Patients Assess an eConsult Model's Acceptability at 5 US Academic Medical Centers

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ABSTRACT

PURPOSE Electronic consultation (eConsult), involving asynchronous primary care clinician-to-specialist consultation, is being adopted at a growing number of health systems. Most evaluations of eConsult programs have assessed clinical and financial impacts and clinician acceptability. Less attention has been focused on patients' opinions. We set out to understand patient perspectives and preferences for hypothetical eConsult use at 5 US academic medical centers in the process of adopting an eConsult model.

METHODS We invited adult primary care patients to participate in focus groups. Participants were introduced to the eConsult model, considered its potential benefits and drawbacks, judged the acceptability of a hypothetical copay, and expressed their preferences for future involvement in eConsult decision making and communication. Thematic analysis was used for data interpretation.

RESULTS One focus group was conducted at each of the 5 sites with a total of 52 participants. Focus groups responded positively to the idea of eConsult, with quicker access to specialty care and convenience identified as key benefits. Approval was particularly high among those with a trusted primary care clinician. Preference for involvement in eConsult decision making and communication varied and enthusiasm about eConsult waned when a hypothetical copay was introduced. Concerns included potential misuse of eConsult and exclusion of the patient's illness narrative in the eConsult exchange.

CONCLUSIONS Primary care patients expressed strong support for eConsult, particularly when used by a trusted primary care clinician, in addition to voicing several concerns. Patient involvement in eConsult outreach and education efforts could help to enhance the model's effectiveness and acceptability.

Ann Fam Med 2020;18:35-41. https://doi.org/10.1370/afm.2487.

INTRODUCTION

Electronic consultation (eConsult) involves an asynchronous exchange of clinical information and patient care recommendations via a shared electronic health record or web-based platform. eConsult models are being adopted at many health systems as part of an effort to leverage health information technology to improve communication and information sharing, increase access to specialty care, and lower health care costs.[1,2]

Evaluations of eConsult programs have demonstrated cost savings, reductions in referral rates, and improvements in specialty care access time.[3-7] Assessments of clinicians' experiences suggest that voluntary-use eConsult models have been widely embraced, with primary care clinicians reporting increased access to specialist expertise and improved inter-clinician communication.[8-11] Models requiring that all referrals to a specialist service be routed through eConsult have also led to improvements in referral quality and wait times for in-person specialty visits, although a recent study with safety-net clinicians revealed primary care clinician frustration with the increased administrative burden and clinical responsibility accompanying this type of eConsult system.[12]

Less attention has been paid to patients' perspectives on eConsult, with most studies to date assessing patient experience through the perspective of primary care clinicians.[7] Findings include high patient satisfaction,[13,14] improved patient-clinician communication,[15] and a strengthening of the role of the primary care clinician.[16] Research on patient perspectives has primarily been conducted at integrated delivery systems and publicly funded health systems. As phase 1 of a 2-part study, we set out to understand patients' opinions about a new eConsult model at US academic medical centers before having direct experience with the service. Our premise was that assessing patients' reactions to the idea of eConsult, and ascertaining preferences for involvement in eConsult decision making, could help to ensure that the eConsult model was responsive to patients' preferences. Phase 2 of the project involved a national survey assessing patient satisfaction with a recent eConsult experience. Results will be reported in a forthcoming publication.

METHODS

eConsult Model

Based on a model developed and piloted at the University of California, San Francisco, and with support from the Center for Medicare and Medicaid Innovation, the American Association of Medical Colleges (AAMC) launched Project CORE: Coordinating Optimal Referral Experiences in 2014 to help academic medical centers improve the efficiency and effectiveness of clinical communication between primary care and specialty care clinicians.[17] eConsult exchanges in this model typically take place between primary care clinicians and specialists, with a low-acuity question submitted by a primary care clinician through the electronic health record. Within 72 hours, a specialist submits a response with clinical recommendations or a suggestion that the patient be referred to the specialty clinic for an in-person visit. To date, AAMC has partnered with 30 academic medical centers; the study reported here was part of a coordinated implementation of the eConsult model with the first CORE cohort of 5 academic medical centers. Two of the authors, S.S. and M.Q., are employed by AAMC. To minimize potential bias resulting from AAMC's role in implementing the eConsult model, these authors did not take the lead in design, data collection, or data analysis for the study reported here.

Design

We conducted focus groups with primary care patients at 5 academic medical centers: University of California, San Diego (UCSD); University of Wisconsin, Madison (UW); Dartmouth-Hitchcock (DH); University of Iowa (UI); and the University of Virginia (UVA). A focus group is a small-group discussion guided by a trained facilitator in which opinions about a designated topic are explored.[18] The dynamic, interactive nature of focus groups prompts participants to express and reconsider both individual and shared perspectives. Our goal was to introduce the concept of eConsult and assess patients' reactions and preferences for eConsult decision making and communication. Focus group questions were developed by the first author, S.L.A., (Supplemental Appendix, available at http://www.AnnFamMed.org/content/18/1/35/suppl/DC1/), who also facilitated the groups.

Setting and Participants

Focus groups took place in 2016, when the eConsult program was in an early phase of rollout. The groups were intended to be small (6 to 10 participants) in order to facilitate open discussion. Striving to maximize diversity in age, gender race/ethnicity, and internal medicine vs family medicine clinicians/clinics, each site independently recruited a convenience sample of patients who had a primary care visit in the last year.[19] Experience with eConsult was not necessary.

Recruitment strategies varied across sites. One academic medical center's patient advisory council was invited to participate. The other 4 centers randomly selected prospective participants from patient rosters at primary care clinics involved in eConsult adoption. Participants were recruited via e-mail and phone. All participants were provided with a meal and $50 gift card as a token of appreciation.

Data Analysis

Focus groups were audio recorded and professionally transcribed. M.Q. took notes about nonverbal communication and other contextual factors. Notes and transcripts were uploaded to the qualitative data analysis application Dedoose, version 7.1.3 (SocioCultural Research Consultants). Using a thematic analysis approach, 4 of the authors (S.L.A., K.D., K.T.C., M.Q.) reviewed the transcripts and notes and developed an inductive coding framework focused on the opinions expressed in each focus group about primary and specialty care and the eConsult service.[20] At least 2 authors independently coded each transcript. The team then reviewed the coded data and developed themes, focusing on areas of consensus within each focus group and similarities and differences across groups. We also considered opinions expressed by individuals that diverged from group consensus. Discrepancies in interpretation were resolved through discussion, and there were no detectable differences

in interpretation between the author employed by AAMC (M.Q.) and those who were not.

The study was exempted from Institutional Review Board (IRB) review at all participating sites. Written informed consent was obtained from all participants.

RESULTS

Five focus groups were conducted with a total of 52 participants (with a range of 9-13 across sites). On average, 76% of participants were women, 63% were aged 65 years or older, 64% had a 4-year college degree or higher, and 81% had been a patient at the host academic medical center for 9 or more years (see Table 1 for demographics by site). All participants had an established primary care clinician.

Although the eConsult program had launched several months before the focus groups, nearly all participants were unfamiliar with the service or were unaware that their primary care clinician had used it.

Below, we present our findings in 2 sections based on the conceptual domains explored in the focus groups: (1) acceptability of eConsult and (2) patient involvement in eConsult decision making and communication (see Table 2 for a summary of themes).

Acceptability of eConsult

Nearly all focus groups responded positively to the idea of eConsult and were enthusiastic about its potential benefits.

Another Mode of Digital Communication

The ready acceptance of the idea of eConsult was often linked to knowledge of health information technology. Specifically, all focus groups were aware that clinicians communicate with each other through the electronic health record, and the majority of participants reported regular use of the electronic health record's "patient portal" as a convenient way of confirming clinical appointment times, reviewing laboratory results, and communicating with clinicians.

Saving Time and Money

All focus groups noted cost savings and efficiency gains as possible benefits of eConsult:

"…if it's not something that the specialist needs to physically examine my body, then why not expedite the whole thing and just have the doctor-to-doctor talks" (UCSD).

In particular, avoiding an unnecessary visit with a specialist could reduce the costs of medical care, including

Table 1. Participant Characteristics

	Total[a] No. (%)	Dartmouth-Hitchcock No. (%)	Iowa No. (%)	San Diego No. (%)	Virginia No. (%)	Wisconsin No. (%)
Sex						
Female	40 (77)	7 (100)	7 (78)	10 (91)	6 (46)	10 (83)
Male	12 (23)	0 (0)	2 (22)	1 (9)	7 (54)	2 (17)
Age, y						
18-24	3 (5.8)	2 (29)	1 (11.11)	0 (0)	0 (0)	0 (0)
25-34	2 (3.8)	0 (0)	0 (0)	0 (0)	0 (0)	2 (17)
35-44	5 (9.6)	0 (0)	2 (22.22)	1 (9)	0 (0)	2 (17)
45-54	5 (9.6)	0 (0)	1 (11.11)	2 (18)	1 (7.7)	1 (8)
55-64	4 (7.7)	1 (14)	1 (11.11)	0 (0)	1 (7.7)	1 (8)
>65	33 (63.5)	4 (57)	4 (44.44)	8 (73)	11 (84.6)	6 (50)
Patient at AMC, y						
0-1	3 (5.77)	2 (29)	1 (11)	0 (0)	0 (0)	0 (0)
1-5	4 (7.69)	0 (0)	2 (22)	0 (0)	0 (0)	2 (17)
6-8	3 (5.77)	0 (0)	0 (0)	2 (18)	1 (8)	0 (0)
>9	42 (80.77)	5 (71)	6 (67)	9 (82)	12 (92)	10 (83)
Education Level[b]						
<High school grad	1 (2.6)	0 (0)	0 (0)	1 (9.09)	…[b]	0 (0)
High school grad or GED	3 (7.7)	2 (28.57)	1 (11)	0 (0)	…	0 (0)
Some college or 2-year degree	10 (25.6)	2 (28.57)	3 (33)	2 (18.18)	…	3 (25)
4-year college degree	10 (25.6)	2 (28.57)	0 (0)	4 (36.36)	…	4 (33)
>4-year degree	15 (38.5)	1 (14.29)	5 (56)	4 (36.36)	…	5 (42)

AMC = academic medical center; GED = general equivalency diploma.

[a] Data missing for 1 participant.

[b] Data missing for 1 site.

Table 2. Themes Related to Acceptability, Decision Making, and Communication

Access to Specialty Care	Deciding to Use the eConsult Service
Most participants agreed that eConsult would improve access to care for both eConsult and standard referral patients	No consensus about the extent to which patients should be involved in eConsult decision making
Convenience	Preference for involvement increased when a hypothetical copay was introduced
Since eConsults do not require payment, appointment scheduling, or travel, they were anticipated to reduce financial and time burdens on patients	**Communicating the specialist's response**
eConsults were expected to make in-person specialty visits more efficient	Preferred medium of communication depended on level of urgency of specialist's recommendations
Reliance on primary care	Some participants wanted to see the specialist's response verbatim; others felt that the primary care clinician's summary would be sufficient
An established, trusting relationship with a primary care clinician, and with the medical center more generally, appeared to enhance the acceptability of eConsult	**Would a copay for eConsult be acceptable?**
Digital literacy	A copay would be acceptable to some participants, but a majority said that they would rather see the specialist in person if a copay was levied for eConsult.
Most participants used the patient portal to communicate with their clinicians and to view personal health information; high digital literacy appeared to enhance acceptability of eConsult	
Fears and concerns	
Participants wanted reassurance that eConsult would be used appropriately and that patients would continue to have direct access to specialists when needed or preferred	

eConsult = electronic consultation

expenses related to missed work, childcare, transportation, parking, and copays.

In the event that the specialist's eConsult response included a recommendation that the patient be seen in person, the groups reasoned that the specialist appointment would probably be more productive because the eConsult would provide up-to-date information about the patient's condition beforehand. This point is illustrated in a participant's narrative, in which a typical first visit with a specialist is contrasted with a post-eConsult appointment with the same clinician:

"…you're regurgitating the whole story of what happened… and then he's all of a sudden going, well now we need this test or this test…. [With eConsult] at least things can get in motion before then. If it comes back and says yes, we should see them and we need a CT or this or this, that it can get set up…it becomes a functional appointment when you get there" (UW).

Improving Access to Specialty Care

The focus groups recognized that an eConsult response from a specialist was likely to be received long before a patient could obtain an in-person appointment with a specialist, so they reasoned that eConsult could benefit patients via more rapid access to specialist expertise.

eConsult was also understood as a tool that could improve in-person access to specialists in 2 ways. First, eConsults would likely remove patients with lower-complexity problems from the primary care–specialty care referral pipeline, thereby opening up specialty appointments to those who need them more: "…We might be the one who benefits from an earlier appoint-

ment because someone else got adequate information from the eConsult" (UCSD). Second, if an eConsult prompts a recommendation that the patient be seen in person by a specialist, an appointment could possibly be obtained more quickly because the patient is already known to the specialist through eConsult.

Reliance on Primary Care

There were several topics that revealed different perspectives within the focus groups. Among patients with a long-term, trusting relationship with a primary care clinician, for example, the idea of eConsult was generally viewed positively: "…I pretty well trust my doctor and if he needs to consult, I think he ought to consult" (UVA). On the other hand, a primary care clinician-initiated eConsult was perceived as less relevant among participants who were in the care of multiple specialists and had little contact with primary care (approximately 25% of study participants). "I don't need referrals or anything…I just go directly to who I know I need to go to anyway" (UW). These patients frequently engaged in self referral to specialists, and they did not expect a primary care clinician-driven eConsult model to be of significant benefit to them. Across both groups, however, eConsult acceptability was high and was often linked with statements about trust in one's clinicians and the medical center more generally.

Fears and Concerns About eConsult

Another point of difference in the groups related to concerns about potential misuses of eConsult. Four distinct concerns were expressed. The first was the fear that a primary care clinician could use eConsult for a

problem that clearly needed in-person specialty evaluation: "Well, hopefully they wouldn't be doing an eConsult for a possible brain tumor, but you never know. Could be, right?" (UCSD) Second, the specialist might not get "the full picture" of the patient's history and symptoms because the patient was not participating directly in the consultation and was therefore unable to tell her own story.

The third concern focused on insurance coverage: would a payer "count" an eConsult as a specialist appointment and then refuse to cover an in-person appointment with a clinician in the same specialty clinic in the future? Finally, there was some concern that paying primary care clinicians and specialists for an eConsult could create an incentive for overuse of the service.

Involving Patients in eConsult Decision Making and Communication

Focus groups' deliberations about eConsult decision making and communication referenced 2 key time points along the eConsult trajectory: when the primary care clinician is deciding whether to use the eConsult service and after the specialist responds.

Deciding to Use the eConsult Service

There was some disagreement about the extent to which patients should be involved in the decision to use eConsult. On the one hand, the focus groups recognized that clinicians routinely confer among themselves about patients and that patients are not always informed about these interactions.

"I know they talk to each other without ever talking to a patient in order to get a better feel as to what the problem may be… giving the doctors that leeway to contact the specialist to get a better idea of what the situation may be [is ok]" (UVA).

This thinking frames eConsult as equivalent to other types of informal consultation among clinicians. It stands to reason, then, that expecting primary care clinicians to consult patients beforehand could provoke anxiety or a delay in care: "So do you want to trigger a scare factor by asking permission to make that call? … do you need permission? I don't think so" (UCSD).

On the other hand, a vocal minority in all focus groups expressed a strong preference for involvement in the decision, particularly if the primary care clinician is considering eConsult during a patient visit.

Conveying the Specialist's Response

When asked how a specialist's eConsult recommendation should be conveyed to patients, focus groups unanimously rejected a one-size-fits-all approach. eConsult should be treated like any other form of clinical communication, they insisted. For example, bad news or a test result requiring immediate action typically prompts a phone call from a clinician, whereas less urgent information may be conveyed electronically or in person at the next office visit. Thus, primary care clinicians should inform patients by phone or in person if the specialist's response indicates an urgent need for further medical attention: "If it's really something serious, there's no doubt that my doctor would call" (DH). As described earlier, trust in and reliance on primary care appeared to play a strong role in the belief that relevant information from an eConsult would be communicated appropriately.

When asked what language primary care clinicians should use to explain the specialist's recommendations, focus groups did not reach consensus. About one-half the participants wanted access to the specialist's verbatim response, even if the medical language was inscrutable: "I may not understand what the specialist had to say but at least I have it" (UCSD). This group felt that access to medical reports was an essential part of being an informed health care consumer. Others preferred to rely on their primary care clinician's summary of the specialist's advice, or "the layperson's [interpretation], so I could understand it better…I would just not understand some of the medical part" (UI).

Would a Copay for eConsult Be Acceptable?

When the idea of a copay, or out-of-pocket charge, for eConsult was introduced, focus groups' enthusiasm for the service waned. While some individuals said that paying a small copay—something along the lines of one-half the amount usually paid for an office visit—would be acceptable, others said that the introduction of any copay would shift their preference back to traditional referral and an office visit with a specialist. If a primary care clinician wanted to use eConsult, patients should always be consulted first if a copay could be charged.

The focus groups also recognized that health insurers are likely saving money through eConsult programs because they prompt reductions in costly in-person specialty care. Therefore, they reasoned, levying a charge on patients would be unfair: "Why should you pay for an eConsult when it can save them [insurers] a bunch of money?" (UW).

DISCUSSION

We found widespread enthusiasm for the idea of eConsult among primary care patients at 5 academic medical centers in the United States. All focus groups felt that eConsult would result in better care, time and cost savings, and shorter wait times for appointments with specialists. A minority of participants in all groups

expressed reservations about the possible limitations or unintended consequences of eConsult, including inappropriate use of the service for urgent conditions and the exclusion of the patient's own illness narrative. Nonetheless, all 5 groups agreed that eConsult is an expected and reasonable use of the electronic medical record. Patients who relied on primary care and had a long and trusting relationship with an individual primary care clinician were particularly positive about the idea of primary care clinician-initiated eConsult. This finding is corroborated by the results of our national survey of patients at 9 academic medical centers, which show a positive correlation between trust in one's primary care clinician and satisfaction with a recent eConsult (forthcoming publication).

Thus, the success of eConsult models appears to hinge not only on the engagement and buy-in of primary care clinicians and specialists, but on patient-clinician relationships. Although many of the patients in our study reported a long-term relationship with a primary care clinician, many patients face significant barriers to gaining timely access to primary care.[21] Those who do gain access are not always equally posititioned to benefit, since patient-clinician relationships are shaped by each party's ability to mobilize and exchange resources, skills, knowledge and interactional styles—referred to in the sociological literature as "cultural health capital" or "system knowledge."[22-24] Mismatches in cultural capital can erode trust and exacerbate health disparities. Thus, how to ensure that the benefits and advantages of eConsult are equally distributed remains an open question. We recommend that future research assess eConsult experiences and decision-making preferences of more diverse patients, including those with limited digital literacy and without a regular primary care clinician.

Notably, a wide range of opinions were voiced about how patients should be involved in eConsult decision making and communication. Some patients preferred to discuss eConsult decisions with their primary care clinician, whereas others would defer to their primary care clinician's judgement. Some wanted to read the specialist's eConsult response verbatim, while others preferred a primary care clinician's explanation in nontechnical language. Given the paucity of research on patients' experiences with eConsult, not to mention clinician-patient communication about eConsult, it is unknown whether primary care clinicians are aware of their patients' preferences. We recommend that eConsult program implementation projects build in patient outreach strategies and include patients' perspectives in clinician education efforts.

Relevant to payers is that our focus groups were far less enthusiastic about eConsult when a hypo-thetical copay was introduced. The recognition that eConsult saves money for insurers, and the perception that eConsult is not substantially different from the longstanding tradition of unpaid, informal ("curbside") consultations among clinicians, led a vocal minority in all focus groups to reject the idea of a copay outright.

By design, our findings are primarily relevant to eConsult programs and patients at academic medical centers. Also, our study population was likely older, more educated, more digitally literate, and less racially and ethnically diverse than the overall patient population at academic medical centers. Another limitation is that we did not hold focus groups in languages other than English. Moreover, most patients in our study did not have direct experience with eConsult, which limited our ability to assess satisfaction with the service. However, talking with patients at an early phase of eConsult implementation enabled us to share findings with implementation teams as they developed clinician and patient outreach strategies.[25] Finally, given AAMC's role in implementing the eConsult model, the involvement of 2 of their employees in this study raises the possibility of a conflict of interest. To prevent bias, S.L.A. (not an employee of AAMC) took the lead in study design, data collection, data analysis, and manuscript preparation. We are confident that AAMC did not influence the findings reported here.

In conclusion, we found primary care patients to be strongly supportive of the idea of eConsult, provided that it does not replace necessary in-person specialty care and that patients are not expected to shoulder a financial burden for the service. The active engagement of our focus group participants in discussions about innovations in care delivery suggests that patient involvement in outreach and education efforts could help to improve eConsult models and enhance their uptake. We hope that our findings will prompt more eConsult designers and implementers to develop meaningful collaborations with patients.

☛ **Supplemental materials:** Available at http://www.AnnFamMed. org/content/18/1/35/suppl/DC1/.

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