

HCFE Working Paper

HCFE WP# 2015-02

Consult Timeliness Strongly Predicts Patient Satisfaction

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This work was funded by the Department of Veterans Affairs, Veterans Health Administration, Health Services Research and Development Services. This report presents the findings and conclusions of the authors and does not necessarily represent VA or HSR&D.



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Abstract

The Veterans Administration (VA) is undergoing a historic reorganization to improve the experience of veterans when accessing the VA. This paper examines whether Veteran Health Administration (VHA) measures of consult wait times are associated with veteran satisfaction. Outcome measures include general VHA satisfaction measures and satisfaction with timeliness of care including waits for specialists and treatments. Access metrics include the number of days between the consult creation and 1) first action taken on the consult, 2) scheduling of the consult and 3) completed consults. Longer waits for the scheduling of consults and completed consults are significantly associated with decreased patient satisfaction. Since patients report high levels of powerlessness and uncertainty while waiting for referrals, consult wait times are an important veteran-centric access metric for VHA managers to consider.

Key words: Consult wait times, patient satisfaction, VA, VHA, access to care

Introduction

The Department of Veterans Affairs (VA) underwent a widely publicized crisis of confidence in access to care in 2014. Two issues central to the debate were whether appointment wait time measurement methods accurately reflected patient experience and performance measure system incentives.¹⁻³

In response to these concerns, Congress passed the Veterans Access Choice and Accountability Act 2014 (Choice Act). This bill legally mandated specific measures of wait times and allows veterans to seek non-VHA care if waits for VHA services are longer^{4,5} than 30 days. Secretary Robert McDonald also launched the MyVA initiative that aims to reorient VA care around veterans' needs to improve the veteran experience.^{6,7} To meet these policy goals, the VHA needs accurate veteran-centric measures of wait times for their entire patient population.

Patient-centric measures of access are not straightforward. Previous research has found shorter waits for appointments are not always the most important priority for patients. Patients are willing to wait longer to get an appointment at a convenient time or to see a preferred provider, especially for low-worry, long-standing conditions. When there is a new health concern, faster access is a bigger priority.⁸⁻¹⁰ Research focused on the VHA system reflects this finding. For new patients, the wait between when an appointment is created and completed consistently predicted patient satisfaction, likely due to a new health concern. This time-stamp measure did not predict patient satisfaction for returning patients who may be more concerned about other factors than the fastest access.¹¹

VHA policy recognized this distinction and instituted an access measure that relied on providers and patients communicating to schedulers when the veteran wanted to be seen (e.g. desired date).^{11,12} The audits resulting from the recent controversy encouraged a move away

from desired date because it was overly complicated for schedulers and patients and a VHA-specific concept that made it difficult to reconcile this measure against access measures used outside of the VHA.²

Since eighty percent of appointments in the VHA are for returning patients compared to new patients the VHA needs an accurate veteran-centric measure of wait times for these patients. This paper evaluates several different measures of VA consult wait times to assess their relationships with patient satisfaction. Patients report high levels of uncertainty and powerlessness during the period of time between a requested referral and subsequent action as they wait for clarity on disease outcomes.¹³⁻¹⁵ Waits for consults are hypothesized to be analogous to the previously validated access measures for new patients. As well, the measurement methods are similar to the legally mandated appointment wait time measures specified in the Choice Act.⁵ Knowing whether consult waits predict patient satisfaction is critical to better understand the veteran experience, manage specialty care access, and restore trust in VA's access data.

Methods

Wait Time Measure

VA experience has shown that once a measure is used for performance evaluation, administrators may respond to the incentive in ways that complicate measurement. To avoid this problem, data for analysis in this study was extracted from fiscal year 2012, before the recent controversy and before consult measures were being heavily scrutinized. Consults were also type of service not included in the performance measure system. For these reasons our analyses are not impacted by the recent focus on access measurement.

VHA's electronic consult system was implemented in 1999 and is mandated (rather than paper) for all consultation requests.¹⁶ VHA estimates that approximately 95% of all requests for specialty care are transmitted through the consult system, with the remainder thought to consist largely of referrals not coming from a VA provider. The consult system "automatically" records time stamps when administrative events during the journey of the consult document occur. For this reason, data is available on the number and timeliness of consults created, completed, and returned to the sender for more information.

In August of 2012, concerns were raised about whether VHA patients were harmed by long waits for responses to consult requests. These¹⁶ concerns led to a system wide standardization of consult processes in part to enable the clear identification of requests for consults for clinical services. Users of VA's electronic consult package have creatively solved communication problems by using it for administrative functions and orders (e.g. to schedule transportation) in addition to more traditional clinical consults.¹⁷ We applied these definitions to the 2012 data to focus on consults for clinical services by excluding administrative consults and non-VA care consults.

VA's information system captures administrative time stamps produced "behind the scenes" in the process of creating, processing, and completing electronic consults. These can be used to create measures including the number of elapsed days between consult creation (by the "sender"), and "first action" and "scheduling" by the "receiving service staff." Additional measures include total consult resolution time (Table 1). Consults are resolved when the appointment is completed, report written and signed. They are also resolved when the consult is updated, discontinued, or returned to the sending service for clarification.¹⁷ In the case consults are returned to the sending service, the consult wait time clock is not reset: it includes the time

from when the appointment is created to eventually completed. In contrast, discontinued consults stop the clock.¹⁸

Following our previous work, the wait times were weighted by a national proportion based on FY 11 data. Weights were developed based on the frequency of different consult appointments. If a station did not have a consult request for every type of appointment in a month, the remaining appointment weights were adjusted so the weights added up to 100.^{19,20}

Wait time measures were used in two ways in statistical models. As a continuous variable and categorized into roughly quartiles with the lowest quartile used as the reference group.

Patient Satisfaction

The dependent variables measuring satisfaction come from the 2012 Survey of Healthcare Experiences of Patients (SHEP) that is modeled after the Consumer Assessment of Healthcare Providers and Systems family of survey instruments. Human subjects institutional review board approval was obtained from the VA Boston Healthcare System. Managed by the VHA Office of Information, Business and Analytics, SHEP is an ongoing nationwide survey that seeks to obtain patient feedback on recent episodes of VHA inpatient or outpatient care to improve health care quality. For outpatient care, a simple random sample of patients with completed appointments at VHA facilities is selected each month.²¹ The overall response rate was 53%. Respondents came from all VHA medical centers (n = 130).

Sample Selection

All individuals who had the visit date in SHEP match the date for a complete/update status in the consult tables were flagged. In addition, we required the station (medical center code) in SHEP to match the station in the consult tables. This was the sample for the completed wait measure (n=28,328). The wait applied was the facility average for all resolved consults in

that month. Since the wait times are based on consults that are resolved in the same month, this measure was retrospective. Not surprisingly, since a clinic visit triggers a patient to be eligible to be contacted for SHEP, 90% of the individuals in this sample had a completed/update status compared to discontinued or cancelled.

For the date to first action and date to schedule measure, all individuals who had the visit date in SHEP match the date a consult was initiated in the consult table were flagged (n=44,387). The receiving station for these requests was linked because receiving stations actually do the scheduling. We applied a facility average wait time looking forward for all consults requested at that receiving station in that month so these measures were prospective.

Dependent Variables

Satisfaction measures were selected and operationalized following previous work.¹¹ Satisfaction with timeliness of care was measured by asking respondents how often they were able to get VHA appointments as soon as they thought they needed care, excluding times they needed urgent care. We also examined more general satisfaction measures that wait times for consults may influence. Access to VHA tests, treatments and appointments with VHA specialists was measured by asking how easy it was to get this care in the last 12 months. Response options for the above three measures include always, usually, sometimes and never and we estimated the likelihood of answering always/usually compared to sometimes/never. General satisfaction is measured by asking respondents to rate VHA health care in the last 12 months on a scale of 0 to 10 and their satisfaction with their most recent VHA visit using a Likert scale ranging from 1 to 7 with higher numbers indicating greater satisfaction. We estimated the likelihood of a 9 or 10 rating compared to <9 on the first measure and the likelihood of a 6 or 7 compared to <6 on the second measure.

Risk Adjustors

Risk adjustors included age, gender, race/ethnicity, education level, number of visits to a doctor's office in the last 12 months and self-reported health status, all obtained from SHEP FY12. Models also included a year and month fixed effect to control for secular changes in wait times and a VAMC random effect to control for facility quality and case mix differences.

Analyses

STATA 10.0 was used to estimate logistic regression models that predicted the dichotomized patient satisfaction variables.

Results

The SHEP respondents identified for this sample reflect the larger VHA patient population. Respondents were predominantly male, in poor health, and frequent health care users. There is evidence of high satisfaction with VA care with nearly 80% of respondents reporting they received appointments, treatment or specialist care in a timely fashion always or usually. 81% expressed the top two highest satisfaction levels for the most recent visit and 58% expressed the highest satisfaction levels with VA care in the last 12 months (Table 2).

There is significant variation between facilities in waits for the resolved consult and date to schedule measure. Facilities in the top quartile have waits that are more than 10 days longer than facilities in the lowest quartile (33.5 days compared to 23 days) for the resolved consult measure. For the date to schedule measure, waits for facilities in the higher quartile are about a week longer than waits for facilities in the lowest quartile. There is very little variation in date to first action with less than a half day difference in the highest quartile compared to the lowest quartile (Table 3).

The resolved consult and date to schedule measures have strong and consistent relationships with patient satisfaction (Table 4). Generally, there is a linear relationship with satisfaction decreasing for veterans who visit facilities with longer waits (defined by being in the higher quartiles of wait times). Veterans who visit facilities in the highest quartiles of waits are significantly less satisfied than veterans who visit facilities in the lowest quartile of waits on every measure. Sensitivity analyses that included wait times as a continuous measure found that longer waits were significantly associated with lower satisfaction on these measures for every outcome except the model using the resolved consult wait to predict the VA satisfaction measure (data not shown). There was no significant relationship between the days to first action measure and patient satisfaction.

Discussion

This study finds a consistent relationship between measures of consult wait times and patient satisfaction. Longer waits between initial request and either scheduling of the consult or the resolution of the consult are associated with poorer satisfaction. Generally, there was a stronger negative relationship between waits and satisfaction measures that were specifically related to accessing care, treatments or specialists compared to more general satisfaction measures. There was no relationship between the waits for time to first action and patient satisfaction.

These findings are consistent with previous research that validated access metrics using patient satisfaction as an outcome. Prentice et al. (2014) found different types of access metrics predicted patient satisfaction for new and returning patients perhaps because new patients often want to be seen right away due to emerging health concerns⁹⁻¹¹. For this reason, longer waits between appointment requests and completed appointments are significantly associated with

lower patient satisfaction for new patients. The resolved consult measure for returning patients in this study is complementary to this previously validated new patient wait time measure.

Established patients being referred to specialty care may have emerging health concerns and want to be seen as soon as possible.

The findings from this study also expand our understanding of what administrative access metrics are veteran-centric. In contrast to the days to scheduled and the days to resolved consult measure, the date to first action measure had no relationship with patient satisfaction. This metric largely measures “behind the scenes” processes of transfer and scheduling of consults. Patients repeatedly report a sense of powerlessness and uncertainty as well as a feeling of “living their life on hold” when waiting for diagnosis or treatment that is compounded by the lack of information from the healthcare system.¹³⁻¹⁵ As the VA puts a greater emphasis on the experiences of veterans, these findings suggest that metrics should focus on measuring tangible processes that veterans easily understand as action being taken on their behalf, such as scheduling appointments.

Now that the underlying relationships between consult wait times and patient satisfaction have been measured, future research should examine the potential effects of higher scrutiny on VHA wait times that is required in the Choice Act. Similarly, waits for all types of consults may not have the same impact on patient satisfaction. Due to data availability at the time of the study, our measure of consult included all clinical consults. Long waits for a recommended preventive screening (e.g. colonoscopy) may not have the same effect on patient satisfaction as waits for consults that are a result of new health concerns. The VHA has undertaken a systematic review to categorize different types of consults and future work should consider these nuances when investigating the most effective access metrics.¹⁸

The main limitation of this study is that we cannot definitely state that the relationship between longer consult wait times and lower patient satisfaction is causal because omitted variables may be responsible for this relationship. Our models attempted to minimize this possibility by including year and month fixed effects to control for secular changes in wait times and a medical center random effect to control for facility quality and casemix differences. On the other hand, research has repeatedly found a relationship between longer wait times and poorer outcomes including decreased patient satisfaction and poorer health outcomes in a variety of veteran populations and time periods, strengthening the inference that the relationship may be causal.^{11,19-23} Another limitation is that the study sample is largely elderly and male so results may not be generalizable to other patient populations.

The consult process is an anxiety producing time for patients. Findings from this study suggest that certain types of consult waits that can be easily obtained from the scheduling system are strong predictors of patient satisfaction. As the VHA reorganizes its focus to become more veteran-centric, better management of consult waits has the potential to significantly improve patient satisfaction.

References

1. Caruso DB. Worse VA Health Care Wait Times are in the South. Associate Press, April 9, 2014. http://hosted.ap.org/dynamic/stories/U/US_VETERANS_HEALTH_CARE_ABRIDGED?SITE=AP&SECTION=HOME&TEMPLATE=DEFAULT. Accessed 10 April, 2015.
2. U.S. Department of Veterans Affairs. VA Access Audit & Wait Times Fact Sheet, System-wide Overview. June 9, 2014. <http://www.va.gov/health/docs/vaaccessauditsystemwidefactsheet060914.pdf>. Accessed 10 April 2015.
3. VA Audit Findings. CNN, June 9, 2014. <http://www.cnn.com/interactive/2014/05/politics/document-va-audit/>. Accessed 10 April, 2015.
4. U.S. Department of Veterans Affairs. Veterans Access, Choice and Accountability Act of 2014 (“Choice Act”), Fact Sheet. <http://www.va.gov/opa/choiceact/documents/Choice-Act-Summary.pdf>. Accessed 10 April, 2015.
5. U.S. Congress. Veterans Access, Choice, and Accountability Act of 2014. <http://www.gpo.gov/fdsys/pkg/BILLS-113hr3230enr/pdf/BILLS-113hr3230enr.pdf>. Accessed 10 April, 2015.
6. U.S. Department of Veterans Affairs. VA Announces Single Regional Framework under MyVA Initiative, January 26, 2015. <http://www.va.gov/opa/pressrel/pressrelease.cfm?id=2672>. Accessed 10 April, 2015.
7. Kaplan R. Robert McDonald Announces Plans to Reorganize the VA. CBS News. <http://www.cbsnews.com/news/robert-mcdonald-announces-plans-to-reorganize-the-va/>. Accessed 10 April, 2015.
8. Rubin G, Bate A, George A, Shackley P, Hall N. Preferences for Access to the GP: A Discrete Choice Experiment. *Br J Gen Pract.* Oct 2006; 56(531):743-748.
9. Gerard K, Salisbury C, Street D, Pope C, Baxter H. Is fast access to general practice all that should matter? a discrete choice experiment of patient preferences. *J Health Serv Res Policy.* 2008;13(Suppl 2):3-10.
10. Salisbury C, Goodall S, Montgomery AA, Pickin DM, Edwards S, Sampson F, et al. Does Advanced Access improve access to primary health care? Questionnaire survey of patients. *Br J Gen Pract.* 2007;57(541):615-621.
11. Prentice JC, Davies ML, Pizer SD. Which Outpatient Wait Time Measures are Related to Patient Satisfaction? *Am J Med Qual.* 2014;29(3):227-235.
12. Department of Veterans Affairs. VHA Outpatient Scheduling Processes and Procedures; 2010. http://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=2252. Accessed January 15, 2013.
13. Fogarty C, Cronin P. Waiting for Healthcare: A Concept Analysis. *Journal of Advanced Nursing.* 2007;61(4):463-471.
14. Hansen BS, Rørtveit K, Leiknes I, Morken I, Testad I, Joa I, Severinsson E. Patient experiences of uncertainty - a synthesis to guide nursing practice and research. *J Nurs Manag.* 2012 Mar;20(2):266-77.
15. Rittenmeyer L, Huffman D, Godfrey C. The experience of patients, families, and/or significant others of waiting when engaging with the healthcare system: A systematic Qualitative Review. *The JBI Database of Systematic Reviews and Implementation Reports.* 2014;12(8):198-258.

16. Consult Management White Paper. Access and Clinical Administrative Program (ACAPP). Version 2.0. 10/20/2014. Veterans Health Administration Accessed 3/31/2015.
17. VHA Support Service Center (VSSC). Consult Cube Definition. 7 October, 2013.
18. Personal communication with Natasha De Silva, VHA Office of Systems Redesign. 16 September, 2014.
19. Prentice J, Pizer SD. Delayed Access to Health Care and Mortality. *Health Serv Res.* 2007;42(2):644-662.
20. Prentice JC, Pizer SD. Waiting Times and Ambulatory Care Sensitive Condition Hospitalizations. *Health Services and Outcomes Research Methodology.* 2008;8(1):1-18.
21. VHA Support Service Center (VSSC). Survey of Healthcare Experiences of Patients (SHEP). <http://vaww.car.rtp.med.va.gov/programs/shep/shepReporting.aspx>. Accessed 10 April, 2015.
22. Pizer SD, Prentice JC. What Are the Consequences of Waiting for Health Care in the Veteran Population? *J Gen Intern Med.* 2011a;26 (Supplement 2):676-682.
23. Prentice JC, Fincke BG, Miller DR, Pizer SD. Outpatient Waiting Times And Diabetes Care Quality Improvement. *Am J Manag Care.* 2011;17(2):e43-e54.
24. Prentice JC, Davies ML, Pizer SD. Using Health Outcomes to Validate Access Quality Measures. *Am J Manag Care.* 2013;19(11):e367-77.

Table 1: Summary of Wait Time Measures

Measure	Algorithm	Example Calculation	Actions Included in Measure
Resolved consults (retrospective)	Completed consult date-consult create date	Consult is entered into the system on 03/01/2012 and completed on 03/15/2012. $3/15/2012-03/1/2012=15$ days.	Appointments can be considered resolved with a completed, discontinued or cancelled appointment. Completed is when the appointment occurs. Discontinued is when the patient dies before being seen or the receiving clinic refuses to accept the consult because they do not have the capacity at that time. Cancelled is when the receiving service sends the consult back because it was entered incorrectly.
Date to first action (prospective)	Date when action taken-consult create date	Consult is entered into the system on 03/01/2012 and order is sent to receiving clinic on 03/02/2012 $3/02/2012-03/1/2012=1$ day	First action can be a variety of options including printing the order, scheduling the appointment or sending the order to the receiving clinic.
Date to scheduled (prospective)	Scheduled appointment date – consult create date	Patient X has consult scheduled for 03/10/2012 that was created on 03/1/2012. $3/10/2012-3/1/2012=10$ days.	Scheduling of appointment is the only action included in this measure.

Table 2: Descriptive Statistics of Individuals in SHEP Sample Selected by Consult Date

Demographics (n=56,686) ±	Mean or %
Age	66.87
Male	95%
Had some college	55%
White	78%
Black	10%
Other	12%
>=5 visits to a doctor's office in the last 12 months	28%
Excellent/very good self-reported health status in the last 12 month	25%
Patient Satisfaction Measures	
Timely Visit: Receiving an appt. as soon as you thought you needed	
Always or usually versus sometimes or never (n=21,472)‡	80%
VHA rating: Rate all VHA care in the last 12 months on scale of 0 to 10 (10=highest rating)	
9 or 10 versus <9 (n=29,143)	58%
Treatment Access: How often was it easy to get treatment or tests?	
Always or usually versus sometimes or never (n=25,214)	82%
Specialist Access: How often was it easy to get an appointment with a specialist?	
Always or usually versus sometimes or never (n=19,087)	79%
VHA satisfaction: Satisfaction with VHA care at most recent visit on scale of 1 to 7 (6 or 7=most satisfied)	
versus <=6 (n=28,929)	81%

±The sample includes everyone with no missing information on any of the risk adjustors and a patient that was in the resolved consult and/or the pending consult sample.

‡ Sample sizes differ between outcomes due to not all SHEP respondents answering every satisfaction question.

Table 3: Descriptive Statistics of Clinical Consult Wait Time Measures

	Mean	25%	50%	75%
Resolved consult waits (n=27,300)	28.8	23.0	27.1	33.5
Wait to first action (n=42,802)	0.09	0	0.02	0.06
Wait to scheduled consult (n=42,802)	10.3	6.3	8.8	13.0

Table 4: Logistic Regressions Predicting Patient Satisfaction Using Consult Wait Time Measure±

	Timely visit (n=20,000)	VHA rating (n=27,095)	Treatment access (n=23,497)	Specialist access (n=17,797)	VHA satisfaction (n=26,957)
Resolved consult wait (ref=<23 days)	‡				
>=23 & <27.1	0.85†**	0.95	0.88**	0.89	0.90**
>=27.1 & <33.5	0.82**	0.87**	0.85**	0.86**	0.84**
>=33.5	0.76**	0.86**	0.80**	0.79**	0.86**
Days to first action (ref=0 days)	(n=31,324)	(n=42,462)	(n=36,492)	(n=26,461)	(n=42,333)
>0 & <0.02	0.96	0.98	0.94	0.93	0.97
>=0.02 & <0.06	0.95	0.95	0.97	1.00	0.92*
>=0.06	1.04	0.98	1.00	0.96	0.98
Days to scheduled (ref=<6.5 days)	(n=31,324)	(n=42,462)	(n=36,492)	(n=26,641)	(n=42,333)
>=6.5 & <9.0	0.88**	0.99	0.95	0.96	0.95
>=9.0 & <13.5	0.77**	0.91**	0.89*	0.87**	0.89**
>=13.5	0.71**	0.85**	0.79**	0.77**	0.79**

± Models include demographics, self-reported health status, healthcare utilization, month fixed effects and VAMC random effect.

‡ Sample sizes differ between models due to not all SHEP respondents answering every satisfaction question.

† Reported numbers are Odds Ratios. *P<0.10 ** P<0.05