Patient Satisfaction of Female and Male Users of Veterans Health Administration Services

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OBJECTIVE: To compare patient satisfaction of male and female users of Veterans Health Administration (VHA) services.

DESIGN: Cross-sectional study based on secondary analysis of data from VHA's Survey of Healthcare Experiences of Patients (SHEP).

PATIENTS: National random sample of 107,995 outpatients and 112,817 inpatients in FY2004.

MEASURES: Patient's ratings of overall quality (OQ) and unique dimensions of satisfaction. Sociodemographic and health-related patient attributes.

ANALYSIS: Bivariate unadjusted analyses of the association between gender and other patient attributes and the outcomes of OQ and dimensions of satisfaction were conducted followed by multivariate analyses for each outcome, adjusting for demographic and health variables.

RESULTS: Significant differences between female and male reporting of satisfaction were found in the unadjusted analyses with males showing greater levels of satisfaction than females ($P < .05$). These differences disappeared or became smaller for both outpatient and inpatient services, after adjusting for covariates. For 6 of the inpatient dimensions (Transitions, Physical Comfort, Involvement Family and Friends, Courtesy, Coordination, and Access) males had higher satisfaction than females after statistical adjustment.

CONCLUSIONS: After adjustment for patient attributes, female VHA outpatients report similar OQ with VHA services as male patients. The fact that some inpatient dimensions of satisfaction continued to show effects favoring males even after adjustment suggests areas for continued focus in improving health care quality. Covariate adjustment is essential for evaluating satisfaction with health care services. Breaking down overall satisfaction into independent aspects of services is useful. The SHEP survey has provided a useful tool for evaluating and improving satisfaction among its VHA veteran users.

KEY WORDS: patient satisfaction; service quality; gender; veterans.

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Patient satisfaction with inpatient and outpatient treatment has assumed increasing importance as a measure of the quality of care provided by a hospital, provider, or health care system. As a result, increasing attention has been devoted to the identification of demographic influences on rates of satisfaction among health care consumers. A recent literature review and associated reports have reported that age (older respondents being more satisfied), health status (sicker patients being less satisfied), racial/ethnic status (minority respondents being less satisfied), and education (higher education less satisfied) are generally associated with satisfaction.^{1–4}

In contrast, the relation of gender to satisfaction has been less clear. The review cited above,¹ for example, found that of 39 published reports, women were significantly more satisfied in 6 (15.4%); men were significantly more satisfied in 7 (17.9%) and the relationship was not significant in 26 (66.7%) while other reports have also found mixed results.^{5–9} Further complicating the picture of the effect of gender on satisfaction are findings that, where gender differences do exist, they frequently reflect differences in the aspects of care most important to women versus men such as informational content, continuity of care, and multidisciplinary of care.^{10,11}

The Veterans Health Administration (VHA) serves military veterans, the overwhelming majority of whom (over 90%) are men. This situation raises the possibility that satisfaction with care might reflect not only gender but the effect of "minority status" as well as age (women veterans tend to be younger than male veterans). The few studies of satisfaction with health care among VHA patients have found mixed results regarding gender. One inpatient study found a relatively small but statistically significant difference in unadjusted overall satisfaction rates among male veterans compared with female veterans (males reporting greater satisfaction)¹²; a similar finding was reported for satisfaction with outpatient care.¹³ However, in the latter study adjustment for age and a recent physician visit showed women less satisfied with location of care and more satisfied with prescription services. Other VHA studies have found either no gender differences¹⁴ or women veterans having similar ratings of overall satisfaction but with less satisfaction on some related components of care.¹⁵ Finally, 1 report which examined satisfaction limited to women veterans found that women veterans were more satisfied with care provided in specially designated women's clinics when compared with care provided in traditional clinics serving both genders, raising the issue of a possible adverse effect of extreme minority status.¹⁶ However, these latter studies tended to have small sample sizes and to be representative of only 1 or a few treatment settings.

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The present report extends our knowledge of gender-related satisfaction in the VHA in both inpatient and outpatient settings in a large and representative sample of veterans, using both adjusted and unadjusted rates of satisfaction to examine these issues and to identify areas for possible quality improvement in the delivery of VHA health care to women veterans.

METHODS

Design

The research was a cross-sectional study based on secondary analysis of data from a survey regularly mailed by VHA to support quality improvement efforts throughout the organization. The Survey of Healthcare Experiences of Patients (SHEP), managed by the VHA Office of Quality and Performance (OQP), regularly solicits patient responses related to a specific and most recent episode of either outpatient or inpatient care.

This survey uses a stratified random sample without replacement design. A monthly sample frame is derived from VHA national computerized data files that contain information on all discharges and visits within the system. These data are available approximately 2 weeks following the end of each month when the care was delivered. For the outpatient setting, a random sample is selected from the universe of patients who had a visit to a VA clinic in that month. To ensure sufficient representation of primary and specialty care, a fixed number of patients were randomly selected from each of 3 groups: new primary care, established primary care, and specialty care from each VHA clinic nationally ($N=800+$). For the inpatient setting, a random sample is selected of patients who were discharged alive to the community from 6 major VA hospital services including medicine, surgery, psychiatry, rehabilitation, neurology, and spinal cord injury from each VHA inpatient center nationally ($N=158$).

Study Population

For the purpose of this study we created separate de-identified patient-level data files for outpatient and inpatient care. The outpatient population consisted of patients with a visit to VHA outpatient clinics during the month of June 2004. This period was selected because of the implementation of a new sample design that balanced case selection between primary and specialty settings. Outpatient surveys were mailed to 107,995 patients (1,769 or 1.6% were returned undeliverable). The inpatient population consisted of patients discharged from a VHA hospital between October 1, 2003 and June 30, 2004. The inpatient survey was mailed to 112,817 patients (6,716 or 5.9% were returned undeliverable). At the time of this study, these were the most recently available SHEP data for FY 2004.

MEASURES AND ANALYSIS

Patient Satisfaction

Responses to the question "Overall, how would you rate the quality of care you received during the past 2 months?" were used to assess a patient's overall perception of quality of VA care. A 5-point poor-to-excellent scale was recoded as a dichotomous variable that combined poor, fair, and good as "unsatisfied" and very good and excellent as "satisfied." In addition, "dimensions of patient satisfaction" derived from 1 or

more questions in the SHEP survey were calculated including Access, Continuity, Visit Coordination, Courtesy, Education, Emotional Support, Involvement of Family and Friends, Overall Coordination, Pharmacy by Mail, Pharmacy Pickup, Physical Comfort, Patient Preference, Specialist Care, and Transition (from inpatient to outpatient care) (see Appendix A, online, for specific questions that make up each dimension). These dimensions were modeled from instruments first developed by the Picker Institute.¹⁷ Refinements to these instruments were made based on those experiences that veterans themselves identified as the priority components of high-quality medical care in nation-wide focus groups of veteran patients and their families.¹⁸ Most of the dimensions measure the same constructs for both outpatient and inpatient care, although a few are specific to one or the other. Each dimension score represented either a single item (i.e., Continuity, Pharmacy Pickup, and Pharmacy Mail) or a composite of up to 7 questions that were either yes/no or multiple-choice questions. The responses to each question were recoded to indicate whether the patient was or was not satisfied. A final dimension score was the percent of questions within each dimension that indicated that a patient was satisfied. We conducted factor analyses on the dimension scales and found that the Cronbach α ranged for 0.59 to 0.81 for the 9 inpatient dimensions and from 0.35 to 0.89 for the 8 outpatient surveys and there were little differences between males and females (see Appendix B, online).

Patient Attributes

In assessing respondent satisfaction, the following demographic attributes were examined: gender, age, race, Hispanic origin, marital status, education, income, employment, VA eligibility status, Medicare coverage, and other insurance coverage. In addition, we examined the impact on respondent satisfaction of variables specific to patients' health, including self-reported health status, prior VA utilization, discharging bedsection (inpatient survey), reason for admission (inpatient survey), and type of clinic (outpatient survey). All these variables except for self-reported health status and reason for admission were obtained from VA administrative data files and linked to the SHEP database.

Analysis

Descriptive statistics were calculated to characterize demographic and health-related attributes by gender. As appropriate, χ^2 - or t test analysis was used to test the association between patient attributes and the unadjusted scores for overall quality (OQ) and each dimension of patient satisfaction by gender. We report the results of these analyses only for OQ as they are consistent with the associations between patient attributes and the other dimensions of satisfaction. Statistical differences for unadjusted means were evaluated using 2-sided significance tests at the .05 level. The product of sample weights (the ratio of the number of patients available in a particular subgroup at a particular site to the number selected in that sub-group) and nonresponse weights (which accounts for response propensities for age, gender, number of patients per site, and seen in primary care setting) are applied for all percents and scores. Therefore, results presented here represent population (not sample) estimates.

Multiple regression analyses controlling for demographic and health-related characteristics were used to determine gender-specific adjusted scores. A separate model was run for each outcome (i.e., OQ and each dimension of patient satisfaction) in the outpatient and inpatient populations. Logistic regression was used for dichotomous outcomes (e.g., OQ) and linear regression for composite scores (e.g., access dimension score). All attributes that were statistically significant in the bivariate tests ($P < .001$) and varied in distribution between males and females were included in the models. As preliminary results indicated that satisfaction scores by gender were not uniform within age stratum, a gender $\times$ categorical age interaction term was also included in the models. Covariate adjustment is achieved by substituting the grand means of the covariates (age, health, etc.) into the equation added to the parameter associated with gender. For continuous variables, covariate-adjusted means and their standard errors were obtained through SUDAAN PROC REGRESS with LSMEANS option (Research Triangle Institute Inc., 2001). Logistic regression analysis was used to adjust dichotomous measures using SUDAAN PROC RLOGIST and a CONDMARG (conditional marginal) statement that produces results similar to those of the LSMEANS statement. Statistical differences for adjusted means were evaluated using 2-sided significance tests at the .05 level with Bonferroni's correction for multiple comparisons. The results of the models for OQ are presented but only the adjusted means from the models are reported for the dimensions of satisfaction.

RESULTS

Response Rates

The outpatient response rate was 70.3% ($n=74,662$) and the inpatient response rate was 55.5% ($n=58,900$). Males had higher response rates in both the outpatient sample (males=71.0%; females=54.6%) and inpatient sample (males=55.8%; females=50.5%). Younger outpatients and inpatients, both male and female, were less likely to respond than older patients. Among outpatients, those younger than age 50 had the lowest response rate (40.4%), while outpatients age 66–80 had the highest response rate (82.9%). Among inpatients, those younger than age 50 also had the lowest response rate (36.1%), with those age 66–80 responding at a rate of 56.3%.

Patient Demographic and Health Attributes by Gender

Table 1 displays attributes of responders to the outpatient and inpatient surveys by gender. Females comprised 3.6% of outpatient and 4.6% of inpatient responders. Regardless of gender VA inpatient users were older, more likely to be black, to report worse health status, to be unmarried, to have less income, more prior utilization, and to be income-eligible for VA services compared with outpatients. Gender specific analyses reveal striking age differences within both the outpatient and inpatient samples where females were consistently younger than males. In the outpatient population, females also were more likely to describe themselves as black; were more educated; had a higher income; were more likely to be employed and to have a "service-connected" priority status; and more frequently used VA services in the prior year. Males were more likely to

Table 1. Patient Attributes by Gender

Patient Attributes	Outpatient Population		Inpatient Population	
	Females (%)	Males (%)	Females (%)	Males (%)
N (%)	2,655 (3.6)	72,007 (96.4)	2,589 (4.6)	56,311 (55.4)
Age (y)				
< 50	43	8	49	13
51–65	35	36	33	42
66–80	13	44	12	34
> 80	9	13	6	10
Race				
White	75	85	73	80
Black	18	12	20	16
Other	7	4	7	4
Ethnicity				
Non-Hispanic	94	94	93	94
Hispanic	7	6	7	6
Marital status				
Married	42	66	36	53
Divorced/widowed	39	25	42	34
Other	19	10	22	13
Education				
High school	25	52	28	57
Some college	41	30	45	30
College or beyond	33	18	27	13
Income (k)				
< 30	72	75	77	84
30–60	21	19	18	13
> 60	8	6	5	3
Employment				
Wages/self-employed	33	20	22	14
Other	67	80	78	86
Prior VA utilization				
Low	13	13	12	9
Medium	38	41	21	26
High	49	46	67	66
Priority status				
Service-connected	47	36	47	36
Income eligible	40	41	46	55
Co-pay	14	23	7	9
Health status				
Fair/poor	38	45	47	55
G/VG/Exc	62	55	53	45
Type of care				
Primary care	34	36	NA	NA
Specialty	66	64	NA	NA
Discharging service				
Medicine	NA	NA	45	62
Surgery	NA	NA	30	23
Psychiatry	NA	NA	20	11
Rehabilitation, neurology, and spinal cord injury	NA	NA	5	4
Medicare				
Yes	32.6	65.6	33.3	56.2
No	67.5	34.4	66.6	43.8
Other insurance				
Yes	31.0	40.7	20.1	19.2
No	69.0	59.3	79.9	80.1
Reason for admission				
Emergency	NA	NA	65.1	68.7
Planned	NA	NA	34.5	31.3

All results include sample and nonresponse weighting and report population not sample estimates. Gender differences were statistically significant ($P < .0001$) for all patient attributes in both outpatient and inpatient groups except for ethnicity.

Prior VA utilization based on number of outpatient visits in prior year broken into quartiles (low, lower quartile, medium, middle quartiles, high, upper quartile).

NA, not applicable; G, good; VG, very good, Exc, excellent.

be married, to have worse health status, i.e., fair/poor, and were more likely to be established primary care clinic users, and to be insured either by Medicare and/or by other insurers. In the inpatient population the same gender differences held true except for other insurance where there were no differences. In addition, both males and females were more likely to be discharged from the medical service but a higher proportion of females were discharged from the psychiatric service. Moreover, males were somewhat more likely to be admitted as an emergency than females.

Bivariate Results for Satisfaction with Overall Quality

Unadjusted OQ mean score was significantly associated ($P < .0001$) with all patient attributes in the outpatient and inpatient populations (Table 2). The significant associations also held within gender stratum except for ethnicity or employment (female outpatient) and income or employment (female inpatient).

Multivariate Results for Overall Quality

Unadjusted and adjusted mean scores for OQ are found in Table 3 (outpatient) and Table 4 (inpatient). In both care settings unadjusted OQ was significantly higher for males compared with females but not different after adjustment for patient attributes. Table 5 provides β estimates for covariates included in the inpatient and outpatient OQ models.

Multivariate Results for Dimensions of Satisfaction

Unadjusted mean scores for the outpatient dimensions of satisfaction (Table 3) were significantly higher for males compared with females except for preferences (no differences). After adjustment there were no significant gender differences in dimensions of patient satisfaction except for Continuity, which was significantly higher for females versus males (85% vs 78%).

Unadjusted mean scores for the inpatient dimensions of satisfaction (Table 4) were significantly higher for males except for Preferences, which did not differ by gender. After adjustment no gender differences in adjusted scores were found for the following dimensions of satisfaction: Preference, Education/information, and Emotional Support. Adjusted scores significantly higher for inpatient males included Transitions, Physical Comfort, Involvement of Family and Friends, Courtesy, Coordination, and Access.

DISCUSSION

The VA is a model system that actively measures both the clinical and patient-centered quality of care of its user population.¹⁹ A recent report in this journal found that although women constitute a small percentage of the user population, the quality of ambulatory care is equivalent for women and men on numerous clinical measures.²⁰ Patient satisfaction is an explicit patient-centered goal of the VA and our study shows that after adjustment for patient attributes, females report similar scores as males on most dimensions of outpatient satisfaction.

This study found that adjusting for demographic characteristics was essential to studying gender differences in satis-

Table 2. Overall Quality by Attributes and Gender

Patient Attributes	Outpatient		Inpatient	
	Female (%)	Male (%)	Female (%)	Male (%)
Age (y)				
<50	63	65	64	67
51–65	74	74	75	75
66–80	80	79	82	78
>80	84	76	78	73
Race				
White	75	78	72	76
Black	63	67	67	69
Other	58	68	68	71
Ethnicity				
Non-Hispanic	71	77	70	75
Hispanic	74	70	80	72
Marital status				
Married	72	77	72	75
Divorced/widowed	71	74	72	74
Other	69	71	64	72
Education				
High school	77	75	75	74
Some college	70	75	68	75
College or beyond	69	79	69	76
Income (k)				
<30	69	75	70	75
30–60	76	79	71	76
>60	80	85	74	79
Employment				
Wages/self-employed	72	77	70	74
Other	71	76	72	80
Prior VA utilization				
Low	76	81	78	75
Medium	72	77	74	76
High	69	74	68	74
Priority status				
Service-connected	65	73	63	71
Income-eligible	74	75	73	75
Co-pay	81	82	81	81
Health status				
Fair/poor	63	68	60	65
G/VG/Exc	76	83	80	85
Type of care				
Primary care	70	75	NA	NA
Specialty	71	78	NA	NA
Discharging service				
Medicine	NA	NA	72	75
Surgery	NA	NA	76	79
Psychiatry	NA	NA	57	65
Rehabilitation, neurology, and spinal cord injury	NA	NA	75	71
Medicare				
Yes	79	78	72	75
No	67	73	70	74
Other insurance				
Yes	76	80	74	76
No	70	74	70	74
Reason for admission				
Emergency	NA	NA	67	73
Planned	NA	NA	78	78

All results include sample and nonresponse weighting and report population not sample estimates. Differences in overall quality scores by gender were statistically significant ($P < .0001$) for all patient attributes in both outpatient and inpatient groups. The same level of significance was found within age stratum except for ethnicity or employment (female outpatients) and income or employment (female inpatients). Overall quality—percent patients rating quality of care received in the past 2 months as very good or excellent. Prior VA utilization based on number of outpatient visits in prior year broken into quartiles (low, lower quartile; medium, middle quartiles; high, upper quartile). NA, not applicable; G, good; VG, very good; Exc, excellent.

Table 3. Outpatient Unadjusted and Adjusted Mean Scores for Overall Quality and Dimensions of Satisfaction by Gender

Outcomes	Unadjusted Scores		Adjusted Scores*		P Values for Differences by Gender	
	Males	Females	Males	Females	Unadjusted	Adjusted†
Overall quality	76	71	77	79	.0001	.4984
Emotional support	84	82	84	84	.0001	.8615
Preferences	81	80	81	82	.0918	.5810
Pharmacy pickup	62	55	64	59	.0001	.2453
Pharmacy mail	80	77	82	84	.0033	.3261
Specialist care	78	74	78	79	.0001	.6666
Visit coordination	84	81	84	83	.0001	.5063
Overall coordination	74	68	74	72	.0001	.1541
Education and information	72	69	72	74	.0011	.0997
Courtesy	95	93	95	95	.0001	.5970
Continuity	77	80	78	85	.0005	.0003
Access	79	76	80	81	.0001	.1862

*Adjusted mean scores derived from regression models using covariates found in Table 1.

†Using Bonferroni's adjustment for multiple comparisons the critical value for a $P < .05$ significance level is $= .0042$.

All results include sample and nonresponse weighting and therefore report population (not sample) estimates.

faction with VA care. Bivariate analyses confirmed significant gender differences in a wide range of demographic and health status attributes, most of which were significantly related to satisfaction scores. Our unadjusted findings indicated that men were significantly more satisfied on all satisfaction dimensions for both inpatients and outpatients. After adjustment for these attributes, most of these gender-related differences in satisfaction disappeared or became smaller. The attributes most prevalent in females that resulted in more favorable adjusted satisfaction scores were younger age, service connected status, being black, and discharged from psychiatry bedsection. These attributes were associated with lower satisfaction, particularly age, where over 40% of female veterans are under age 50 compared with approximately 8% of males. In contrast, the greater prevalence of better health status among females (significantly associated with higher satisfaction) resulted in less favorable adjusted satisfaction scores in women compared with men. The net effect of all the covariates substantially altered the unadjusted satisfaction scores.

Our finding that ratings of satisfaction were higher for veterans receiving outpatient versus inpatient care on similar measures of satisfaction for both genders may be due to the different nature and quality of services provided in these care settings and/or the differences in the demographic and health-

related characteristics of the user populations. Not surprisingly, hospitalized patients were older and sicker than outpatient users. Inpatients also differed significantly on other important sociodemographic attributes such as race, income, employment status, marital status, and VHA priority status. Many of these attributes were associated with OQ and other dimensions of satisfaction, which could partly explain higher satisfaction scores reported by outpatients.

Another contrast between inpatient and outpatient findings was the fact that, after adjustment, among outpatients there was only 1 significant gender-related difference (Continuity of Care) (women were more satisfied than men). In contrast, for inpatients even after adjustment, scores for 6 dimensions of satisfaction (Transition, Physical Comfort, Involvement of Family and Friends, Courtesy, Coordination, and Access) remained significantly higher among men. While the absolute magnitude of these differences was approximately 4% or less, these findings need to be further examined to determine whether they reflect a true gender difference in quality of care received or are more related to the perception of care among women in the gender minority on inpatient units. It may be, for example, that the outpatient setting is less conducive to the perception of being in the minority, especially as many VHA facilities have provided outpatient care in special-

Table 4. Inpatient Unadjusted and Adjusted Mean Scores for Overall Quality and Dimensions of Satisfaction by Gender

Outcomes	Unadjusted Scores		Adjusted Scores*		P Values for Differences by Gender	
	Males	Females	Males	Females	Unadjusted	Adjusted†
Overall quality	74	71	77	75	.0001	.2273
Transition	68	63	68	65	.0001	.0009
Preferences	72	71	72	74	.1958	.0368
Physical comfort	82	77	82	80	.0001	.0003
Education and information	65	63	65	66	.0005	.6311
Involvement family and friends	74	71	74	72	.0001	.0024
Emotional support	63	58	63	61	.0001	.0621
Courtesy	88	85	88	86	.0001	.0001
Coordination	77	72	77	74	.0001	.0000
Access	79	74	80	76	.0001	.0000

*Adjusted mean scores derived from regression models using covariates found in Table 1.

†Using Bonferroni's adjustment for multiple comparisons the critical value for a $P < .05$ significance level is $= .005$.

All results include sample and nonresponse weighting and therefore report population (not sample) estimates.

Table 5. Beta Estimates for Inpatient and Outpatient Overall Quality Regression Models

Variables	β Estimate	
	Inpatient	Outpatient
Intercept	0.2712*	0.1371*
Females	−0.1100 [†]	−0.1067*
Age (y)		
50–65	0.3893*	0.4191*
66–80	0.5243*	0.5079*
> 80	0.3549*	0.4008*
Race		
Black	−0.2959*	−0.3883*
Other	−0.2959*	−0.3497*
Health status G/VG/Exc	1.1079*	0.7215*
Priority status	0.1531*	0.1458*
Income eligible Co-pay	0.1807*	0.2057*
Some college	0.0359	−0.0144
College and beyond	−0.0328	0.0476
Married	0.0774 [†]	0.0887
Divorced/widowed	0.0152 [†]	0.0552
Medicare coverage	−0.0776*	0.0480
Primary care	NA	0.0930 [†]
Bedsection		
Other	−0.1456*	NA
Psychiatry	−0.3872*	NA
Surgery	0.0198	NA
Income (k)		
k30 to 60	0.0852*	0.1774*
> 60	0.0453	0.4189*
Employed	0.0388	−0.0302

Reference groups are males, age ≤ 50 , white, fair/poor health status, service connected, high school education, not married or divorced/widowed, not Medicare, specialist outpatient clinic. Medicine bedsection, income < \$30, and not employed.

*Statistically significant at .001.

[†]Statistically significant at .01.

[‡]Statistically significant at .05.

NA, not applicable; G, good; VG, very good, Exc, excellent.

ized women's clinics, which an earlier study found to be preferable to women than standard clinic care.²¹ In contrast, virtually all VHA inpatient units are of mixed gender, with women comprising a small proportion of the patients on any unit. In such a situation, the experience of being in the minority may be much more apparent and may affect ratings of satisfaction. In addition, as noted in earlier reports,^{10,11} these findings may reflect differences in the relative importance attached to these dimensions of care by men versus women.

Many of the demographic covariates (e.g., age, race, income, and education) used in this study have been shown to be associated with patient satisfaction in other studies.^{17,22,23} Other studies have demonstrated the important link between satisfaction and health status.^{24–26} In this study, we identified additional health-related factors in both outpatient and inpatient populations that are associated with satisfaction such as type of outpatient care, discharging hospital service, prior utilization, and insurance coverage. These findings suggest that future studies of satisfaction may need to adjust for a broader range of variables rather than the relatively narrow range of such variables used in past studies.

A limitation of this study is that it does not include facility or organizational characteristics known to influence patient satisfaction such as facility size, location, and organizational culture.²⁸ The extent to which these characteristics mediate the effect of gender on satisfaction is unknown and should be

the subject of additional research. Because of the disproportionate low number of women served by the VHA, our findings may not be generalizable to nonveteran populations. Survey of Healthcare Experiences of Patients is also different from other national surveys such as Consumer Assessment of Health Plan Study (CAHPS).⁴ The latter targets enrolled populations rather than users of health care. In addition, the findings of this study are based on patient's perceptions of quality, not technical quality. An important next step is to compare patients' rating of quality with clinical measures of quality to determine the extent to which satisfaction scores are associated with the actual quality of care or provide a unique patient-centered rating of care.

The views expressed in this article are those of the authors and do not necessarily represent the views of the Department of Veterans Affairs.

REFERENCES

1. Crow R, Gage H, Hampson S, et al. The measurement of satisfaction with healthcare: implications for practice from a systematic review of the literature. *Health Technol Assessment*. 2002;32:45–51.
2. Weech-Maldonado R, Morales LS, Elliott M, Spritzer K, Marshall G, Hays RD. Race/ethnicity, language, and patients' assessments of care in Medicaid managed care. *Health Serv Res*. 2003;38:789–808.
3. Campbell JL, Ramsay J, Green J. Age, gender, socioeconomic, and ethnic differences in patients' assessments of primary care. *Qual Health Care*. 2001;10:90–5.
4. Zaslavsky AM, Zaborski AB, Shaul DL, Cioffi MJ, Cleary PD. Adjusting performance measures to ensure equitable plan comparisons. *Health Care Financing Rev*. 2001;22:109–26.
5. Sargeant A, Kaehler J. Factors of patient satisfaction with medical services: the case of G.P. practices in the U.K. *Health Mark Q*. 1998;16:55–77.
6. Weisman CS, Henderson JT, Schiffrin E, Romans M, Clancy CM. Gender and patient satisfaction in managed care plans: analysis of the 1999 HEDIS/CAHPS 2.0 H Adult Survey. *Womens Health Issues*. 2001;11:401–15.
7. Rahmqvist M. Patient satisfaction in relation to age, health status and other background factors: a model for comparisons of care visits. *Int J Qual Health Care*. 2001;13:385–90.
8. Blenkiron P, Hammill CA. What determines patients' satisfaction with their mental health care and quality of life? *Postgrad Med J*. 2003;79:337–40.
9. Willits FK, Crider DM. Health rating and life satisfaction in the later middle years. *J Gerontol*. 1988;43:S172–6.
10. Weisman CS, Rich DE, Rogers J, Crawford KG, Grayson CE, Henderson JT. Gender and patient satisfaction with primary care: tuning in to women in quality measurement. *Womens Health Gend Based Med*. 2000;9:657–65.
11. Foss C. Gender bias in nursing care? Gender related differences in patient satisfaction with the quality of nursing care. *Scand J Caring Sci*. 2002;16:19–26.
12. Hoff RA, Rosenheck RA, Meterko M, Wilson NJ. Mental illness as a predictor of satisfaction with inpatient care at Veterans Affairs hospitals. *Psych Serv*. 1999;50:680–5.
13. Kressin NR, Skinner K, Sullivan L, et al. Patient satisfaction with the Department of Veterans Affairs Health Care: do women differ from men? *Mil Med*. 1999;164:283–8.
14. Turpin RS, Darcy LA, Weaver FM, Kruse K. Assessing health care delivery to male versus female veterans. *Women Health*. 1992;18:81–95.
15. Rothman GH. Needs of female patients in a veterans psychiatric hospital. *Soc Work*. 1984;29:380–5.
16. Bean-Mayberry BA, Chang C-CH, McNeil MA, Whittle J, Hayes PM, Scholle SH. Patient satisfaction in women's clinics versus traditional primary care clinics in the Veterans Health Administration. *J Gen Intern Med*. 2003;18:175–81.
17. Cleary PD, Edgman-Levitan S, Roberts M, et al. Patients evaluate their hospital care: a national survey. *Health Affairs*. 1991;10:254–67.

18. **Young GJ, Charns MP, Barbour GL.** Quality improvement in the US Veterans Health Administration. *International Journal for Quality in Health Care.* 1997;9:183-8.
19. **Perlin JP, Kolodner RM, Roswell RH.** The Veterans Health Administration: quality, value, accountability, and information as transforming strategies for patient-centered care. *Am J Manage Care.* 2004;10: 828-36.
20. **Jha AK, Perlin JB, Steinman MA, Peabody JW, Ayanian JZ.** Quality of ambulatory care for women and men in the Veterans Affairs health care system. *J Gen Intern Med.* 2005;20:762-5.
21. **Yano EM, Washington DL, Goldzweig C, Caffrey C, Turner C.** The organization and delivery of women's health care in Department of Veterans Affairs medical center. *Women's Health Issues.* 2003;13:55-61.
22. **Cleary PD, McNeil BJ.** Patient satisfaction as an indicator of quality care. *Inquiry.* 1988;25:25-36.
23. **Hall JA, Dornam MC.** Patient sociodemographic characteristics as predictors of satisfaction and medical care: a meta-analysis. *Soc Sci Med.* 1990;30:811-8.
24. **Ren XS, Kazis L, Lee A, Rogers W, Pendergrass S.** Health status and satisfaction with health care: a longitudinal study among patients served by the Veterans Health Administration. *Am J Med Qual.* 2001;16: 166-73.
25. **Kerr EA, Smith DM, Kaplan SH, Hayward RA.** The association between three different measures of health status and satisfaction among patients with diabetes. *Med Care Res Rev.* 2003;60:158-77.
26. **Covinsky KE, Rosenthal GE, Chren MM, et al.** The relationship between health status changes and patient satisfaction in older hospitalized medical patient. *J Gen Intern Med.* 1998;13:223-9.
27. **Young GJ, Meterko M, Desai KR.** Patient satisfaction with hospital care: effects of demographic and institutional characteristics. *Med Care.* 2000;38:325-34.
28. **Meterko M, Mohr DC, Young GJ.** Teamwork culture and patient satisfaction in hospitals. *Med Care.* 2004;42:492-8.

Supplementary Material

The following supplementary material is available for this article online at www.blackwell-synergy.com

Appendix A. Dimensions of Inpatient and Outpatient Satisfaction. Individual Questions That Comprise Each Dimension.

Appendix B. Cronbach Alphas for FY04 SHEP Inpatient and Outpatient Dimensions by Gender.

Voices of Women Veterans (continued)

VETERAN IDENTITY

"I stayed in the Navy for 24 years. Initially, women were not allowed to pursue certain career fields, but the Navy fixed the situation and women were allowed in almost all fields - except for the sub service and SEALs. I'm proud to be a veteran. I found that I have had a hard time dealing with people who don't have the same sense of discipline I do."

"You had to be aware of everything around you. It's hard sometimes when you are trying to find work and someplace don't look at you being a vet. It's what experience you have. It's hard for me to get health care due that I'm not working and that I've put applications everywhere and still nothing. And with what I'm getting from the government, my retirement pay, and disability pay makes things hard due to paying rent, gas, electric, phone, and other things leaves you with nothing."