Reaching Out to Minority Veterans

The Senior Screening Health Assessment and Preventive Education Program

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Responding to demographic disparities in access to health care, these researchers initiated and studied a program to provide health screening and targeted health education to underserved, older, minority veterans.

he VHA is the largest fully integrated health care system in the United States. With a proposed budget of nearly \$37 billion for fiscal year 2008, the VHA serves an enrolled population of close to eight million veterans through a nationwide network that includes 155 hospitals, as well as hundreds of outpatient clinics, nursing homes, and rehabilitation facilities.¹

Despite the formidable size of this system and its budget, however, only

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about 21% of the total veteran population currently use VA health services. Previous studies have found multiple factors that influence the use of VA health services, such as health insurance, income, education, health status, military service during a wartime era, combat exposure, military rank, location and length of service, service-connected disability, age, race, and distance from the nearest VA facility. Phe latter factor is negatively associated with the use of VA health services, particularly for veterans over the age of 65 years.

Although data on utilization of health services by older, minority Americans, including veterans, have been somewhat variable, there is sufficient evidence to suggest low utilization, particularly of preventive screening measures, by this group.¹⁰ In addition, studies have found that minority Americans, including veterans, report greater unmet health care needs compared with white Americans. This is particularly important as the veteran population becomes more racially and ethnically diverse. The VA's projected data for 2007 indicates that 10.9% of veterans are

African American, 5.6% are Hispanic, and 1.2% are Asian American. ¹³

With these factors in mind, a multidisciplinary team of geriatric health care providers from the VA Greater Los Angeles Healthcare Systems (VA-GLAHS) designed the Senior Screening Health Assessment and Preventive Education (SHAPE) program. The program was introduced as an outreach to elderly, minority veterans who had not used VA services previously and who may have encountered such barriers to care as lack of transportation to distant VA facilities and lack of knowledge regarding eligibility and available services. The aims of this program were to encourage these potentially underserved veterans to make use of the VHA, to screen them for selected geriatric conditions, and to provide them with targeted health education. In this article, we describe the program and present a study of its outcomes.

PROGRAM DESIGN

The Senior SHAPE program was publicized through county and city area agencies on aging, veterans service organizations (VSOs) representing

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minority veterans, and senior centers. The team attended several scheduled VSO meetings and introduced the program to veterans in person, as well as through flyers. The team included a representative from the VA business office who explained VHA eligibility criteria and information on copayments for VA health care.

The program was offered on a weekly basis—on VA grounds or offcampus at VSO sites, depending upon the veterans' preference—from September 1996 through July 1997. The estimated waiting period for the program was never more than four weeks. In most cases, interested veterans were able to participate within two weeks. Participants were enrolled into a given program session by appointment and reminded of the upcoming appointment by telephone. In addition, they were mailed appointment reminders that included directions to the program site, instructions to bring military discharge documents and information about their current medications and health care providers, and reminders to observe dietary restrictions for laboratory tests.

On the day of the program, each participant was counseled regarding his or her VHA eligibility and copayment for VHA care (if applicable). Thereafter, each participant underwent screening by a multidisciplinary team of geriatric health care providers, including a physician, a pharmacist, a psychologist, and a social worker. The screening questionnaire inquired about demographic characteristics; history of such conditions as hypertension, diabetes mellitus, and cardiac disease (defined as a diagnosis of or surgical intervention for coronary artery disease, a diagnosis of congestive heart failure, the presence of angina, or the presence of a pacemaker); factors that affect osteoporosis risk (smoking history, alcohol use, loss of height, intake of thyroid or cortisone-like medication, and intake of dairy products and other sources of calcium); history of falls during the preceding year; and polypharmacy (defined as taking more than five different prescribed medications per day¹⁴).

After completing the screening questionnaire, each participant underwent cognitive and depression screening using the Mini-Mental State Examination (MMSE) and the 30-item Geriatric Depression Scale (GDS), respectively, followed by measurement of height, weight, and blood pressure. Initial blood pressure measurements above 140/90 mm Hg were repeated after 10 minutes of rest. Each participant also had blood drawn for: a complete blood count, lipid panel, serum chemistries, thyroidstimulating hormone (TSH) level, and prostate-specific antigen (PSA)

Finally, a physician reviewed the data collected (except for laboratory results, which were not available that same day) and provided immediate feedback. Each participant was given a folder containing printed, disease-specific educational material. The educational material was obtained from the institution's patient education committee.

Approximately one week later, all data (including laboratory results) were reviewed, and each participant was notified of the results by telephone and in writing. If requested by the participant at the time of screening (and authorized through the submission of a signed medical records release form), a copy of the results was sent to the participant's private physician. The participants were informed of the need for further assessment if health problems were discovered during the screening

process. Each participant was given the choice to see a VA physician or to follow up with his or her private physician. Those who chose the former option were seen in the VAGLAHS Geriatric Outpatient Clinic for further assessment. Those requiring subspecialty assessment were referred to the appropriate clinic. The estimated waiting time was approximately four weeks in the Geriatric Outpatient Clinic and varied from four to 12 weeks in the subspecialty clinics.

STUDY METHODS

Approximately three months after the Senior SHAPE program started, an independent researcher conducted a closed-ended telephone survey to determine participants' levels of satisfaction with the program. The calls were made after business hours to the first 100 participants. Each participant was asked about the waiting time to see the provider during their Senior SHAPE appointment, staff courtesy, quality of educational materials provided, explanation of medical conditions by the staff, and whether the program had made them aware of any new health problems.

At the conclusion of the program, all participant data were entered into Microsoft Office Excel 2003 (Microsoft Corporation, Redmond, WA) and analyzed by the SAS Statistical Software System, version 8.2 (SAS Institute, Inc., Cary, NC). The study was approved by the Institutional Review Board of the VAGLAHS.

PROGRAM OUTCOMES

Over the 11-month program period, 178 veterans participated in the Senior SHAPE program. The mean age of the participants was 70 years (Table 1). Nearly all (99%) of the participants were male, 70% were married, two thirds were Asian Americans, and 91% had some type of health insurance.

Of the participants, 46% reported having a history of hypertension, 18% reported a history of diabetes mellitus, and 23% reported a history of cardiac disease (Table 2). A history of falls in the preceding year and polypharmacy were reported by 12% and 7% of the participants, respectively. At least one of the risk factors for osteoporosis was reported by 81% of the participants; two or more risk factors were reported by 20%.

Abnormal GDS and MMSE scores suggesting depression and cognitive impairment or dementia were seen in 8% and 9% of patients, respectively (Table 3). Similarly, 10% of the participants who did not report a history of hypertension were found to have a blood pressure above 160/90 mm Hg (on repeated measurements). Abnormal lipid profile and elevated prostate specific antigen levels were seen in a significant percentage of participants. Smaller percentages had fasting blood glucose levels above 125 mg/dL in the absence of a history of diabetes mellitus, abnormal TSH levels, or abnormal hematocrit levels.

Of the first 100 individuals contacted, 95 agreed to participate in the telephone satisfaction survey. Notably, more than one third of the respondents reported that the Senior SHAPE program had made them aware of a new health problem. In addition, 99% thought the quality of educational materials was somewhat helpful to very helpful, 93% thought the waiting time to see the provider was good to excellent, 100% described the staff courtesy as good to excellent, and 99% thought the explanation of medical conditions was good to excellent.

Since actual costs were not estimated or measured, the resources required for the program were estimated as the staff time needed to conduct a half-day screening session

Table 1. Demographic characteristics of program participants, by race

Characteristic	African American (n = 43)	Asian American (n = 118)	Other* (n = 17)	Total (n = 178)
Age (mean ± SD)	63 ± 8	72 ± 6	72 ± 7	70 ± 7
Male (%)	98	100	100	99
Married (%)	35	84	65	70
Health insurance(%)				
Private [†]	49	46	47	47
Public [‡]	23	52	41	44
Uninsured	23	2	12	8
Missing data	5	_	_	1

*Includes white, Latino, American Indian, and Native American. †Includes private indemnity insurance, health maintenance organization, or preferred provider organization. †Includes Medicare, Medicaid, or both.

Table 2. Program participants' self-reported health conditions and lifestyle characteristics, by race

Condition/ characteristic	African American (n = 43)	Asian American (n = 118)	Other* (n = 17)	Total (n = 178)
Health conditions				
Hypertension (%)	44	48	29	46
Diabetes mellitus (%)	12	20	18	18
Cardiac disease (%)	21	21	41	23
Falls in one year (%)	5	14	18	12
Polypharmacy	2	8	12	7
Lifestyle characteristic				
Exercise (%)	74	87	76	83
Tobacco use (%)	28	6	12	12
Alcohol use (%)	56	31	65	41
*Includes white, Latino, American Indian, and Native American.				

during which approximately 12 veterans were screened, to which was added the time it took a physician and program assistant to conduct follow-up telephone calls. Based on this formula, the screening of 12 veterans required six hours from a physician and four hours each from a pharma-

cist, a psychologist, a social worker, a business office clerk, a phlebotomist, and the program assistant. Three trainees (pharmacy, psychology, and social work interns) also participated in the program on an intermittent basis for learning experience. Offcampus screening space was provided

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Table 3.	Health issues identified
through the	program screening, by race

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	% of participants			
Health issues	African American (n = 43)	Asian American (n = 118)	Other* (n = 17)	Total (n = 178)
GDS [†] score ≥ 10	5	8	12	8
MMSE [‡] score < 24	7	9	12	9
Blood pressure > 160/90 mm Hg§	30	2	12	10
TSH" level > 4.6 mIU/L	0	8	6	6
Hematocrit level < 39%	7	7	0	6
PSA [¶] level > 4 ng/mL	14	23	12	20
Fasting blood glucose level > 125 mg/dL#	12	3	0	5
Triglyceride level > 160 mg/dL	25	27	31	27
Total cholesterol level > 200 mg/dL	49	63	47	58
HDL** level < 40 mg/dL	29	27	31	28
LDL ^{††} level > 130 mg/dL	57	58	50	57

*Includes white, Latino, American Indian, and Native American. †GDS = Geriatric Depression Scale. †MMSE = Mini-Mental State Examination. §Among individuals who did not report a history of hypertension. "TSH = thyroid-stimulating hormone. ¶PSA = prostate-specific antigen. #Among individuals who did not report a history of diabetes mellitus. **HDL = high-density lipoprotein. ††LDL = low-density lipoprotein.

by the participating VSO. The cost of laboratory testing was estimated to be \$35 per veteran.

STUDY IMPLICATIONS

The Senior SHAPE program appears to have fulfilled one of its primary objectives: It encouraged the use of VA preventive health services by facilitating access to care for older, minority veterans. More than 90% of the program's participants were Asian American or African American veterans. The higher participation by Asian American veterans may have been due to a word-of-mouth effect, since most of these veterans had belonged to a single combat regimen.¹⁵

Of the program participants, 90% had not been seen in the VA facility in the past year, and 67% had never received VA health care before. Interestingly, 91% of the participants had some form of health insurance and 84% had access to a regular health care provider. Traditionally, veterans with insurance and access to private providers have not used VA health services. Chances are good that such veterans are being screened adequately by non-VA providers for chronic medical conditions. VA clinicians, however, are better trained than other clinicians to diagnose and treat some medical and psychological conditions that are related to past military service.

The self-reported rates of hypertension, cardiac disease, falls during the preceding year, and polypharmacy among participants in the Senior SHAPE program were lower than those reported in other surveys. 16–19 This difference may represent a selection bias in our study sample, as more health conscious individuals are likely to participate in this type of preventive program. The large percentage of program participants who reported exercising regularly and the low smoking and obesity rates support this notion. The mean body mass indexes for African American, Asian American, other, and all groups were 26.7, 25, 27.4, and 25.9 kg/m², respectively. Despite this, the prevalence of diabetes was similar to that reported in medical literature for older individuals.20

Even though 81% of our participants had at least one risk factor for osteoporosis, the average number of risk factors was relatively low. The two most common risk factors were a low calcium diet and loss of height, which were seen predominantly in the Asian American veterans and were likely due to lactose intolerance and previous vertebral fractures. Among men, however, 30% to 60% of osteoporosis cases are associated with secondary causes—primarily hypogonadism, use of glucocorticoids, and excessive alcohol intake.21 We did not ask about hypogonadism, but the use of glucocorticoids and excessive alcohol intake, which we defined as more than 14 drinks per week, were low among the program participants. It is possible that alcohol intake may have been underreported by some participants.

The high prevalence of abnormal lipid levels among participants was somewhat surprising, since most reported having a regular health care provider. It is likely that their provid-

ers were aware of abnormal lipid levels but were reluctant to treat them due to the controversy regarding hyperlipidemia treatment in the elderly population.²² A negative association of age with lipid management has been reported previously.^{23–27}

The fact that we found abnormal GDS and MMSE scores is not surprising, since most general practitioners do not perform these screening tests routinely and, therefore, are likely to miss early cases of depression and cognitive impairment or dementia. The prevalence of cognitive impairment or dementia in this group is consistent with most studies, in which dementia affects 5% to 15% of adults aged 70 years and older.^{28–30} The prevalence of depression in our group was somewhat lower than that reported in a review of depression in adults older than 55 years.³¹ The lower prevalence may have been due to the fact that 99% of the participants in our program were men, and depression is more prevalent among women.32

The Senior SHAPE program was extremely well received by the participants, as reflected by the high rate of response to and favorable results of the follow-up survey. The high levels of patient satisfaction most likely were due to the individualized explanation of screening results and the opportunity for follow-up built into the program.

STUDY LIMITATIONS

Several factors limit the ability to generalize our findings. The program participants were predominantly male veterans who belonged to VSOs. The majority were Asian American or African American veterans who were relatively healthy and had a high functional status.

We chose screening tests for this program based on the prevalence of the conditions in the geriatric pop-

Table 4. Results of the patient satisfaction survey		
Item	No. (%) of patients (n = 95)	
Program made aware of a health problem Yes No	33 (35) 62 (65)	
Quality of educational materials* Very helpful Helpful Somewhat helpful Not helpful Answer missing	22 (25) 48 (54) 18 (20) 1 (1) 6 (N/A)	
Waiting time Poor Below average Average Good Excellent	0 (0) 0 (0) 7 (7) 36 (38) 52 (55)	
Courtesy Poor Below average Average Good Excellent	0 (0) 0 (0) 0 (0) 16 (17) 79 (83)	
Explanation of medical conditions Poor average Below average Average Good Excellent	0 (0) 1 (1) 0 (0) 28 (29) 66 (70)	
*The six individuals with no answer to this question were not included in total n value (89) used to calculate percentages for this item.		

calculate percentages for this item.

ulation. As such, our screening included some conditions (diabetes mellitus, dementia, osteoporosis, and prostate cancer) that go beyond those recommended in current United States Preventive Services Task Force Guidelines for routine screening in the general elderly population.³³ Patients were not screened, however. for recommended vaccinations, such as those for pneumococcal pneumonia and diphtheria.

Also, since our questionnaire did not cover all conditions and health problems for which we screened, we cannot be certain that all health issues uncovered by our screening were truly unrecognized. The questionnaire did not ask about patients' history of depression; cognitive impairment or dementia; or abnormalities of TSH, hematocrit, or PSA levels. It's important to note, however, that general practitioners rarely, if ever, administer the MMSE and GDS. In addition, the fact that 35% of participants in the patient satisfaction survey reported they had been made

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aware of a health problem by the program indicates that the screening uncovered many previously unrecognized health issues.

Another limitation was that the screening measures used were not diagnostic of any conditions but rather served to alert providers of the need to follow up on these potential health problems.

PREVENTION FOR ALL

The percentage of the U.S. population aged 65 years and older is expected to increase from 12.4% in 2000 to 19.6% by 2030.34 Given this surge in the elderly population, as well as the financial and time constraints faced by most practitioners, geriatric screening programs, such as the Senior SHAPE program, that help assume some of the burden of preventive care and utilize multidisciplinary resources may play an increasingly important role in the coming years particularly for underserved patient populations. Assuming these types of programs would enhance early detection and intervention, they could be expected to help improve quality of life and delay institutionalization for this frail and vulnerable segment of our population.

Author disclosures

The authors report no actual or potential conflicts of interest with regard to this article.

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