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• CRITICAL CONSIDERATIONS FOR ESTABLISHING AND PARTICIPATING IN AN eCONSULT SERVICE: LESSONS LEARNED FROM THE CHAMPLAIN BASE TEAM •

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Access to specialist physicians remains a major barrier to effective healthcare in Canada.[1, 2, 3] Excessive wait times, inequitable access depending on geographic location, and poor communication between providers can often lead to patient anxiety, delays in diagnosis, duplication of services, dissatisfaction among providers, and ultimately poor patient care.[4] We need to consider new models of care, where specialists work collaboratively to best serve their referring physicians, address their community's needs, and make best use of limited resources.[5, 6] Innovative approaches such as population-based, central reorganization of specialist care integrated with emerging technologies can greatly improve access to specialist care. [7, 8, 9, 10]

Virtual consultations offer one approach to improving access. In a virtual consultation, the specialist provider and patient do not meet face-to-face. Rather, the specialist communicates electronically with the patient's primary care provider (PCP), who receives specialist advice to provide care to his/her patient. Virtual consultations can be facilitated through several media, including telephones, email, and electronic real-time or asynchronous platforms. Telephone consultations are difficult to coordinate, as they require PCPs and specialists to be available simultaneously, and email communication does not meet current privacy requirements for sharing personal health information.[11]

In order to reduce wait times for access to specialist advice, we developed the Champlain BASE (Building Access to Specialists through eConsultation) eConsult Service, an asynchronous platform facilitating communication

between PCPs and specialists. This secure web-based service allows PCPs to submit a patient-specific clinical question to a specialist. PCPs can attach relevant electronic files (*e.g.*, lab results, images, information generated from EMRs) that would help the specialist with diagnosis and recommendation. The eConsult is assigned to the appropriate specialist, who receives a notification via email. The specialist has three response choices:

- provide recommendations and avoid the need for a face-to-face consultation
- request additional information
- recommend a formal referral, in which case any recommended diagnostic tests or courses for treatment could be initiated before the appointment

Iterative communication between the specialist and PCP may occur for clarification or obtaining additional information.[12] The service automatically creates a permanent record of the eConsult, which can be downloaded into the patient's health record. Specialists are currently paid by special funds provided by the Champlain Local Health Integration Network (LHIN) and project funding at a prorated hourly rate based on the self-reported time they required to complete the eConsult.

As of May 31, 2015, a total of 704 PCs (585 family physicians and 119 nurse practitioners) have registered to the service—a number that represents over half of all PCPs in the Champlain Local health Integration Network (LHIN)—and over 7,300 consults have been processed. Participating PCPs can access advice from 67 different specialty groups, the largest menu on offer from any such system worldwide. The service has proven effective at reducing wait times and increasing access to specialist care. Over 40 per cent of cases managed through eConsult have resulted in avoidance of an unnecessary face-to-face referral, representing nearly 3,000 patients who no longer require a specialist visit. Among primary healthcare providers, 38 per cent indicated that they were able to confirm a course of action that they had originally had in mind for the patient, and 58 per cent got good advice for a new or additional course of action. The eConsult service has been described in greater detail elsewhere.[13,14]

Throughout the implementation and evaluation of the eConsult service, we have learned a great deal regarding the factors that support and inhibit the development of technology-based healthcare innovations. The purpose of this article is to outline six key considerations, based on our experience.

Impact of Redesigning the Referral-Consultation Process

Family physicians and specialists no longer work side by side in a hospital setting, reducing their opportunities to interact informally and build relationships. The traditional referral-consultation process is unstructured, which often makes it a source of frustration for PCPs and specialists alike. Poor communication flow, lack of collegiality, missing information, and misaligned expectations contribute to this frustration. Furthermore, an explosion of new knowledge has resulted in subspecialists with limited

scopes of practice, making it difficult to know which practitioner provides which service.

The eConsult service allows asynchronous exchanges between providers, where the specialist provides advice without any direct encounter with the patient. Of course, not all patient questions can be answered electronically. In many cases, a face-to-face consultation is required in order to collect a thorough patient history, perform a test or physical examination, or interface with patients in a manner impossible by less direct means. Likewise, eConsult cannot replace the immediacy of direct telephone or face-to-face contact in urgent situations. However, by allowing specialists to support PCPs in treating those patients who can be managed in a primary care environment, the eConsult service frees up valuable resources that can allow patients with urgent or complex conditions to be seen more quickly.

In the traditional referral-consultation process, PCPs usually select a specific individual for the patient to see. However, this strategy is often less efficient than one using a central intake system, wherein patients are directed to the first available specialist in the appropriate specialty group unless they request a particular individual. When instituting an eConsult service, it is important to respect the "usual" referral pathways and communities of practice in order to engage PCPs and specialists. Some providers feel very strongly about choosing an individual specialist from a "pool" of specialists who may be providing eConsults. However, in our experience, most PCPs feel that having timely access to specialist advice is more important than the opportunity to select a specific specialist.

Choosing and Building the Technology Platform

When developing a healthcare innovation, the technology one chooses is paramount to the innovation's success or failure. A number of factors are essential to success, including population need, accessibility, and incorporation into workflow.

Population need

For an innovation to be truly effective, the first question to be asked must be: "what is the need that I am trying to address?" The need should drive the selection of technology, not the other way around. Many technology initiatives are driven by eHealth experts rather than clinical champions. The eConsult service was created by two clinicians—a family physician and an endocrinologist—as a result of the desire to reduce wait times and improve PCPs' access to specialists. We were not tied to a particular vendor and were free to explore all available options until the most promising strategy presented itself.

Accessibility

In order for a technological innovation to be scalable and sustainable, it must be able to adapt to a number of different environments and circumstances. Building a system that is not sustainable is a waste of valuable resources and time. Innovators may be tempted to develop a service as an extension of a specific EMR program or vendor, since harnessing an existing platform can reduce the upfront time and costs

associated with development. However, greater flexibility will support wider adoption, allowing the service to reach a broader segment of the population.

Incorporation into workflow

Physicians will adopt only the kind of technology that improves quality of care without unduly disrupting the workflow. Successful technologies must be straightforward and easy to learn, and external support should be offered if possible to help ease the service into physicians' workflow. For example, PCPs who sign up for the eConsult service receive an orientation session with an experienced trainer completed by telephone. Training takes only 30 minutes, and technical support is available by telephone or email seven days a week.

In addition to simplicity, successful technologies must also be flexible in order to incorporate the practice's administrative structure into the service's workflow. This may require the capability of a delegate function. PCPs may experience frustration or anxiety throughout the adoption process, and resistance to new technologies among healthcare providers is well documented. [15,16] A growing body of literature has begun to explore the causes of this resistance, noting the importance of identifying perceived barriers and assessing their relative importance to physicians.[17]

Understanding Changing Privacy Requirements

Protecting patient privacy must be a priority for all healthcare providers and facilities. During the development of the eConsult service, privacy rules changed, and our technology solution needed to adapt to meet new requirements. A proper privacy and threat analysis must be conducted prior to launching any new platform where patient health information is located.

In the traditional referral-consultation model, the patient knows that a referral has been made as they are given an appointment for the specialist. In a virtual system, the patient may be unaware that their PCP has allowed another provider to have access to their data. In our eConsult service, PCPs are required to confirm that the patient agrees to the transfer of information in order to complete the eConsult. The Canadian Medical Protective Association (CMPA) statement provided to Ontario MD states that patient consent is implied in the eConsult process, as the interaction remains within the circle of care. Given the importance of protecting patient privacy, in our view, it is prudent to obtain and document patients' express consent prior to transferring any personal information.

Defining Duty of Care and Provision of Service

Providers using the eConsult service must understand their professional and legal obligations when answering eConsults. By participating in an eConsult, providers undertake a duty of care in the same way as they do when providing advice in a hallway consultation or over the telephone. As such, specialists are required to provide a reasonable opinion with the information provided to them. Specialists are given three options when answering eConsults: (1) provide advice to the PCP to guide the patient's

treatment, (2) request more information, or (3) recommend a face-to-face referral. The advantage of eConsult is that it provides a full transcript of the encounter, which is stored in a secure server and can be retrieved by the PCP or specialist at any time.

An eConsult does not constitute transfer of care to the specialist, and the PCP remains the person responsible for all decisions made pertaining to the patient's care. This has implications for recordkeeping. In our system, the responding specialist is not required to open a chart for the patient, as the responsibility lies with the PCP. However, a record of the interaction is accessible to the specialist as needed. In a traditional consultation, there may be confusion regarding which provider is responsible for organizing tests, adjusting medications, or providing support in the setting of change in condition or adverse effects of treatments. This confusion should not exist in a virtual consultation.

Although essentially all Canadian physicians have liability protection through the CMPA, the provincial regulatory bodies also have a vested interest in the provision of eConsults. In our discussions with other provinces and territories, we have encountered concern over regulations affecting our ability to provide eConsults across provincial boundaries. Greater clarity is needed on the regulatory and licensing requirements associated with interprovincial eConsults.

Selecting Specialists Who Provide the Service

In order for any healthcare service to be successful, the healthcare providers involved in its implementation must be supportive of its objectives and invested in it as an improvement in how they provide care. Not all specialists are necessarily interested in or well suited to providing eConsultation. As such, not all specialists should be required or invited to participate in an eConsult service. However, limiting participation in an eConsult service to a subset of specialists runs the risk of placing excluded specialists at a financial disadvantage. Furthermore, such restrictions might raise contention among practitioners regarding the criteria for inclusion. As eConsult services become more widespread, more attention will need to be paid to selection and credentialing of participating specialists.

Understanding Patients' Perspectives and Expectations

Patients are growing increasingly impatient with long wait times and inefficient health services. Technological advancements have led patients to expect immediate answers, resulting in frustration with poor access to expert advice. Patient acceptance is vital to the success of any healthcare innovation, and patients' perspectives on new and innovative services must be thoroughly established. We conducted a survey of individuals who had waited to see an endocrinologist. In their responses, 46 per cent of patients identified eConsultation as being an acceptable option to avoid face-to-face visits.[18] Patients who saw eConsultation as a viable alternative to traditional referrals cited reduced travel time and quicker responses as advantages, while patients who did not see eConsultation as beneficial stated they would feel more confident talking to a specialist in person. As eConsult

services continue to develop, more work must be done to help innovators better patients' acceptance and expectations of such services in order to create services that deliver high levels of patient satisfaction.

Summary

It is very exciting that new strategies and technologies are being developed to reduce wait times for Canadians. Although there remains much work to be done and many questions to be answered, eConsult services have huge potential to improve access to specialist advice in a cost-effective, efficient manner. We have learned a great deal on our journey of establishing the Champlain BASE service and hope that our experiences will help others interested in establishing similar innovations in their own communities. No doubt as experience and spread of these solutions grows, new issues will be identified that will need to be addressed.

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