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Specialists Triageing Referrals to eConsult: a feasibility study including acceptability and impact of providing advice on primary health care providers

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Abstract

Background Specialists review referrals for appropriateness and urgency. Limited capacity results in specialists declining referrals leaving primary care providers (PCP), patients, and specialists frustrated. Since specialist availability is unlikely to improve significantly, innovative solutions are required. This study evaluated the feasibility, acceptability, safety and impact of a new referral triage option Triageing Referrals to eConsult (TReC) which enables specialists to provide advice in lieu of an appointment (advice only) or provide advice to support the PCP until the appointment occurs (advice and appointment).

Methods Utilization metrics were prospectively collected (number (%) of referrals converted, time from receipt of referral to completion (response time) and specialist self-reported billing time.

To assess PCP opinions on safety (advice was clearly identified and actionable) and acceptability (comfort in patient not seeing a specialist, additional time burden and support for expansion) two surveys, one for those referrals triaged to advice only and another for those triaged to advice and appointment, were faxed 14 days after the referral response.

Results From November 1, 2022, to October 31, 2023, five specialties converted 930/16,880 referrals—656 (3.8%) to *Advice Only* and 274 (1.6%) to *Advice and Appointment* for an overall conversion rate of 5.5%. 192/1010 (19%) PCPs returned the survey with over 80% agreeing that the advice was easily recognizable, conversion to eConsult was acceptable and the advice was helpful and actionable.

Interpretation Enabling specialists to provide advice to PCPs, often in lieu of an appointment, was acceptable, feasible with no major patient safety concerns.

Keywords Triageing, Referrals, Electronic consultation

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Introduction

Timely access to specialist care is becoming more challenging within the Canadian Healthcare system [1]. A recent Canadian study revealed that the median wait time to see a specialist was 78 days but varied depending on specialty and geographic location [2]. Specialists are expected to review referrals for appropriateness and urgency and communicate the triage decision back to the primary care provider (PCP) within 14 days [3]. The triage outcome is generally restricted to accepting and booking the patient for an appointment, requesting more information, redirecting to another provider or declining the referral (due to scope of practice or inadequate capacity). A declined referral leaves the patient and the PCP with no support resulting in frustration, delays in care delivery and additional burden on, including family physicians and nurse practitioners, contributing to Canada’s primary care crisis [4].

Another option for accessing specialist advice is an electronic consultation (eConsult) which is a secure, asynchronous provider-to-provider dialogue for non-urgent clinical questions [5] that can eliminate the need for a specialist appointment [6]. eConsults provide timely access to specialist advice and is an acceptable alternative for PCPs and patients [7]. In Ontario, two different eConsult platforms are available for PCPs to request specialist advice. These PCP-initiated eConsult services are widely utilized, with over 115,000 eConsults processed from Feb 1 2023-Jan 31 2024 [8]. However, the need for the PCP to have awareness of the eConsult service, create an account and identify which clinical questions are best suited to eConsult may limit optimal utilization. Other jurisdictions outside of Canada have used a different model where the requested provider, not the sending provider, decides if electronically submitted referrals

can be addressed by advice only rather than booking an appointment [9].

Since specialist availability is not likely to improve in the foreseeable future, innovative solutions are required. The goal of this study was to evaluate a new referral triage option Triaging Referrals to eConsult (TReC) which enables specialists to reply to a referral with advice in lieu of an appointment (advice only) or providing advice in addition to booking the patient to support the PCP until the appointment occurs (advice and appointment). We assessed the feasibility, safety, acceptability and the impact of this new triage option.

Methods

Study design and context

This is a pragmatic quality improvement (QI) study design based on the Model of Improvement framework [10]. The Ottawa Hospital Research Ethics Board deemed this project falls within the context of quality initiative, quality improvement, and program evaluation and therefore exempt from REB review. Human Ethics and Consent to Participate declarations: not applicable. This study was conducted at a large, academic hospital in Ontario, Canada.

Triage workflow

In our institution, referrals are received primarily by fax or an electronic platform and uploaded into our Epic hospital information system (HIS), where they are triaged. Two novel triage options (advice only, advice and appointment) were created and integrated within the HIS triaging workflow (Fig. 1). This was introduced to address challenges in the traditional referral process, where specialists often were providing advice back on rejected referrals. This informal, non-remunerated workflow

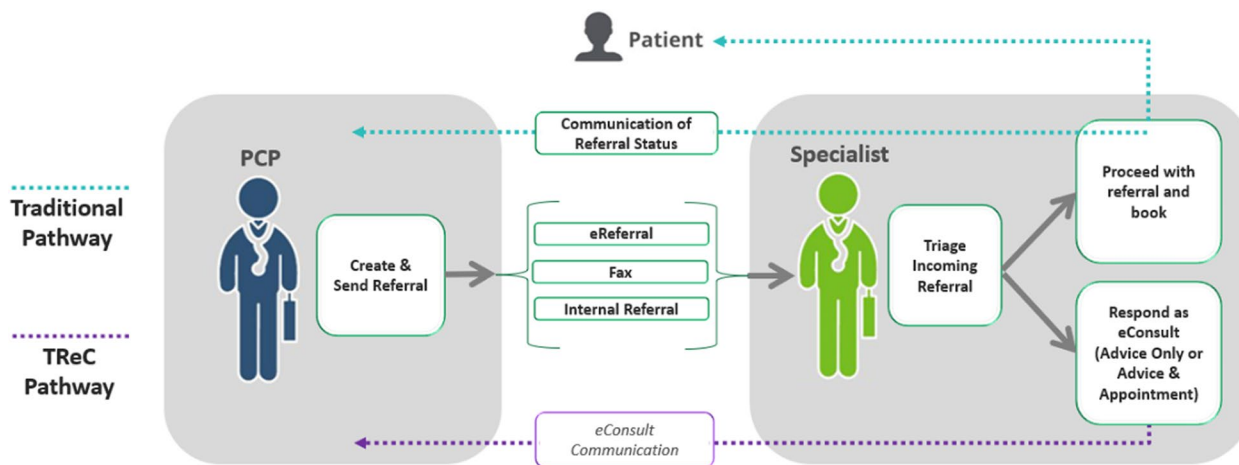


Fig. 1 Overview of TReC workflow

posed several challenges, including the risk of PCPs overlooking the advice due to its delivery in a rejection notification and the inconsistent documentation of this advice in the patient record. TReC standardizes this process by ensuring specialist are compensated (aligned with remuneration policy for Ontario eConsult) and by implementing a change to the communication back to the PCP highlighting that advice is included. This approach differs from Ontario's eConsult programs, as TReC involves specialists reviewing referrals to determine whether an eConsult is appropriate.

Three specialty areas – Endocrinology, Rheumatology, Cardiology – were initially selected based on willingness to participate, strong clinical leadership, long wait times and/or high referral rejection rates. Participation of all triaging specialists in the clinical area was encouraged but voluntary. Specialist training was provided by the project leads. Clinical leaders were asked to gain consensus among members for types of clinical scenarios best suited to providing advice only. Participating specialists were provided with workflow instructions, criteria for converting referrals (Table 1) and billing requirements.

In the one-year period from November 1, 2022, to October 31, 2023, 6 different specialties joined the TReC initiative including Endocrinology, Rheumatology and Cardiology (November 2022), Gastroenterology and Neurology (July 2023), Urology (August 2023). Specialties that responded to 10 or fewer referrals with an eConsult were excluded. Therefore, Gastroenterology was not included in the final analysis.

Quantitative data sources and analysis

As part of program uptake assessment, key metrics were prospectively collected through the HIS dashboard – including number of referrals converted to advice or advice and appointment, total number of referrals, time from receipt of referral to completion (response time) and self-reported billing time for the specialist.

Assessment of PCP acceptability and safety

To assess PCP opinions on safety (advice was clearly identified and actionable) and acceptability (comfort in patient not seeing a specialist, additional time burden and support for expansion) for specialists triaging referrals to advice, we contacted PCP offices via telephone

for the first three months of the initiative. A standardized script was used to determine whether PCPs providers had any major safety concerns regarding this process. Feedback, primarily relayed by administrative staff, was used to create two surveys, one for those referrals triaged to advice only and another for those triaged to advice and appointment, which were then modified based on PCP team members feedback. Both surveys used a series of questions with responses on the Likert scale to ascertain PCP acceptance, perceived patient safety and satisfaction (see Appendix A). The surveys were sent to the PCPs' office by fax 14 days after the referral was triaged, with no specific deadline for response. Surveys received the first year live (up until Nov 15, 2023) were included. Free text comments were reviewed to determine preliminary common themes (Supplementary Materials).

Results

The five included specialties (Endocrinology, Rheumatology, Cardiology, Neurology, Urology) received 16,880 referrals after their go-live date. Of these, 930 were converted 656 (3.8%) to *Advice Only* and 274 (1.6%) to *Advice and Appointment* for an overall conversion rate of 5.5%. The volume of referrals converted steadily increased over the 12 months (Fig. 2).

The highest conversion rate was in Endocrinology which saw 12.1% conversion of referrals, of which just under half were advice with appointment. eConsult conversion rates by specialty are summarized in Table 2. The median time range between the referral being sent and the PCP receiving advice was <24 h and IQR was 24 h. The median self-reported billing time was 5–10 min. A total of 36 specialists participated in TReC with the number of actively participating specialists by specialty ranging from 4 to 9.

Primary care provider feedback

Telephone feedback

We received feedback from 73% of offices contacted (51 of the 69 offices). Office staff relayed the information from the PCP. All respondents felt that the initiative was acceptable and no major safety concerns were identified. All respondents also agreed that the advice was appropriate. A few minor concerns were identified around

Table 1 Criteria for converting referrals to advice

- Patient has care in the community (primary care provider, other specialist) who can act on recommendations and/or provide longitudinal care
- Clear, straightforward question
- The consultation is not urgent in nature, in other words without prompt intervention the patient would be at risk of imminent deterioration or disease progression
- Recommendations will be within scope of the PCP

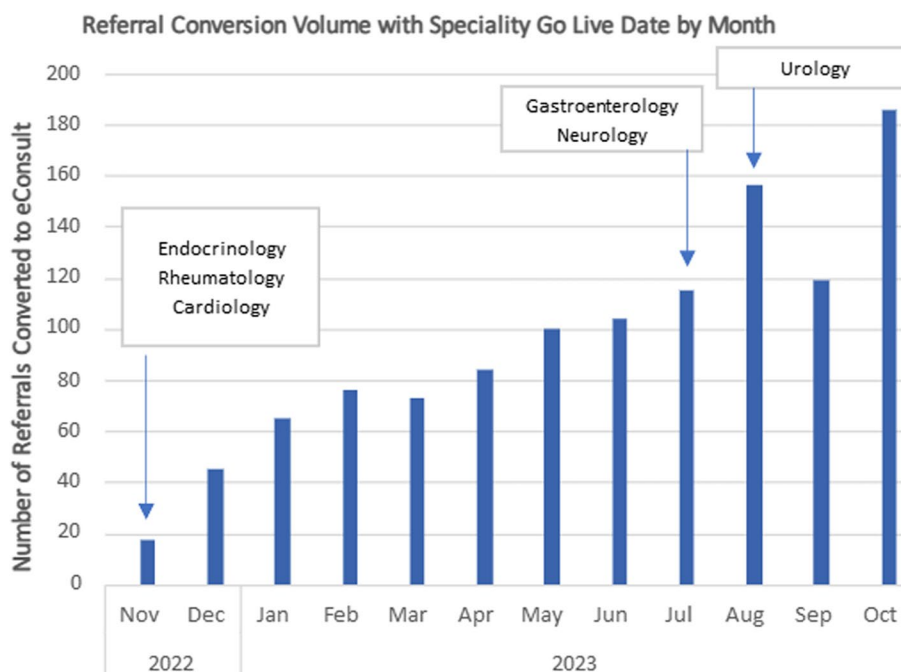


Fig. 2 Referral conversion volume and speciality go live dates by month

Table 2 Conversion to eConsult (Advice Only and Advice and Appointment) by participating speciality

Specialty	Number of Total Referrals since going live with TREC	Number and Percentage Converted to eConsults	eConsult breakdown	
			Advice Only	Advice with Appointment
Endocrinology	4446	536 12.06%	309 6.95%	227 5.11%
Rheumatology	2935	93 3.17%	85 2.90%	8 0.27%
Cardiology	4198	155 3.69%	143 3.41%	12 0.29%
Neurology	3587	121 3.37%	99 2.76%	21 0.61%
Urology	1714	25 1.46%	20 1.17%	5 0.29%
Total	16 880	930 5.51%	656 3.89%	274 1.62%

incorrect fax numbers and not being sent to correct office locations.

Faxed surveys

The faxed survey results are summarized in Fig. 3. Not all PCPs chose to answer all survey questions. Of the PCPs who received surveys for advice only (n=714), there was an 18% response rate (n=128). Over 80% of respondents agreed that the advice was easily recognizable, conversion to eConsult was acceptable to them

and the advice was helpful and actionable. Only 16% of respondents had patient safety concerns. Although many PCPs (63.7%) agreed that a referral is no longer needed, just under half of the PCPs (44.4%) identified their patients felt they still needed to see a specialist. Of the 294 PCPs who received a survey after receiving advice and an appointment, 64 returned the survey (22%). Over 85% of PCPs found the advice was easily recognizable and helpful and actionable for the care of their patients. Receiving advice changed the way the

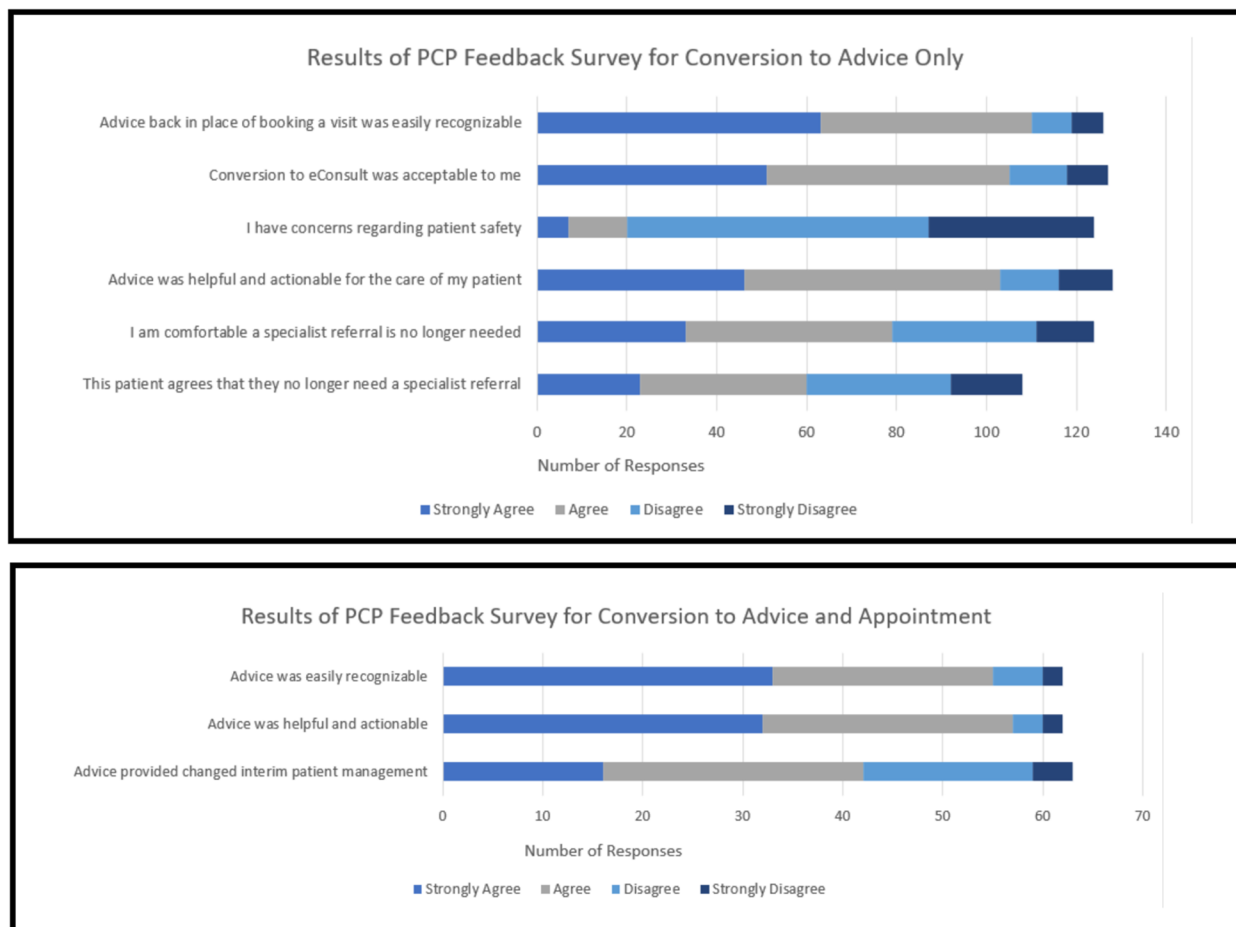


Fig. 3 Results of PCP feedback surveys

patient was managed while waiting for the specialist appointment in over 66% of cases.

According to both surveys, PCP workload increased with most respondents reporting an extra 5–10 min of work since their referral was triaged to an eConsult, however in some cases it was much higher (Fig. 4).

Despite this, most respondents reported that we should continue to expand TReC to other specialties (138/187 = 73.8% reported $\geq 7/10$ on a scale of 1–10) as summarized in Fig. 5.

Qualitative feedback received through free text comments was both positive and negative.

The appropriateness based on clinical presentation also varied as two different PCPs had different experience with a case of polymyalgia rheumatica – one provider stated “*Was helpful as PMR dx is straight forward and pt is responding well; would be different if complex/complicated case*” while another highlighted “*I referred a patient with very likely PMR to rheumatology and it was rejected with a 3-page crash course on PMR...I find that was totally unacceptable!*” There was concern of additional

burden on primary care e.g., “*While I understand that converting consults to e-consults helps with specialist wait times, it essentially creates more undercompensated administrative burdens for family physicians*” but also appreciation “*I prefer this to e-consult, easier and direct, easier to send images/reports from EMR.*” Some expressed concern over the patient’s disappointment in not being given an appointment “*Unfortunately, we still had to manage patient’s exceptional disappointment of no consult.*”

Interpretation

Increasing wait times and capacity constraints continues to be a challenge in Canada. We describe a novel triaging alternative where PCPs received advice back within 24 h on an average of 5.5% of their referrals. Although perceived as acceptable, safe, and worthy of expanding by most PCPs, this does result in additional work for the PCP both in workflow, follow up with the patient, and acting on the advice. For those that received advice while waiting for their patient’s appointment, there was high

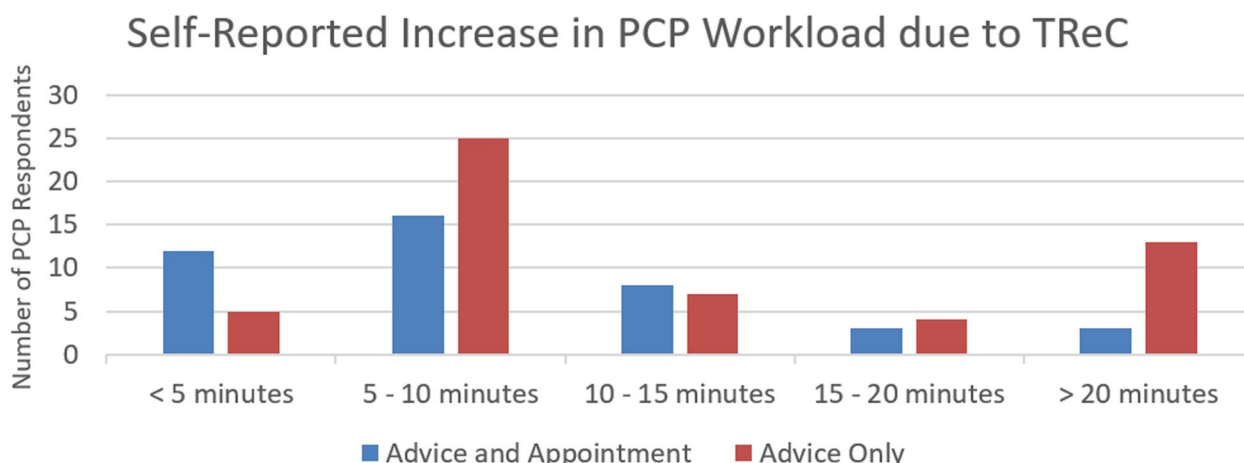


Fig. 4 PCP self-reported increase in workload due to TReC

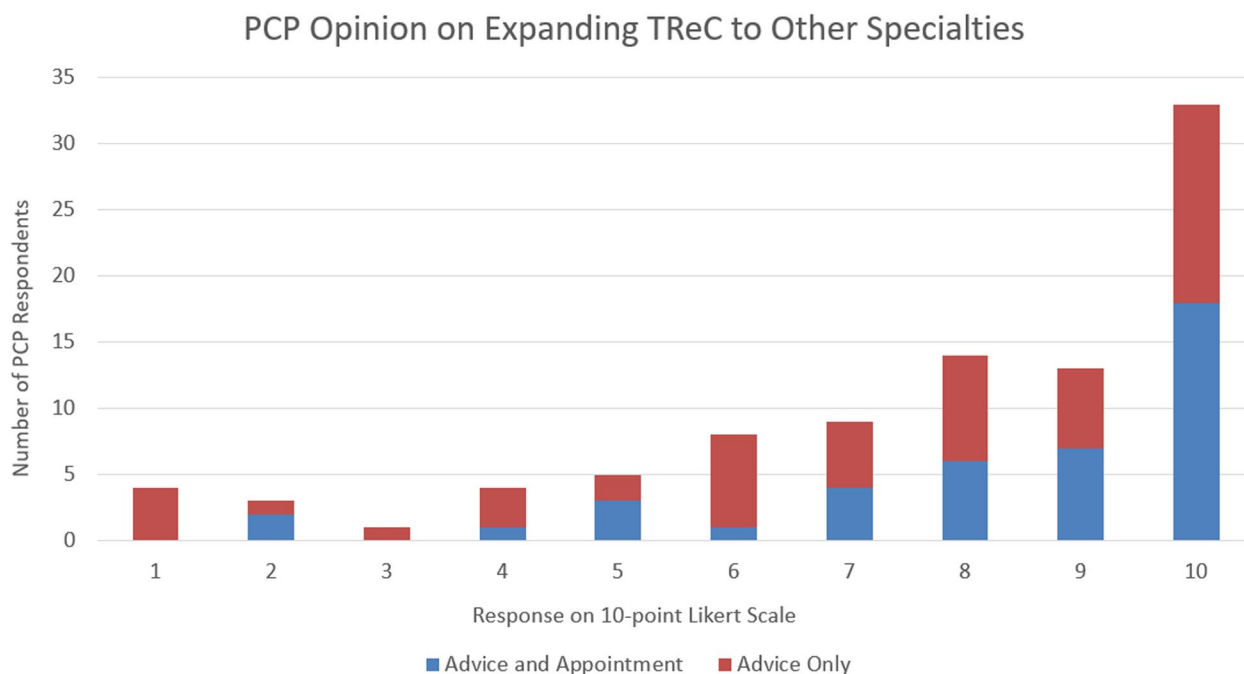


Fig. 5 PCP opinion on TReC expansion to other specialties

impact, with 2/3 of these PCPs doing something different for their patient as a result.

The conversion rate of all referrals to eConsult noted in our study was somewhat lower than expected. Three studies from the US report a conversion rate of 13–25% [11–13], while two UK studies reported a 10% rate [14, 15]. A review of faxed Endocrinology and Rheumatology referrals to one Ontario centre suggested 8–15% could likely be answered through eConsult [16, 17].

Our conversion rates may be lower for several reasons including comfort of the multiple different triaging

specialists (as evidenced by the heterogenous rates of triage), lack of consensus on best suited clinical scenarios, and improved capacity for in-person referrals (in rheumatology specifically). The amount of material and specificity of the clinical question may be lacking since the PCP is not anticipating receiving advice. In other jurisdictions primary care and specialists often share a medical record enabling the review of additional clinical information to guide the advice.

There is an urgent need to improve access to specialty care without increasing the administrative burden on

primary care. Over 70% of Ontario physicians said they experienced some level of burnout in 2021 [18]. A 2023 report by the Ontario College of Family Physicians found that difficult access to specialist care was one of five critical challenges faced by primary care providers [19]. While this initiative provides more timely guidance, there is additional, unremunerated workload on primary care. However, requiring the PCP to resubmit the referral on an eConsult platform or declining the referral with no guidance are not appealing options as they too increase burden and cause further delays in care delivery. While most PCPs found the advice in the eConsult helpful and actionable, some felt managing the patient was beyond their scope of practice. This emphasizes the need for consensus among PCPs and specialists regarding the kinds of referrals that are most appropriate to convert into eConsults, recognizing that individual PCPs will have different self-efficacy in managing specific clinical conditions. Improving the workflow and allowing back and forth communication for clarification and further questions, which are available on eConsult specific platforms, may improve acceptability. Specialists are paid through the Ontario eConsult Program for providing advice, however, the PCP is not compensated for receiving and acting on the advice unlike when they submit a question on the eConsult platform. Remuneration policies require further exploration.

While we focused on PCP feedback as the primary method of assessing safety and efficacy for this pilot project, the patient perspective is critical. Some patients will be disappointed that they are not receiving a specialist appointment as reflected in our PCP survey responses. However, what the patient may not be aware of is that their referral may have been rejected or that there would be an exceptionally long wait time to see the specialist. In a patient survey of patients after their first endocrinology visit 46% considered eConsult as an acceptable alternative to their recent appointment [7]. Patient surveys are planned for future work.

Limitations & next steps

One limitation of our data is that it relies on self-reported surveys of which the response rate was modest at 15–18%. This may result in overtly positive and negative responses from PCPs who feel polarized by the initiative while respondents who have neutral feelings may be less likely to respond. As previously mentioned, PCPs in Ontario are facing increased patient demand and substantial administrative burdens. These pressures likely reduced their willingness to complete surveys. Additionally, PCPs may have experienced survey fatigue, as they potentially received multiple surveys in response to their referrals being converted to eConsult. Other jurisdictions

have used other metrics including the need for patients to be seen by the specialist in the next 6 months and presentation to the ED in the next 6 months as important measures of safety. We intend to link to patient outcome metrics in the future and will launch patient experience surveys shortly. As we spread and scale this initiative across specialties and sites, we will continue to seek feedback from PCPs and patients, engage with specialists on types of referrals that are best suited for TReC, and determine impact on wait times, referral rejection rates, and impact on future services required. Additionally, we plan to distribute specialists survey to understand their perspective and need for training. We will also plan to evaluate what types of case stems were more amenable to TReC to help specialists gain confidence and comfort in triaging decisions.

Conclusion

Referrals to specialists may be declined or scheduled many months away due to high volumes of requests and need to prioritize urgent consultations. The option to provide timely advice that is actionable by PCPs was acceptable, feasible with no major patient safety concerns.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12913-025-12346-z>.

Supplementary Material 1.

Supplementary Material 2.

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Authors' contributions

EK, HL, SH, CL made substantial contributions to the conception of the work, EK, HL, SH, CL, GM, RA designed the study, interpreted the data and reviewed the manuscript. RA and EK were responsible for acquiring the data. GM, SH, HL, EK, RA analyzed and interpreted the data. RA and EK drafted the manuscript. All authors edited and approved the submitted manuscript and have agreed both to be personally accountable for the author's own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature.

Funding

This project was funded through The Ottawa Hospital Academic Medical Organization Innovation Fund.

Data availability

Availability of data and materials will be considered on an individual basis and will need to be confirmed with our privacy officers. The utilization data is extracted from patient records and kept in study files. The survey data is also available through request to access to study files. Requests should be directed to Dr. Erin Keely ekeely@toh.ca.

Declarations

Ethics approval and consent to participate

The Ottawa Health Sciences Network Research Ethics Board deemed this project falls within the context of quality initiative, quality improvement, and program evaluation. Consequently, as per the Tri-Council Policy Statement 2, Article 2.5, the REB determined that the proposal is not 'human subject research'; therefore, review by the OHSN-REB is not required. The need for consent to participate was waived by the Ottawa Health Sciences Network REB as this was deemed a quality improvement initiative. This study adhered to the Declaration of Helsinki.

Consent for publication

By submitting my article I agree to pay the APC in full if my article is accepted for publication (unless it is covered by an institutional agreement or journal partner, or a full waiver has been granted). If identifying images or other personal or clinical details of participants are presented that compromise anonymity, a statement of consent to publish from the patient should be included. Not applicable.

Competing interests

Dr. Lochnan held grant by Spruce pharmaceuticals for study on CAH within last 2 years. She provides eConsults through the Ontario eConsult program for which she is compensated. Dr. Keely is the Executive Director of the eConsult Centre of Excellence at the Ottawa Hospital who receives funding from Ontario Health. She is the Clinical Lead, Central Waitlist Management Program at Ontario Health for which she receives a stipend. Dr. Clare Liddy is the Evaluation Lead for the eConsult Centre of Excellence at The Ottawa Hospital, which receives funding from Ontario Health. She also serves as the Digital Clinical Lead at Ontario Health, for which she receives salary support.

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