

# Improving Access to Endocrinologists through Provider-to-Provider eConsultations

Erin Keely, MD, FRCPC and Clare Liddy, MD, MSc, CCFP

## About the Authors

Dr. Erin Keely is an Endocrinologist at the Ottawa Hospital and a Full Professor at the University of Ottawa's Department of Medicine. She is the co-founder of the Champlain BASE eConsult service and Co-Executive Director (specialist lead) of the Ontario eConsult Centre of Excellence.

### Affiliations

The Ottawa Hospital; University of Ottawa



Dr. Clare Liddy is the Chair and a Full Professor at the University of Ottawa's Department of Family Medicine with a University of Ottawa Research Chair in eConsult and Primary Health Care Delivery. She is the co-founder of the Champlain BASE eConsult service and Co-Executive Director (primary care lead) of the Ontario eConsult Centre of Excellence.

### Affiliations

The Ottawa Hospital; University of Ottawa

## The Challenge of Patient Access to Specialty Healthcare

Access to specialty healthcare care remains a major issue for many Canadians.<sup>1</sup> Not only are wait times long, but other barriers contribute to inequitable access. These include the patient's ability to attend appointments (e.g. related to transportation difficulties and/or cost), and the ability of some patients to participate in an appointment (e.g. due to cognitive impairment, mobility challenges, loss of wages, or degree of comfort with a new provider).

Informal consultations between healthcare providers have always played a role in healthcare access. The "call a colleague" approach works well when a practitioner is able to contact a colleague by telephone and an established network of specialists exists; however, it is inefficient, does not facilitate record-keeping for medico-legal purposes and follow-up, and is not remunerated. One way to help address these obstacles is through inter-provider electronic consultations (eConsults).

## Definition of an eConsult

An eConsult is a process whereby a physician or nurse practitioner engages in a secure, asynchronous, electronic dialogue with a specialist to manage non-urgent patient care, often without the need for a patient consultation with a specialist. There is no patient interaction, distinguishing it from a virtual patient visit in which the clinician would either have a call or a video session with a patient. The referring provider supplies the relevant clinical information which may include lab test results, images and medication history, and asks a specific clinical question. The responding clinician provides appropriate guidance in response to the information provided. As a general rule, specialists should decline to provide advice through an eConsult if they feel that the available information is inadequate or outside their scope of practice, or if an in-person patient consultation is needed to provide the appropriate advice.

eConsult services frequently allow back-and-forth dialogue allowing the specialist to gather additional

information from the requesting provider, and enable the requesting provider to seek clarification from the specialist. It is the responsibility of the requesting provider to decide if they will act on the advice provided by the specialist and to share the advice received with the patient. The information exchange between providers is documented and retrievable unlike telephone consultations.

Currently, there are two funded eConsult platforms available in Ontario ([www.econsultontario.ca](http://www.econsultontario.ca)): The Champlain eConsult Building Access to Specialists through eConsultation (BASE™) service on the SharePoint platform, and the eConsult service on the Ontario Telemedicine Network (OTN) hub. More than 100,000 eConsults were responded to in the past year, by more than 120 different specialty services. Approximately 6% of these were directed to endocrinology.

eConsults are now recognized as a standard of practice by the Royal College of Physicians and Surgeons of Canada and the Canadian College of Family Practice. All of the Canadian provinces, with the exception of Saskatchewan and PEI, have developed and implemented multispecialty eConsult programs to some degree.

### The Benefits of an eConsult

The utilization and impact of eConsults encompassing the four objectives of the Quadruple Aim outlined in [Table 1](#) have been documented in multiple publications.<sup>2</sup>

In addition to shortening the time required to obtain specialist advice from several months in some situations to less than a week, the direct interaction between primary care providers and specialists has been shown to carry other benefits:

- Enhanced professional respect and collaboration;
- Prompted learning for primary care providers and specialists;
- Improved efficiency by avoiding “telephone tag”;
- Improved documentation compared to that of other types of informal consultations.

Surveys of patients who have waited for an endocrinology referral and those who have had an eConsult conducted on their behalf also support the eConsult option.<sup>3,4</sup>

Primary care providers are generally appreciative of being able to access specialist advice through eConsults. However, some primary care providers have raised the issue of increased workload as the follow-up required transfers the responsibility from the specialist to the referring provider.<sup>5</sup> It is important to

<b>Better Population Health</b>
eConsult cuts response times from months to days (0.9 days median)
Two-thirds of cases did not require a face-to-face specialist referral
Exploration of specific populations (e.g. chronic pain patients, pharmacists) reveal high value of service
<b>Improved Patient Experience</b>
eConsult responds to previously articulated patient dissatisfaction with wait times
Interviews with patients reveal high satisfaction with eConsult’s impact on access, care quality, and continuity of care
<b>Lower Costs</b>
Across specialty groups, the service cost is a weighted average of \$47.35/case vs. \$133.60/case for traditional referrals
Costs drop dramatically after the startup period, reaching ~\$6.45/case by year 3
Further savings that account for societal costs are estimated at ~\$11 per eConsult
<b>Improved Provider Experience</b>
PCPs rank eConsult as high/very high value in over 90% of cases
94% of specialists report eConsult improves communication with PCPs
eConsult provides a powerful teaching tool for PCPs
<b>Exploring Policy/Implementation Issues</b>
eConsult services remain relatively uncommon in Canada
Implementation of a successful service requires adherence to key steps
A number of legal and policy challenges must be addressed to support the full and effective implementation of eConsult services

**Table 1:** The evidence base for Champlain BASE.<sup>2</sup>

Subject area of clinical questions	Tran et al. (n=464)	Anderson et al. (n=x)	Wasfy et al. (n=92)
Thyroid	36%	44%	30%
Bone	15%	2%	29%
Diabetes	12%	10%	-
Reproduction	9%	11%	14%
Adrenal	6%	7%	18%
Other	12%	13%	8%

**Table 2:** Clinical questions asked through eConsult.

note that eConsult is designed to support primary care and that eConsult services can be integrated into the referral-consultation pathways.

### Expectations of Specialists Participating in eConsult Services

Specialists who chose to participate in eConsult services must be committed to providing timely, high-quality responses to primary care provider inquiries.<sup>7,8</sup>

The key factors of a high-quality response include:

- Recommendations specific to the individual patient (when possible)
- Recommendations that are actionable/within the scope of the referring provider
- Details enabling the primary care provider to easily follow suggestions (e.g., medication dose/titration, resources for medical investigations)
- Educational clinical pearls (e.g., the rationale for the recommendations)
- Anticipatory guidance (e.g., next steps if recommendations are not effective, when to re-refer patients)
- Resources available in the community
- A professional/supportive communication style

### Types of Questions Addressed to Endocrinologists through eConsult

Several clinical studies in various medical specialties have demonstrated that endocrinology is one of the specialties most commonly requested through eConsult services.<sup>9-11</sup> One retrospective study reviewing faxed referrals to an endocrinology tertiary care centre, suggested that 25% to 27% of referrals were potentially amenable to being answered through eConsult.<sup>12</sup>

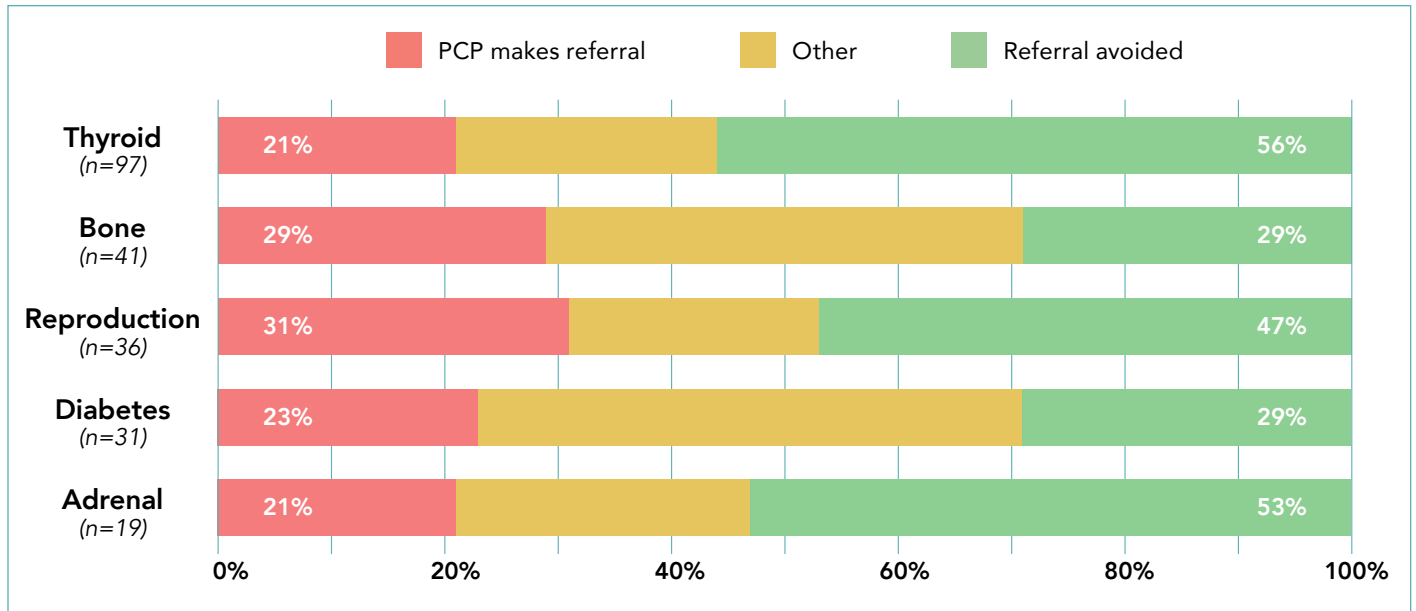
Three clinical studies have investigated the types of clinical questions asked through eConsult (Table 2).<sup>13-15</sup>

In one study, the type of clinical question was also assessed; the results revealed these as drug treatment (33%), diagnosis (28%), more than one question (18%), and non-pharmacological management (14%).<sup>13</sup>

Two additional clinical studies have investigated the specific endocrine conditions of thyroid biopsies and osteoporosis.<sup>15,16</sup> A retrospective study of 302 thyroid fine needle biopsies where endocrinologists' input was received through eConsult showed that the biopsies with an eConsult had faster work-up times and similar concordance with clinical guidelines compared to patients seen in person.<sup>15</sup> In another study of veterans with a recent fracture, an eConsult note by a metabolic bone specialist sent to the primary care provider with specific recommendations for management showed a modest increase in prescribing rates of bisphosphonate, bone density studies, calcium/vitamin D.<sup>16</sup>

### The Impact of Endocrinology eConsults on Requesting Primary Care Providers and Specialists

As part of the Champlain BASE eConsult service, before closing a case, requesting primary care providers complete a mandatory survey containing four questions (impact on need for referral; impact on course of action for the patient; educational value; and whether this topic should be included in a future Continuing Professional Development [CPD] event). These surveys have revealed that in Ontario, for cases directed to endocrinology, the referring PCP originally contemplated a referral but no longer felt it was needed in 44% of cases (i.e. referral was avoided). In 22% of cases, a referral was contemplated and was still needed; and in 31% of cases, a referral was not contemplated and was still not needed. In 3% of cases, a referral was originally not contemplated and will now be sent, thereby avoiding a delay in patient referral. This impact on the need for referrals was shown to be consistent with that in other medical specialties.



**Figure 1:** Referral rates according to medical specialty.

Referrals were avoided most frequently for thyroid and adrenal cases (Figure 1).

In 60% of cases, the requesting provider received a recommendation for a new or additional course of action, which confirms that the patient's treatment was directly affected by the eConsult advice received.<sup>13</sup> Requesting primary care providers ranked 93% of cases as having high educational value and suggested that 66% of cases were an important clinical problem to include in future CPD initiatives. For the Ontario eConsult services, the specialist provides a self-reported billing time record. In 48% of cases, the time billed was <10 minutes; in 34% it was 10–15 minutes; and in 16% it was >15 minutes. The time billed was lowest for thyroid, bone and diabetes questions.<sup>13</sup>

## Summary

In light of the challenges involved in accessing specialty healthcare, as well as burnout within the primary care sector, it is important that specialists find innovative ways to support primary care by building their capacity and confidence in managing less complex conditions. Provider to-provider eConsults initiated by primary care have been shown to be highly acceptable and impactful in improving the care of patients with endocrinological problems in Ontario. eConsults provide support and education to requesting primary care providers, and empower them to confidently address clinical issues.

## Correspondence

Dr. Erin Keely

Email: ekeely@toh.ca

## Financial Disclosures

Drs. Keely and Liddy receive salary support from Ontario Health for their leadership role at the Ontario eConsult Centre of Excellence. Dr. Keely participates as a specialist in the Champlain BASE eConsult service.

## References

1. Moir M, Barua B. Waiting your turn: Wait times for health care in Canada, 2022 Report. Fraser Institute. 2022 Dec 8 [accessed 2023 Apr 7]. Available from: [fraserinstitute.org/categories/health-care-wait-times](https://fraserinstitute.org/categories/health-care-wait-times).
2. Champlain eConsult BASE™ [Internet]. Accessed 2023 Apr 7. Available from: [www.champlainbaseconsult.com](http://www.champlainbaseconsult.com).
3. Liddy C, Keely E. Using the quadruple aim framework to measure impact of health technology implementation: a case study of eConsult. *The Journal of the American Board of Family Medicine*. 2018 May 1;31(3):445-55.
4. Joschko J, Liddy C, Moroz I, Reiche M, Crowe L, Afkham A, Keely E. Just a click away: exploring patients' perspectives on receiving care through the Champlain BASE™ eConsult service. *Family Practice*. 2018 Feb;35(1):93-8. doi:10.1093/fampra/cmz073
5. Keely E, Traczyk L, Liddy C. Patients' perspectives on wait times and the referral-consultation process while attending a tertiary diabetes and endocrinology centre: is econsultation an acceptable option? *Canadian Journal of Diabetes*. 2015 Aug 1;39(4):325-9. doi: 10.1016/j.jcjd.2014.12.010
6. Lee M, Leonard C, Greene P, Kenney R, Whittington MD, Kirsh S, Ho PM, Sayre G, Simonetti J. Perspectives of VA primary care clinicians toward electronic consultation-related workload burden: a qualitative analysis. *JAMA Network Open*. 2020 Oct 1;3(10):e2018104.
7. Keely E, Liddy C. Specialist participation in e-consult and e-referral services: best practices. *Telemedicine and e-Health*. 2021 Jan 1;27(1):17-9. doi:10.1089/tmj.2020.0023
8. Tran C, Archibald D, Humphrey-Murto S, Liddy C, Keely E. What makes a high-quality electronic consultation (eConsult)? A nominal group study. *Journal of Telemedicine and Telecare*. 2020 May;26(4):239-47. doi:10.1177/1357633X18822885
9. Thompson MA, Fuhlbrigge AL, Pearson DW, Saxon DR, Oberst-Walsh LA, Thomas JF. Building eConsult (electronic consults) capability at an academic medical center to improve efficiencies in delivering specialty care. *Journal of Primary Care & Community Health*. 2021 Mar;12:21501327211005303.
10. Saxon DR, Kaboli PJ, Haraldsson B, Wilson C, Ohl M, Augustine MR. Growth of electronic consultations in the Veterans Health Administration. *American Journal of Managed Care*. 2021 Jan 1;27(1). doi:10.37765/ajmc.2021.88572
11. Kirsh S, Carey E, Aron DC, Cardenas O, Graham G, Jain R, Au DH, Tseng CL, Franklin H, Ho PM. Impact of a national specialty e-consultation implementation project on access. *Am J Manag Care*. 2015;21:e648-e654.14.
12. Pun N, Arnaout A, Tran C, Liddy C, Keely E. Comparing the content of traditional faxed consultations to eConsults within an academic endocrinology clinic. *Journal of Clinical & Translational Endocrinology*. 2021 Mar 1;24:100260. doi:10.1016/j.jcte.2021.100260
13. Tran CS, Liddy CE, Liu DM, Afkham A, Keely EJ. eConsults to endocrinologists improve access and change primary care provider behavior. *Endocrine Practice*. 2016 Oct 1;22(10):1145-50. doi:10.4158/E161321.OR
14. Anderson D, Porto A, Koppel J, Macri G, Wright M. Impact of endocrinology eConsults on access to endocrinology care for Medicaid patients. *Telemedicine and e-Health*. 2020 Nov 1;26(11):1383-90. doi:10.1089/tmj.2019.0238
15. Yoon SS, Wong DH, Wormwood JB, Reisman JI, Vimalananda VG. Impact of Electronic Consultation on Timeliness and Guideline Concordance of Workups Leading to Thyroid Nodule Fine-Needle Aspiration Biopsy. *Endocrine Practice*. 2021 Oct 1;27(10):1011-6. doi:10.1016/j.eprac.2021.03.008
16. Lee RH, Lyles KW, Pearson M, Barnard K, Colón-Emeric C. Osteoporosis screening and treatment among veterans with recent fracture after implementation of an electronic consult service. *Calcified Tissue International*. 2014 Jun;94:659-64.