

Use of My HealthVet patient web portal among veterans seen for diabetes mellitus at a medical center in the southeastern United States

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Background: An increasing number of studies have examined the use of information technology to improve diabetes care and patient self-management. The goal of the current study was to determine the number of veterans seen for diabetes at a large medical center in the southeastern region of the U.S. and to examine whether they had registered for VA's My HealthVet patient web portal according to selected characteristics.

Methods: Existing patient records were reviewed including My HealthVet web portal registration by veterans treated for diabetes (ICD-10 code for type 2 diabetes) at the Charlie Norwood VAMC. Number of outpatient clinic patients seen for diabetes who had or had not registered for My HealthVet were examined by age categories, sex, race, Hispanic ethnicity, and era of military service.

Results: A total of 49,341 veterans receive care at the Charlie Norwood VAMC. Of those patients, 10,950 have been seen for diabetes. Of the 49,341 patients, 21,372 patients (43.3%) are using My HealthVet and 10,465 patients (21.2%) have used secure messages. Of 10,950 diabetic patients, only 1,256 (11.5%) have registered for My HealthVet. Women with diabetes were more likely to be registered for My HealthVet than their male counterparts [13.92% *vs.* 11.24%; odds ratio (OR)=1.28; 95% confidence interval (CI): 1.05–1.55]. Veterans with diabetes who served during WW II or the Korean War were less likely to use My HealthVet than those who served during more recent eras (OR=0.33; 95% CI: 0.24–0.44). Use of the patient portal was highest among diabetic patients ages 51–55 years (15.6%).

Conclusions: A low percentage of Veterans with diabetes are active users of My HealthVet. Studies are needed to identify My HealthVet portal design features and veteran characteristics that will increase use of this patient portal which may improve diabetes care.

Keywords: Diabetes; electronic health record; glycemic control; health information technology; patient web portals; veterans

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Introduction

The Veterans Health Administration (VHA) estimated that one in four veterans in the U.S. have diabetes. Over 30 million Americans had diabetes in 2015 (1). Potential complications of diabetes include kidney failure, heart attack, lower-limb amputations, and blindness (2). Good glycemic control is associated with better patient outcomes, but almost half of patients with type 2 diabetes do not achieve glycemic control, or cholesterol or blood pressure control (3-5).

In type 2 diabetes, effective patient-provider communication and patient self-management is associated with the improved management of side effects, monitoring of blood test results, and screening for potential complications (6). Patients' who are more knowledgeable about their risk factor levels have been shown to have improved clinical outcomes (7,8). When a collaborative relationship exists between patients and their health care providers, clinical outcomes tend to be improved (9,10).

Patient portals, personal health records and electronic medical records provide opportunities to leverage information technology to improve chronic disease management and outcomes (11,12). In 2003, VHA introduced My HealthVet, an internet-based patient portal containing a personal health record. My HealthVet is connected to their VHA electronic medical record and allows several functions such as online prescription refills or self-entry in food or physical activity journals. The VHA deployed the Blue Button feature in 2010 as part of its online combined personal health record and patient portal, My HealthVet. The Blue Button allows patients to access components of their electronic health record such as medications, laboratory results, procedures, vitals, and past and future appointments. The introduction of patient web portals and personal health records constitute an important development in diabetes care. Patients with diabetes and other chronic illnesses can now view health information such as medications, laboratory results, and patient education.

The goal of the current feasibility study was to determine the number of veterans seen for type 2 diabetes at a large medical center in the southeastern region of the U.S. and to examine whether they had registered for the My HealthVet patient web portal according to age, sex, race, Hispanic ethnicity, and era of military service.

Methods

The current study was conducted as “preparatory to

research” in support of a grant application for a larger and more detailed proposed study. Prior to a review of computerized patient records (CPRs), a determination was made by the director of the institutional review board (IRB) office and the Associate Chief of Staff for Research that the study was exempt from IRB review. One of the authors (SS Coughlin) met with key informants including the coordinator of the My HealthVet office at the Charlie Norwood VAMC and the nurse diabetes educator. Existing patient records were reviewed including My HealthVet web portal registration by veterans treated for type 2 diabetes (ICD-10 code E-11) at the Charlie Norwood VAMC. De-identified number of outpatient clinic patients seen for diabetes were examined by age categories, sex, race, Hispanic ethnicity, and era. Odds ratios (ORs) and 95% confidence intervals (CIs) were obtained using EpiInfo version 7.2.0.1.

Results

A total of 49,341 veterans receive care at the Charlie Norwood VAMC. Of those patients, 10,951 have been seen for type 2 diabetes (mean age 65.47 years). Of the 49,341 patients, 21,372 patients (43.3%, mean age 63.89 years) are using My HealthVet and 10,465 patients (21.2%) use secure messages. Of 10,950 diabetic patients, only 1,256 (11.5%) have registered for My HealthVet (*Table 1*). Women with diabetes were more likely to be registered for My HealthVet than their male counterparts (13.92% *vs.* 11.24%; OR=1.28; 95% CI: 1.05–1.55), as shown in *Table 2*. Veterans with diabetes who served during WW II or the Korean War were less likely to use My HealthVet than those who served during more recent eras (OR=0.33; 95% CI: 0.24–0.44). Use of the patient portal was highest among diabetic patients ages 51–55 years (15.59%).

Discussion

The current study indicates that use of the My HealthVet web portal among veterans seen for diabetes at a large medical center in the southeastern U.S. is very low. Although My HealthVet includes a feature that allows diabetic patients to type in their blood glucose results, graph it, and forward this information to their provider at the VAMC, few patients take advantage of this resource. Veterans who meet with the My HealthVet coordinator are provided with a copy of the VA My HealthVet Handbook

Table 1 Characteristics of veterans seen for type 2 diabetes at the Charlie Norwood VA medical center in Augusta, Georgia according to whether or not they had registered for My HealthVet

Characteristic	Registered for My HealthVet [n (%)]	Not registered for My HealthVet [n (%)]
Age (years)		
18–25	0 (0.00)	2 (100.00)
26–30	2 (6.25)	30 (93.75)
31–35	9 (11.39)	70 (88.61)
36–40	16 (10.96)	130 (89.04)
41–45	28 (9.89)	255 (90.11)
46–50	71 (11.28)	507 (87.72)
51–55	128 (15.59)	693 (84.41)
56–60	169 (13.22)	1,109 (86.78)
61–65	199 (12.25)	1,426 (87.75)
66+	634 (10.38)	5,472 (89.62)
Total	1,256 (11.47)	9,694 (88.53)
Sex		
Male	1,125 (11.24)	8,884 (88.76)
Female	131 (13.92)	810 (86.08)
Race		
White	663 (11.73)	4,989 (88.27)
Black	556 (11.09)	4,458 (88.91)
Other	36 (13.33)	234 (86.67)
Missing	0 (0.00)	14 (100.00)
Hispanic		
Yes	21 (12.00)	154 (88.00)
No	1,221 (11.45)	9,442 (88.55)
Missing	14 (12.50)	98 (87.50)
Era		
World War II	7 (4.67)	143 (95.33)
Korean	37 (4.29)	826 (95.71)
Vietnam	654 (11.53)	5,017 (88.47)
Persian Gulf War	307 (11.30)	2,410 (88.70)
Post Vietnam	217 (14.68)	1,261 (85.32)
Other	34 (48.57)	36 (51.43)
Missing	0 (0.00)	1 (100.00)

Table 2 OR and 95% CI for associations between selected characteristics of veterans seen for type 2 diabetes at the Charlie Norwood VA Medical Center in Augusta, Georgia and Registration for My HealthVet

Characteristic	Registered for My HealthVet (n)	Not registered for My HealthVet (n)	OR (95% CI)
Age (years)			
18–35	11	102	1.00 (reference)
36–40	16	130	1.14 (0.51, 2.57)
41–45	28	255	1.02 (0.49, 2.12)
46–50	71	507	1.30 (0.66, 2.54)
51–55	128	693	1.71 (0.89, 3.28)
56–60	169	1,109	1.41 (0.74, 2.69)
61–65	199	1,426	1.29 (0.68, 2.45)
66+	634	5,472	1.07 (0.57, 2.01)
Sex			
Male	1,125	8,884	1.00 (reference)
Female	131	810	1.28 (1.05, 1.55)
Race			
White	663	4,989	1.00 (reference)
Black	556	4,458	0.94 (0.83, 1.06)
Other	36	234	1.16 (0.81, 1.66)
Hispanic			
Yes	21	154	1.05 (0.67, 1.67)
No	1,221	9,442	1.00 (reference)
Era			
World War II/Korean	44	969	1.00 (reference)
Vietnam	654	5,017	2.87 (2.10, 3.93)
Persian Gulf War	307	2,410	2.81 (2.03, 3.88)
Post Vietnam	217	1,261	3.79 (2.71, 5.30)
Other	34	36	20.80 (11.91, 36.33)

OR, odds ratio; CI, confidence interval.

and are asked to sign a form authorizing their electronic medical record to be linked to their My HealthVet account. The coordinator does not screen veterans for computer literacy. When patients are seen at outpatient clinics, a clinical reminder in the CPRs prompts the nurse, physician, or clinic clerk to remind the veteran to register for My HealthVet if they have not already registered. Veterans receive prompts to register for My HealthVet on patient letters and from the VAMC pharmacy and Facebook account.

A limited number of studies have examined the use of patient web portals for diabetes health care (13). Few of these studies have been conducted at VA healthcare facilities. Although results-to-date have been mixed, results from prior studies suggest that secure messaging between diabetes patients and their clinician is associated with improved disease management (13). Improvements in low density lipoprotein (LDL) cholesterol and blood pressure have also been observed in some studies of web portals for patients with diabetes (6). The patient web portal features that may improve diabetes care (e.g., secure messaging or patient education) have not been clearly identified by published studies. Previous studies show that diabetic patients often do not use web portals, when offered, perhaps because of computer illiteracy or a lack of internet access (14).

With respect to limitations, the current study did not examine the specific reasons that diabetes patients had registered for My HealthVet or whether they used it over time. Future studies should examine whether veterans who use My HealthVet for secure messaging are active secure message users or whether they send secure messages to their provider only rarely. A further limitation is that the current study was cross-sectional in nature and lacked information about the temporal relationship between treatment for diabetes and My HealthVet registration. The current study examined prevalent cases of diabetes which could have been diagnosed recently or in the past. In addition, no information was available about computer literacy and health literacy. Health illiteracy is frequent among diabetes patients and can impair diabetes management (15-18). Patients with lower computer literacy may have difficulty learning how to use a web portal (12,15) suggesting the need for educational programs.

Previous studies of the use of My HealthVet or Blue Button by veterans with diabetes (6,19), or veterans with diabetes or other chronic health conditions have been cross-sectional surveys (19-21) or a retrospective cohort

(observational) study design (5) and have not employed a prospective randomized controlled trial design. A low percentage of Veterans with diabetes are active users of My HealthVet. Additional studies are needed to identify My HealthVet portal design features and veteran characteristics that will increase use of this patient portal which may improve diabetes care.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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