligible women Veterans consented to survey participation.[23] For the current study, we limited the cohort to women Veterans who used VA healthcare services at least once based upon self-report.

Dependent Variable: Attrition

Women who had ever used VA healthcare services were asked: "Do you still use the VA?" (yes/no). Responses to this question were used to create attriter and non-attriter categories, representing our primary dependent variable. For attriters, we also created a secondary dependent variable for recency of attrition, where we defined recent attriters as those who used VA in 2001 and later, and remote attriters as those who last used VA in approximately 2000 and earlier.

Independent Variables

All variables came from self-report survey data. Characteristics of individuals[21] that we measured were: age, race/ethnicity, marital status, education, employment, insurance status, household income, overall health status, having any diagnosed mental health conditions, and military service period. We assessed military service-connected disability status (yes/no), which is when a Veteran has a medical condition or disability that is determined to be the result of or exacerbated by their military service. Priority for VA enrollment is determined on the basis of military service-connected disability rating, income, recent military service, and other factors, with Veterans in the highest priority groups (groups 1 to 6) having no co-payment for VA care; therefore, we estimated VA enrollment priority group (highest enrollment priority versus not) using those measures.

In terms of patient experiences of VA care, we measured perceptions about VA care (including gender-specific care), VA healthcare use, and reasons for no longer using VA care. We measured perception of VA healthcare quality with the Consumer Assessment of Health Plans Survey (CAHPS) global rating of healthcare, a single-item rating of the quality of care during the past year (range 0 to 10, with 10 being the best healthcare possible).[24,25] We measured other perceptions and attitudes about VA care using 4-point scales of agreement (strongly disagree to strongly agree) with statements about VA providers and care, then dichotomized to agreement versus disagreement.

Characteristics of the healthcare options available to individuals were assessed in the form of reasons for no longer using VA. To collect this information, we provided a list of 19 statements, as well as two open-ended "other" response options, and women could endorse as many

statements as applied to their individual circumstances.

Time since last VA use was measured by asking respondents how long ago they last used the VA. Response options were calendar month and/or year, or a number of months or years ago. Calendar months, calendar years, and number of months were all converted to number of years ago. Number of years since last VA use was grouped into five-year increments.

Statistical Analysis

The analytic sample was comprised of women Veterans who reported any VA use. Our main comparisons are between women Veteran attriters and non-attriters. Our secondary comparisons are between recent attriters and remote attriters. For all analyses, we used chi-square tests for categorical variables and t-tests for continuous measures.

Sampling weights were developed from the inverse of the probabilities of inclusion in the sample. All analyses applied weights to account for disproportional allocation of the population by strata, so that resulting estimates are representative of the U.S. women Veteran population. All analyses were conducted using STATA version 12.[26]

RESULTS

The NSWV enrolled 3,611 women Veterans, of whom 2,691 had used VA at least once and comprised our analytic sample. Of these, 626 (54 % of the weighted VA ever user population) responded they no longer used VA ("attriters"), and 2,065 (46 % of the weighted population) responded that they still used VA ("non-attriters").

Characteristics of Attriters

Characteristics of attriters and non-attriters are given in Table 1. Attriters were more likely than non-attriters to be age 65 or older, to be insured, to have an annual household income of at least $50,000, and to have a service-connected disability. Attriters had better overall health status than non-attriters. Attriters were less likely than non-attriters to have served in OEF/OIF, to have been diagnosed with post-traumatic stress disorder, and to have a history of military sexual assault.

Attriters' Perceptions

As shown in Table 2, attriters perceived VA care less positively than did non-attriters on most dimensions measured. Attriters rated VA healthcare quality lower than non-attriters, with only 17 % of attriters rating VA at the highest level (9–10), versus 43 % of non-attriters. Attriters were less likely to agree that, "In general, healthcare providers at the VA are as good as private healthcare providers," and that, "At the VA you can see the same healthcare provider on most visits." With regard to gender-specific perceptions, attriters were less likely to agree that, "In general, healthcare providers at the VA are skilled in treating women," "In general, healthcare providers at the VA are sensitive to concerns of women patients," "At the VA you may see a female healthcare provider at the VA if you wish," and "As a woman I feel welcome at the VA."

Table 1. Characteristics of Women Veteran Attriters Versus Non-Attriters from Veterans Health Administration (VA) Healthcare Use

	Attriters (n=626)	Non-Attriters (n=2,065)	p value
Age (years), %			0.02
18–44	28.0	28.2	
45–64	23.2	38.1	
≥ 65	48.9	33.7	
Married	51.9	50.6	0.07
Race/ethnicity, %			0.18
Hispanic	7.9	4.6	
Non-Hispanic White	73.9	65.2	
Non-Hispanic Black	12.9	19.2	
Other	5.2	10.9	
BA degree or higher	42.9	40.4	0.68
Employed	34.1	40.5	0.29
Uninsured, %	6.5	35.8	< 0.001
Household income, %			
≤ 100 % Federal Poverty Level	5.4	12.7	0.02
≤ $20 K/year	10.6	24.8	0.001
≤ $30 K/year	26.7	47.0	0.002
≥ $50 K/year	51.0	28.8	< 0.001
Period of military service, %			0.002
All periods prior to Vietnam era	19.8	17.8	
Vietnam era to present, except OEF/OIF	78.1	72.9	
OEF/OIF	2.2	9.3	
Has military service-connected disability	64.1	52.0	0.04
VA enrollment priority group high (priority 1–6)*	20.3	25.1	0.03
Health status fair or poor, %	20.6	36.3	0.007
Diagnosed depression, %	33.4	41.9	0.16
Diagnosed post-traumatic stress disorder, %	6.1	21.0	< 0.001
History of military sexual assault, %	8.6	19.7	0.002

Column headers list unweighted sample size; table percentages and means are weighted population estimates for the U.S. woman veteran population

OEF/OIF Operations Enduring and Iraqi Freedom

**High VA enrollment priority groups (groups 1–6) have no copayment for VA healthcare*

Time Frame for Attrition

Among attriters, time frame since attrition in five-year increments is plotted in Fig. 1. Thirty percent of the attrition was within the past five years, 45 % within the past 10 years, and 54 % within the past 15 years. One-hundred percent of non-attriters had used VA within the past five

Table 2. Perceptions and Attitudes About Veterans Health Administration (VA) by VA Attriter Status

	Attriters (n=626)	Non-Attriters (n=2,065)	p value
Rating of healthcare quality (CAHPS) mean (std dev)*	6.6 (1.3)	7.9 (2.4)	< 0.001
% who endorsed a rating range*, %			< 0.001
1–4	11.9	6.1	
5–6	35.3	12.2	
7–8	35.7	38.8	
9–10	17.2	43.0	
Perceptions			
In general, healthcare providers at the VA are as good as private healthcare providers.†, %	73.4	86.3	0.004
At the VA you can see the same healthcare provider on most visits.†, %	49.8	84.6	< 0.001
In general, healthcare providers at the VA are skilled in treating women.†, %	54.9	77.8	< 0.001
In general, healthcare providers at the VA are sensitive to concerns of women patients.†, %	63.1	81.3	< 0.001
At the VA you may see a female healthcare provider if you wish.†, %	62.4	87.0	< 0.001
As a woman I feel welcome at the VA.†, %	67.0	90.4	< 0.001

Column headers list unweighted sample size; table percentages and means are weighted population estimates for the U.S. woman veteran population

**Consumer Assessment of Health Plans Survey (CAHPS) 0-to-10 scale, where higher numbers are better*

†Agreement with statement = strongly agree or somewhat agree

years (not shown).

Reasons for Attrition

Among attriters, the main reasons for discontinuing VA use are listed in Table 3. These top ten reasons were endorsed by 98.8 % of attriters. Distance from a VA was the most frequently selected reason for discontinuing use, followed by availability of non-VA insurance, perceived higher quality of care outside of VA, and prior negative experience with the VA.

Recent Versus Remote Attriters

Characteristics of recent versus remote attriters are presented in Table 4. Recent attriters were more likely to be younger, racial/ethnic minorities, employed, and Veterans of OEF/OIF, compared with remote attriters. Recent attriters were not more likely to be service-connected or to differ in health status from remote attriters. Recent attriters also were not more likely to have depression, post-traumatic stress disorder (PTSD), or a history of military sexual assault.

Recent attriters did not differ significantly from remote attriters on items related to perceptions of VA in general and VA women's health, with the exception of one item, with remote attriters more likely than recent attriters to agree with the statement, "As a woman I feel welcome at the VA." Recent and remote attriters did not significantly differ in their reasons for discontinuing VA use (not shown).

DISCUSSION

Women Veterans who discontinue using VA differ in important ways from those who continue using VA, supporting our first hypothesis. Attriters seem to be in better health overall and to have stronger enabling circumstances for healthcare access in the private sector (e.g., higher income, less disability). Not surprisingly, attriters had less positive perceptions of VA than non-attriters, with attriters having relatively lower ratings of VA quality (e.g., 47 % of attriters versus 18 % of non-attriters rating quality at 6 or less out of 10) and of gender-specific features of VA care, though approximately two-thirds of attriters still rated the VA favorably on these features.

Our initial interpretation of these differences in perceptions was that they were accounted for by women Veterans

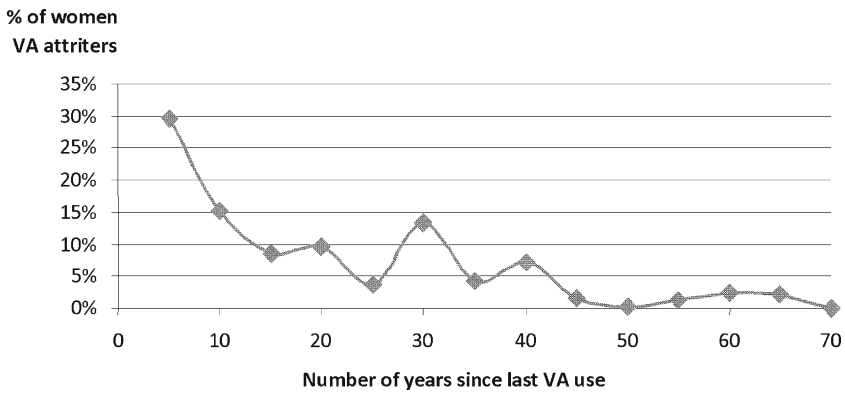

Figure 1. Women Veteran VA attriters by time since last use of VA services (% in 5-year intervals) (n=626).

Table 3. Attriters' Top Ten Reasons for no Longer Using Veterans Health Administration (VA)

	wt % (*n*=626)
The closest VA is too far from your home.	29.6
You got insurance that covers your healthcare outside of the VA.	25.3
The quality of care outside the VA is higher.	10.2
You had a bad experience with the VA in the past.	9.1
You don't think you are eligible (or you are not eligible) for services through the VA.	5.6
It is too difficult to find out about VA healthcare services.	5.4
It is difficult to get an appointment at the VA when needed.	5.2
You are happy with your current healthcare plan/provider.	3.0
The VA does not provide the services that you need.	2.7
VA staff or facilities are not adequate for women.	2.7

who had not experienced the quality transformation in VA health services. However, when we stratified attriters by those whose last visit occurred prior to, versus after, the initiation of the transformation around 2001, our secondary hypothesis was not supported, in that we did not find substantial differences in perceptions, except that remote attriters were more likely to agree that they feel welcome as women at the VA. By virtue of the recency of their last VA use, recent attriters may have had more proximal negative experiences that affected their perception of feeling welcome.

Though thirty percent of VA attrition occurred in the past 5 years, and close to one-half occurred in the past 10 years, we found that a considerable minority of remote attriters last used VA healthcare several decades ago. A limitation of our study is that recollections about the decision to discontinue VA care are subject to recall bias, particularly for remote attriters. Nonetheless, our study provides important baseline data that warrants further investigation. To better characterize reasons for attrition, research should be directed toward characterizing women Veterans' decision-making about discontinuing VA use as soon as they are identified as being lost to VA care. Another limitation of the study is that only about half of all women Veterans were identified for sampling by the National Survey of Women Veterans. This may limit generalizability of the study. However, the women Veterans most likely to be missing from the sampling frame were those who never enrolled in VA health care and those who separated from the military more than 20 years ago.[22] Our analytic sample was comprised of women Veterans who enrolled in VA care and used it at least once.

Access to care by women Veterans is a VA priority. Since attrition is the flip side of access, preventing VA attrition is aligned with key VA priorities. In an era of increased consumer healthcare choice, the VA, like other healthcare institutions, needs to remain a provider of choice. Economies of scale often influence which healthcare services are offered on-site rather than through off-site contracts; therefore, retention of greater numbers of women in VA healthcare could potentially promote expansion of the scope of women's health services delivered on-site at VA facilities. As only 16 % of women Veterans used VA in fiscal year 2009,[27] an understanding of reasons for attrition

Table 4. Characteristics of Women Veteran Recent Versus Remote Attriters from Veterans Health Administration (VA) Healthcare Use

	Recent Attriters (*n*=432)	Remote Attriters (*n*=156)	*p* value
Characteristics			
Age (years), %			< 0.001
18–44	59.4	7.0	
45–64	19.2	28.3	
≥ 65	21.4	64.8	
Married	55.8	47.9	0.49
Race/ethnicity, %			< 0.001
Hispanic	14.3	0.1	
Non-Hispanic White	61.8	82.6	
Non-Hispanic Black	11.8	15.7	
Other	12.1	1.6	
BA degree or higher	39.0	43.8	0.66
Employed	51.5	23.9	0.02
Uninsured, %	13.9	2.43	0.05
Household income, %			
≤ 100 % Federal Poverty Level	3.5	7.1	0.27
≤ $20K/year	8.8	12.5	0.47
≤ $30K/year	34.2	24.6	0.38
≥ $50K/year	42.7	53.1	0.58
Period of military service			0.004
All periods prior to Vietnam era	12.8	25.0	
Vietnam era to present, except OEF/OIF	81.4	75.0	
OEF/OIF	5.8	0.04	
Has military service-connected disability	54.0	66.2	0.27
VA enrollment priority group high (priority 1 – 6)*	21.6	18.0	0.45
Health status fair or poor, %	29.0	16.6	0.19
Diagnosed depression, %	36.5	25.7	0.30
Diagnosed post-traumatic stress disorder, %	7.3	5.6	0.69
History of military sexual assault, %	8.7	8.9	0.96
Perceptions			
Rating of VA healthcare quality, mean (std dev)†	6.4 (1.6)	6.7 (0.97)	0.59
In general, healthcare providers at the VA are as good as private healthcare providers.‡, %	78.2	70.7	0.48
At the VA you can see the same healthcare provider on most visits.‡, %	41.3	58.5	0.17
In general, healthcare providers at the VA are skilled in treating women.‡, %	44.6	65.3	0.07
In general, healthcare providers at the VA are sensitive to concerns of women.‡, %	62.7	67.6	0.68
At the VA you may see a female healthcare provider if you wish.‡, %	70.1	64.6	0.65
As a woman I feel welcome at the VA.‡, %	50.0	73.3	0.04

Column headers list unweighted sample size; table percentages and means are weighted population estimates for the U.S. women veteran population

OEF/OIF Operations Enduring and Iraqi Freedom

**High VA enrollment priority groups (groups 1–6) have no copayment for VA healthcare*

†Consumer Assessment of Health Plans Survey (CAHPS) 0-to-10 scale, where higher numbers are better

‡Agreement with statement = strongly agree or somewhat agree

can inform efforts to re-engage women who have attrited, to retain current users, and even, potentially, to attract new VA patients. At the patient level, increased continuity of care through re-engagement or sustained, continuous engagement in VA care could promote early intervention to avert or reduce late-life diseases and their concomitant adverse effects on healthcare costs and quality of life.[3,28]

While we learned that women who discontinued using VA were, on the whole, physically and socioeconomically healthier than women who continued to use VA, there is some concern in the health services field about the potential consequences of changing healthcare providers. Those who switch providers will experience at least temporary discontinuity of care, which may adversely affect health outcomes and overall healthcare costs.[28,29] Provider discontinuity has been associated with less receipt of preventive services, less medication adherence, increased emergency department visits, hospitalization, specialty provider utilization, as well as increased pharmacy costs.[30–33] Rarely, however, has discontinuity been examined in the context of switching from one healthcare institution to another; this potentially risky transition warrants further investigation. In recent years, VA has created a free, online personal health record for VA users ["My Health*e*Vet"; www.myhealth.va.gov], which also creates a potential portable medical record system that could be used by both VA and non-VA clinical staff to support continuity of care between healthcare systems used by the Veteran. Research is needed on ways to promote its use and effectiveness in minimizing the discontinuity effects of switching healthcare systems.

Some evidence from outside the US suggests that switching healthcare systems generally occurs more often among young and healthy people rather than among elderly or people in bad health.[34] We similarly found that discontinuation of VA health care was more common among healthier individuals. However, our findings differ in that those who discontinued VA care were older. This difference in findings may be due to older Veterans being more likely to become eligible for Medicare. We also found that need characteristics such as mental health status (specifically PTSD) and history of military sexual assault were associated with continuing to use VA. Military sexual assault is associated with significant negative physical and mental health consequences.[2] VA has developed specialized services for these issues (including a Military Sexual Trauma Coordinator at every VA), which may be an important facilitator of VA retention for some women Veterans.[2]

A study of women Veterans initiating VA care in a recent year found that three years later, 30 % of that group no longer used the VA.[3] In contrast, our sampling frame was comprised of women Veterans who had used VA care at least once, and found that 54 % of this group no longer used VA care. Understanding women Veterans' attrition from VA is urgent. Starting in 2014, Medicaid eligibility reform will provide additional options to some women, who may leave VA if services do not meet their expectations or if other available options are more appealing. Furthermore, the largest group of women currently using VA are those 45–64 years old; their ranks have recently swelled with new users.[27] Therefore, over the coming decade, a large wave of women will reach age 65 and become Medicare-eligible. Women who do not see VA as the healthcare provider of choice may choose to leave for private providers, which could reduce the critical mass of women Veterans in VA and affect current system-wide efforts to provide high-quality care for women Veterans.

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