Common Ground: Primary Care and Specialty Clinicians' Perceptions of E-Consults in the Veterans Health Administration

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Objective: The US Department of Veterans Affairs (VA) introduced electronic consultation (e-consult) to increase access to specialty care. The objective of this study was to understand perceptions of e-consults that may be relevant to increasing adoption in the VA.

Methods: Deductive and inductive content analysis of semistructured qualitative telephone interviews with VA primary care practitioners (PCPs), specialists, and specialty division chiefs was performed. Participants were identified based on rates of e-consult in 2016 at the individual and facility level within primary care, hematology, cardiology, gastroenterology, and endocrinology. Interview guide development was informed by the Practical, Robust, Implementation, and Sustainability (PRISM) framework.

Results: We interviewed 35 PCPs and 25 specialists working in 36 facilities. Four themes emerged across both PCPs and specialists: (1) e-consults are best suited for certain types of clinical questions; (2) high-quality e-consults include complete background information from the requesting clinician and clear diagnostic or treatment recommendations from the responding clinician; (3) PCPs and specialists perceive e-consults as a novel opportunity to provide efficient, transparent care; and (4) lack of awareness of e-consults hinders adoption despite obvious benefits.

Conclusions: We identified themes that are informative for further adoption of high-quality e-consults in the VA. Educating PCPs and specialty practitioners about the benefits of e-consults, and providing support, such as lists of specialties available for e-consults at the facility are 2 such practices.

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Electronic consultation (e-consult) is designed to increase access to specialty care by facilitating communication between primary care and specialty clinicians without the need for outpatient face-to-face encounters.[1–4] In 2011, the US Department of Veterans Affairs (VA) implemented an e-consult program as a component of its overall strategy to increase access to specialty services, reduce costs of care, and reduce appointment travel burden on patients.

E-consult has substantially increased within the VA since its implementation.[5,6] Consistent with limited evaluations from other health care systems, evaluations of the VA e-consult program demonstrated reduced costs, reduced travel time for patients, and improved access to specialty care.[2,5–11] However, there is wide variation in e-consult use across VA specialties, facilities, and regions.[5,6,12,13] For example, hematology, preoperative evaluation, neurosurgery, endocrinology, and infectious diseases use e-consults more frequently when compared with in-person consults in the VA.[6] Reasons for this variation or specific barriers and facilitators of using e-consults have not been described.

Prior qualitative studies report that primary care practitioners (PCPs) describe e-consults as convenient, educational, beneficial for patient care, and useful for improving patient access to specialty care.[8,14,15] One study identified limited PCP knowledge of e-consults as a barrier to use.[16] Specialists have reported that e-consult improves clinical communication, but increases their workload.[1,14,17,18] These studies did not assess perspectives from both clinicians who initiate e-consults and those who respond to them. This is the first qualitative study to assess e-consult perceptions from perspectives of both PCPs and specialists among a large, national sample of VA clinicians who use e-consults. The objective of this study was to understand perspectives of e-consults between PCPs and specialists that may be relevant to increasing adoption in the VA.

METHODS

The team (CL, ML, PG, 2 analysts under the guidance of GS and JS and support from RRK, and a biostatistician) conducted semistructured interviews with PCPs, specialists, and specialty division leaders who were employed by VA in 2016 and 2017. Specialties of interest were identified by the VA Office of Specialty Care and included cardiology, endocrinology, gastroenterology, and hematology.

TABLE 1 Description of Participants

Professional Types	Sites	e-Consult Usage	No. (professions)
Primary care	CBOC	High	7 (4 MD, 3 NP/PA)
Primary care	CBOC	Low	6 (3 MD, 3 NP/PA)
Primary care	High use VAMC	High	4 (2 MD, 2 NP/PA)
Primary care	Low use VAMC	High	6 (2 MD, 4 NP/PA)
Primary care	High use VAMC	Low	6 (5 MD, 1 NP/PA)
Primary care	Low use VAMC	Low	5 (3 MD, 2 NP/PA)
Specialist	High use clinical departments	n/a	16 (4 hematology, 1 urology, 7 gastroenterology, 1 endocrinology, including 3 division chiefs)
Specialist	Low use clinical departments	n/a	9 (4 cardiologists; 4 endocrinologists; 1 gastroenterologist; including 3 division chiefs)

Abbreviations: CBOC, community-based outpatient clinic; e-consult, electronic consultation; NP, nurse practitioner; PA, physician assistant; VAMC, Veterans Affairs medical center.

E-Consult Procedures

Within the VA, the specific procedures used to initiate, triage and manage e-consults are coordinated at VA medical centers (VAMCs) and at the Veterans Integrated Service Network (VISN) regional level. E-consult can be requested by any clinician. Generally, e-consults are initiated by PCPs through standardized, specialty-specific templates. Recipients, typically specialists, respond by answering questions, suggesting additional testing and evaluation, or requesting an in-person visit. Communication is documented in the patient's electronic health record (EHR). Specialists receive different levels of workload credit for responding to e-consults similar to a relative value unit reimbursement model. Training in the use of e-consults is available to practitioners but may vary at local and regional levels.

Recruitment

Our sample included PCPs, specialists, and specialty care division leaders. We first quantified e-consult rates (e-consults per 100 patient visits) between July 2016 and June 2017 at VA facilities within primary care and the 4 priority specialties and identified the 30 sites with the highest e-consult rates and 30 sites with the lowest e-consult rates. Sites with < 500 total visits, < 3 specialties, or without any e-consult visit during the study period were excluded. E-consult rates at community-based outpatient clinics were included with associated VAMCs. We then stratified PCPs by whether they were high or low users of e-consults (determined by the top and bottom users within each site) and credentials (MD vs nurse practitioner [NP] or physician assistant [PA]). Specialists were sampled based on their rate of use relative to colleagues within their site and the use rate of their division. We sampled division chiefs and individuals who had > 300 total visits and 1 e-consult during the study period. To recruit participants, the primary investigator sent an initial email and 2 reminder emails. The team followed up with respondents to schedule an interview.

Interview guides were designed to elicit rich descriptions of barriers and facilitators to e-consult use (eAppendix available at doi:10.12788/fp.0214). The team used the Practical Robust Implementation and Sustainability Model (PRISM), which considers factors along 6 domains for intervention planning, implementation, and sustainment.[19] Telephone interviews lasted about 20 minutes and were conducted between September 2017 and March 2018. Interviews were recorded and transcribed verbatim.

Analysis

The team used an iterative, team-based, inductive/deductive approach to conventional content analysis.[20,21] Initial code categories were created so that we could identify e-consult best practices—facilitators of e-consult that were recommended by both PCPs and specialists. Inductive codes or labels applied to identify meaningful quotations, phrases, or key terms were used to identify emergent ideas and were added throughout coding after discussion among team members. Consensus was reached using a team-based approach.[21] Four analysts independently coded the same 3 transcripts and met to discuss points of divergence and convergence. Analyses continued with emergent themes, categories, and conclusions. Atlas.ti. v.7 was used for coding and data management.[22]

RESULTS

We conducted 34 interviews with clinicians (Table 1) from 13 VISNs. Four best-practice themes emerged among both PCPs and specialists, including that e-consults (1) are best suited for certain clinical questions and patients; (2) require relevant background information from requesting clinicians and clear recommendations from responding clinicians; (3) are a novel opportunity to provide efficient, transparent care; and (4) may not be fully adopted due to low awareness. Supporting quotations for the following findings are provided in Table 2.

Specific Clinical Questions and Patients

PCPs described specific patients and questions for which they most frequently used e-consults, such as for medication changes (Q1), determining treatment steps (Q2,3), and or clarifying laboratory or imaging findings. PCPs frequently used e-consults for patients who did not require a physical examination or when specialists could make recommendations without seeing patients face-to-face (Q3). An important use of e-consults described by PCPs was for treating conditions they could manage within primary care if additional guidance were available (Q4). Several PCPs and specialists also noted that e-consults were particularly useful for patients who were unable to travel or did not want face-to-face appointments (Q5). Notably, PCPs and specialists mentioned situations for which e-consults were inappropriate, including when a detailed history or physical examination was needed, or if a complex condition was suspected (Q6).

Background Data and Clear Recommendations

Participants described necessary data that should be included in high-quality e-consults. Specialists voiced frustration in time-consuming chart reviews that were often necessary when these data were not provided by the requestor. In some cases, specialists were unable to access necessary EHR data, which delayed responses (Q7). PCPs noted that the most useful responses carefully considered the question, used current patient information to determine treatments, provided clear recommendations, and defined who was responsible for next steps (Q8). PCPs and specialists stated that e-consult templates that required relevant information facilitated high-quality e-consults. Neither wanted to waste the other clinician's time (Q8).

A Novel Opportunity

Many PCPs felt that e-consults improved communication (eg, efficiency, response time), established new communication between clinicians, and reduced patients' appointment burden (Q10, Q11). Many specialists felt that e-consults improved documentation of communication between clinicians and increased transparency of clinical decisions (Q12). Additionally, many specialists mentioned that e-consults capture previously informal curbside consults, enabling them to receive workload credit (Q13).

Lack of Awareness

Some noted that the biggest barrier to e-consults was not being aware of them generally, or which specialties offer e-consults (Q14). One PCP described e-consults as the best kept secret and found value in sharing the utility of e-consults with colleagues (Q15). All participants, including those who did not frequently use e-consults, felt that e-consults

TABLE 2 Supporting Quotations

Themes	No.	Quotations
E-consults are best suited for certain clinical questions and patients	Q1	So if I just have a question for example about […] do I need to start a patient on a testosterone treatment, and I'm not sure whether it's necessary or not, then it'll put that e-consult [in to] endocrine…—PCP, hgh user, low use VAMC
	Q2	Or the migraines, cardiology, a lot of times if I'm starting a patient on their third or fourth blood pressure medicine, I might send a consult to cardiology to say, "hey, am I missing anything, is there, you know, some additional testing I should do, I just can't seem to get her blood pressure under control, you know, what should I do, what do you recommend for the next step?"—PCP, low user, CBOC
	Q3	I had a patient who does not have osteoporosis by criteria, has just osteopenia, but had a vertebral compression fracture, a frequent complication of osteoporosis from a ground-level fall, but in the context of them not having full blown osteoporosis, I asked the question, should I go ahead and treat this person like osteoporosis, get the workup and consider a bisphosphonate given they had the end-stage complication of osteoporosis, or should we not do that […] So, something like that to confirm what I think is appropriate, but it's not a common thing, and the specialists do weigh in on—PCP, low user, high use VAMC
	Q4	I do a lot of HIV care, and I, you know, occasionally have more complex HIV situations where I'm thinking about changing a regimen, but I'd like a second opinion on it, and so I'll send an e-consult to our infectious disease physicians and ask for their thoughts so they can, and for that, they really just need to review the patient's chart, nothing about speaking to the patient will really improve the consultation. Yeah, those would be examples of the ways in which I use e-consults.—PCP, low user, high use VAMC
	Q5	For example, you have a patient that's on like massive amounts of insulin […] patient's been refusing and refusing to go to endocrinology […] so now, you can consult [VAMC], they'll call and they'll talk to the patient and they'll discover what they think the right thing to do and they'll say "hey, order this U500 concentrated insulin" or this other fancy insulin that I'm not familiar with.—PCP, high user, CBOC
	Q6	They're less appropriate for somebody who I need to take a detailed history or to perform a physical exam, you know, those are two very clear instances where I can't do that electronically—Cardiologist, high use specialty division
Background data and clear recommendations	Q7	It's sometimes very difficult, again, finding that needle in the haystack, that one record, that one piece of paper that you need to see […] so it's just, you just have to hunt and so it's time-consuming and that's, that to me is a big challenge is the time.—Cardiologist, low use specialty division
	Q8	I would expect a good e-consult to be one that evaluates number one, the question that's being asked, number two, that […] helps me decide what the next step is, or what that patient needs or, you know, what kind of treatment should be rendered to that patient from a specialty standpoint of view. —PCP, high user, CBOC
	Q9	They have user-friendly templates, and I think that's important because I don't want to be wasting my time, filling out you know a consult that will take me forever to finish.—PCP, low user, CBOC
Novel opportunity	Q10	You're actually keeping the patient from having to spend 5 (hours) you know, a bunch of travel time coming and going and to the clinic, and you're getting the information back to the primary care doctor very quickly, so I think it's improved the communication.—PCP, low user, high use VAMC
	Q11	I think it built it and established a line of accurate communication that we didn't have before.—PCP, low user, high use VAMC
	Q12	We will all know what was said and there will be [no] ambiguity about what was said and what was r ecommended [...] at least I won't be misquoted.—Gastroenterologist, high use specialty division
	Q13	It provides a means of documentation and I guess the VA is interested, at least partly, in workload credit because, I do an awful lot of curbsides as we call them, you know, via phone and in person that we don't get clinical credit for.—Cardiologist, low use specialty division
Lack of awareness	Q14	I guess the only barrier is whether providers know about it or know how to utilize it, know how to access it through the VA EHR, but those who utilize it, I think find value in it.—Hematologist, high use specialty division
	Q15	At the moment, I have a grave concern that it's kind of the best kept secret to tell you the truth.—PCP, high user, low use VAMC
	Q16	Number 1, the person doesn't have to come back and forth to multiple appointments, number 2, it's very timely because the labs come in today and the e-consult is back tomorrow, not a month, and there's hopefully less opportunity for things to fall through the cracks […] it's just nice to have a, it's another pair of eyes on the chart.—PCP, high user, low use VAMC
	Q17	I think it does help by not having to see patients in clinic physically. It helps not only decrease the […] amount of travel the veterans have to do, but it also does help us keep some clinic space open for people that we have to see. We had a wait time that was significantly up, but now we're, we're at a wait time, time range for any kind of consult that is, that is very acceptable, and e-consults is part of that.—Cardiology chief, high use specialty division

Abbreviations: CBOC, community-based outpatient center; PCP, primary care practitioner; VA, US Department of Veterans Affairs; VAMC, VA medical center.

improved the quality of care by providing more timely care or better answers to clinical questions (Q16). Several practitioners also felt that e-consults increased access to specialty care. For example, specialists reported that e-consults enabled them to better manage patient load by using e-consults to answer relatively simple questions, reserving face-to-face consults for more complex patients (Q17).

DISCUSSION

The objective of this study was to identify potential best practices for e-consults that may help increase their quality and use within the VA. We built on prior studies that offered insights on PCP and specialists' overall satisfaction with e-consult by identifying several themes relevant to the further adoption of e-consults in the VA and elsewhere without a face-to-face visit.[8,13,14,16–18] Future work may be beneficial in identifying whether the study themes identified can explain variation in e-consult use or whether addressing these factors might lead to increased or higher quality e-consult use. We are unaware of any qualitative study of comparable scale in a different health care system. Further, this is the first study to assess perspectives on e-consults among those who initiate and respond to them within the same health care system. Perhaps the most important finding from this study is that e-consults are generally viewed favorably, which is a necessary leverage point to increase their adoption within the system.

Clinicians reported several benefits to e-consults, including timely responses to clinical questions, efficient communication, allow for documentation of specialist recommendations, and help capture workload. These benefits are consistent with prior literature that indicates both PCPs and specialists in the VA and other health care systems feel that e-consults improves communication, decreases unnecessary visits, and improves quality of care.[1,14,17,18] In particular, clinicians reported that e-consults improve their practice efficiency and efficacy. This is of critical importance given the pressures of providing timely access to primary and specialty care within the VA. Interestingly, many VA practitioners were unaware which specialties offered e-consults within their facilities, reflecting previous work showing that PCPs are often unaware of e-consult options.[16] This may partially explain variation in e-consult use. Increasing awareness and educating clinicians on the benefits of e-consults may help promote use among non- and low users.

A common theme reported by both groups was the importance of providing necessary information within e-consult questions and responses. Specialists felt there was a need to ensure that PCPs provide relevant and patient-specific information that would enable them to efficiently and accurately answer questions without the need for extensive EHR review. This reflects previous work showing that specialists are often unable to respond to e-consult requests because they do not contain sufficient information.[22] PCPs described a need to ensure that specialists' responses included information that was detailed enough to make clinical decisions without the need for a reconsult. This highlights a common challenge to medical consultation, in that necessary or relevant information may not be apparent to all clinicians. To address this, there may be a role in developing enhanced, flexible templating that elicits necessary patient-specific information. Such a template may automatically pull relevant data from the EHR and prompt clinicians to provide important information. We did not assess how perspectives of templates varied, and further work could help define precisely what constitutes an effective template, including how it should capture appropriate patient data and how this impacts acceptability or use of e-consults generally. Collaboratively developed service agreements and e-consult templates could help guide PCPs and specialists to engage in efficient communication.

Another theme among both groups was that e-consult is most appropriate within specific clinical scenarios. Examples included review of laboratory results, questions about medication changes, or for patients who were reluctant to travel to appointments. Identifying and pro-

moting specific opportunities for e-consults may help increase their use and align e-consult practices with scenarios that are likely to provide the most benefit to patients. For example, it could be helpful to understand the distance patients must travel for specialty care. Providing that information during clinical encounters could trigger clinicians to consider e-consults as an option. Future work might aim to identify clinical scenarios that clinicians feel are not well suited for e-consults and determine how to adapt them for those scenarios.

Limitations

Generalizability of these findings is limited given the qualitative study design. Participants' descriptions of experiences with e-consults reflect the experiences of clinicians in the VA and may not reflect clinicians in other settings. We also interviewed a sample of clinicians who were already using e-consults. Important information could be learned from future work with those who have not yet adopted e-consult procedures or adopted and abandoned them.

CONCLUSIONS

E-consult is perceived as beneficial by VA PCPs and specialists. Participants suggested using e-consults for appropriate questions or patients and including necessary information and next steps in both the initial e-consult and response. Finding ways to facilitate e-consults with these suggestions in mind may increase delivery of high-quality e-consults. Future work could compare the findings of this work to similar work assessing clinicians perceptions of e-consults outside of the VA.

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Ethics and consent

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eAPPENDIX Interview Guides

Primary Care Practitioner (PCP)

Interviewer name:
Interview date: Initial interview date:

Start time: End time:

Hello [participant name],

My name is [interviewer name]. I am with an evaluation team tasked with understanding how e-consults are used in [site].

These findings will be used to understand barriers and facilitators to e-consult utilization and expansion, and to develop "best practices" recommendations and support tools to facilitate e-consult expansion. Your responses will be kept confidential, and you and your facility will not be identified in any reports or publications. Nothing that you say will be reported back to your facility.

The call will take approximately 20 to 30 minutes.

Your participation in this interview is voluntary. You can stop the interview at any time and let us know if you'd rather not answer a particular question.

Do you have any questions?

In order to make sure we capture all of the information you give us, we would like to record this call. The audio file for the recording will be uploaded to a restricted-access file on the Veterans Affairs (VA) intranet immediately after we complete this interview. The audio file will be saved anonymously. We may transcribe the recording, and your name will be removed from any transcripts. Is this okay with you?

Grounded prompts: If responses are limited or require clarification, probes may be used to illicit more detailed responses. Probes should use words or phrases presented by the participant using one of the following formats:
1. What do you mean by ___________?
2. Tell me more about ___________.
3. Give me an example of ___________.
4. Tell me about a time when ___________.
5. Who _________?
6. When _________?

Script
1. Please tell me about your role with e-consults.
2. Please tell me about e-consults.
   (Practical Robust Implementation and Sustainability Model [PRISM]: organizational perspective)
3. What, if any, are challenges to using e-consults at your site?
   (PRISM: organizational perspective)
   a. Do you have any suggestions for overcoming these barriers?
4. [If needed] What is a good e-consult?
   a. Grounded probes—probe for specific examples.
5. What, if anything, has made it easier to use e-consults at your site?
   (PRISM: organizational perspective)
6. How have e-consults affected your workload?
   (PRISM: organizational perspective)
   a. How do e-consults fit into your practice?
7. How have e-consults affected communication between PCPs and specialists?
   (PRISM: organizational perspective)
8. How do you think e-consults have affected the quality of care provided to patients?
   (PRISM: patient perspective)
   a. Can you give me an example?
9. What types of patients do you use e-consults for?
   (PRISM: characteristics of organizational recipients)
   a. Who were these people?
   b. Can you give me an example?
10. What kind of communication or feedback do you receive from your division or facility leadership about your use of e-consults?
    a. Can you tell me about how it was rolled out?
    b. Are there expectations for e-consult use?
11. Is there anything else you would like us to know about the use of e-consults at your site?
12. Do you have any advice on e-consults for other sites and/or specialties?
    a. Probe about templates.
13. Thank you, those are all the questions I have. Do you have any questions for us?

Thank you for participating in this interview.

Specialist

Interviewer name:
Interview date: Initial interview date:

Start time: End time:

Hello [participant name],

My name is [interviewer name]. I am with an evaluation team tasked with understanding how e-consults are used in [site].

These findings will be used to understand barriers and facilitators to e-consult utilization and expansion, and to develop "best practices" recommendations and support tools to facilitate e-consult expansion. Your responses will be kept confidential and you and your facility will not be identified in any reports or publications. Nothing that you say will be reported back to your facility.

The call will take approximately 20 to 30 minutes.

Your participation in this interview is voluntary. You can stop the interview at any time, and let us know if you'd rather not answer a particular question.

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2. Tell me more about ___________.
3. Give me an example of ___________.
4. Tell me about a time when ___________.
5. Who _________?
6. When _________?

Script

1. Please tell me about your role with e-consults.
2. Please tell me about e-consults.
   (PRISM: organizational perspective)
3. How did you end up being the one to respond to e-consults?
   a. Were you selected by your division or clinic? Did you volunteer?
4. What, if any, are challenges to answering e-consults that you receive?
   (PRISM: organizational perspective)
   a. Do you have any suggestions for overcoming these challenges?
5. What, if anything, has made it easier to answer e-consults that you receive?
   (PRISM: organizational perspective)
   a. Are there particular patients or questions that work well?
   b. Do you have resources that assist you?
   c. Did you receive training?
6. How have e-consults affected your workload?
   (PRISM: organizational perspective)
   a. Do you have protected time for e-consults?
   b. What's the demand at your site?
   c. What's the average time to complete an e-consult?
7. How do you think e-consults have affected the quality of specialty care provided to patients?
   (PRISM: patient perspective)
   a. Are e-consults more appropriate for certain types of patients?
8. Are e-consults used to arrange procedures within your specialty?
   (PRISM: organizational perspective)
   a. Do e-consults expedite scheduling of procedures?

Thank you for that information. Now I would like to ask you a few questions about the sustainability of the e-consult program.

9. Are there people in your facility who have been especially instrumental in helping to sustain this initiative?
   (PRISM: characteristics of organizational recipients)
   a. Who were these people?
   b. What roles do these people play?
10. At your facility, how were leadership involved in rolling out e-consults?
    (PRISM: characteristics of organizational recipients)
    a. [If needed] Did leadership provide training for e-consult use, or an expectation for e-consult use?
11. At your facility, how does leadership support e-consults?
    a. What kind of communication or feedback do you receive from your division or facility leadership about your use of e-consults?
    b. Is there an expectation from your leadership that you complete a certain number of these, or respond in a certain amount of time?
12. Is there anything else you would like us to know about the use of e-consults at your site?
13. Do you have any advice on e-consults for other sites and/or specialties?
14. Thank you, those are all the questions I have. Do you have any questions for us?

Thank you for participating in this interview.