Evaluation of PARC eConsults Pilot

Formative Evaluation Report

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Suzanne Felt-Lisk, Genna Cohen, and Eric Dehus

Submitted to:

Peterson Center on Healthcare
99 Park Avenue, 14th Floor
New York, NY 10022
Attention: Sarah Berk

Submitted by:

Mathematica
1100 First Street, NE, 12th Floor
Washington, DC 20002-4221
Suzanne Felt-Lisk, Formative Task Lead

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Executive Summary

A. Introduction

Rising prices and the intensity of services continue to fuel growth in U.S. health care costs.[i] A study utilizing the Medical Expenditure Panel Survey Data showed that more than half of individuals using specialist services do not visit their primary care provider (PCP).[ii] In addition, many primary care visits often trigger referrals to specialists, which add to existing demand. In situations of curtailed access due to the type of health insurance or availability of specialists, many patients spend a long time waiting for their appointments and sometimes forgo needed care or utilize expensive emergency department (ED) services to address exacerbated chronic conditions. This increased reliance on specialist care for many services that could be delivered in primary care settings has fueled innovations to better channel patients to low-cost primary care services through service delivery integration.

One of the emerging interventions aimed at reducing reliance on costly specialist services is the use of Electronic Consults (eConsults). eConsults are asynchronous consultations that involve exchange of patients' clinical information across an electronic platform allowing PCPs to seek input from specialists on specific clinical questions. eConsults have the potential to reduce costs because they help avoid more costly face-to-face consultations with specialists and might avoid acute care use by easing patient problems accessing necessary specialist care.[iii] One of the limitations of eConsults is that it has been used and implemented primarily in integrated health systems within public health insurance markets (Medicaid/Medicare/Veterans Affairs) where many providers are provided an incentive to identify efficient practices that reduce costs due to limited reimbursement for in-person consultations.[iv,v,vi]

The mission of the Peterson Center on Healthcare (PCH; hereafter referred to as the Center) —reducing health care costs in the U.S.—was the driving motivation behind an exploration of the feasibility of implementing eConsults in the private insurance market where 66 percent of Americans continue to get their health care coverage. The Center initiated a study to examine the utility, uptake, and impact of eConsults in a private insurance market constrained in its availability of specialist services. The results of this study focus on utility and uptake of eConsults in the pilot; however, a report on the impact of the initiative will be forthcoming in April 2023.

B. Background on the pilot

In partnership with Arkansas Blue Cross Blue Shield, the Center planned and implemented an eConsult pilot—known as Project Arkansas eConsultations (PARC) —in a health system and eight independent practices. Arkansas was chosen because of the state's challenges with specialty access constraints, the state's higher than average population-level morbidity rates, and the opportunity that existed to strengthen the state's telemedicine infrastructure. Table ES.1 describes the structure and implementation approach within the two health care settings.

Exhibit ES.1. PARC structure and implementation approach within health system and independent practice settings

Aspect of structure/ implementation	Health system	Independent practices
eConsult model		
eConsult implementation model/solution	Project CORE	ConferMED
Location of participating specialists	Internal – employed/contracted by the health system	External – national network of specialists provided by ConferMED
Clinical questions that can be addressed through eConsults	In consultation with specialists, eConsult templates are developed that include clinical guidance for a subset of common questions or conditions. Some specialties prefer to leave their templates more open, and questions can be "unspecified"	No template, no restriction.
Which specialties can be used	Specialties added over time, in four waves beginning August 2021; total of 13 by end of Wave 4; the list of specialties can be found in Section III, footnote 7 of this report.	Specialists in 23 adult specialties, immediately available starting in February 2021; the list of specialties can be found in footnote 1 below
eConsult payment and seed funding		
Seed funding to participating institutions from PCH	$70,000	$10,000 per participating practice, to 8 practices
Payment for participating providers	0.5 RVU for both specialists and PCPs, applies up to the minimum productivity standard (not PCH-funded)	$40 per eConsult (PCH-funded) to the requesting primary care practice; specialists are compensated through ConferMED (PCH-funded)
eConsult model workflows		
EHR integration	Health system IT team integrated eConsults into the EHR as order templates	Some practices were able to integrate eConsults into their EHRs, while others transferred the documents to Box or faxed to ConferMed
Who is involved in submitting eConsults	PCPs only	PCPs and practice staff such as referral coordinators
Who processes and responds to the eConsult	Designated specialist eConsultants receive the message and response goes directly back to the requesting primary care provider; the question and response are automatically documented in the patient's chart	ConferMED routes the eConsults to an appropriate specialist and sends response back to practice staff; practice staff ensure the PCP receives the response and places it in the patient chart, typically as a PDF

EHR = electronic health record; IT = information technology; PARC = Project Arkansas eConsultations; PCP = primary care provider; RVU = relative value unit.

C. Research questions and methods

The formative evaluation addresses the following research questions through qualitative analysis of key informant interviews, descriptive analysis of eConsult utilization, and summary of results from a survey of health system specialists:

1. What are the core operational considerations for eConsult adoption?
2. What are the key motivators driving and barriers impeding eConsult adoption?
3. How do specialists experience eConsult programs?

Qualitative analysis of key informant interviews. Mathematica conducted key informant interviews with seven PCPs and five practice staff spanning six of the eight independent practices from the pilot. The team also interviewed 12 out of the 77 PCPs who used eConsults, and all four of the implementation

leaders in the participating health system. To participate in the interviews, all PCPs had to have used eConsults at least once. We used a semi-structured discussion guide, informed by a targeted literature review, and conducted 30-minute interviews with key informants, recording the interview with their permission. We used an Excel-based tool to review, isolate, and organize the data. We considered our results through two frameworks, one focused on organizational change management (the ADKAR model of change)[vii] and another that is commonly used to assess barriers and facilitators to implementations (the Consolidated Framework for Implementation Research [CFIR]).[viii]

Descriptive analysis of eConsult utilization. The health system and ConferMED provided eConsult data to Mathematica, which included the ordering PCP and their characteristics along with specific information about each eConsult (that is, the type of clinical question, requesting PCP, and responding specialist). The analysis covered all eConsults from the start of the pilot, with independent practices beginning in February 2021 and health system practices in May 2021. Descriptive data was collected for both the independent and health system practices through May 2022.

Survey of health system specialists. All 24 health system specialists participating in eConsults were invited in May 2022 to provide brief feedback through an online form if they had responded to at least one eConsult. The form asked open-ended questions about what did and did not go well and suggestions for improvement. We received 14 responses and reviewed the response text for common themes.

Limitations. Those who agreed to be interviewed tended to be the more enthusiastic adopters, which is not a representative sample of all potential users. The pilot was delayed and impacted by the COVID-19 pandemic, during which providers were busy responding to the health emergency. In addition, we had limited time in each interview and could not cover all the items of interest in a 30-minute interview. The short interviews, combined with the relatively small numbers of interviews of each type of respondent, limited our ability to draw conclusions about the magnitude of challenges, especially when comparing between health system and independent practice settings.

D. Results

Research Question 1: Operational considerations for eConsults adoption

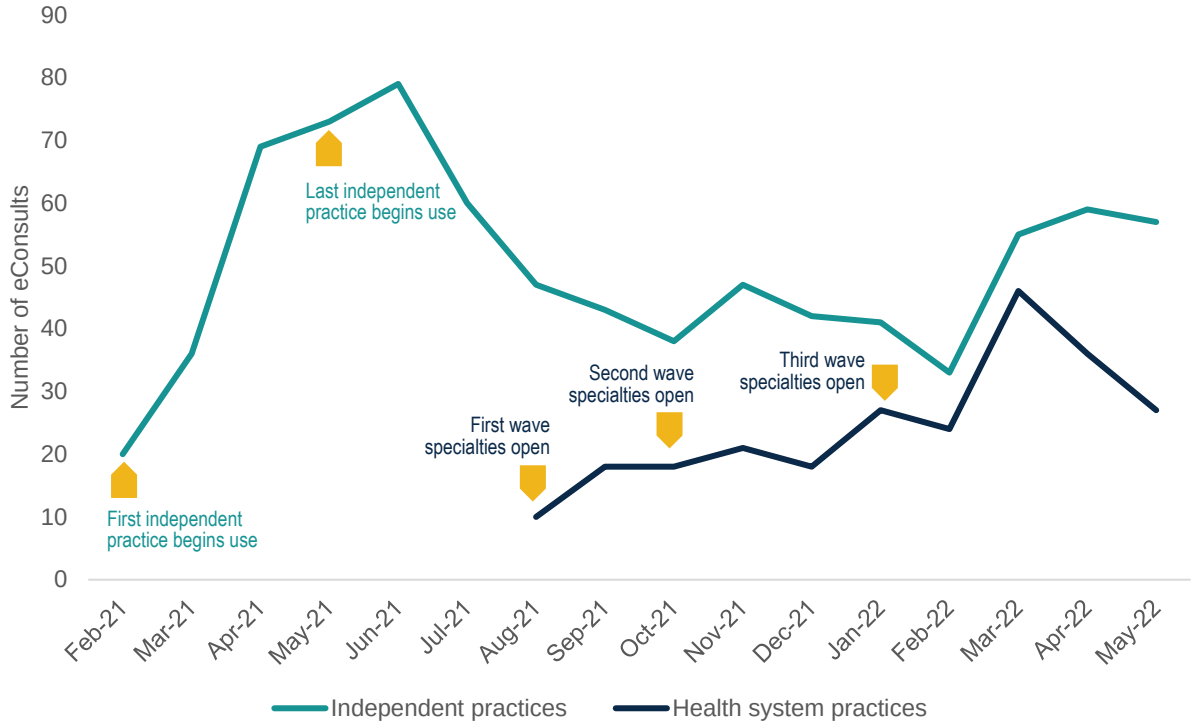
The health system followed the CORE eConsult implementation approach developed by the Association of American Medical Colleges and received a $70,000 grant from PCH to support their preparatory work, including integration into the electronic health record (EHR). Independent practices that agreed to participate in the PARC eConsult pilot were offered a plug-in eConsult solution from ConferMED, which included a national network of 23 types of specialists.[1] Each independent practice was provided $10,000 in seed funding and paid $40 per PCP eConsult by PCH.

Both health care settings successfully integrated eConsults into their respective technology and workflows in a manner that was minimally disruptive and, for those who used eConsults, required little-to-no additional effort than the regular referral process. Key informants found eConsults easy to use and reported receiving high-quality, timely responses from consulting specialists.

[1] ConferMED's specialties are addiction medicine, allergy, cardiology, dermatology, endocrinology, ENT/otorhinolaryngology, gastroenterology, geriatric medicine, hematology, infectious disease, nephrology, neurology, nutrition, women's health, ophthalmology, orthopedics, pain medicine, palliative care, psychiatry, pulmonology, rheumatology, sleep medicine, and urology.

Within the independent practices, the highest-utilizer also had the strongest leadership engagement, which included a routine of goal setting, monitoring, and provider feedback. The per-provider eConsult use in this practice was higher than that of other independent practices, with an average of 42 per month compared to 10 in other independent practices. For the health system, eConsult use seemed to rise with the introduction of each new wave of specialists (about four new specialties in each round), as shown in Exhibit ES.2, but overall use was low, with the average health system PCP using eConsults only two times over the pilot project's measured duration (Appendix B, Table B.2).

Exhibit ES.2. Volume of eConsults by month, health system, and independent practices



According to the interviews, financial incentives were not an influencing factor in eConsult use; there was little awareness of incentives except among the physicians we interviewed who were also practice leaders. Two of those practice leaders commented on how well eConsults fit within their value-based contracts, helping to reduce unnecessary visits and cost.

For others beginning to implement eConsults, the key informants recommended peer-to-peer introduction with examples of how eConsults could benefit a PCP's patients, more instruction on how to pose eConsult questions, and built-in prompts or reminders to help PCPs remember to use an eConsult.

Research Question 2: Motivators and barriers for eConsult adoption

The PCPs we interviewed were primarily motivated to use eConsults by the perceived benefits to their patients. This included improved access to specialty care, minimizing the need to travel long distances, and reducing patients' out-of-pocket costs. PCPs also reported indirect benefits to their patients, which included better documentation of care and improvements in the PCP's knowledge base. PCPs reported eConsults were easy to use and fit well within their workflows.

Having an individual mindset or practice culture that was favorable towards innovation was a facilitator for eConsult use, while the opposite—resistance to change—was a barrier. The human tendency to forget was another barrier, which is consistent with the drop-off observed in eConsult use after the first six months. In both the health system and independent practices, PCPs without strong connections to specialists, who were unable to rely on informal consults, appreciated eConsults' ability to help fill that need. Examples included physicians who were new to an area, those who were not or had not recently worked in a hospital, and those who were geographically distant from certain specialties.

Research Question 3: Specialists' experience with eConsults

Specialist respondents from the health system reported an overall positive experience with eConsults. When asked what went well, the most common response (5 of 14 respondents) was that eConsults made it easier to respond to PCPs' clinical questions, primarily because all of the documentation (such as diagnostic test results, pictures, etc.) was in one place and the questions they asked were straightforward. Other positive comments (from two or three specialists each) were that eConsult requests improved the appropriateness of referrals and helped to strengthen the primary–specialty care relationship.

When asked what did not go well, the strongest theme (mentioned by five specialists) was that PCPs' questions were not specific enough, incomplete, or outside the restricted topics indicated for some specialties. Three specialists also took issue with the time they spent on eConsults not being counted toward productivity. To improve eConsult implementation, the specialists suggested publicizing eConsults more to the PCPs, closing the loop with PCPs, and making some adjustments to the templates and other minor aspects of the technical process.

E. Discussion

Overall, the PCPs, leadership, and practice staff in the health system and independent practices that participated in the pilot had a positive experience with eConsults. Practitioners found them intuitive, useful, and well-fitting to existing technologies and workflows. Both PCPs and specialists appreciated improvements in the quality of care for their patients. However, standing in contrast to respondents' positive experiences was the overall use of eConsults, which was very low in the health system and in most of the independent practices. While earlier studies have indicated challenges in rolling out eConsults across practices, the frequency of eConsults use in this study was substantially lower.[ix] Delays resulting from the COVID-19 pandemic and disparate rollout strategies across the two systems may have been contributing factors.

By examining the rates of eConsult utilization through the ADKAR (Awareness, Desire, Knowledge, Ability & Reinforcement) organizational change management framework, we can identify opportunities for improving implementation of eConsults. For example, during the introduction of eConsults, health system and practice leadership could have generated greater **awareness** of the intervention by coupling email notifications with peer-to-peer campaigns or lunch-and-learn sessions to help emphasize the priority of the effort and to ensure all staff received a baseline training. Further, leadership across both organizational settings could have cultivated greater **desire** within their staff to make a change by highlighting the relative advantages of eConsults over informal consults and/or in-person visit referrals. To build staff **knowledge** on how to use eConsults, more resources on best practices could have been distributed outlining ways to formulate strong questions and responses, thereby improving communication between PCPs and specialists. The implementation of feedback loops could have helped leadership to ensure clinicians and staff were progressing in their **ability** to use eConsults and identify any

emerging pain points. Finally, across all of the practices, greater **reinforcement** of eConsults (as was seen in the highest utilizing independent practice) by routinely setting goals, monitoring eConsult use, and providing regular feedback to PCPs could have promoted ongoing and increased use.[x]

However, effective implementation of innovation is challenging if an organization is not motivated or ready to adopt it. By applying CFIR to the pilot practices' motivators and barriers, important criteria leading to adoption and implementation of eConsults could be identified.[xi] Both the health system and independent practices experienced an external pressure of patient need, particularly for access to specialty care, which contributed to their primary motivator to participate —benefits to patients. The compatibility of eConsults to meet the need of the two organizational settings can be considered by responding to questions such as the following: How well did the innovation fit with perceived risks, needs, values, and existing workflows and systems? Both the independent practices and the health system expressed eConsults fit well into existing technologies and workflows, but in the case of the health system, not all specialties that were needed (such as dermatology and gastroenterology) were available to participate in the pilot; this may have contributed to lower-than-expected utilization. Following the initial introduction of eConsults within the different practice settings, organizational incentives have been shown to support and encourage use of the innovation.[x,xiv] In the case of the independent practices, reimbursement was allocated to the effort; however, it was the practice where leadership encouraged the PCPs and staff through goal setting—while donating the reimbursement to a local food bank—that spurred the greatest adoption.

F. Application of Insights

The organizational change and implementation science approaches can help us draw several insights about practice readiness criteria and key considerations for implementation.

1. Practice readiness criteria

To increase the likelihood of effective eConsult adoption, practices should exhibit the following readiness criteria:

- **Contextual Factors:** Contextual factors include (1) specialist supply constraints and (2) external incentives. Specialty access concerns for patients are a strong motivating factor for adoption. Practices may experience specialty access concerns if they are located in rural areas, where patients are constrained by geographic distance, or in urban areas, where there are long wait times for specialty care. Value-based payment arrangements serve as an external motivator for practices by creating alignment between their payment mechanisms and workflows.
- **Organizational Factors:** Organizational factors include (1) compatibility, (2) provider readiness, and (3) organizational incentives. To ensure compatibility, have the solution(s) offered by the innovation—in this case, the specialties offered—match the needs of the organization. To assess whether an organization and its providers are ready for and open to change, examine whether a practice has been an early adopter of technologies in the past (for example, EHR, OpenNotes) or an early participant in innovative efforts, such as primary care transformation efforts. Providers are more willing to adopt an innovation when they are open to change and when this mindset is supported by the organization. Finally, ensure there is a baseline level of compensation for all participants in a change management effort, and where it is a relative priority, consider above-average compensation to spur greater adoption. Furthermore, consider incentives that go beyond the financial and think about ways to reward and support PCPs and staff for adoption of the innovation.

2. Implementation considerations

To enhance the uptake and sustained use of an innovation such as eConsults, it is important to keep the following implementation considerations in mind:

- **Introduction:** There are three critical components to keep in mind when introducing an innovation such as eConsults: (1) Who is sending the message? (2) What is the content of the message? (3) How is the message being communicated? Making sure the sender is a person of influence, the messaging stresses the relative advantage of eConsults, and communication is done through multiple modalities will enhance awareness and receptivity.
- **Capacity building:** Capacity building comprises three factors: (1) focusing on fit, (2) building knowledge, and (3) building ability. To ensure others have a similar positive experience to the pilot, where both ConferMED and the health system had successfully fit eConsults into the existing referral workflow, focus on that fit. Also anticipate questions, concerns, and clarifications that practice PCPs and staff being newly introduced to eConsults may have about the effects of eConsults on their workflow, how they should be used, and for which clinical conditions they are most appropriate. To work on building knowledge, ensure practitioners have access to eConsult best practices as part of their initial training, with a focus on effective approaches to communication between primary and specialty care. Lastly, incorporate feedback loops with practice and health system leadership to help identify successes, challenges, and areas for improvement for adoption and sustainment of eConsults, thus building the ability of the PCPs and staff to effectively use eConsults.
- **Reinforcement:** To ensure the sustainment of an eConsult effort, build in periodic reminders for practitioners. This can be accomplished by building in system prompts, setting eConsult goals based on regular referral rates, and reinforcing use with monitoring, feedback, and periodic tips and reminders. In addition to tracking outputs such as eConsult utilization, building in longer term benchmarks, such as reductions in ED visits and other quality metrics, could help reinforce the bigger picture of why practitioners are adopting an innovation.

G. Conclusion

Although there is no one silver bullet, eConsults represent a feasible and promising intervention for coordinating care for patients with complex health care needs, enhancing the use of health information technology, improving access to care for people living in resource-limited communities, and providing comprehensive primary care—all of which are tactics for improving the quality of care while reducing costs. The contribution of this pilot study is that it is led by a large payer in a private insurance market that enabled adoption of eConsults with funding from a philanthropic organization (that is, PCH). This illustrates an attractive model for uptake of eConsults in the private insurance market.

I. Background

Goal and motivation for the eConsult pilot. Rising prices and the intensity of services continue to fuel growth in U.S. health care costs.[i] A study using the Medical Expenditure Panel Survey Data showed that more than half of individuals utilizing specialist services do not visit their primary care provider (PCP).[ii] In addition, many primary care visits often trigger referrals to specialists, which adds to existing demand. In situations of curtailed access due to the type of health insurance or availability of specialists, many patients spend a long time waiting for their appointments and sometimes forgo needed care or utilize expensive emergency department (ED) services to address exacerbation of their chronic conditions. This increased reliance on specialist care for many services that could be delivered in primary care settings has fueled innovations to better channel patients to low-cost primary care services through service delivery integration.

One of the emerging interventions aimed at reducing reliance on costly specialist services is the use of Electronic Consults (eConsults). Briefly, eConsults are asynchronous consultations that typically involve exchange of patients' clinical information across an electronic platform allowing PCPs to seek input from specialists on specific clinical questions. eConsults have the potential to reduce costs because they help avoid more costly face-to-face consultations with specialists and might avoid acute care use by easing patient problems accessing necessary specialist care.[iii] One of the limitations of eConsults is that it has been used and implemented primarily in integrated health systems within the public health insurance markets (Medicaid/Medicare/Veterans Affairs) where many providers are provided an incentive to identify efficient practices that reduce costs due to limited reimbursement for in-person consultations.[iv,v, vi]

The mission of the Peterson Center on Healthcare (PCH; hereafter referred to as the Center)—reducing health care costs in the U.S.—was the driving motivation behind an exploration of the feasibility of implementing eConsults in the private insurance market where 66 percent of Americans continue to get their health care coverage. The Center initiated a study to examine the utility, uptake, and impact of eConsults in a private insurance market constrained in its availability of specialist services.

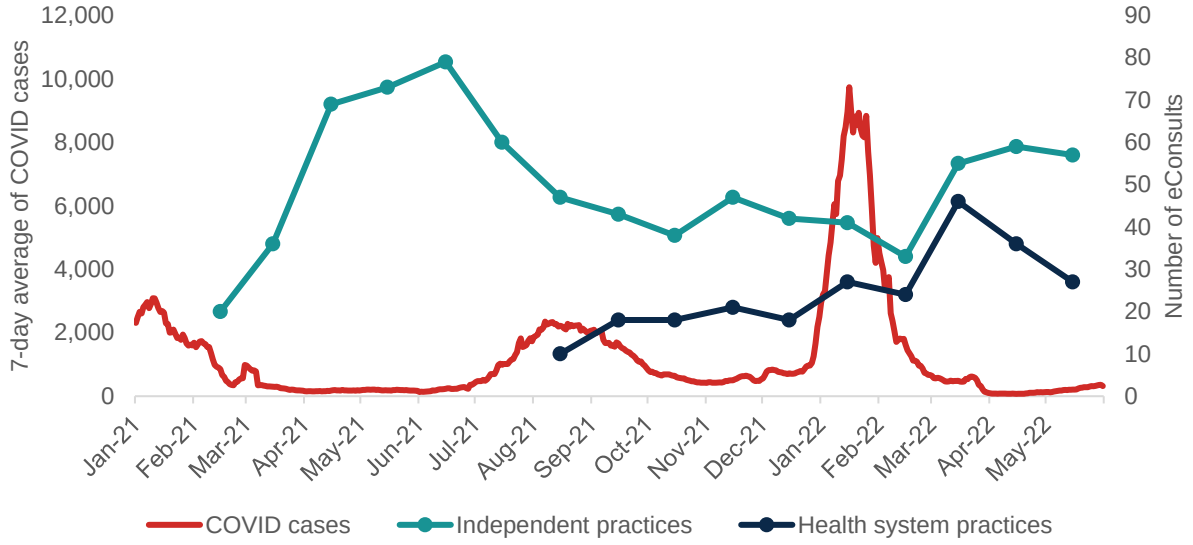
Rationale for location and partnerships. In partnership with Arkansas Blue Cross Blue Shield (ARBCBS), the Center planned and implemented an eConsult pilot—known as Project Arkansas eConsultations (PARC)—in a health system and eight independent practices. Arkansas was chosen because of the state's challenges with specialty access constraints, the state's higher than average population-level morbidity rates, and the opportunity that existed to strengthen the state's telemedicine infrastructure. Further, many practices in Arkansas were participating in the Center for Medicare & Medicaid Innovation initiative, Comprehensive Primary Care Plus, a national advanced primary care medical home model that aimed to strengthen primary care through regionally-based multi-payer payment reform and care delivery transformation.[xii] ARBCBS was engaged as a partner in the effort, because of their long-standing involvement in primary care transformation efforts and commitment to a culture of innovation. In addition, ARBCBS' significant market share and participation in the Blues' network increased the potential for broad dissemination and reach of pilot study findings. PCH also contracted with Mathematica to conduct an independent evaluation of the pilot, including a formative evaluation and a summative evaluation. The evaluation began in October 2020 and will conclude in March 2023.

Two health care settings and corresponding eConsult models. PCH recognized that a health system setting would implement and experience eConsults differently from independent practices and that both settings were critical to study to understand the implications of eConsults for practices and patients more broadly. Consequently, they funded a pilot project to support implementation of eConsults in both health

system and independent practice settings. PCH selected the Association of American Medical Colleges' (AAMC) **Project CORE** to implement eConsults in one health system in Arkansas, drawing on the health system's electronic health record (EHR) and internal network of specialists. Concurrently, PCH selected **ConferMED** to implement eConsults at eight independent practices, using ConferMED's geographically broad network of specialists.

Pilot time frame's overlap with COVID-19. The time frame of the pilot overlapped with the COVID-19 pandemic. This impacted project planning and rollout and may have impacted eConsult utilization (discussed below with results from Research Question 1). Exhibit I.1 shows eConsult use in relation to COVID-19 cases in Arkansas over time.

Exhibit I.1. PARC eConsult utilization in relation to COVID-19 cases in Arkansas



II. Research Questions and Methods

This report focuses on research questions posed in a formative evaluation of the PARC eConsults pilot and incorporates descriptive analysis of eConsult utilization data that will be used later as part of the summative evaluation of the pilot.

A. Research questions and focus of the report

The formative evaluation addresses three research questions:[2]

1. What are the core operational considerations for eConsult adoption?
2. What are the key motivators driving and barriers impeding eConsult adoption?
3. How do specialists experience eConsult programs?

Within each research question, we identified subthemes to explore, based on a review of the literature and input from PCH. For the literature review, we began with a list of 24 articles that PCH collected related to

[2] There was also a fourth research question: "How do eConsults affect quality of care?" We combined the results from that question with those for Research Question 2 to avoid redundancy.

eConsults and supplemented that with 13 additional articles surfaced during Google Scholar and PubMed searches. Our intention in reviewing these articles was to identify factors that influenced prior eConsult implementations and prioritize those topics for practice interviews.

Core operational considerations. Operational considerations refers to the resources needed to establish and maintain the day-to-day aspects of eConsults. Understanding the core operational considerations for eConsult adoption requires considering how the pilot was introduced, financial incentives for use, technical assistance provided, staffing effort required, how eConsults fit within the PCP's workflow, and the implementation of technology to facilitate their use. We also tracked the level and pattern of eConsult utilization, which reflects both individual implementation decisions as well as some of the aforementioned organizational factors, which we discuss in more detail below.

Key motivators and barriers. Based on the literature, we expected the following to be important factors in the extent to which PCPs used eConsults: (1) specialist access, (2) specialist relationships, (3) PCPs' perceptions of how eConsults impact patients, (4) words and actions of leadership, (5) financial incentives, and (6) eConsults' effect on PCP workload or burnout. Our formative evaluation explored whether and to what extent these factors influenced eConsult use and also identified other motivators and barriers to successful eConsult adoption, use, and outcomes.

How specialists experience eConsults. Specialist perspectives on eConsults may differ from those of other stakeholders, and they play a critical role in the success of any eConsult implementation. Based on the literature, we anticipated that financial incentives and concerns about workload may influence specialists' experience with eConsults, so we examined whether these or other factors emerged in Arkansas.

B. Methods

This report presents results from a mixed methods study with three components: qualitative analysis of key informant interviews, descriptive analysis of eConsult utilization, and a summary of responses to a brief survey of health system specialists.

1. Study participants

a. Key informant interviews

Targeted key informants. To understand a variety of perspectives across the two organizational settings, we sought to include individuals who were representative of the different roles involved in implementing eConsults. Specialists were excluded from the interviews, as we planned to survey them to get a broader swath of the population. We tried to interview practices and PCPs with both high and low utilization of eConsults, while also balancing the interviews across the health system and independent practice settings (Exhibit II.1). To be included in our outreach, a PCP must have used eConsults at least once, and their email address had to be available to us.

Exhibit II.1. Target and actual recruitment for key informant interviews

	Number of practices	PCPs	Other practice staff	Number of practice interviews	Health system executives	Total number of interviews
Independent - Target	4–5	1–4 per practice	1–3 per practice	14–15	n.a.	Target - 30–34 Actual - 24
Independent - Actual	6	7 total, 0-3 per practice	5 total, 0-2 per practice	12	n.a.	
Health system - Target	n.a.	14–16	n.a.	14–16	4	
Health system - Actual	n.a.	8	n.a.	8	4	

Independent practice recruitment: ConferMED staff and ARBCBS practice coaches reached out to seven independent practices and discussed the importance of gaining their input for the evaluation. While we do not know how many PCPs were touched by this outreach, 46 independent practice PCPs had used eConsults at least once (as of May 2022) and thus met the inclusion criteria. Mathematica received contact information for 11 PCPs and eight staff who ConferMED/ARBCBS believed were likely to participate, but only seven PCPs and five staff (representing six independent practices) responded to our attempts to schedule interviews. We offered a $50 gift card to independent practice respondents as an incentive to participate.

Health system recruitment: Clinical leaders of the eConsult effort sent a mass email to 77 PCPs who met the inclusion criteria to encourage them to participate prior to Mathematica sending the official recruitment invitation. The clinical leaders overseeing the eConsult team were also recruited, by individual email, to participate in the interviews. After very few PCPs responded to Mathematica's initial invitation, the health system's clinical leaders sent *personalized* emails to smaller sets of potential respondents to further encourage participation. A total of 12 PCPs agreed to be interviewed, two short of our minimum target. Health system policy prohibited offering an incentive for participation.

Key informant participants. We were able to recruit key informants from six of the participating independent practices, more than the four to five originally targeted (Exhibit II.1). However, we were only able to interview both PCPs and staff in two of the six practices, which was two short of our minimum target of four practices, and total interviews were also two short of our target (12 instead of 14).

For the health system, we were able to recruit a total of 12 respondents, two less than our target of 14 (Exhibit II.1). Among the respondents, four were in leadership positions, and eight were PCPs.

b. Specialist survey

With limited time and resources for the study, we prioritized interviewing PCPs but included a brief survey of health system specialists. At the time of survey development, a total of 24 specialists within the health system had participated in eConsults, and all were invited to respond if they had used eConsults at least once. A total of 14 specialists responded, representing nine specialties and with varying degrees of eConsult experience: six had responded to an eConsult between one and four times, four had responded five to 10 times, and five had responded more than 10 times.

c. eConsults utilization analysis

The analysis of eConsult utilization includes all eConsults from all PCPs in the health system and independent practices, as captured by health system and ConferMED data.

2. Data collection

The detailed plan for data collection was approved by the Health Media Lab institutional review board on May 26, 2022.

Semi-structured interviews. We conducted 30-minute key informant interviews via WebEx between late May and mid-July 2022. We used an emergent approach that asked respondents to broadly comment on each of the research questions and then followed up using both organic and prepared probes, which varied by health setting. The interview guides are provided in Appendix A, and example quotations by topic are included in Appendix D. A senior researcher led each interview while an associate took notes in real time using an Excel tool. The notes were reviewed by the relevant senior researcher for accuracy and completeness. The interviews were also recorded for reference, with permission from respondents.

Brief survey of health system specialists.[3] Specialists' answers to four open-ended questions (below) offer a complementary and important perspective on the eConsults pilot but do not address all the subthemes explored with PCPs and practices:

1. What, if anything, has gone well with your experience participating in eConsults?
2. What, if anything, has not gone well with your experience participating in eConsults?
3. What thoughts do you have about how to improve eConsult implementation and use within the health system?
4. How has eConsult implementation affected your ability to provide specialty care within the health system?

Mathematica created an anonymous online feedback form to collect their responses. A health system clinical leader overseeing eConsult implementation sent the feedback request in May 2022 to 24 specialists and followed up with two reminders, resulting in 14 responses by June 2022.

Data on eConsult utilization. Mathematica worked with the health system and ConferMED to collect data on providers and eConsult utilization. Provider data included the ordering PCP and their clinic location. For providers in the health system, we also received their specialty and role (for example, resident, attending physician, etc.). The eConsult data included a patient identifier, insurance coverage type, patient provider, nature of the question asked, specialty being consulted, dates of initiation and specialist response, and disposition of the eConsult (whether it resulted in a face-to-face visit). In this report, we focus on eConsult data from the start of implementation (August 2021 for the health system, February 2021 for the independent practices) through May 2022.

3. Analysis

Qualitative analysis of key informant interviews using the Consolidated Framework for Implementation Analysis **(CFIR).** We use the CFIR to reflect on the operational considerations, barriers

[3] Health system specialists were prioritized for the survey because they were a key part of the health system's implementation of eConsults. Specialists responding to eConsult requests by independent practices were part of a pre-existing network developed by ConferMED that primarily included specialists from beyond Arkansas.

and facilitators to eConsult use, and specialists' experience in the PARC eConsult pilot relative to factors generally found to influence successful implementation in the broader scope of health services interventions. CFIR is a well-regarded implementation science framework designed to guide assessment and interpretation of factors likely to influence intervention implementation and effectiveness.[xiii] It synthesizes published models, theories, and frameworks in the health care sector related to dissemination, innovation, organizational change, implementation, knowledge translation, and research uptake to develop a set of constructs that reflect the evidence-based factors most likely to influence implementation of interventions.[viii]

We analyzed the key informant interview data using an Excel-based tool. The probes from the discussion guides were labeled and associated with the research questions and, as appropriate, with a CFIR domain. Practice characteristics were also included for each interview to allow filtering by type of interviewee (for instance, PCP, staff, leadership), system or independent practice, urban or rural location, and cumulative number of eConsults to date.

Descriptive analysis. We prepared descriptive statistics for the eConsult utilization data, including trends over time in number of eConsults by health setting and user type (where available) and eConsult usage by practice (for independent practices). We also summarized and quantified types of responses from the specialist survey.

III. Results

A. Research Question 1: What are the core operational considerations for eConsult adoption?

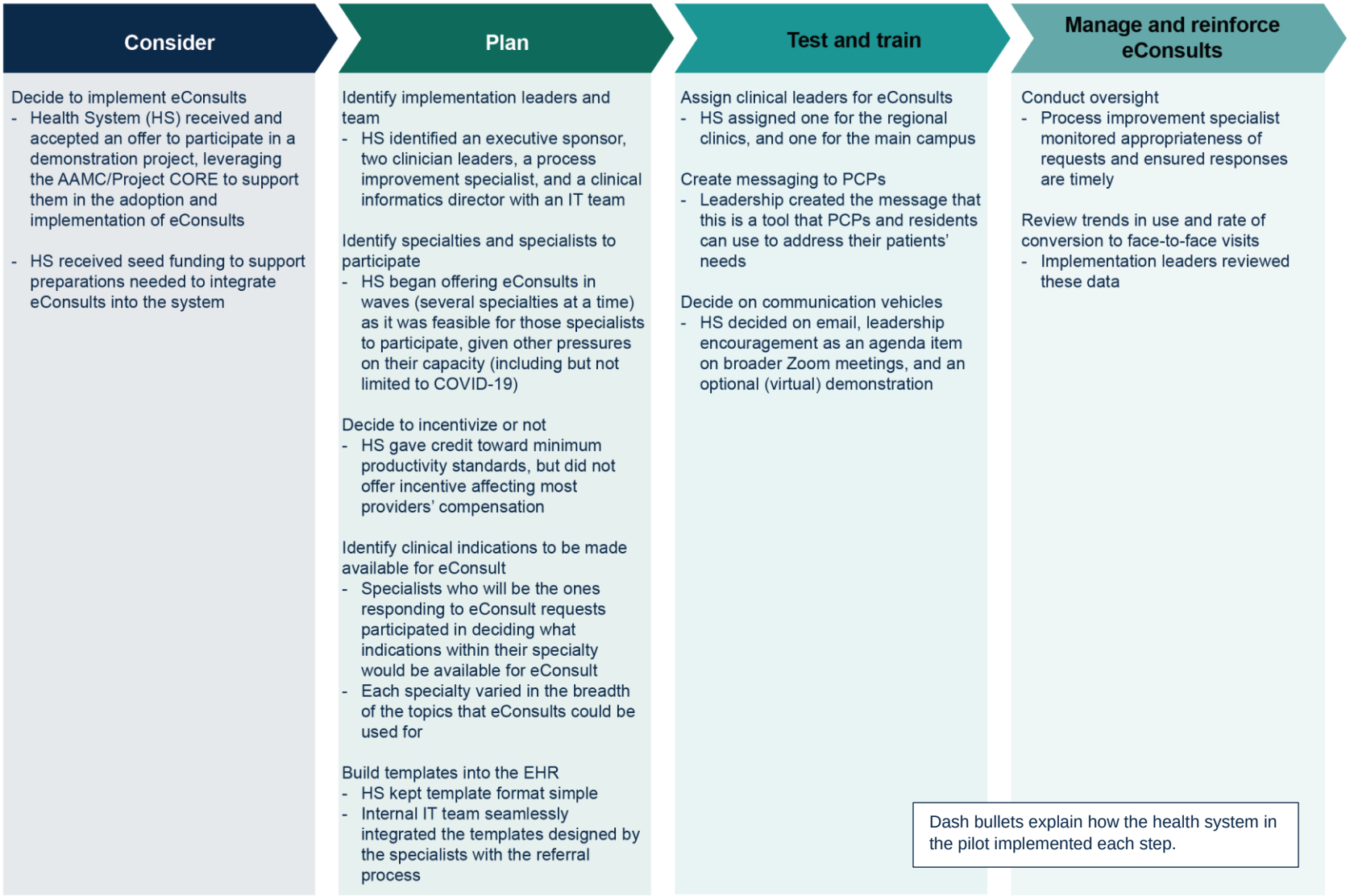
This section reports on how health system and independent practices implemented eConsults and key informants' insights on operationalizing eConsults based on their experience.

1. Overview of the process for implementing eConsults at the health system

Implementing eConsults with Project CORE. The health system followed the CORE eConsult implementation approach developed by AAMC. One common feature is that specialists in the health system participate in designing the specifics of the process that they will participate in. The process is centrally designed and implemented, including the routing of eConsult requests to specialists. eConsults are built into the health system's EHR to allow a direct request from the PCP to be sent to an appropriate specialist without any intermediate steps and for a response to go directly into the patient's record for PCP review and action.

AAMC works with health systems to adapt eConsults to fit their needs and circumstances. Some aspects of eConsults vary by health system, including the topics for which PCPs can request an eConsult, the specialties offered, the format of the eConsult template, and the messaging and timing of how eConsults are introduced to PCPs. Exhibit III.1 offers a visual mapping of the health system's journey from their decision to implement eConsults to managing and reinforcing their use. PCH provided a $70,000 grant to support the health system's preparatory work, including integration into the EHR. In addition, PCH contracted with Project CORE for implementation support and project management services. Exhibit III.2 illustrates the resulting streamlined workflow of an eConsult in the health system.

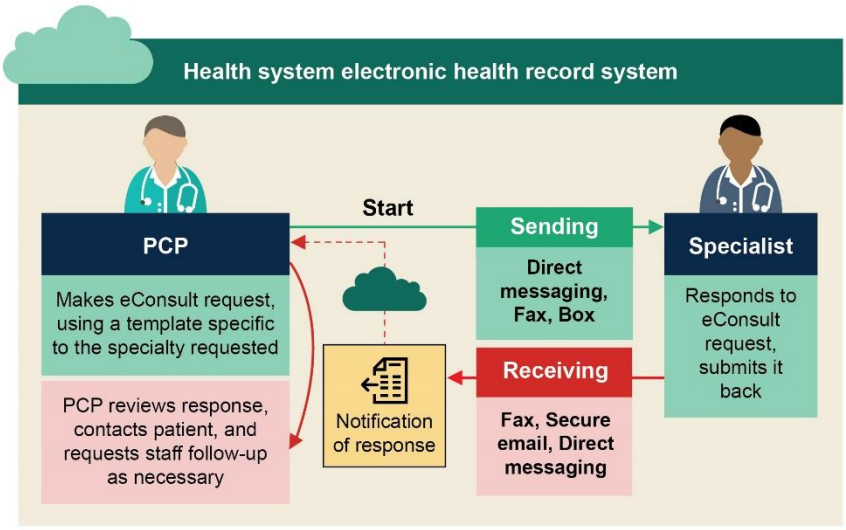
Exhibit III.1. Journey map of the health system's adoption of eConsults



Specialties were made available on a staggered timeline based on specialist capacity. A total of 13 specialties were made available for eConsults in four waves by July 2022.[4]

Not all specialists that the health system wanted to make available for eConsults could be included due to specialist staffing capacity limitations that were partially due COVID-19. Leadership key informants explained that gastroenterologists and pulmonologists, for example, did not have the capacity to take on additional tasks. The health system originally planned to include the infectious disease specialty in the first wave of specialties offered, but their involvement was delayed until the second wave due to the enormous workload pressures on infectious disease physicians from COVID-19, with physicians feeling overworked and understaffed and not wanting to take on anything new.

Exhibit III.2. Overview of an eConsult within the health system



Acknowledging effort for eConsults. The health system decided to record a 0.5 relative value unit (RVU) credit[5] per eConsult to both requesting PCPs and responding specialists in acknowledgement of the effort involved with eConsults. This helped providers accumulate RVUs to meet a minimum productivity level. Those we interviewed noted that most PCPs and specialists exceed their minimum productivity levels, thus rendering the credited eConsult RVUs as not motivating.

Introducing eConsults and training PCPs. The health system had an executive sponsor and a core leadership team of four individuals who led the eConsult pilot: two primary care physician leaders, one focused on the regions outside of Little Rock and one focused on the main system campus; one process improvement specialist; and one informaticist. Health system leaders introduced eConsults to the PCPs directly (not through department or practice structures) as a new tool PCPs could use to address their patients' needs in provider meetings and created training guides and tip sheets to help introduce the program. The eConsult implementation leaders included an explanation of eConsults in email, featured it in leadership discussions at broader Zoom meetings, and offered an optional virtual demonstration. The fact that the health system's information technology team integrated eConsults seamlessly into its EHR

[4] Wave 1 introduced endocrinology, hematology, and nephrology. Wave 2 introduced infectious diseases, cardiology, geriatrics, and vaccine questions. Wave 3 introduced rheumatology, neurology, orthopedics, and pain management. Wave 4 introduced bone density and genetics.

[5] RVU is a measure of work that is used in health care organizations and by payers to determine health care provider compensation or payment. At this health system, different specialties have different minimum RVU totals representing their expected workload. Accruing eConsult RVU credits beyond the minimum does not affect compensation.

helped minimize the necessary training for PCPs, because the integration made eConsults intuitive to use within PCPs' existing referral process.

Managing eConsults. The eConsult leadership team spent approximately 7–10 hours per month to support the overall operations, including planning to increase the types of specialists who could respond to eConsults through subsequent waves of implementation.[6]

2. Overview of the process for implementing eConsults at the independent practices

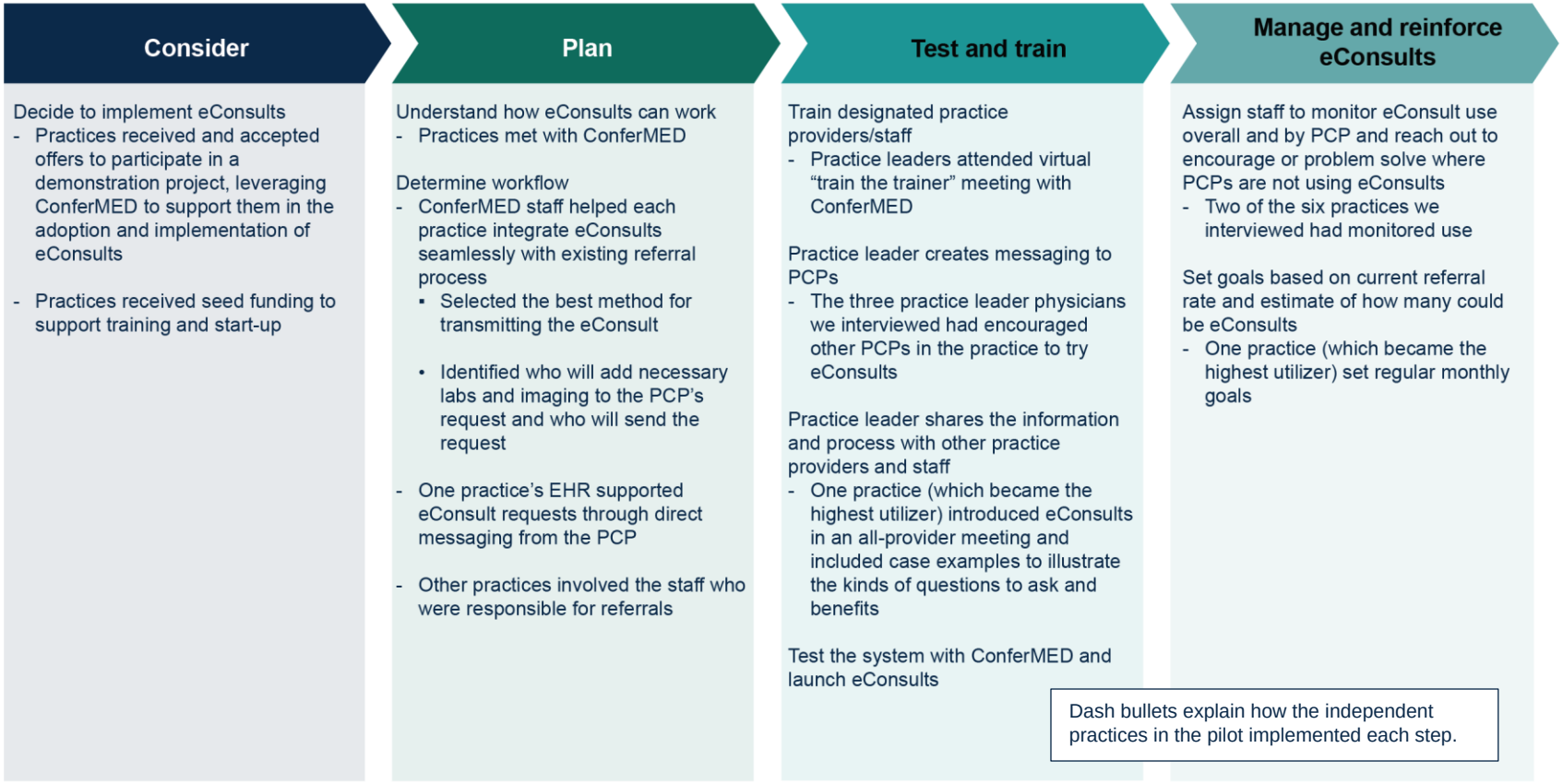
The process for implementing eConsults at the independent practices was able to start up more quickly than the health system, because the independent practice model allowed all specialties to be offered from the beginning and required less time up-front to integrate into the EHR.

Implementing eConsults with ConferMED. Independent practices that agreed to participate in the PARC eConsult pilot were offered a plug-in eConsult solution from ConferMED, which operates a national network of 23 types of specialists.[7] Each independent practice was provided $10,000 in seed funding and paid $40 per PCP eConsult by PCH. Due to varying compensation arrangements between PCPs and their practices, it is unclear how often individual PCPs received any direct compensation for eConsults. The average monthly compensation for eConsults to a practice during the first six months of use varied from $40 to $1,012. Exhibit III.3 offers a visual mapping of independent practices' adoption of eConsults, from their decision to implement to managing and reinforcing their use.

[6] This does not include the effort by the information technology team that integrated eConsults into the EHR.

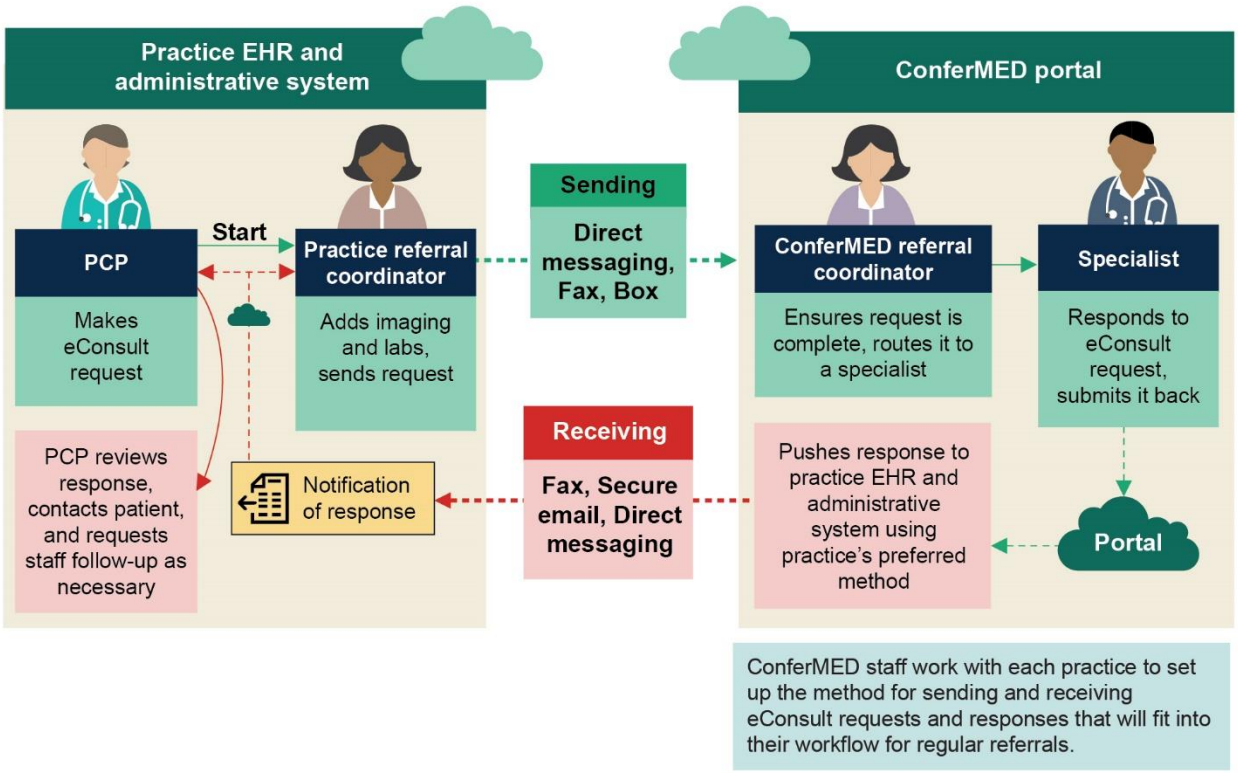
[7] ConferMED's specialties are addiction medicine, allergy, cardiology, dermatology, endocrinology, ENT/otorhinolaryngology, gastroenterology, geriatric medicine, hematology, infectious disease, nephrology, neurology, nutrition, women's health, ophthalmology, orthopedics, pain medicine, palliative care, psychiatry, pulmonology, rheumatology, sleep medicine, and urology.

Exhibit III.3. Journey map of independent practices' adoption of eConsults



Integrating eConsults into the referral workflow. The ConferMED system did not require integration with a practice's EHR, unless the practice opted for this approach or use of a special platform. Instead, it fit within practices' existing workflows for referrals, transmitting the eConsult requests through (secure) direct messaging if available, or through fax or Box (Exhibit III.4). Staff other than PCPs (such as a referral coordinator) were involved in all but one of the interviewed practices; they often were the ones who submitted the eConsults, making sure responses were received and ensuring providers were notified of the response. No practice had hired any new staff to handle eConsult workflow or volume, and the practice staff we interviewed did not find handling eConsults very time-consuming. In a higher-utilizing practice, the staff member responsible for eConsults estimated she may spend 5–6 hours per week on these responsibilities. Another interviewee from the same practice believed that had the eConsults been regular referrals instead, the staff member would have spent even more time following up to secure the patient's specialist appointment and ensure results were reported back to the PCP. Only one interviewed independent practice said they had a fully electronic process for sending and receiving eConsults.

Exhibit III.4. Workflow for eConsults at independent practices



Introducing eConsults and training PCPs and practice staff. ConferMED held virtual meetings to train key personnel from each practice, who would then share the information and organize the process within their practice (train the trainer). The introductory trainings consisted of a 30-minute meeting with lead PCPs and a 30-minute meeting with designated staff. ConferMED also provided an instructional video on how to use eConsults and links to additional resources to assist staff who were not part of these meetings. In the three practices we interviewed where a physician leader attended the train-the-trainer meeting, the trained physician followed through with subsequent internal training.

ConferMED also facilitated practices meeting with another clinic that had been using eConsults to learn their process. Similar to the health system, ConferMED and the independent practices sought to integrate eConsults into the workflow in a way that was intuitive and did not require much training or technical assistance.

Managing eConsults. ConferMED staff oversaw the eConsult process and reviewed data on trends in eConsult use. One practice we interviewed recalled seeing data from ConferMED that showed the practice's eConsult use relative to that of other practices. The highest-utilizing practice, which had four times the monthly eConsult utilization per provider of other independent practices, did more than other practices we interviewed to manage and reinforce eConsult use. Specifically, they set goals for the monthly number of eConsults based on the percentage of regular referrals they believe should be eConsult instead and monitored individual PCP and practice-level achievement of the goals.

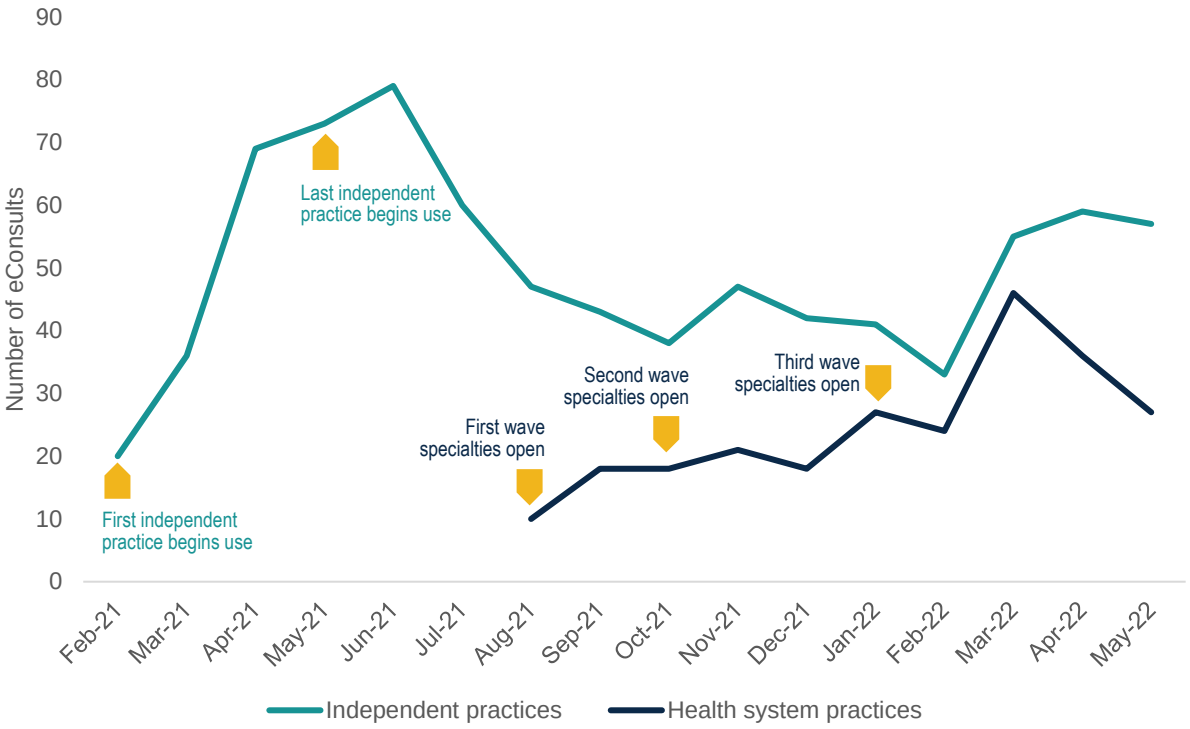
3. Participant experiences with the operational components of eConsult adoption

In this section, we describe how participants experienced the core operational components of eConsult implementation, based on the information they provided in key informant interviews.

Introduction to and training for eConsults. The health system PCPs found they were able to use eConsults with the email and Zoom meeting introductions that they received, and in some cases without any introduction. One PCP did not remember being introduced to eConsults but saw the option pop up when they were about to request a referral. In the health system, the workflow for referrals had been built into their EHR, so integrating eConsults there made them easy to use. Exhibit III.5 shows how health system eConsult use increased after each wave of specialists was introduced.

Interviewees from the independent practices whose leaders had participated in the train-the-trainer approach found the information that was shared with them was sufficient. Exhibit III.5 shows how independent practice PCPs began using eConsults after being trained in this way, with the month after all practices began implementation—June 2021—showing the highest use of the pilot. However, some of the respondents interviewed suggested there may have been a missed opportunity to (1) involve practice staff more in the initial training and (2) to showcase a variety of practice models for implementation. Because ConferMED includes a staff training session as part of assisting practices with implementing eConsults, it may be that these practices did not sign their staff up for the training, or that the staff who attended the training did not train other staff.

Exhibit III.5. Volume of eConsults by month, for health system and independent practices in the pilot



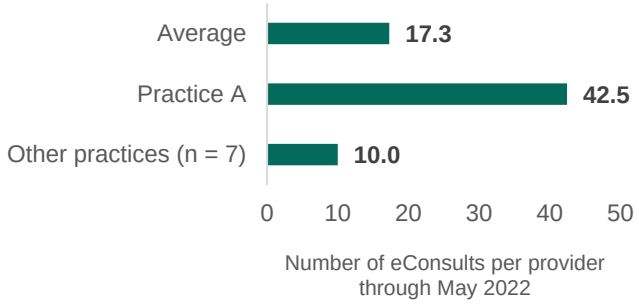
Technical assistance after introducing eConsults. In general, those we interviewed did not report receiving technical assistance after the initial introduction. However, they suggested technical assistance could be used to strengthen the quality of eConsults by instructing PCPs on posing specific questions to specialists and providing easy-to-reference examples or built-in prompts about the appropriate use of eConsults.

Leadership engagement. Leadership's positive view on eConsults was essential to establishing eConsults as an option for both the health system and the eight independent practices participating in the pilot. Following the participation decision, key informants explained that leaders touted the availability of eConsults and facilitated their use through integration with existing referral workflows but did not emphasize the importance of using eConsults. Health system PCPs recalled emails introducing each wave of specialists becoming available for eConsults, and they believed the emails showed system leadership commitment. For the independent practices, the practice leaders we interviewed had followed up on their external training by using provider meetings to explain and encourage use of eConsults to others in their practice. Although leadership appears to have had some influence, several respondents indicated that when used, PCPs would see the value of eConsults on their own.

The highest-utilizing independent practice in the pilot had the highest degree of leadership engagement: the trained physician practice leader and practice manager were highly engaged, championed eConsults to others within the practice, and prioritized eConsults by designating a staff member to track their use and provide feedback. Exhibit III.6 shows the high level of eConsults use per provider at that practice relative to the other independent practices through May 2022.

Timeliness and quality of specialist responses. The PCPs we interviewed in both the health system and independent practices reported that the majority of responses they received from specialists were timely, high-quality, and helpful, and some were exceptional. Most reported receipt of a response within two days. One PCP explained that the quick turnaround was important because the information came back when the question was still fresh, unlike in-person visit referrals where notes from a specialist visit often come back many weeks later, if at all. One PCP noted that the best specialist responses included the direct information requested for the patient, some information for the providers' overall learning, and a note about when to change the course of testing or treatment or to re-contact the specialist for further advice.

Exhibit III.6. eConsult use in the independent practice with highest leadership engagement, compared to others



Financial incentives. In independent practices, we only received direct insights about the effect of the payments they received when we spoke to a leader(s) of the practice, as other PCPs or staff we interviewed were not knowledgeable about the reimbursement. One PCP recalled the practice received $40 per eConsult and viewed this compensation as fair; others said the reimbursement did not affect their use of eConsults. Two of the PCP practice leaders related their thinking about eConsults to their value-based contract and payment structures, which suggests they view eConsults as helpful to succeeding with those contracts. Another PCP agreed: "if [eConsults] could help you meet some of your [pay-for-performance] metrics, then yes, that would be helpful."

The health system PCPs we interviewed were mostly unaware that an RVU credit for eConsults could be credited toward minimum performance standards. At the same time, they did not mention lack of credit as a barrier that had inhibited them from using eConsults more. One PCP suggested that while she was willing to do it "on my own time," giving RVU credit beyond the minimum may be necessary to motivate her colleagues.

Level of effort for eConsults. Both health system and independent practice respondents explained that eConsults required little to no additional effort. Health system PCPs often reported that eConsults had **not** increased their workload, saying (for example) that it's "just like putting in another referral." Two independent practices had found that, overall, eConsults took either *less* time or about the same as a traditional referral,[8] while others reported eConsults required a small amount of additional time. The small amount of additional work required was described by several respondents as preparing the case for the consultation, following up on the information received (such as scheduling an additional recommended lab or test), and in some cases handling patient follow-up contact. Key informants varied in how they followed up with the patient after an eConsult. Some avoided bringing the patient in to share the results unless essential—instead communicating via phone, through a note to the patient portal, or at the next visit—but one practice routinely asked the patient to make a return visit to hear the results. Practice

[8] A reviewer of a draft of this report noted that because the pilot made eConsults available for patients regardless of their insurance, providers' work may have been simplified relative to a potential future situation where the provider would have to first understand if an eConsult option is available given the patient's insurance coverage.

staff who handle referrals experienced shifts in their work in those practices without an EHR that supported direct messaging to ConferMED.[9]

Of note, some of those interviewed believed that a reason that others used eConsults less than them was that others perceived that eConsults would increase their workload.

Technology. Those we interviewed in both the health system and independent practices experienced very few technical issues; most reported that eConsults fit well with their technology. However, because we spoke only with those using eConsults, we cannot say whether there were any technological issues that may have prevented other PCPs from using eConsults.

4. Reflections on Research Question 1 operational considerations analysis

The experience of PCPs, practice staff, and health system leaders must be considered with the pattern of eConsult use in the pilot, the context of the COVID-19 pandemic, and others' experiences as reported in the literature. The pilot was more successful in the smooth integration of eConsults into PCPs' existing technologies and workflows than other eConsult demonstrations.[xiv,xv,xvi,xvii,xviii]

However, despite the seamless integration, the overall level of eConsult use in the pilot was low. The CFIR may help explain this otherwise unexpected set of findings. The CFIR has found that implementation of health care-related interventions succeeds when participants see a strong relative advantage to the intervention compared to their usual practice and see implementation of the intervention as a high priority. Messages introducing eConsults could have spoken to the relative advantages of eConsults, how they could benefit practitioners and argued for a higher priority than they did. Additional leadership engagement, especially clinical leaders or champions, might have increased the priority level of eConsults, as illustrated by the strong leadership engagement in the highest-utilizing independent practice.

Key informants' recommendations to provide trainings on ways to optimize eConsult questions and responses, provide example cases of how eConsults could help, and build in prompts to remind PCPs to use eConsults all point to potential process improvements that could increase eConsult use. Financial incentives, while not an influence for the clinicians we interviewed, have been shown to influence eConsult use in the literature[x, xiv] and could incentivize leadership to help prioritize use of eConsults within their practice or system; thus, the amounts and recipients of financial incentives could be a potential contributor to lower use. The comments of two practice leaders about the connections between eConsults and their value-based contracts suggests eConsults' value to practices may increase over time as they engage more deeply with value-based care arrangements.

B. Research Question 2: What are the barriers and facilitators to eConsult adoption?

In this section, we discuss the motivations that led to individual PCP interest in and uptake of eConsults in both settings, including the benefits to patients, the relationship between primary and specialty care, and organizational culture.

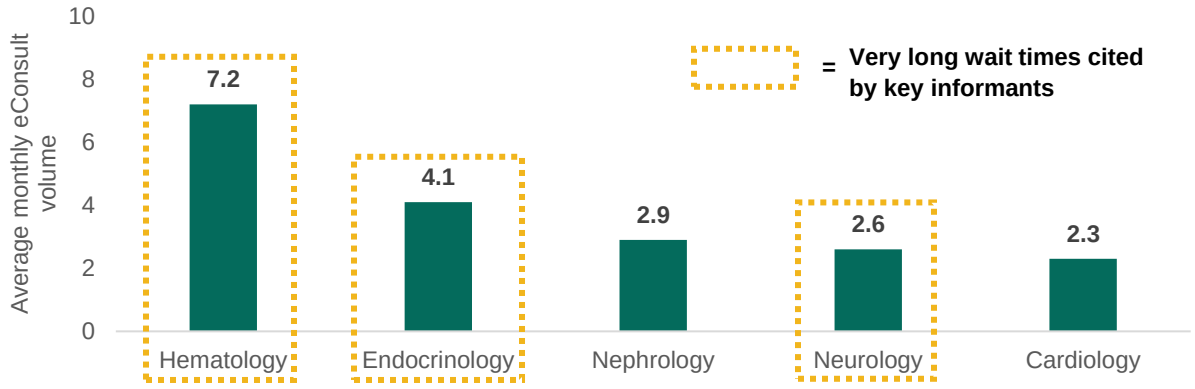
[9] As noted above, only one independent practice had an EHR that supported direct messaging.

1. Facilitator: Direct benefits for patients

The PCPs we spoke with were primarily motivated to use eConsults for the potential benefits to their patients, such as increased access to specialists, more rapid care, less travel burden, and reductions in out-of-pocket costs.

Increased access to specialists. Increasing access to care for patients was the most important driver of eConsult use for the PCPs we interviewed in both the health system and independent practices. In the health system, waits for appointments were said to be 3 to 8 months long for some specialties. Exhibit III.7 shows the top five specialties used in the health system; three of these were also among the specialties cited as having the longest wait times.

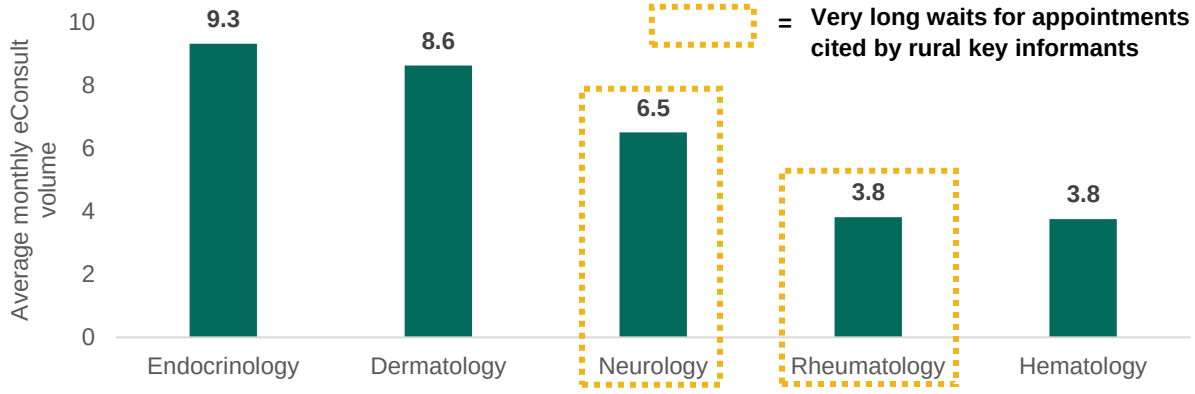
Exhibit III.7. Top five specialties receiving eConsult requests by health system PCPs



Note: The top five specialties (of 13 available) accounted for 78 percent of all health system eConsults. eConsults use for all specialties is shown in Appendix B, Exhibit B.2.

Three rural independent practice PCPs also cited long waits for specialist appointments (especially neurology, rheumatology, and psychiatry) and travel distance for their patients as important motivators. Exhibit III.8 shows that two of these were in the top five specialties used for eConsults by independent practice PCPs.

Exhibit III.8. Top five specialties receiving eConsult requests by independent practice PCPs



Note: The top five specialties (of 23 available) accounted for 64 percent of all independent practice eConsults. eConsults use for all specialties is shown in Appendix B, Exhibit B.1.

Provided more rapid care. Some of the PCPs who mentioned long waits as a motivator also indicated that a portion of their eConsults serve as a bridge for patients who need to be seen by a specialist but for whom the wait time will be several months. The eConsult gets care started sooner, may address a patient's pain, and allows the PCP to begin necessary testing so the specialist has the information they need when the patient is able to be seen. They also commented that highlighting a patient's case to the specialist through an eConsult can lead to an efficient in-person visit, and in some cases may prevent ED visits or hospitalizations. This type of use may increase the face-to-face conversion rate from eConsults over what would otherwise occur in a less constrained specialist environment.[10] In the pilot, the overall face-to-face conversion rate was 18 percent for the health system and 13 percent for the independent practices. While the prospect of eConsults converting into in-person visits could increase health care costs in short-term, the benefits from avoiding ED visits and improvement in patient's health and well-being has potential to create societal savings.[xix]

Reduced out-of-pocket costs and travel. Several PCPs and staff from both the health system and the independent practices commented that patients saved out-of-pocket costs (because there is no co-pay for an eConsult) and saved time from avoiding unnecessary in-person visits and travel; these were motivators for using eConsults.

Patient feedback on eConsults. The PCPs, staff in independent practices, and health system leadership all indicated that patient views on eConsults are either neutral or favorable. All the PCPs we interviewed let patients know when they wanted to do an eConsult and only remembered receiving positive feedback or no feedback. Health system leadership discussed eConsults with their patient and family advisory committee, and after confirming there would be no costs to patients, the advisory committee was excited to move forward.

2. Facilitator: Improved PCP learning and documentation

Several PCPs commented that their practice benefitted from learning from the specialists' expertise and improving documentation of decision making in the patient's medical record. Some offered examples of the application of learnings from an eConsult to other patients, including adjusting medication in a geriatric patient to address his concern about falling, managing adrenal insufficiency, avoiding an unnecessary radioactive iodine study, and learning what tests to order (and when) to address genetic disorders later in life. Regarding the benefit of improved documentation, eConsults became part of the patient record, unlike informal consultations. This made the eConsult recommendations easier to reference in the future and easier to share with patients.

3. Facilitator: Improving or enhancing primary-specialty care relationships

In both the health system and independent practices, PCPs without strong connections to specialists, who were unable to rely on informal consults, appreciated eConsults' ability to help fill that need. Examples included physicians who were new to an area, those who were not or had not recently worked in a hospital, and those who were very distant from certain specialists. However, eConsults were not only useful to PCPs who lacked strong specialist connections; some PCPs said pre-existing specialist

[10] The face-to-face conversion rate is the percentage of eConsult requests for which the specialist responds to the eConsult request that an in-person visit is needed instead of the eConsult for appropriate care. It is a key metric for monitoring eConsults, to understand if the requested eConsults are leading to more efficient care (when the face-to-face conversion rate is low) or adding another step to a necessary in-person visit that will occur regardless of the eConsult (when the face-to-face conversion rate is high).

relationships did not affect their use of eConsults; instead, they used eConsults for other reasons, such as minimizing patient travel.

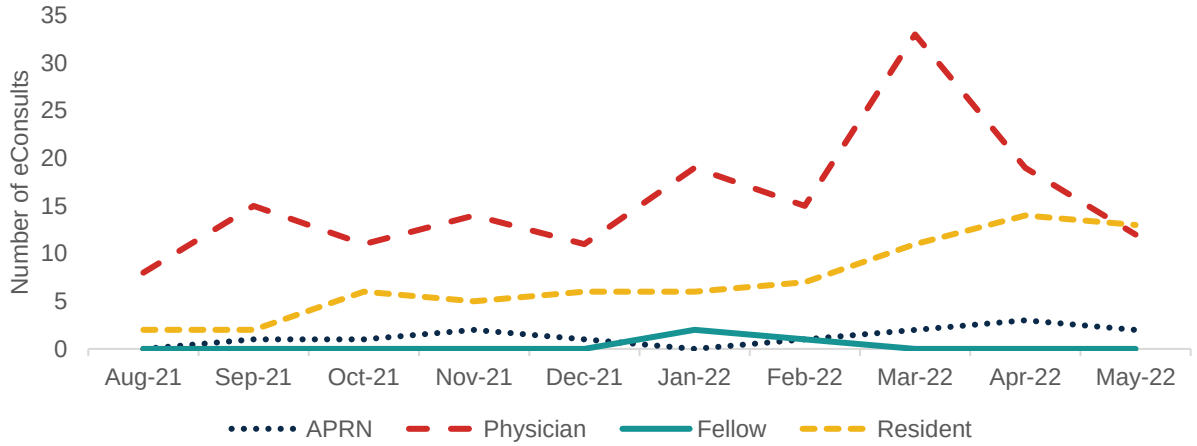
4. Facilitator: Personal or practice culture inclined towards innovation

All of the PCPs we interviewed who had favorable experiences with eConsults, including those in the highest-utilizing independent practice, said they were the type of person or practice that is interested in trying new things. One PCP leader explained their practice is leading the way participating in value-based payment programs, so they are "quick to change our ways." One of the practice managers said the one provider who is a frequent user of eConsults is more open to doing new things and interested in learning, relative to the others in the practice who use eConsults less.

5. Facilitator: Attending physicians' influence on residents

A less frequently mentioned, but potentially influential motivator, is the role that attending physicians can play in the use of eConsults among the residents they supervise. Two of the health system PCPs we interviewed suggested residents do eConsults as they review specific cases. In fact, Exhibit III.9 shows residents steadily increased eConsult use over time even as physician use of eConsults declined later in the pilot.

Exhibit III.9. Health system eConsults volume over time by user type



APRN = advanced practice registered nurse.

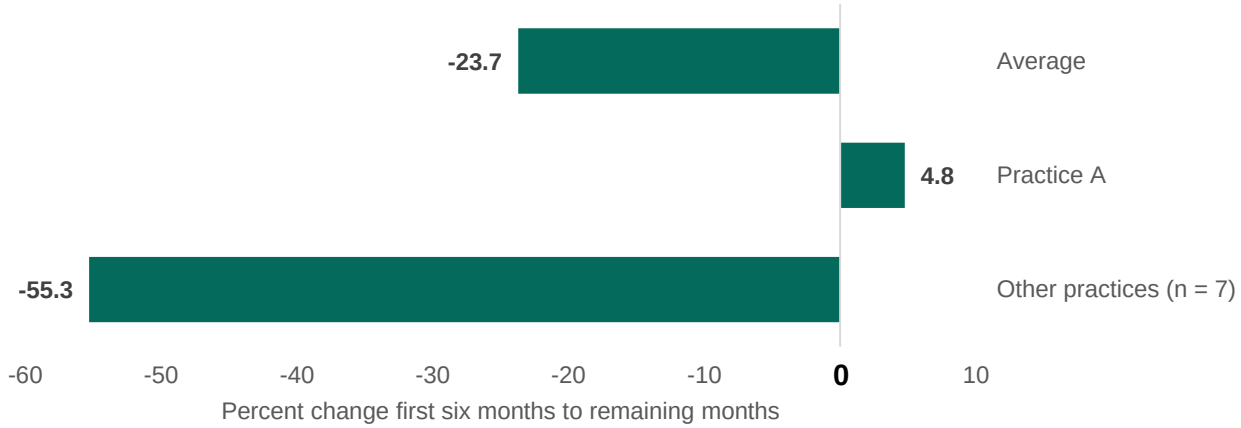
6. Facilitator and barrier: COVID-19

Five of the seven health system PCPs we interviewed reported that COVID-19 contributed to an increased use of eConsults. The trend in use shown in Exhibit I.1 earlier in the document is consistent with these reports, showing an increase in health system PCPs' use during the worst COVID-19 surge in Arkansas (late December 2021 through early March 2022). However, key informants from two independent practices said COVID-19 caused a drop in total in-person visits, suggesting the pandemic was a barrier to eConsult use because PCPs saw fewer patients and thus had fewer opportunities to use eConsults. Exhibit I.1 is also consistent with that report, showing a decrease in independent practices' eConsult use that had started in November 2021 before the major surge and continued through it.

7. Barrier: Tendency to forget

Several of those we interviewed from both the health system and independent practices explained that they forgot eConsults were an option. This may explain why the use of eConsults in independent practices was higher in the first six months of implementation compared to the remaining months of the pilot (Exhibit III.10). The highest-utilizing practice was an exception, where leadership engagement and the cycle of monthly monitoring and feedback may have countered the tendency to forget and reinforced eConsults as a priority.

Exhibit III.10. Percent change in average monthly eConsults per independent practice, first six months to remaining months of the pilot



8. Barrier: Resistance to change

When asked for insights as to why some PCPs used eConsults more than others, independent practice staff as well as a health system leaders noted that some PCPs were resistant to change. For example, one independent practice staff member commented, "A lot of our main providers are old school and I've a hard time getting them on board with using it."

9. Reflections on Research Question 2 analysis

The major motivator for eConsult use in the pilot—both the direct and indirect benefits to patients — is consistent with the literature [x, xiv, xx] and demonstrated a comparative need for increased access to specialty care for patients; this was an important external motivator that seemingly contributed both health system and independent practice participation in the pilot. In looking at the other motivators and barriers through the CFIR lens, a couple of organizational and individual characteristics emerge as important to assess when looking at a practice's readiness to adopt an innovation. These are an organization's implementation climate: What is their absorptive capacity for change? (In other words, How badly do they perceive a need for change? How much will leadership prioritize the change?) And to what extent will the use of the change be rewarded, supported, and expected? Furthermore, Are the individuals within the organization ready to make a change? (Have they previously exhibited a proclivity towards early adoption of innovations? Do they have a tendency to be laggards,[xxi] or do they fall somewhere in between?) Knowing where an organization and the individuals within the organization fall across these criteria will be helpful indicators of the extent to which an innovation will be adopted and sustained.

C. Research Question 3: How do specialists experience eConsult programs?

In this section, we focus on specialists' experiences with eConsults—what went well, what went less well, and suggestions for improvement—based on results from the four-question survey.

1. What went well

Facilitated response to clinical questions. Specialists most commonly lauded the ease with which eConsults enabled them to respond to PCPs' clinical questions, citing the utility of having all necessary documentation (for example, diagnostic test results, pictures, etc.) in one place and that the questions they were asked were straightforward.

Improved appropriateness of referrals. Three specialist respondents felt the eConsult requests had reduced unnecessary visits, whereas another three specialists felt eConsults brought quicker access to their expertise for more acute patients.

Strengthened primary–specialty care relationships. One specialist believed the ability to provide a rapid response was helpful to the PCPs who had submitted the questions, and another felt eConsults were able to foster a good partnership between departments.

2. What did not go well

Suboptimal articulation of questions by the PCPs. Five specialists raised concerns about suboptimal articulation of questions, including lack of specificity, incompleteness, or questions asked fell outside of the scope of the template.

Limited-to-no reimbursement for time. Three specialists cited that participation in eConsults took their time and was not being counted toward productivity.

Otherwise, specialists (one each) cited different issues, including the PCP sending an eConsult request when the patient had already been referred to the specialist for a visit,[11] lack of clarity about whether the PCP really wanted advice about the patient or instead wanted the specialist to take over care, lack of feedback or return communication to the specialist from the PCP, and issues finding coverage to respond to eConsults when the specialist was away.

3. Specialists' suggestions to improve eConsults implementation

The following three themes emerged, with three specialists suggesting each type of improvement:

- **Publicize eConsults more to PCPs,** so the PCPs would use eConsults more, resulting in more appropriate referrals
- **Close the loop with the specialists,** so that they know what happened after they submitted their response to the PCP
- **Make some adjustments to the templates or related technical process**, including showing the reason for the eConsult at the top of the template, making it easier to access imaging results that were

[11] Note this is consistent with the bridge role for some eConsults, described above.

not generated from within the health system, and enforcing the requirement to use the template as designed[12]

Other suggestions included adding an RVU adjustment to account for their effort (two specialists); better educating PCPs on what an appropriate eConsult question should be and that PCPs should continue to ask direct questions rather than refer patients, if satisfied with the answers (two specialists)[13]; and expanding eConsults to allow specialists to engage neurosurgery and ENT to answer low urgency questions that arise frequently.

4. How eConsult implementation affected ability to provide specialty care[14]

Half the responding specialists (six) said eConsults did not change their ability to provide specialty care within the health system, or that it is too early to tell. Four others made brief, positive comments such as "Helps," or "More accessible," or "Positive impact." Two others commented that they were happy to be of help to PCPs. Only one of these specialists reported responding to 10 or more eConsults, so little effect on their overall practice is not surprising.

5. Reflections on Research Question 3 analysis

Some of the specialist survey themes complement and echo themes from the key informant interviews. Specifically, they called for publicizing eConsults more to the PCPs, which could counter the relatively low use of eConsults to date and the barrier of PCPs tending to forget about eConsults. Also, several specialists cited PCPs' suboptimal articulation of questions as an area for improvement, echoing the lessons learned by some of the PCPs that they need to express very specific clinical questions for the specialists to achieve the highest-quality responses. Both the specialists' concerns that they be compensated or have time allocated, and some specialists' criticism of the quality of PCP questions, have been issues found in other eConsult implementations.[x, xiv]

The constraints on specialist capacity that made it challenging for the health system to recruit specialties to participate raises an important question for assessing a health system's readiness for eConsults: Is there alignment between the specialties that are available and the ones that are most needed by PCPs and their patients? Without this alignment, health systems may see discrepancies between expected levels of eConsult utilization and actual levels of utilization. Specialists' overall positive view on eConsults, driven by improved appropriateness of care for patients combined with their appreciation for the utility of eConsults, can make them important allies in helping to drive adoption within a health system setting.

IV. Discussion

Overall, the PCPs, leadership, and practice staff in the health system and independent practices associated with ARBCBS had a positive experience with eConsults. Practitioners found them intuitive, useful, and well-fitting to existing technologies and workflow. Both PCPs and specialists appreciated improvements in the quality of care for their patients. However, standing in contrast to respondents' positive experiences was the overall use of eConsults, which was very low in the health system and in most of the independent

[12] The specialist's comment implied that some PCPs were asking questions about clinical conditions beyond those included in the template designed by the specialists, or that they were not attaching the information that the template suggested they include, such as lab test or imaging results.
[13] We interpret this to mean that the specialists did not want the PCPs to give up immediately on managing the patient after having signaled through the eConsult that they want to manage the patient with the specialist's advice.
[14] Twelve of the 14 responding specialists responded to this last question on the form.

practices (except for a few outliers). While earlier studies have indicated challenges in rolling out eConsults across practices, the level of use in this study was substantially lower.[x] Delays resulting from the COVID-19 pandemic and disparate rollout strategies across the two systems could have contributed to lower uptake of eConsultations.

By examining the eConsults utilization through the ADKAR (Awareness, Desire, Knowledge, Ability & Reinforcement) organizational change management framework,[vii] we can identify opportunities for improving implementation of eConsults. For example, during the introduction of eConsults, health system and practice leadership could have generated greater **awareness** of the intervention by coupling email notifications with peer-to-peer campaigns or lunch-and-learn sessions to help emphasize the priority of the effort and to ensure all staff received a baseline training. Further, leadership across both organizational settings could have cultivated greater **desire** within their staff to make a change, by highlighting the relative advantages of eConsults over informal consults and/or in-person visit referrals. To build staff **knowledge** on how to use eConsults, more resources on best practices could have been distributed outlining ways to formulate strong questions and responses, thereby improving communication between PCPs and specialists. The implementation of feedback loops (quantitative or qualitative) would have helped leadership to ensure the PCPs and staff were progressing in their **ability** to use eConsults and could have identified any emerging pain points. Finally, across all of the practices, greater **reinforcement** of eConsults (as was seen in the highest utilizing independent practice) by routinely setting goals, monitoring eConsult use, and providing regular feedback to PCPs could have promoted ongoing and increased use.[x]

However, effective implementation of innovation is challenging if an organization is not motivated or ready to adopt it. By applying CFIR to the pilot practices' motivators and barriers, important criteria leading to adoption and implementation of eConsults could be identified.[xiii] Both the health system and independent practices experienced an external pressure of patient need, particularly for access to specialty care, which contributed to their primary motivator to participate—benefits to patients. The compatibility of eConsults to meet the need of the two organizational settings can be considered by responding to questions such as the following: How well did the innovation fit with perceived risks, needs, values, and existing workflows and systems? Both the independent practices and the health system expressed eConsults fit well into existing technologies and workflows, but in the case of the health system, not all specialties that were needed (such as dermatology and gastroenterology) were available to participate in the pilot; this may have contributed to lower-than-expected utilization. Following the initial introduction of eConsults within the different practice settings, organizational incentives have been shown to support and encourage use of the innovation.[x, xiv] In the case of the independent practices, reimbursement was allocated to the effort; however, it was the practice where leadership encouraged the PCPs and staff through goal setting—while donating the reimbursement to a local food bank—that spurred the greatest adoption.

Limitations. Those who agreed to be interviewed tended to be the more enthusiastic adopters, which is not a representative sample of all potential users. The pilot was delayed and impacted by COVID-19, which health system leaders identified as a challenge for implementation and utilization, because providers were busy responding to the pandemic, with little time for introduction of new initiatives. In addition, there was limitation in availability of health care practitioners for each interview, leading to omission of some items of interest in a 30-minute interview.

Future research could investigate eConsult use across multiple health settings and organizations to test the influence of different readiness criteria on eConsult adoption or whether stronger organizational change

management tactics could lead to improved levels and sustainability of use. To create greater standardization in the field, researchers could also identify the percentage of in-person referrals that should optimally be eConsults, rather than in-person referrals, to help implementers set more realistic goals and expectations for adoption. Future development should also consider developing and testing features where the eConsult platform offers practices and managers a user-friendly dashboard showing status and volume by condition as well as inform where eConsults may be an appropriate way to provide integrated care. Finally, future research could explore whether the hub-and-spoke model[xiv] used for the independent practices, with specialists made available from outside the local area, would efficiently solve the issue the health system faced of needing some specialists who did not have the availability to participate.

V. Application of Insights

Using the organizational change and implementation science approaches, several key insights can be drawn from this research.

1. Readiness for change

To increase the likelihood that practices effectively adopt an innovation such as eConsults, there are certain readiness criteria that they should exhibit. These criteria include the following contextual and organizational factors:

a. Contextual factors

- **Specialist supply constraints.** Specialty access concerns for patients are a strong motivating factor for adoption. Practices may experience specialty access concerns if they are located in rural areas, where patients are constrained by geographic distance, or in urban areas, where there are long wait times for specialty care.
- **External incentives.** Value-based payment arrangements serve as an external motivator for practices by creating alignment between their payment mechanisms and workflows. However, the pilot experience suggests understanding this readiness will require looking deeper than whether a practice participates at some level in a transformation program; practices will need to identify if they are significantly moving into risk-based payment arrangements and therefore view eConsults as assisting with their business strategy.

b. Organizational factors

- **Compatibility.** It is important that the solution(s) offered by the innovation—in this case, the specialties offered—match the needs of the organization. In the case of both the health system and independent practices, both experienced specialist supply constraints, which eConsults were able to address. Because the health system approach to eConsults relies on their own specialists, it is important to ensure that the specialists who are available to participate are aligned to the need expressed by primary care physicians and their patients.
- **Provider readiness.** Providers are more willing to adopt an innovation such as eConsults when they are open to change (rather than resistant) and when this mindset is supported by the organization. To assess whether an organization and its providers are open to change, it would be helpful to look

whether a practice has been an early adopter of technologies in the past (for example, EHR, OpenNotes) or early participant in innovative efforts, such as primary care transformation efforts.

- **Organizational incentives.** Both independent and health system practices were reimbursed for the use of eConsults. However, a few specialists commented that they weren't being compensated for their time. It is important to ensure there is a baseline level of compensation for all participants in a change management effort, and where it is a relative priority, to consider compensation that is above the norm to spur greater adoption. Furthermore, organizations should consider incentives that go beyond the financial and think about ways that they can reward and support PCPs and staff for adoption of the innovation.

2. Ways to support organizational change management

Once it has been determined that a practice is ready to adopt an innovation such as eConsults, there are a couple of organizational change management practices that should be put into place to enhance uptake and ensure sustained use.

a. Introduction

There are three critical components to keep in mind when introducing an innovation such as eConsults. The first is who is sending the message. Identifying an individual in an influential or leadership position and designating them as a practice champion can help messaging around the effort to better resonate with the target audience in the practice. The second is the content of the message: What is the relative advantage of an eConsult compared to an informal consultation or regular referral, and why will it benefit users? Third, it is about how the message is communicated. Oftentimes, a multipronged approach—including email, pamphlets, and in-person sessions—can ensure practice staff are being met where they are.

b. Capacity building

- **Plan for workflow adaptation:** To ensure others have a similar positive experience to the pilot, where both ConferMED and the health system had successfully fit eConsults into the existing referral workflow, focus on that fit. Also, anticipate questions, concerns, and clarifications that practice PCPs and staff being newly introduced to eConsults may have about the effects of eConsults on their workflow: How they should be used, and for which clinical conditions they are most appropriate?
- **Build knowledge:** Ensure practitioners have access to eConsult best practices as part of their initial training. Focusing on effective approaches to communication, such as how to write a strong question, and key components of a good response are areas that would benefit both primary and specialty care providers.
- **Build ability:** Incorporating feedback loops (that is, quantitative data, such as implementation metrics, and qualitative data, such as practitioner perspectives) to leadership as part of the implementation process can help identify successes, challenges, and areas for improvement for adoption and sustainment of eConsults.
- **Reinforcement:** To ensure the sustainment of an eConsult effort, it is helpful to build in periodic reminders for practitioners. This can be accomplished by building in system prompts, setting eConsult goals based on regular referral rates, and reinforcing use with monitoring, feedback, and periodic tips and reminders. In addition to tracking outputs such as eConsult utilization, building in

longer term benchmarks, such as reductions in ED visits and other quality metrics, could help reinforce the bigger picture of why practitioners are adopting an innovation.

VI. Conclusion

In the context of rising health care costs, affordability of specialist services, and access, eConsults can be a cost-effective approach to providing integrated care for patients with chronic health conditions. Although there is no one silver bullet to addressing complex structural challenges in health care, innovations such as eConsults can help coordinate care for patients with complex health care needs and for those living in resource-constrained settings.[xxii]

The critical role of the PCP—serving as patients' first point of contact and gatekeeper to a full range of high-quality care—has also been widely recognized as key to reducing costs and improving quality. The pilot illustrates that eConsults can not only strengthen a PCP's knowledge base but can also enable them to manage more of their patients' care in-house. Given these early indications of the ways in which eConsults can strengthen the role of PCPs, it is important to consider other applications, such as supporting them in the early detection and timely management of early-stage chronic health conditions.

eConsults represent a feasible intervention with clear positive implications for quality and cost that can complement other, more resource-intensive and ambitious approaches (such as Project ECHO) and more comprehensive medical home and value-based care initiatives. Expanding their use will require building on the knowledge gained from the pilot and further refining implementation tactics so as to maximize the quality and cost benefits on a larger scale.

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