

Original Research

Specialist Perspectives on Ontario Provincial Electronic Consultation Services

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Abstract

Background: Wait times to access specialist care remain a huge frustration for patients and providers. In Ontario, two electronic consultation (eConsult) services provide prompt, secure access to specialist advice: The Champlain Building Access to Specialists through eConsultation (BASE™) eConsult-managed service, and the Ontario Telemedicine Network (OTN).

Introduction: To gain a broader understanding of specialists' perspectives providing eConsult services, we surveyed all specialists actively participating in either platform.

Methods: A 34-item web questionnaire focused in four key areas (experience with the service, ideas for provincial expansion, recommendations for enhancements to the service, and specialist demographics) was sent to all specialists who had completed at least one eConsult on either service.

Results: There was a 66% (114/172) response rate for BASE and a 47% (61/130) response rate for OTN. The most frequent motivations for participating in eConsult were innovative patient care (58% and 69%), opportunity to reduce wait times (45% and 54%), and opportunity to communicate directly with primary care providers (41% and 51%). Most specialists agreed that eConsult is feasible, results in improved communication between providers, and can be integrated into their clinical workflow without difficulty. Fifty-two percent of OTN specialists and 49% of BASE specialists agreed that they were appropriately compensated for answering eConsults.

Discussion: Specialists participate in eConsult services to improve communication with primary care, provide innovative care, and reduce wait times.

Conclusions: As eConsult services expand across regions and provinces, the provider perspectives and experiences should be used to evaluate the benefits of eConsult and impact on provider satisfaction.

Keywords: eConsult, specialist referral, health systems, access to care, primary care, telemedicine

Introduction

Wait times to access specialist care remain a huge frustration for patients and providers. Electronic consultation (eConsult) is a secure asynchronous Internet-based communication between a referring provider and consultant for the purpose of improving access to specialist advice for primary care providers (PCPs) and their patients. In Ontario, there are two provincial eConsult services available. The Champlain Building Access to Specialists through eConsultation (BASE™) eConsult-managed service, established in 2010, has completed over 30,000 cases and enrolled 1,309 PCPs, who have access to 177 specialists across 107 specialty groups. The Ontario Telemedicine Network (OTN) launched a direct-to-specialist eConsult service on their platform in 2015, which added to their existing teledermatology service. Since then over 26,000 cases, including dermatology cases, have been completed. The OTN service has 712 PCPs actively using the service and 302 specialists in 42 different specialties available to answer eConsults. Through eConsult, PCPs receive answers to their questions in a median of 0.9 days and ~70% of patients do not need to see a specialist following an eConsult.^{1,2}

Recognizing eConsult's potential to improve access to specialist care, many regions and provinces are establishing eConsult services based on the learnings from the Ontario pilot work. The Canadian Foundation for Healthcare Improvement in partnership with the Royal College of Canada, the College of Family Physicians of Canada, and Canada Health Infoway has launched a learning collaborative "Connected Medicine: enhancing primary care access to specialist consult" with the

goal of spreading remote consult solutions (BASE and Rapid Access to Consultative Expertise [RACE]—a telephone access line) across the country. eConsult services have been launched in Newfoundland, Quebec, Manitoba, and in regions of British Columbia and Alberta.³

As eConsult services spread and transition from pilots to regional or provincial programs, it is important to understand provider perspectives about current eConsult services and the future state. There is very limited published information on specialists' perception of the value and impact of eConsult service. In a small sample of 34 specialists, participating in a single eConsult service (BASE), there was strong support for expanding eConsult services and high satisfaction among those participating.⁴ In an effort to gain a broader understanding of specialists' perspectives providing eConsult services, we distributed a survey to all specialists actively participating in both of the currently active Ontario eConsult platforms. The goal was to explore the perspectives of specialist physicians who currently provide eConsults, understand what motivated them to become involved in and continue to provide this service.

Methods

DESIGN

We conducted a 34-item web survey of all specialists enrolled with the BASE or OTN eConsult services. The survey was created based on a previous survey launched by the Champlain BASE™ eConsult team focusing in four key areas: experience with the service, ideas for provincial expansion, recommendations for enhancements to the service, and specialist demographics.⁴

SETTING

The BASE service is based in the Champlain Health Region of Eastern Ontario, Canada. The OTN service is based in Toronto. Both services are available to healthcare providers across Ontario.

PARTICIPANTS

The survey was sent to all specialists who had completed at least one eConsult on either the BASE or OTN service. OTN providers who had not provided consent to be contacted by email were excluded. The BASE survey was launched on June 14, 2017 and sent to 173 specialists who were users of the Champlain BASE eConsult service. Of the 400 specialists registered to provide eConsults on the OTN platform, 282 had answered an eConsult, of these 282, 130 provided consent to be contacted by e-mail and were included.

DATA COLLECTION AND ANALYSIS

The survey was trialed by one specialist before launch. The demographics section of the survey was optional. Surveys were anonymous and did not collect identifying data. Question types consisted of multiple choice, Likert scale, rank ordering, and open text responses. The survey was inputted into HostedInCanadaSurveys platform, with any technical issues being addressed by the HostedInCanadaSurveys support team. Six team members piloted the survey on different devices and web platforms. Members each completed a pilot testing protocol form detailing their device type and survey feedback.

Both surveys remained open for 6 weeks. A reminder e-mail was sent out at weeks 2 and 4 to specialists who had not yet completed the survey. Descriptive statistics were generated. The study was approved by the Ottawa Health Science Network Research Ethics Board.

Results and Materials

There was a 66% (114/172) response rate for the Champlain BASE service and a 47% (61/130) response rate for the OTN service. Descriptions of participating specialists are presented in *Table 1*. The majority of specialists in both BASE and OTN had a university-based practice (61% and 48%), with the majority of BASE specialists (31%) graduating from medical school between 1990 and 1999 and the majority of OTN (29%) graduating between 2000 and 2009. Eighty-three percent of BASE specialists stated their primary office as being located in the Champlain Local Health Integration Network, whereas 26% of OTN specialists listed their primary office in the Toronto Central area. Ten percent of responders participate in both the OTN and BASE service. There were 44 different specialties represented across BASE respondents and 26 different specialties across OTN specialists. The most common way that specialists first heard about the eConsult service was through another specialist, in both the Champlain BASE (42%) and OTN service (18%). When asked about their motivation to participate in eConsult, the top three reasons were consistent among both BASE and OTN specialists: innovative patient care (58% and 69%), opportunity to reduce wait times (45% and 54%), and opportunity to communicate directly with PCPs (41% and 51%). Specialists' perspectives on feasibility and workflow, impact on relationship with primary care, learning opportunities through eConsult, and expansion to provincial program are presented in *Figure 1–4*.

FEASIBILITY AND IMPACT ON WORKFLOW

A large majority of OTN (90%) and BASE (96%) specialists agreed that eConsult is a feasible way to improve access to specialist care and can be integrated into their clinical

Table 1. Characteristics of Specialist Physicians Who Participated in the Study

CHARACTERISTIC	DISTRIBUTION	
	BASE™	OTN
Gender, % (n)		
Female	44 (50)	33 (19)
Type of practice, % (n)		
University-based practice	61 (69)	48 (28)
Community hospital based	18 (21)	21 (12)
Community office-based group practice with other specialists	14 (16)	5 (3)
Community office-based mixed practice with specialist and primary care	7 (8)	10 (6)
Community office-based solo practice	10 (11)	12 (7)
Other	8 (9)	2 (1)
Prefer not to answer	0 (0)	2 (1)
What year did you graduate from medical school?, % (n)		
Before 1980	11 (13)	9 (5)
1980–1989	20 (23)	26 (15)
1990–1999	31 (35)	28 (16)
2000–2009	29 (33)	29 (17)
2010–2016	2 (2)	7 (4)
Prefer not to answer	7 (8)	2 (1)
What is your primary payment model?, % (n)		
Fee for service	61 (69)	61 (34)
Alternate funding plan	23 (26)	36 (20)
Other	14 (16)	2 (1)
Prefer not to answer	3 (3)	2 (1)
In which LHIN is your primary office located?, % (n)		
Waterloo Wellington	0 (0)	2 (1)
Toronto Central	0 (0)	26 (13)
South West	0 (0)	14 (7)
South East	2 (2)	18 (9)
North West	2 (2)	0 (0)
North East	1 (1)	18 (9)
Mississauga Halton	7 (8)	0 (0)
Hamilton Niagara Haldimand Brant	0 (0)	2 (1)
Champlain	83 (95)	2 (1)

continued →

Table 1. continued

CHARACTERISTIC	DISTRIBUTION	
	BASE™	OTN
Central West	0 (0)	6 (3)
Central East	2 (2)	4 (2)
Central	2 (2)	4 (2)
Unsure	0 (0)	4 (2)
Chose not to answer	2 (2)	0 (0)
Specialties represented (%) BASE	Specialties represented (%) OTN	
Addictions (1)	Allergy and clinical immunology (2)	
Allergy and clinical immunology (1)	Cardiology (2)	
Chiropractic (1)	ENT (2)	
Emergency medicine (1)	General surgery (2)	
Family medicine (1)	Medical oncology (2)	
General surgery (1)	Pediatric cardiology (2)	
Home and community care (1)	Pediatric nephrology (2)	
Medical oncology (1)	Pediatric neurology (2)	
Neurosurgery (1)	Physical medicine and rehabilitation (2)	
Ophthalmology (1)	Radiology (2)	
Pediatric ENT (1)	Anesthesiology (4)	
Pediatric hematology/oncology (1)	Dermatology (4)	
Pediatric neurology (1)	Endocrinology (4)	
Refugee health (1)	Geriatrics (4)	
Thoracic surgery (1)	Infectious diseases (4)	
Vascular surgery (1)	Internal medicine (4)	
Bariatric surgery (2)	OBS/GYN (4)	
Gastroenterology (2)	Respirology (4)	
Genetics (2)	Rheumatology (4)	
Geriatrics (2)	Urology (4)	
Hematology (2)	Vascular surgery (4)	
OB/GYN (2)	Hematology (8)	
Pediatric endocrinology (2)	Nephrology (8)	
Pediatric infectious diseases (2)	Orthopedic surgery (8)	
Pediatric orthopedics (2)	Psychiatry (8)	
Physical medicine and rehabilitation (2)	Pediatrics (9)	

continued →

Table 1. Characteristics of Specialist Physicians Who Participated in the Study *continued*

Specialties represented (%) BASE	Specialties represented (%) OTN
Public health and preventative medicine (2)	
Radiology (2)	
Urology (2)	
Anesthesiology (3)	
Cardiology (3)	
Dermatology (3)	
Endocrinology (3)	
ENT (3)	
Nephrology (3)	
Palliative care (3)	
Pharmacist (3)	
Rheumatology (3)	
Infectious diseases (4)	
Internal medicine (4)	
Psychiatry (4)	
Orthopedic surgery (5)	
Neurology (6)	
Pediatrics (6)	

BASE, Building Access to Specialists through eConsultation; ENT, ears, nose and throat; LHIN, local health integration network; OTN, Ontario Telemedicine Network.

workflow without difficulty. Over half of specialists from both groups agreed that they have confidence the PCP will follow through on their advice. Fifty-two percent of OTN specialists and 49% of BASE specialists agreed that they were appropriately compensated for their time answering eConsults. Less than one-tenth of BASE and OTN specialists stated that eConsults are an extra burden that they have trouble fitting into their clinical workload (*Fig. 1*).

Overall, feedback regarding eConsult’s timeliness and ability to improve access was encouraging, with the service being described as “fun and rewarding” and a positive experience.

An excellent service overall. I understand how tough it can be as a PCP to deal with the huge number of problems they see, and the concern about timeliness of consults or even the need for a consult. This fills that gap.

When discussing case volume, specialists’ opinions varied, with some wishing for more cases while others preferred the

present volume and worried that more cases could pose a challenge. Some specialists found answering eConsults to be burdensome. Suggestions included allocating a set time for completing eConsults within daily workflow.

Need to have recognized protected time to do this... should not be on top of regular work ... to do this properly and long term.

In terms of compensation, suggestions were made for increased remuneration and payment for follow-up questions.

IMPACT ON RELATIONSHIP WITH PRIMARY CARE

Over four-fifths of OTN (82%) and BASE (88%) specialists agreed that the eConsult process results in improved communication between providers. Over two-thirds of specialists from OTN (81%) and BASE (71%) agreed that the service is user friendly and that it is important or helpful to receive feedback from PCPs (*Fig. 2*).

Specialists appreciate receiving feedback on their advice and its impact on patient care. Further suggestions included the implementation of web-based educational sessions for service users on how to properly ask, assess, and respond to an eConsult. Benefits of having a local service were also noted:

Public health recommendations can vary by region, as the local epidemiology of an infectious disease may result in location specific response. [...] For this reason, province-wide responses will not always be appropriate.

While most specialists found the service easy to use, several respondents offered suggestions to improve the platform, including a simpler way of booking time off when unavailable to answer questions, enhanced formatting, and facilitated way to enclose educational resources with the consult. Many specialists recommended implementing an eConsult app for phones and tablets. Several specialists also supported integrating the service into electronic medical records (EMRs).

LEARNING OPPORTUNITIES

Over four-fifths of OTN (81%) and BASE (82%) specialists agreed that eConsult questions sometimes prompt them to learn about the case before answering the question. Eighty-three percent of OTN specialists and 92% of BASE specialists agreed that eConsults are an effective way to provide education for PCPs. Fifty-two percent of OTN specialists and 72% of BASE specialists agreed that eConsult questions should be used to inform continuing medical education providers when planning activities (*Fig. 3*).

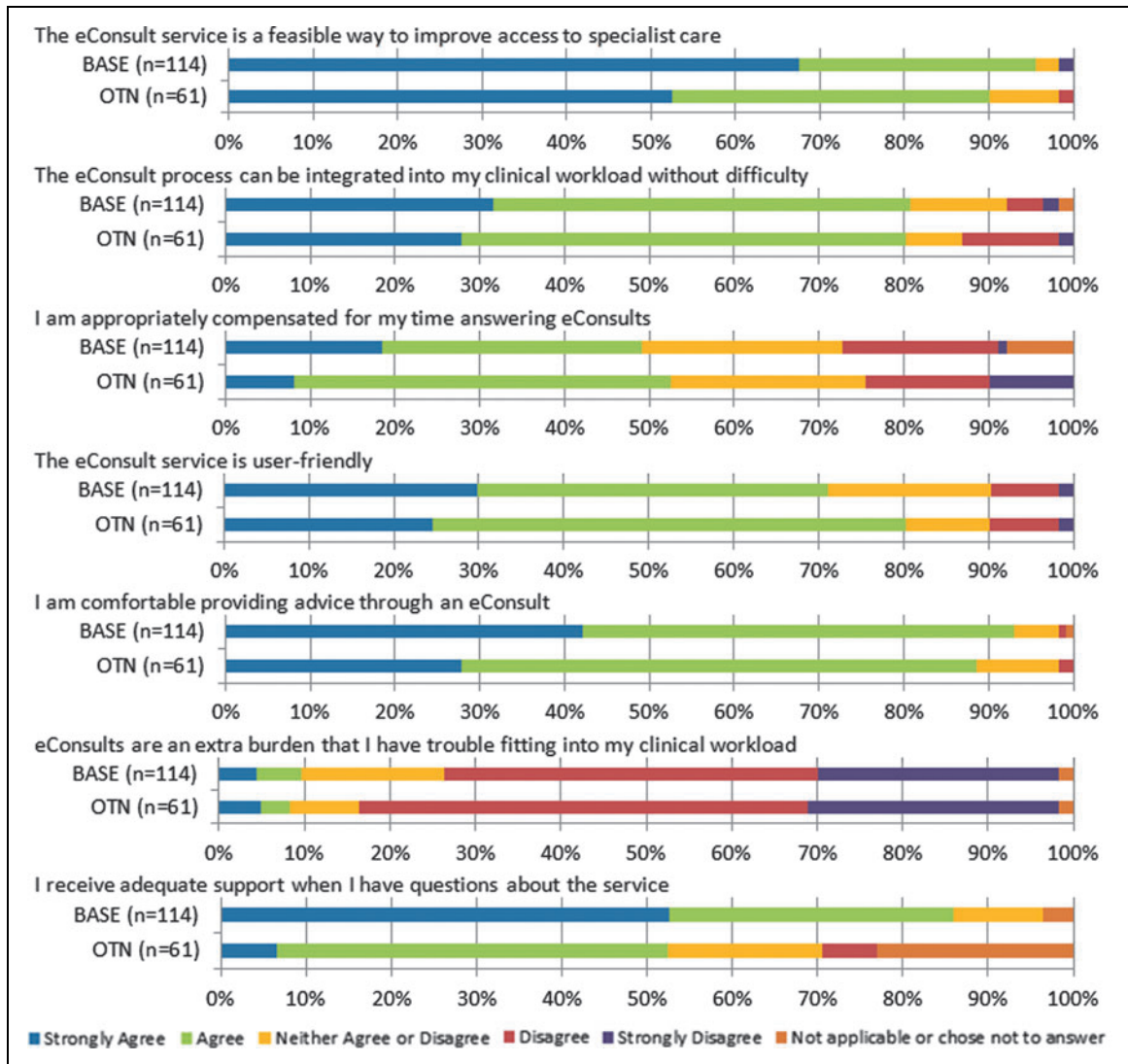


Fig. 1. Specialists’ perspectives on eConsult’s feasibility and impact on workflow. BASE, Building Access to Specialists through eConsultation; OTN, Ontario Telemedicine Network.

Several specialists applauded eConsult’s potential as a tool for continuing medical education of physicians:

I really believe in this type of technology as a means of physician education. There are many times a patient does not need to see a specialist, the PCP just needs a bit of guidance on management. This is perfect for that.

EXPANSION OF A PROVINCIAL PROGRAM

Overall, 89% of OTN and 93% of BASE specialists were comfortable providing advice through an eConsult. A minority of OTN (17%) and BASE (12%) specialists reported often receiving inappropriate questions through eConsult. Roughly three-quarters of OTN (82%) and BASE (72%) specialists were

willing to provide eConsults for PCPs province wide. Ninety-three percent of BASE specialists and 87% of OTN specialists agreed that specialists should be able to consult other specialists through eConsult (Fig. 4).

Specialists considered eConsult a potentially cost-effective way of improving timely access to care, particularly for patients in more remote and rural locations. Impact on reducing wait times as well as cost savings were both mentioned as potential benefits that the provincial government should consider.

I am not a health economist, but this modality of health care delivery is likely more cost-effective by decreasing travel time and time away from work for patients who do not normally have access to specialist care.

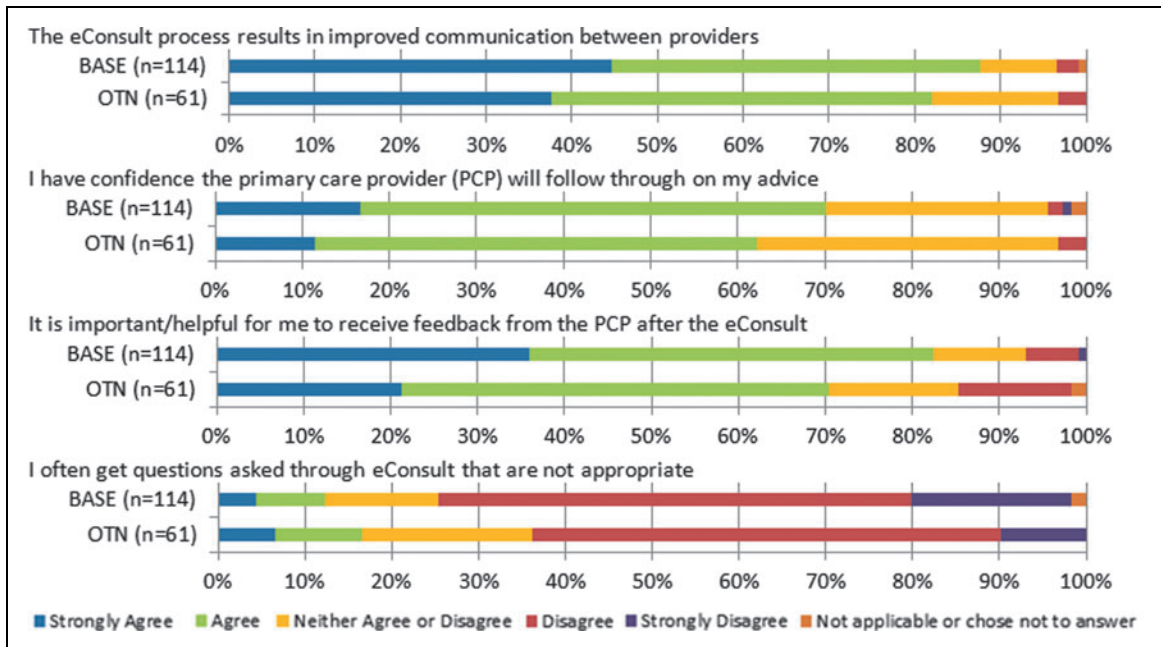


Fig. 2. Specialists' perspectives on eConsult's impact on relationship with primary care.

Specialists appreciated the services impact on access to care and would like to see the service gain more awareness and funding.

This system really does have the ability to avoid unnecessary consults – it deserves province-wide funding and a systematic approach.

Discussion

This survey, completed by over 150 specialists across many different specialties, using two different platforms and models of eConsult delivery, showed very similar experiences and

high satisfaction with clinical workflows. The added benefit of improved communication with PCPs and stimulus for education for specialist and PCPs alike are important benefits. Specialists participating in eConsult services are keen to see their expansion. There is general agreement that all specialists should be able to provide eConsult services, but that an application process based on need should be implemented.

Sustainable healthcare improvement requires not only benefits to patients and cost savings, but also high adoption and sustained use by providers. Despite the importance of provider motivation, experience, and perceived benefits, there

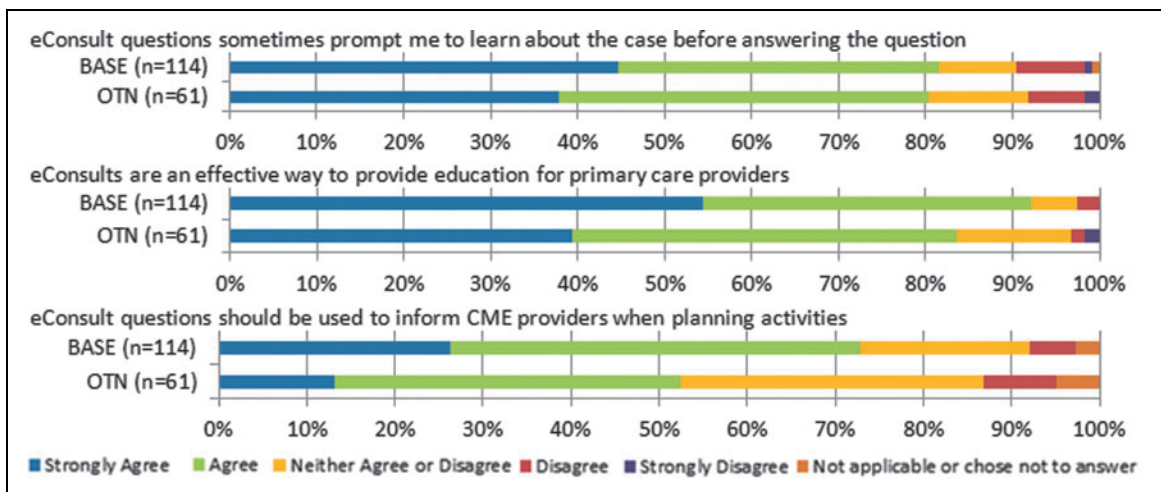


Fig. 3. Specialists' perspectives on eConsult's impact on learning opportunities. CME, continuing medical education.

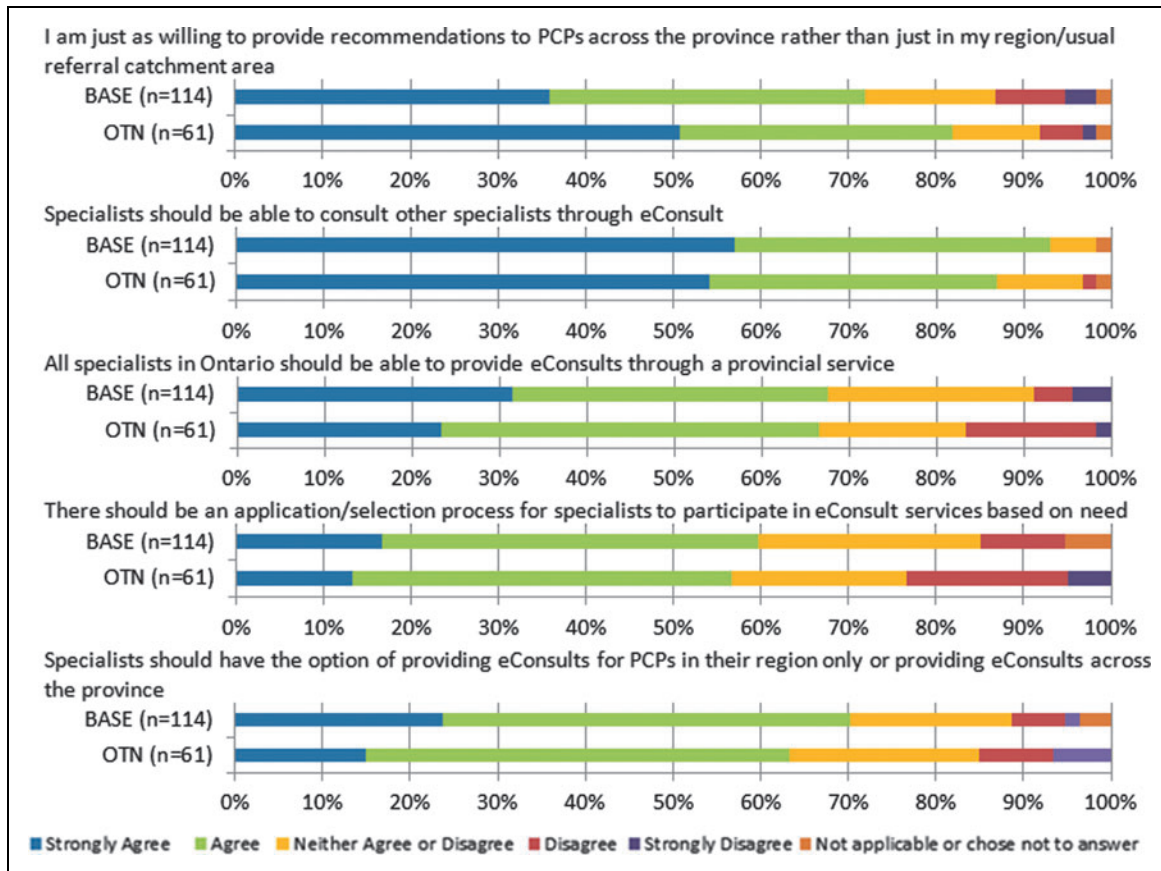


Fig. 4. Specialists' perspectives on eConsult's expansion to a provincial program.

is very little literature published on the provider experience. Our previous report of 34 specialists all using the BASE platform, showed very similar satisfaction, benefits for communicating, and educating primary care physicians as well as the desire for the expansion of eConsult services as this larger cohort.⁴ Only one other multispecialty eConsult service has reported on specialist provider experience. This study included only four specialists from four different specialties participating in a regional Veteran Affairs eConsult service. These specialists identified improved communication with primary care as the most important element for their overall satisfaction. There was concern expressed about increased workload; however, there was acknowledgement that eConsults potentially freed up time no longer needed for face-to-face visits. Similar to our population, they were confident in providing advice through eConsult and indicated inclusion in EMR would facilitate uptake.⁵

There are some limitations to our study. A statistician did not review our analysis. Our sample is limited to those that participate in current Ontario eConsult services and who answered the survey, making the generalizability of our re-

sults across all specialists and to settings outside of Ontario uncertain. However, the BASE model has now been launched in Newfoundland, Quebec and soon to be in Manitoba and New Brunswick. This will provide opportunity for broader input in the future.

Conclusions

In summary, specialists who participate in the BASE and OTN services do so to improve communication with primary care, provide innovative care and reduce wait times. They generally feel appropriately compensated, comfortable, and efficient in answering eConsults. Most would be willing to provide eConsults across the province, but would like the choice of limiting to region. As eConsult services expand across regions and provinces, the provider perspectives and experiences should be used to evaluate the benefits of eConsult and impact on provider satisfaction.

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Disclosure Statement

No competing financial interests exist.

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