

Offering eConsult to Family Physicians With Patients on a Pain Clinic Wait List: An Outreach Exercise

Patricia A. Poulin • Heather C. Romanow • Jeannette Cheng • Clare Liddy • Erin J. Keely • Catherine E. Smyth

ABSTRACT

Wait times for many chronic pain programs in Canada range from 6 months to 2 years. This project sought to determine the interest of primary care providers (PCPs) in using an electronic consult system for patient(s) waiting for a pain consultation. This cross-sectional study was conducted at the pain clinic of a Canadian tertiary academic health sciences center. Participants were PCPs who had submitted a referral to this clinic. Referrals received between April 1, 2012, and March 31, 2014, were reviewed to determine their appropriateness for eConsult, and a letter providing information about eConsult and encouraging its use was sent to the referring PCP. Of the 585 referrals that were reviewed, 227 were appropriate for eConsult. Fifty-one (26%) of the 194 PCP responses received were positive. Technologies like eConsult may help address the growing demand for specialist advice. In addition to facilitating response to specific questions, the bidirectional nature of eConsult permits its use for educating PCPs about chronic pain treatment. Given that almost one third of responding PCPs indicated an interest in eConsult, its potential reach is vast. Additional study is needed to understand barriers to PCP acceptance and use of eConsult and the uptake of advice given.

Keywords: electronic consultations, eConsult, chronic pain, wait list, quality improvement

Introduction

Chronic pain is a common and debilitating disorder that constitutes a significant burden to patients, communities, and the healthcare system.¹ The management of chronic pain is a challenge to patients and providers due to limited access to specialty pain management programs and insufficient training for healthcare professionals.^{2,3} In many pain management programs in Canada, the wait times for patients can range from 6 months to 2 years.⁴ Lengthy wait times can lead to serious health consequences because the health, functioning, and quality of life of the patients can deteriorate substantially when waiting for more than 6 months.⁵ It is crucial to improve access to specialty advice now in the context of an aging population at an increased risk of chronic pain with concomitant pressures on limited healthcare resources.

Advancements in health information technology can have a positive impact on patient outcomes. Electronic referral systems can improve coordination of care through timely referrals between services.⁶ Electronic consultation (eConsult) systems allow for secure, asynchronous, and effective communication between primary care providers (PCPs) and specialists,⁷ leading to shorter wait times for specialty consultation.⁸ The Champlain BASE (**B**uilding **A**ccess to **S**pecialists through **e**Consult) eConsult service is an electronic consultation service developed in Ontario, Canada. Launched as a proof of concept in 2010,⁹ the eConsult service provides PCPs with rapid access to specialist advice. For example, PCPs can get clarification on the need for diagnostic tests or treatments and confirmation as to whether a formal face-to-face consultation is required.⁹ The Champlain BASE now offers 1,054 PCPs (including 891 family doctors and 162 nurse practitioners) access to advice from 84 different specialty groups, and these services are paid for by the Ontario Ministry of Health and Long Term Care. In a recent review of the service, 40% of cases where the family physicians had planned to request a face-to-face consultation for their patient were resolved through eConsult.¹⁰ The service has reduced wait times from months to days,¹¹ and it is highly rated by PCPs¹² and specialists.¹³

Journal for Healthcare Quality, Vol. 40, No. 5, pp. e71–e76

© 2017 National Association for Healthcare Quality

The authors declare no conflicts of interest.

For more information on this article, contact Patricia A. Poulin at ppoulin@toh.on.ca.

The funding for this project was provided through the Ontario Ministry of Health and Long-Term Care Medically Complex Patient Demonstration Project. The views expressed in the publication are the views of the Recipient and do not necessarily reflect those of the Province.

DOI: 10.1097/JHQ.0000000000000117

Pain specialists in Ottawa have been providing consultations via this eConsult service since April 2011.¹⁴ Given the ongoing success of the eConsult system in the Champlain Local Health Integration Network, eConsult team members partnered with a local academic health sciences center to pilot the use of eConsult to reduce its wait list. This article describes a quality improvement initiative where PCPs with patients on the pain clinic wait list were invited to use the eConsult system as an interim access point for their patient(s) waiting for a face-to-face pain consultation.

Methods

Design

This quality improvement initiative used a cross-sectional design. After a review of all pain consultation requests of wait-listed patients to identify those deemed appropriate for electronic consultation, we implemented an outreach program to PCPs to encourage the use of eConsult.

Setting

The study took place at a Canadian tertiary academic health science center, which is staffed by six part-time pain specialists, nurses, and a psychologist. This center services a population of approximately 1.3 million people, 65% of whom live in the city with the remainder residing in surrounding smaller cities and rural communities.¹⁵ Each month, the pain clinic of this center received approximately 100 consultation requests and saw on average 55 new patients. For nonurgent consultations, as of March 2014, the wait time for an appointment with a specialist was greater than 2 years.

Institutional Review Board Discussion of Waiver

This project was reviewed by The Ottawa Health Sciences Network Review Board (IRB) of our institution and was determined not to present any ethical concerns. However, it was also determined not to be “human subject research” under the Canadian Interagency Advisory Panel on Research Ethics’ Tri-Council Policy Statement 2, Article 2.5, and was thus exempt from IRB review.

Participants

Participants were PCPs who had referred a patient to our institution’s pain clinic.

Procedures

All referrals submitted to the clinic between April 1, 2012, and March 31, 2014, were reviewed by two pain

specialists to determine their appropriateness for eConsult. This suitability was assessed based on referrals not meeting exclusion criteria defined prior to coding and refined through an iterative process that involved discussion of consultation requests until consensus was reached. Specifically, referrals for an interventional approach and consultation requests for complex regional pain syndrome or for cancer-related pain were automatically excluded. Likewise, consultations for diagnostic purposes, where a physical examination would be necessary, were excluded. All consultation requests seeking advice on pharmacological management (e.g., opioid wean) were deemed appropriate.

Letters providing information about the eConsult service, including registration instructions and potential benefits of its use (e.g., quick access to specialist advice, reductions in the need for face-to-face assessments), were faxed to the referring physicians. Referring physicians were asked to reply and to indicate whether they wished to use the eConsult service for the patient referred. They were also given the option of removing their patient from the wait list if a consultation was no longer required. In an effort to obtain responses from all PCPs, follow-up phone calls were made or faxes were sent a second time.

Finally, we also tracked the usage of the eConsult system before and after the outreach, starting from the time the eConsult services was available for pain-related issues. This is reported as the average number of chronic pain eConsults submitted monthly.

Results

A total of 585 referrals from PCPs were reviewed. Consultation requests for patients under the age of 18 years, for interventional procedures, requiring a physical examination, for subspecialty clinics with short wait times within our center’s pain clinic (e.g., cancer pain, neuromodulation, etc.) or those received from outside our center’s catchment area, were not considered appropriate for eConsult and therefore were excluded. There were 227 new referrals considered appropriate for eConsult, and invitations were sent to all corresponding PCPs to use eConsult as an alternative access point.

Of the 227 letters that were faxed to PCPs, 194 responses (85%) were received. Of these, 51 physicians (26%) indicated that they would use eConsult. Sixteen physicians (8%) requested their patient be removed from the clinic wait list, and 1 (0.5%) returned the letter without indicating a response and was unreachable for clarification. Of the patients for whom physicians indicated that they would use

eConsult, 18 (35%) subsequently had eConsults submitted for them. eConsults were also submitted for 11 additional patients who were a part of the fax campaign, either by a different PCP than the one who was sent the letter (4) or whose PCP either did not provide a response (4) or responded indicating that they would not use eConsult (3) (Figure 1).

Finally, we observed that the average monthly volume of pain-related eConsult submissions increased subsequent to the mail out; in the 33 months preceding the communication, only 57 eConsults for pain were received (average, 1.7 per month), whereas in the 12 months following the communication, 153 eConsults for pain were received (average, 12.8 per month) (Figure 2).

Discussion

Our study describes a quality improvement initiative exploring an outreach program to promote the use

of eConsult as a tool to reduce a wait list to access chronic pain services. An important finding from our work is that pain specialists ascertained that 39% of the reviewed PCP referral questions for patients on the wait list could be at least partially addressed through an electronic consultation. This is aligned with findings in other jurisdictions and in other studies conducted on face-to-face consultations avoided through the use of eConsult for other specialties in our region.¹⁶⁻¹⁹ However, it is important to note that urgent referrals had already been triaged for appointments while they were received. Therefore, the consultation requests reviewed and included in the study were not representative of all the consultation requests received in real time at the pain clinic of our institution. A systematic or random sample of all referrals received within a given period would have provided more generalizable results.

Of the PCPs referring patients to the pain clinic of our institution for general chronic pain management

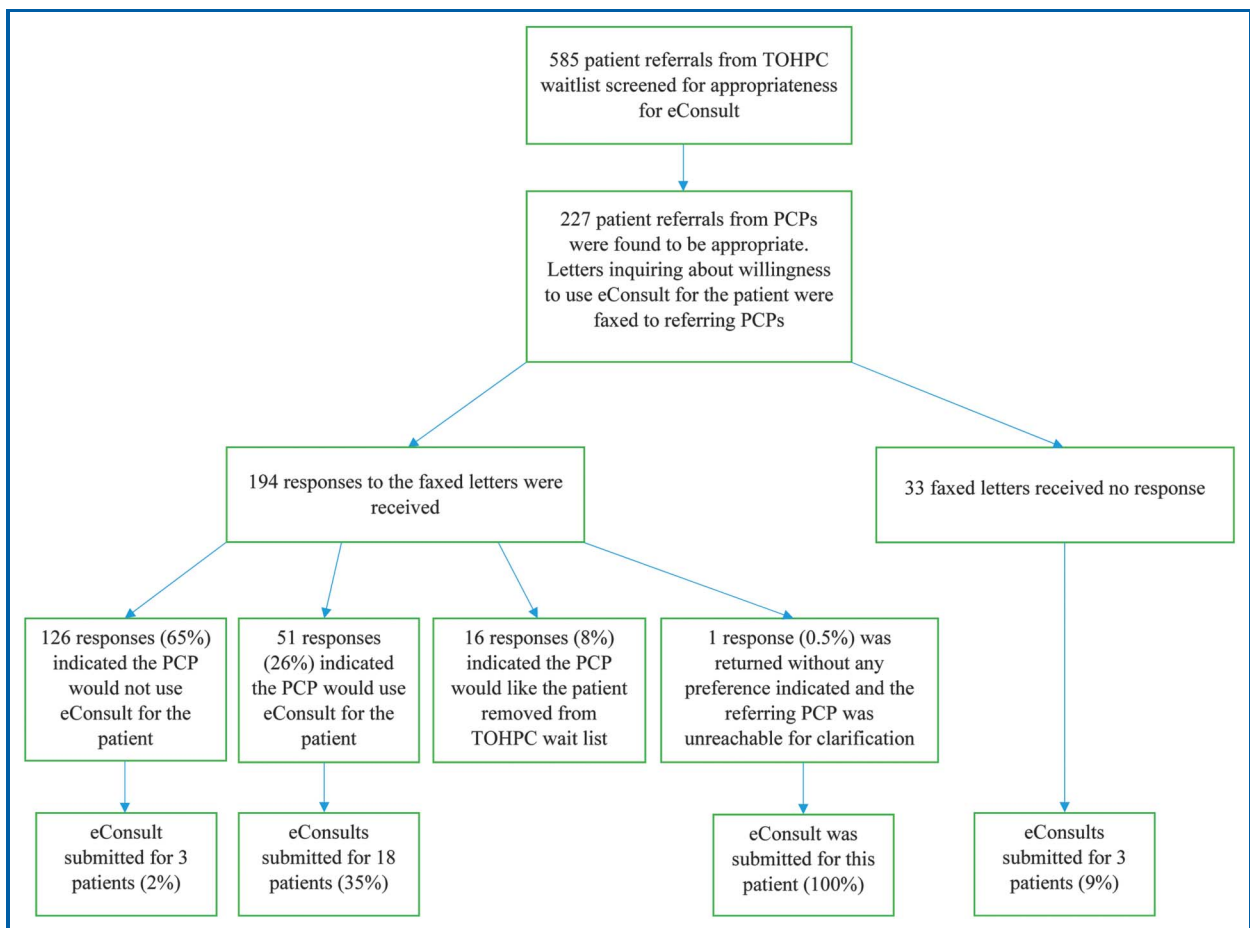


Figure 1. Strobe diagram of patient referrals. PCP = primary care provider TOHPC = The Ottawa Hospital Pain Clinic

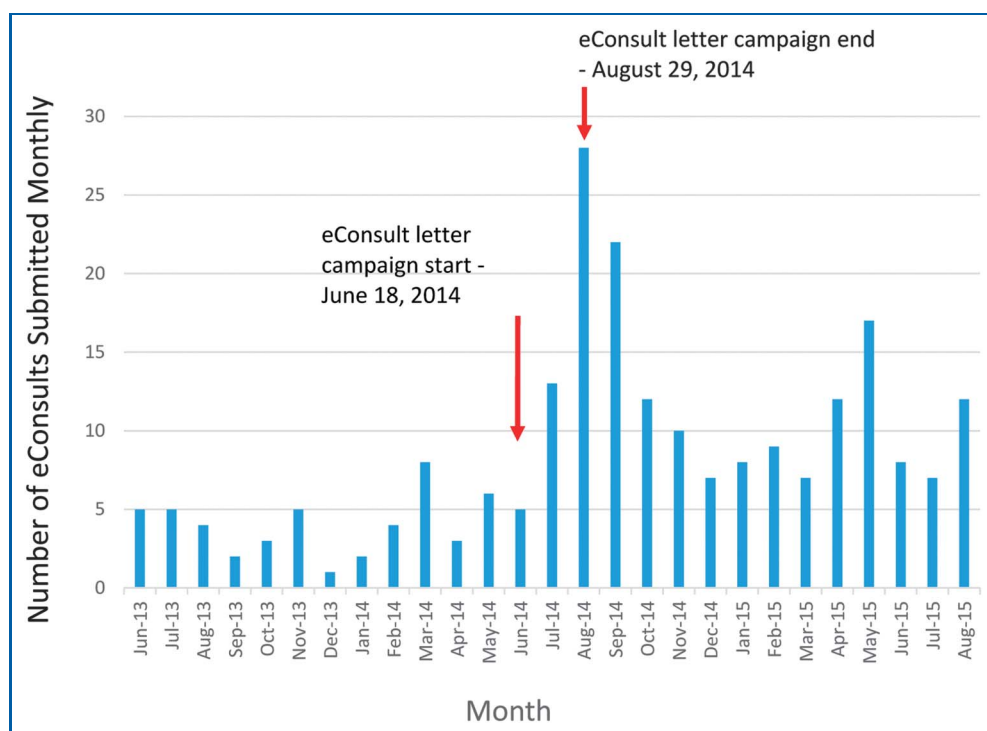


Figure 2. eConsults for chronic pain received pre and post letter campaign

who were contacted, almost one quarter were interested in using the eConsult system. Furthermore, 11% of the contacted PCPs availed themselves of the service. Although lower than it is hoped, even an 11% reduction in the demand for face-to-face visits can have significant positive impact on the overall system efficiency. The average pain specialist is reimbursed \$59.19 for an eConsult (approximately 20 minutes) compared to \$106.80 for a face-to-face consultation in Ontario, Canada.²⁰ This represents significant cost savings, especially when taking into account clinic-related and patient-related expenses. Furthermore, because of the asynchronous nature of eConsult, these services can be offered flexibly and outside of regular clinic work hours, leading to increased capacity to provide specialist advice.

Although this pilot study did not explore the reason why many PCPs did not use the eConsult system for chronic pain referrals, we expect that the following factors may play a role: (1) lack of familiarity with the system or technology more generally; (2) lack of reimbursement for PCP to submit the consultation request electronically (this has since been remedied in Ontario); (3) the time gap between the moment when the physician received the invitation to use the system and the last appointment with the patient (i.e., it may

have been several months); or (4) the time gap between the moment when the physician received the invitation to use the system and the time the referral for that patient had been sent (this gap was anywhere from 3 months to 2 years). Conducting routine outreach to encourage the use of eConsult as the point of entry for any nonurgent pain consultation would likely yield more positive results.

The lack of uptake of the eConsult system for chronic pain referrals could also represent a discrepancy between pain specialists' and PCP's perspectives on the appropriateness of eConsult to address the specific referral question. Specialists' expectations of PCP confidence and capacity may not match the reality of the primary care setting. This needs to be explored through discussions with PCPs and has the potential to be resolved through increased communication and support. Indeed, good collaborative working relationships between specialists and generalists may be found through "accessibility to needed expertise and tests, with negotiated agreements on how to share resources; mutual empowerment, including negotiation of roles and responsibilities to develop flexible relationships with a clear understanding of roles; and concern for fairness by sharing the load."²¹ The eConsult system

with rapid bidirectional communication between generalists and specialists has the potential to improve working relationships in addition to PCP knowledge and patient outcomes.

An additional benefit of the eConsult system is that it can also be used as a case-based educational tool to disseminate knowledge of effective chronic pain management strategies to PCPs. This increased knowledge is likely to enable PCPs to provide quality care to more chronic pain patients in their practice. Consequently, this may reinforce the role of PCPs as the medical lead of the patient's healthcare, which is particularly important in the context of chronic diseases and multimorbidities requiring monitoring for complications and strong adherence with treatment.²² As a result, we can expect more patients to be seen by the right provider and to be provided with the right service at the right time.

Furthermore, PCPs' use of the electronic consultation system may have positive implications for specialty clinic wait times. Although we could not measure direct impact on wait times, an incidental finding in our study was that the use of the eConsult system increased 7.5-fold for chronic pain questions in the year following this outreach. It is likely that this additional usage speaks not only to an increased awareness of the system but also to PCPs seeing eConsult as a viable alternative to submitting face-to-face consultation requests. This is important given the long wait times for patients to access tertiary care pain clinics across the country⁴ and the detrimental effects that occur while they wait.⁵ A decrease in unnecessary patient referrals, and thus overall wait times, will have a positive effect on both the patients receiving timely and appropriate care from their PCP supported by specialist advice and those being seen more rapidly in the specialty care clinics. Notably, however, it is also possible that the total number of consultation requests could increase given the availability of this service, and this needs to be taken into account in resource deployment to ensure adequate availability of pain specialists for both eConsult and face-to-face encounters.

Our study has implications for other disciplines with long wait times in Canada such as dermatology, gastroenterology, rheumatology, or mental health,^{23,24} in jurisdictions where electronic consultation services exist or where their adoption is being contemplated.²⁵ However, regional differences in specialist accessibility and funding models²⁶ may play a role in uptake and costs savings and ought to be carefully considered.

Conclusion

Given that almost 20% of the adult population in Canada suffers from chronic pain,¹ the demand for chronic pain care cannot be met by the supply of pain specialists alone. Consultation among healthcare professionals has expanded to include alternative technologies, which may prove helpful in addressing this growing demand for specialist advice. eConsult facilitates enhanced communication between PCPs and specialists while reducing face-to-face consultations and thus potentially specialist wait times. Because eConsult allows for bidirectional communication between PCPs and specialists, PCP interest in the system may have an impact that goes well beyond their patients for whom consults are submitted and enable provision of quality care to more chronic pain patients in their practice.

In the present study, almost one third of responding PCPs indicated an interest in using the eConsult system to obtain guidance in the care of their patients with chronic pain who were on a wait list for a face-to-face specialist consultation at the pain clinic of our institution. Additional study is required to determine what barriers exist to PCP acceptance and use of eConsult as an alternative to face-to-face consultation and how they might be overcome. As well, investigation into the uptake of specialist advice by PCPs after using eConsult is warranted to determine the effectiveness of eConsult as an alternative to face-to-face consultation in terms of patient outcomes. A future study using a qualitative or mixed-methods design with PCPs in our region would be well indicated to collect data in both of these areas. In the interim, we have demonstrated that several in-person consultations with pain specialists could be avoided through the utilization of electronic consultation platforms such as eConsult and that direct outreach to primary care physician with patients waiting for specialist consultation can lead to an increased uptake.

Authors' Biographies

Patricia A. Poulin, PhD, CPsych is a Psychologist at the Ottawa Hospital Pain Clinic, an Associate Scientist at the Ottawa Hospital Research Institute, and a Clinical Professor in the School of Psychology and in the Department of Anesthesia at the University of Ottawa. In addition to her clinical duties, she is responsible for research and program evaluation.

Heather C. Romanow, BA (Hons) is a Graduate Student Assistant working with Dr. Patricia A. Poulin at the Ottawa Hospital Research Institute in Ottawa, Ontario, Canada. She is presently completing a Masters level Counselling Psychology Program at the University of Ottawa. She has an Honours BA in Psychology and 9 years of clinical research experience.

Jeannette Cheng, BIT, BSc is a Nursing Student at the Trent University and was the former Director of Communications of Emerging Health Leaders

Ottawa during 2013–2014. She has a B. Sc. in Biochemistry and Biotechnology and a Bachelor of Information Technology: Interactive Multimedia and Design from Carleton University. She is from Ottawa, Ontario, and worked as a Research Assistant in the Pain Research Clinic at The Ottawa Hospital in 2014.

Clare Liddy, MD, MSc, CCFP, FCFP is an Associate Professor with the Department of Family, University of Ottawa. She is a Clinician Investigator with the CT Lamont Primary Healthcare Research centre, at Bruyere Research Institute. She is the Primary Care Lead and Cofounder of the Champlain BASE eConsult service.

Erin J. Keely, MD, FRCPC, is the Chief Division of Endocrinology and Metabolism at the Ottawa Hospital and Full Professor, Faculty of Medicine at the University of Ottawa, Ottawa, Canada. She is the Specialist Lead and Cofounder of the Champlain BASE eConsult service.

Catherine E. Smyth, MD, MSc, FRCPC is an Anesthesiologist at The Ottawa Hospital, Clinical Investigator at the Ottawa Hospital Research Institute, and an Assistant Professor at in the Department of Anesthesiology at the University of Ottawa, in Ottawa, Ontario, Canada. She is the Founder and Medical Lead of PainConnect, which includes eConsult as a means to improve access to chronic pain specialist advice for primary care providers.

References

- Schopfloch D, Taenzer P, & Jovey R. The prevalence of chronic pain in Canada. *Pain Res Manag.* 2011;16(6):445-450.
- Lynch ME. The need for a Canadian pain strategy. *Pain Res Manag.* 2011;16(2):77-80.
- Watt-Watson J, McGillion M, & Hunter J, et al. A survey of prelicensure pain curricula in health science faculties in Canadian universities. *Pain Res Manag.* 2009;14(6):439-444.
- Clark AJ, Beauprie I, Clark LB, & Lynch ME. A triage approach to managing a two year wait-list in a chronic pain program. *Pain Res Manag.* 2005;10(3):155-157.
- Lynch ME, Campbell F, & Clark AJ, et al. A systematic review of the effect of waiting for treatment for chronic pain. *Pain.* 2008;136(1-2):97-116.
- Chen AH, Kushel MB, Grumbach K, & Yee HF. A safety-net system gains efficiencies through "eReferrals" to specialists. *Health Aff.* 2010;29(5):969-971.
- O'Malley AS, & Reschovsky JD. Referral and consultation communication between primary care and specialist physicians. *Arch Intern Med.* 2011;171(1):1341-1349.
- Bodenheimer T. Coordinating care—A perilous journey through the health care system. *N Engl J Med.* 2008;358:1064-1071.
- Liddy C, Rowan MS, Afkham A, Maranger J, & Keely E. Building access to specialist care through e-consultation. *Open Med.* 2013;7(1):e1-e8.
- Liddy C, Drosinis P, Deri Armstrong C, McKellips F, Afkham A, & Keely E. What are the cost savings associated with providing access to specialist care through the Champlain BASE eConsult service? A costing evaluation. *BMJ Open.* 2016;6(e010920):1-9.
- Keely E, Liddy C, & Afkham A. Utilization, benefits, and impact of an e-Consultation service across diverse specialties and primary care providers. *Telemed e-Health.* 2013;19(10):733-738.
- Liddy C, Afkham A, Drosinis P, Joschko J, & Keely E. Impact of and satisfaction with a new eConsult service: A mixed methods study of primary care providers. *J Am Board Fam Med.* 2015;28(3):394-403.
- Keely E, Drosinis P, Afkham A, & Liddy C. Perspectives of Champlain BASE specialist physicians: Their motivation, experiences and recommendations for providing eConsultations to primary care providers. *Stud Heal Technol Inf.* 2015;209:38-45.
- Liddy C, Smyth C, Poulin PA, Joschko J, Rebelo M, & Keely E. Improving access to chronic pain services through eConsultation: A cross-sectional study of the Champlain BASE eConsult service. *Pain Med.* 2016;17(6):1049-1057.
- Ministry of Health and Long Term Care. *Champlain LHIN Local Environmental Scan.* Ottawa, ON: Ministry of Health and Long Term Care; 2016. [http://www.champlainhin.on.ca/AboutUs/Geography and Pop Health Data/PopHealth.aspx](http://www.champlainhin.on.ca/AboutUs/Geography%20and%20Pop%20Health%20Data/PopHealth.aspx). Accessed July 11, 2016.
- Donohoe MT, Kravitz RL, Wheeler DB, Chandra R, Chen A, & Humphries N. Reasons for outpatient referrals from generalists to specialists. *J Gen Intern Med.* 1999;14(5):281-286.
- Harno K. UUMA. Regional eHealth services in the hospital district of Helsinki and Uusimaa (HUS). *Stud Health Technol Inform.* 2004;100:101-108.
- Patterson V, Humphreys J, & Chua R. Email triage of new neurological outpatient referrals from general practice. *J Neurol Neurosurg Psychiatry.* 2004;75(4):617-620.
- Rushakoff RJ, & Woeber KA. Evaluation of a "formal" endocrinology curbside consultation service: Advice by means of the internet, fax, and telephone. *Endocr Pr.* 2003;9(2):124-127.
- Ministry of Health and Long Term Care. Schedule of benefits physician services under the Health Insurance Act (December 22, 2015 [effective March 1, 2016]). 2015. http://www.health.gov.on.ca/english/providers/program/ohip/sob/physsserv/physsserv_mn.html. Accessed July 14, 2016.
- Manca DP, Breault L, & Wishart P. A tale of two cultures: Specialists and generalists sharing the load. *Can Fam Physician.* 2011;57(5):576-584.
- Mitchell G, Del Mar C, & Francis D. Does primary medical practitioner involvement with a specialist team improve patient outcomes? A systematic review. *Br J Gen Pr.* 2002;52(484):934-939.
- Thind A, Steward M, & Manual D, et al. What are waittimes to see a specialist? An analysis of 26,942 referrals in southwestern Ontario. *Healthc Policy.* 2012;8(1):80-91.
- Jaakkimainen L, Glazier R, Barnsley J, Salkeld E, Lu H, & Tu K. Waiting to see the specialist: Patient and provider characteristics of wait-times from primary to speciality care. *BMC Fam Pract.* 2014;15:16.
- O'Toole A, Joo J, & DesGroseilliers JP, et al. The association between question type and the outcomes of dermatology eConsult service. *Int J Dermatol.* 2017;56(8):836-841.
- Liddy C, Armstrong CD, McKellips F, Drosinis P, Afkham A, & Keely E. Choosing a model for eConsult specialist remuneration: Factors to consider. *Informatics.* 2016;3(2):8.