

Dual Use of VA and Non-VA Primary Care

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OBJECTIVE: To determine how frequently veterans use non-Department of Veterans Affairs (VA) sources of care in addition to primary care provided by the VA and to assess the association of this pattern of "dual use" to patient characteristics and satisfaction with VA care.

DESIGN: Cross-sectional telephone survey of randomly selected patients from four VA medical centers.

PARTICIPANTS: Of 1,240 eligible veterans, 830 (67%) participated in the survey.

MEASUREMENTS AND MAIN RESULTS: Survey data were used to assess whether a veteran reported receiving primary care from both VA and non-VA sources of care, as well as the proportion of all primary care visits made to non-VA providers. Of 577 veterans who reported VA primary care visits, 159 (28%) also reported non-VA primary care visits. Among these dual users the mean proportion of non-VA primary care visits was 0.50. Multivariate analysis revealed that the odds of dual use were reduced for those without insurance (odds ratio [OR] 0.34; 95% confidence interval [CI] 0.18, 0.66) and with less education (OR 0.60; 95% CI 0.38, 0.92), while increased for those not satisfied with VA care (OR 2.40; 95% CI 1.40, 4.13). Among primary care dual users, the proportion of primary care visits made to non-VA providers was decreased for patients with heart disease ($p < .05$) and patients with alcohol or drug dependence ($p < .05$).

CONCLUSIONS: Primary care dual use was common among these veterans. Those with more education, those with any type of insurance, and those not satisfied with VA care were more likely to be dual users. Non-VA care accounted for approximately half of dual users' total primary care visits.

KEY WORDS: veterans; primary care; patient satisfaction; health services research; utilization.

J GEN INTERN MED 1999;14:274-280.

Many veterans who obtain health care through the Department of Veterans Affairs (VA) also utilize other sources of health care. Such "dual use" of VA and non-VA care may enhance access, flexibility, and choice in health care for veterans. Alternatively, dual use can potentially lead to fragmented care that conflicts with the objectives of current VA reforms, such as the expansion of the primary care model.¹ Cardinal objectives of primary care such as comprehensiveness and continuity are difficult to achieve for patients who receive care from multiple providers.² Moreover, some have contended that dual use limits the VA's ability to control costs and manage patients' care in a manner consistent with principles of managed care.³

Veterans' eligibility for both VA and Medicare services often gives rise to dual use. In 1989, 45% of all VA users and 89% of VA users aged 65 years and older were en-

rolled in Medicare.⁴ Studies of dual use have focused largely on use of Medicare services by VA users, primarily assessing utilization of inpatient care in both systems. Fleming et al. found that among veterans with prior VA hospitalizations for any condition, rates of Medicare hospitalization during the mid 1980s for 10 surgical procedures, hip fracture, and acute myocardial infarction ranged between 17% and 37%.⁵ Wright et al. recently reported that among all users of VA inpatient or outpatient care nationally, 54% of those subsequently hospitalized for acute myocardial infarction were admitted to Medicare hospitals.⁶ Another study demonstrated that between 1988 and 1991, among all VA inpatients, 13% had at least one Medicare admission for any diagnosis.⁷ Receipt of inpatient VA care by veterans enrolled in Medicare HMOs has also been documented.^{8,9}

Much less is known about dual use of outpatient care. The only claims-based study of dual use that addressed Medicare outpatient care was reported by Fisher and Welch, who estimated that during 1989, 22% of VA users (inpatient or outpatient) received inpatient or outpatient Medicare services.³ Other estimates of VA patients' use of outpatient non-VA care come primarily from analysis of survey data. Cowper et al. analyzed the 1987 Survey of Veterans and reported that 22.8% of VA users aged 65 years and older also received outpatient care from a non-VA source.¹⁰ Other survey data are consistent with this estimate of the magnitude of non-VA outpatient care received by VA users.¹¹ Other reports indicate that 28% of male Medicare beneficiaries who made outpatient visits to the Miami VA Medical Center in 1992 and 1993 were enrolled in Medicare HMOs.⁹

The characteristics of veterans who use VA rather than non-VA services include older age, lower income and educational attainment, lack of health insurance, and greater burden of illness.¹²⁻¹⁷ However, the characteristics that distinguish veterans who receive care in both systems from those who rely solely on VA care are not well

Received from the VAMC Center for Chronic Disease Outcomes Research, Minneapolis, Minn (SJB), and the Midwest Center for Health Services and Policy Research, HSR&D Field Program, Edward Hines Jr. Veterans Affairs Hospital, Hines, Ill (DCC).

Presented at the 15th Annual VA HSR&D Service Meeting, Washington, DC, February 14, 1997. Dr. Borowsky is a VA HSR&D Career Development Award Recipient. Ms. Cowper is the Co-director of the VA Information Resource Center (VIREC).

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described, nor has the effect of veterans' satisfaction with VA care on dual use been explored.

The focus on this article is dual use of primary care, which we define as the receipt of primary care services from both VA and non-VA sources. The objectives of this study were to determine the prevalence of primary care dual use, to determine among dual users the proportion of all primary care visits made to non-VA providers, and to assess the impact of patient characteristics and satisfaction with VA care on primary care dual use.

METHODS

We analyzed data from a telephone survey conducted in 1994–95 by the VA Medical Centers in Minneapolis and St. Cloud, Minn, Fargo, ND, and Sioux Falls, SD, to assess veterans' utilization patterns and preferences for care. The 30-minute survey was administered by Westat Inc (Rockville, Md).

Sample

The sampling frame was created by identifying, in administrative databases, all Minnesota residents who received inpatient or outpatient care at the Minneapolis, St. Cloud, Fargo, or Sioux Falls VA Medical Centers between October 1993 and September 1994. Duplicates were reduced to a single record for each veteran by using the most recent record, resulting in 37,566 eligible veterans. A systematic random sample of 1,240 veterans was selected, of whom 830 (67%) completed the telephone survey. We limited the analysis in this report to the 577 respondents who reported at least one visit to a VA primary care provider.

Survey Measures

Classification of veterans as dual users and determination of the proportion of primary care visits made to non-VA providers were based on the number of "primary care or regular doctor" visits reported for the prior 12 months. Respondents reported the total number of such primary care visits (VA or non-VA) and the number specifically at VA facilities.

The survey included questions concerning demographic characteristics, general health perceptions, medical conditions, and satisfaction with VA care. Satisfaction with VA care was assessed with items modified from existing instruments or newly developed for this survey.¹⁸ Each was rated from 1 to 5 using the following scale: very satisfied, somewhat satisfied, no opinion/don't know, somewhat dissatisfied, or very dissatisfied.

Definitions of Primary Care Dual Use

We defined *primary care dual use* as "receipt of primary care within the past year from both VA and non-VA

providers." We operationalized this definition by comparing the total number of reported visits to a "primary care or regular doctor" to the number of such visits with VA providers. Veterans for whom total primary care visits exceeded VA primary care visits were classified as primary care dual users.

Data Analysis

Our analysis focused on two dependent variables. The first, whether or not a veteran was a primary care dual user, was available for 566 of the 577 veterans reporting any VA primary care. The second dependent variable was the proportion of all primary care visits made to non-VA physicians. This variable was analyzed for the subset of 159 veterans who were primary care dual users. We used the difference between total primary care visits and VA primary care visits to represent the number of non-VA primary care visits.

We assessed the association of patient characteristics and satisfaction with care with each of these dependent variables using bivariate and multivariate analysis. A logistic regression model was used to assess predictors of dual use, and a linear regression model was used to analyze predictors of the proportion of visits made by dual users to non-VA physicians.

The following independent variables were included in both regression models: age (years of age at the time of the survey), income (annual income greater than or equal to \$20,000 vs less than \$20,000), education (high school education or less vs higher level of education), marital status (married vs not married), insurance coverage (any insurance including Medicare/Medicaid vs no insurance), service-connected status, travel time to VA medical center (60 minutes or less vs more than 60 minutes), self-perceived health status (poor vs fair, good, or excellent), number of medical problems (0–1 vs 2–3 vs 4 or more), number of primary care visits to either VA or non-VA providers, diabetes (yes/no), heart disease (yes/no), cancer (yes/no), and drug or alcohol abuse (yes/no).

We created a scale for satisfaction with care from 12 survey items relevant to satisfaction with VA primary care. Factor analysis indicated these 12 items represented a single construct. The mean for the 12 satisfaction items was computed and used to classify respondents as either satisfied (mean ≤ 2) or not satisfied (mean > 2). A cutoff value of 2 was chosen as it corresponds to a rating of "somewhat satisfied." This classification was represented by a dichotomous variable in both regression models. Satisfaction items addressed the following: length of time to get clinic appointments, convenience of clinic appointments, clinic office waiting time, accuracy of diagnoses, adequacy of explanations of illness and treatment, courtesy and compassion of medical staff, courtesy and compassion of nonmedical staff, amount of time spent with physician, adequacy of physician communication, length of travel time to VA, pharmacy services, and assistance

with paperwork. All data analysis was conducted using SAS version 6.12 (SAS Institute, Cary, NC).

RESULTS

Characteristics of Sample

The characteristics of the 577 veterans who reported at least one primary care visit to a VA facility are given in Table 1. The mean age was 62.5 years; 97% were male, and 96% were white. Fifty-nine percent were service-connected, 40% had completed education beyond a high school degree, 25% reported annual income greater than \$20,000, and 76% reported some kind of private or public health insurance. Forty-six percent reported their travel time to the nearest VA facility was less than 60 minutes. With regard to VA facility use during the preceding 12 months, 63% of this sample reported exclusive use of the Minneapolis VA Medical Center; St. Cloud and Fargo were each used by 10%; 2% used Sioux Falls; and 14% used two or more of these facilities.

Primary Care Dual Use

Twenty-eight percent of VA primary care users reported non-VA primary care visits ($n = 159$). Among dual users, the mean proportion of all primary care visits made to non-VA providers was 0.50 (range 0.04–0.92). The mean number of non-VA primary care visits was 4.2 (range 1–30) during the prior 12 months.

Bivariate Analysis

Patient Characteristics. Table 2 shows the bivariate relation between patient characteristics and the two dependent variables: percentage of patients reporting dual use and the proportion of primary care visits made outside VA facilities by dual users. The percentage of patients report-

ing dual use was significantly higher for service-connected veterans (32.6% vs 22.7% of non-service-connected veterans; $p < .05$). Similarly, those veterans with more education, higher income, and any type of public or private health insurance were more likely to report both VA and non-VA primary care visits. There was also a trend toward more dual use among veterans living within 60 minutes of a VA facility, which may reflect greater availability of alternatives to VA care in urban areas.

On bivariate analysis of the 159 veterans who reported dual use, the proportion of primary care visits made to non-VA providers was higher among patients with annual income exceeding \$20,000 (0.55 vs 0.48 among those with annual income not exceeding \$20,000; $p < .05$). The proportion also varied by health status, with those reporting poor health reporting the highest proportion of non-VA primary care visits (0.60 vs 0.46 for fair health; $p < .05$). Patients with a history of drug or alcohol dependence reported a lower proportion of non-VA primary care than those without these conditions (0.37 vs 0.51; $p < .05$).

Patient Satisfaction with Care. The bivariate relation between level of satisfaction with care and the percentage of patients reporting primary care dual use is shown in Table 3 for 9 of the 12 satisfaction items. Dual use was significantly inversely related to satisfaction ($p < .05$) for six of the items in Table 3 and for another item not shown (satisfaction with assistance in completing paperwork). For example, among those very satisfied with the length of time to get an appointment in the clinic, 22.3% reported dual use in contrast to 51.4% among those very dissatisfied.

Multivariate Analysis

Table 4 shows results of a logistic regression model assessing the independent association of dual use of primary care with patient characteristics and satisfaction with care. Four variables in the model were statistically significant. The adjusted odds ratio of dual use for those with a high school degree or less compared with those with more education was 0.60. For individuals without insurance relative to those with insurance, the odds ratio for dual use was 0.34. Odds of dual use were increased to 1.82 for patients with travel time to a VA of 60 minutes or less compared with longer travel time. Satisfaction with care also remained statistically significant in the multivariate model. Odds of primary care dual use were increased to 2.40 for those not satisfied with VA care compared with those who were satisfied.

A linear regression model was used to assess the independent association between the proportion of primary care visits made to non-VA providers and both patient characteristics and satisfaction with care for the 159 veterans who reported dual use. The model included the same independent variables used in the logistic model. The only statistically significant variables were the presence of

Table 1. Characteristics of Survey Respondents Reporting at Least One Department of Veterans Affairs Facility Primary Care Visit ($n = 577$)

Characteristic	
Mean age (SD), years	62.5 (14.9)
Male, %	97
White, %	96
Service-connected, %	59
Education beyond high school, %	40
Income >\$20,000, %	25
Any health insurance, %	76
Travel time to VA <60 min, %	46
VA used, %	
Minneapolis, Minn	63
St. Cloud, Minn	10
Fargo, ND	10
Sioux Falls, SD	2
Two or more	14

Table 2. Unadjusted Association of Patient Characteristics with Dual Use of Primary Care and with Proportion of Non-Department of Veterans Affairs Primary Care Visits

Variable	<i>n</i>	Reporting Dual Use of Primary Care, %	Proportion of Primary Care Visits Made Outside VA (Dual Users Only)
Age, years			
<65	254	28.0	.52
≥65	312	28.2	.49
Marital status			
Married	354	30.5	.51
Not married	195	23.1	.48
Service-connected status			
Service-connected	322	32.6*	.49
Non-service-connected	225	22.7	.51
Education			
High school degree or less	330	23.6 [†]	.49
More than high school degree	218	34.9	.52
Income			
≤\$20,000	426	23.9 [‡]	.48*
>\$20,000	140	40.7	.55
Insurance status			
No health insurance	134	14.2 [‡]	.49
Any health insurance	426	32.4	.51
Distance from VA			
Travel time to VA <60 min	259	32.1	.48
Travel time to VA ≥60 min	307	24.8	.53
Health status			
Excellent	73	27.4	.53
Good	269	30.9	.50
Fair	159	25.2	.46 [§]
Poor	56	25.0	.60
Medical conditions			
Diabetes	75	22.7	.59
Heart disease	192	27.1	.45
Cancer	69	29.0	.48
Drug or alcohol dependence	55	23.6	.37

**p* < .05.

[†]*p* < .01.

[‡]*p* < .001.

[§]*p* < .05 vs poor health.

^{||}*p* < .05 vs 0.51 for no drug/alcohol dependence.

heart disease and drug or alcohol dependence, which were both associated with a lower proportion of primary care visits made to non-VA providers.

DISCUSSION

In this study of veterans who received at least some primary care from VA providers, more than one quarter also made non-VA primary care visits. The average primary care dual user made half of his primary care visits to a non-VA provider. Veterans with higher education, any type of insurance, living closer to VA facilities, and those not satisfied with VA care were more likely to be dual users. In contrast, among these dual users demographic characteristics and satisfaction with VA care were not significantly associated with the proportion of primary care visits made to non-VA providers.

Twenty-eight percent of veterans in our sample reported dual use of primary care, which is consistent with other reports that found 22% to 30% of veteran users received non-VA outpatient care.^{10,11} However, our study is unique in focusing specifically on dual use of VA and non-VA primary care providers, a pattern of utilization ostensibly at odds with the very nature of primary care. The benefits of primary care emanate at least in part from the role of a single provider who understands the totality of a patient's health problems and the care received for them and is consequently able to optimally coordinate care. Understanding why primary care dual use occurs can therefore help the VA reach the goal of expanding and improving the primary care it provides to veterans.

Several variables we examined were significantly related to primary care dual use. Lack of health insurance and lower educational attainment were both negatively

Table 3. Percentage of Dual Use by Level of Satisfaction for Selected Satisfaction with Care Items*

Satisfaction with Care Items	Participants (Dual Users), %				p Value [†]
	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied	
How satisfied are you with:					
1. The length of time it takes to get an appointment in the clinic?	52.0 (22.3)	25.5 (26.8)	12.9 (37.1)	6.5 (51.4)	.001
2. Getting a convenient appointment time in the outpatient clinics?	57.7 (22.4)	26.2 (32.9)	8.2 (40.9)	3.6 (47.4)	.008
3. The length of time you must wait to see the doctor once you have arrived for your appointment?	46.8 (21.7)	30.8 (28.7)	15.3 (38.6)	7.2 (41.0)	.005
4. The accuracy of the diagnoses you receive?	65.3 (22.4)	22.1 (36.1)	5.9 (37.5)	5.9 (37.5)	.002
5. The explanations you got of your illness and treatment?	63.5 (24.9)	23.9 (28.5)	6.6 (44.4)	4.6 (40.0)	.06
6. The courtesy and compassion shown by the medical staff?	77.5 (25.7)	16.1 (29.6)	4.0 (50.0)	2.0 (45.5)	.06
7. The amount of time the VA doctors spend with you?	69.6 (24.9)	23.9 (33.1)	4.1 (50.0)	2.2 (25.0)	.02
8. The way the VA doctors communicate with you?	70.2 (25.5)	21.4 (31.0)	4.6 (36.0)	3.9 (42.9)	.18
9. The length of time it takes to get to the VA from your home?	59.6 (21.8)	26.7 (34.7)	6.9 (29.7)	5.4 (44.8)	.008

*Neutral category is not shown.

[†]p Value for χ^2 test (dual user vs non-dual user by level of satisfaction).

associated with dual use. Thus, those with insurance and more education are less likely to rely exclusively on VA primary care, just as these same characteristics have been shown in several studies to be negatively related to veterans' decisions to obtain any VA care.¹²⁻¹⁷ We unexpectedly found that veterans who live relatively close to a VA center are more likely to be primary care dual users compared with veterans who live farther away. We anticipated demonstrating that VA users who live farther from VA centers are more likely to be primary care dual users owing to the inconvenience of long-distance travel and the occasional need for urgent care. There are, however, at least two important possible explanations for the relation we found. First, it is possible that distance precludes some veterans from using VA at all, but that veterans who decide to use a VA facility and develop an effective mecha-

nism for transportation may use it exclusively regardless of the distance involved. The second major factor relates to the availability and acceptability of non-VA options. As distance from urban VA facilities increases, the non-VA options available may decrease or may be perceived as less desirable than VA care, thus offsetting the inconvenience of longer distance to VA facilities.

Patients' satisfaction with their care, which is now widely used as a quality of care indicator,^{19,20} was strongly associated with the odds of primary care dual use. Although the large majority of veterans surveyed reported high levels of satisfaction with VA, we found a strong relation between dissatisfaction with care and the odds of primary care dual use. Though our data are cross-sectional, they are compatible with the supposition that dissatisfaction with VA care leads some veterans to

Table 4. Logistic Regression Model Assessing Independent Association Between Patient Characteristics and Satisfaction with Care with Dual Use of Primary Care

Variable	Odds Ratio for Dual Use	95% CI	p Value
Age	1.01	0.99, 1.02	NS
Travel time to VA <60 min (vs \geq 60 min)	1.82	1.20, 2.77	.005
Married (vs not married)	0.97	0.60, 1.57	NS
No health insurance (vs any health insurance)	0.34	0.18, 0.66	.001
Service-connected (vs not service-connected)	1.20	0.76, 1.89	NS
High school education or less (vs more education)	0.60	0.38, 0.92	.02
Income \leq \$20,000 (vs higher income)	0.73	0.45, 1.20	NS
General health perceived as poor (vs fair/good/excellent)	0.52	0.23, 1.17	NS
Number of medical problems (0-1 vs 2-3 vs \geq 4)	1.24	0.91, 1.68	NS
Number of total primary care visits	1.03	1.01, 1.06	.007
Diabetes (vs no diabetes)	0.72	0.35, 1.49	NS
Heart disease (vs no heart disease)	0.73	0.42, 1.30	NS
Cancer (vs no cancer)	0.70	0.35, 1.40	NS
Alcohol dependence (vs no alcohol dependence)	0.53	0.24, 1.19	NS
Not satisfied* with VA care (vs satisfied with VA care)	2.40	1.40, 4.13	.002

*Not satisfied = mean for 12 satisfaction items >2 on 1-5 scale where 1 = very satisfied and 5 = very dissatisfied.

obtain primary care from non-VA sources. Demonstrating the behavioral consequences of dissatisfaction with care is important because only a few other studies provide such evidence for the validity of the patient satisfaction construct.^{21,22} Interestingly, patients who were dissatisfied with the time they needed to travel for VA care were more likely to be dual users, although veterans who reported shorter travel time to VA facilities were more likely to be dual users than veterans reporting longer travel time.

The variables significantly associated with primary dual use (education, insurance, travel time to VA, and satisfaction with care) were not associated with the proportion of primary care dual users obtained outside the VA. This may be partly a consequence of reduced power to detect differences in the analysis of the proportion of non-VA care received among the dual user subgroup. Alternatively, these findings may simply reflect that the factors which influence whether or not veterans are primary care dual users differ from those influencing the mix of VA and non-VA care received by dual users. Patient characteristics associated with the proportion of non-VA care received were limited to two clinical conditions: dual users with heart disease or with drug or alcohol dependence received a significantly smaller proportion of their primary care visits from non-VA providers than did veterans without these conditions. This finding may indicate either that dual users with these conditions value the care available to them through VA primary care providers or that non-VA sources provide care these patients view as less desirable because of cost or quality. In contrast, none of the specific conditions we examined predicted whether a veteran used both VA and non-VA care.

The high rate of dual use demonstrated in this and other studies has important implications for VA financing and quality assessment. For example, the VA's new resource allocation system bases the distribution of its appropriated health care budget across 22 Veteran Integrated Service Networks (VISNs) on the number of veterans cared for in each network. This allocation system does not, but possibly should, account for differences across VISNs in receipt of non-VA care by VA users. Similarly, the assessment and management of quality of care for VA patients must somehow account for the substantial amount of care they receive from non-VA sources.

Though veterans' use of VA and non-VA primary care providers deviates from the primary care delivery model, our data do not allow us to assess whether dual use either harms or benefits veterans. Moreover, it should be noted that out-of-plan use occurs to a degree in all health plans, though it is likely that most represents specialty care, not primary care. Many factors not examined by our survey may underlie primary care dual use. For example, veterans may seek primary care from VA in addition to non-VA sources because of generous VA pharmacy benefits, which have been demonstrated to motivate many veterans to seek VA care.²³

The most important limitation of this study is the possible recall bias of self-reported utilization data. Survey respondents may have inaccurately reported whether they received VA or non-VA care, whether these visits were for primary care, and the number of visits made. It is not obvious, however, that these potential inaccuracies would systematically bias estimates of the quantity or type of non-VA care received. Future studies based on merged VA and non-VA administrative data would be very helpful in confirming our findings. Other limitations of our study include the lack of patient satisfaction data for non-VA care, which might demonstrate that those dissatisfied with VA care are equally dissatisfied with non-VA care. No data are available to us on nonrespondents, and the homogeneity of the sample with respect to gender and race limits the generalizability of these findings.

Two other limitations of our study should be recognized. First, our measure of dual use may reflect several patterns of care seeking. These include veterans with a local primary care provider who use VA primarily to obtain medications, VA users who use local non-VA providers for acute conditions, and veterans with long-standing relationships with local providers that they continue after they begin to use VA. Finally, changes with potential impact on our findings have occurred in VA primary care and in the non-VA sector since our data were collected in 1994-95. However, improvements in VA primary care that enhance patient access or satisfaction might result in diminished dual use, but is not likely to eliminate it. Moreover, the growing number of Medicare HMOs (and the expanded benefits some offer) may actually be leading to more dual use by older veterans now than when these data were collected. The benefits of Medicare HMOs may appeal to older veterans even as they continue to use a restructured VA primary care system.

Our study demonstrates that dual use of primary care services by veterans is common and those who are dual users receive a large share of their primary care outside the VA. Primary care dual use therefore merits serious consideration in designing strategies to manage VA care. Improving coordination between VA and non-VA care through information systems designed for this purpose could prove to be very helpful. Dual use is associated with and potentially a useful indicator of dissatisfaction with VA care. Prospective studies would be helpful in further defining the relation between dual use and satisfaction with care. Perhaps most importantly, this study suggests that for many of its patients the VA must address the issue of primary care dual use to function effectively as an accountable entity.

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