
OntarioMD Provincial eConsult Initiative

Phase 1 Pilot: Benefits Evaluation Study Final Report

Date:

August 31, 2015

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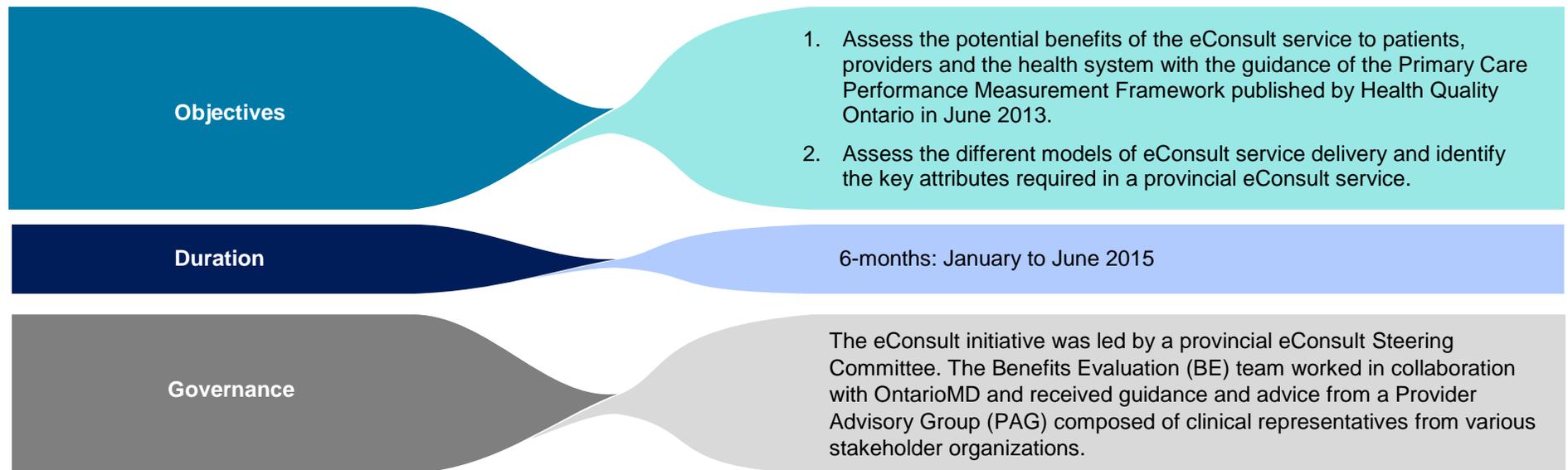
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Executive Summary

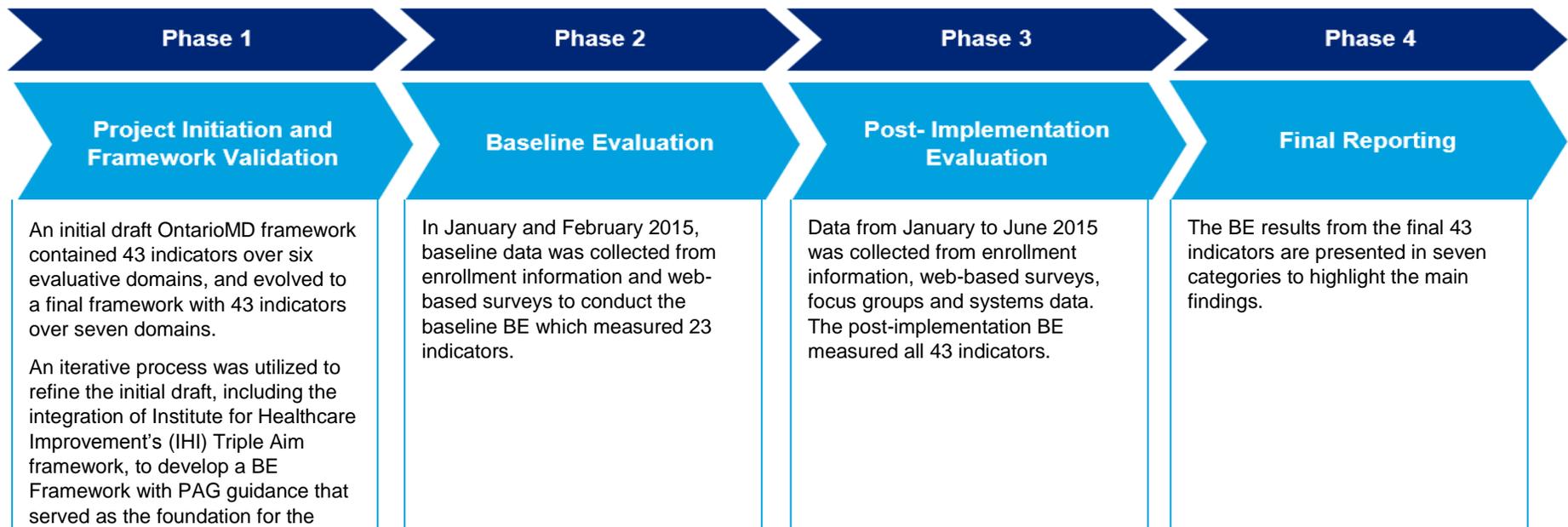
Lengthy patient wait times for specialist consultation and treatment present some of the largest barriers to accessing care in Canada. Over the last number of years, the province of Ontario has been exploring several strategies to improve access to specialists and decrease wait times. One strategy is the use of electronic consultations (eConsults) which will enable primary care providers (PCPs), i.e. family physicians, nurse practitioners (NPs), to seek the expertise of specialists prior to patient referral. OntarioMD has partnered with the Ministry of Health and Long-Term Care (MOHLTC), the Ontario Telemedicine Network (OTN) and the Champlain Local Health Integration Network (LHIN) to implement a phased eConsult initiative. Phase 1 ran from September 2014 to September 2015 and included a Benefits Evaluation (BE) Study. This report will present the BE study methodology, key findings and future implications.



eConsult Benefits Evaluation Overview



eConsult Benefits Evaluation Process



eConsult Benefits Evaluation Study Key Findings & Results

Category	Key Findings	Implications for Future Consideration
Impact on Patient Care	<ul style="list-style-type: none"> eConsults increase timely access to specialist advice Family physicians, NPs and specialists share the belief that the eConsult model is of value to patient care eConsults enable stronger connections between family physicians/NPs and specialists thereby supporting growth of all practitioners. 	<ul style="list-style-type: none"> Further analysis on the drivers behind the demand by specialty, such as wait times, difficulty of access and applicability of eConsult to the scope of practice, may be useful to determine which specialties to focus on in terms of continued development of eConsult models. It may also provide insights on how to tailor eConsult systems to optimize care by specialty; it is important to account for specialist specific needs while still maintaining consistency across the specialties. Implications of eConsults on care quality could still be evaluated further through measurement of patient outcomes. To further expand eConsult educational value, exploration with the relevant regulatory bodies to include eConsults as recognized learning credits should be considered. These could include enabling Continuing Medical Education (CME) credits for participating providers (including NPs, family physicians and specialists). The impact of eConsults on waitlist time for access to specialists should continue to be measured to assess the broader implications on patient care.
Understanding Pilot Participants	<ul style="list-style-type: none"> There were a range of pilot participants, the majority of whom were associated with the more mature eConsult systems (Teledermatology and Champlain BASE). <ul style="list-style-type: none"> 5,492 family physicians, NPs and their delegates 223 specialists and their delegates Participants represented a broad cross section of ages, with the majority practicing in group or inter-professional settings. A number of different specialties were part of the eConsult pilot, but as expected given the inclusion of Teledermatology, specialties such as dermatology were highly represented. 	<ul style="list-style-type: none"> Strong levels of enrollment of family physicians, NPs and specialists in Phase 1 and feedback received through focus groups indicate strong interest in the potential for eConsult solutions and service models. Training and technical support for eConsult systems should target delegates in addition to family physicians, NPs and specialists given the key roles that delegates appear to play in many practices in facilitating the eConsult process. When engaging and working with practitioners, targeted strategies should be adapted recognizing that there is no single best approach to onboard and work with eConsult users. Practitioners who practice in independent settings vs those who practice in an inter-professional context will require different strategies to ensure that they get connected and have the opportunity to access and use eConsult as part of their practice.
System Use and Adoption	<ul style="list-style-type: none"> All eConsult systems showed progressive uptake over the course of the six month BE. eConsult integration with other systems (EMR and automatic billing) would enhance utilization and ease of use. There are a wide range of specialties involved in eConsults, but the top 10 specialties on each system constitute between 70% and 80% of the total. 	<ul style="list-style-type: none"> Based on the growth of OTN Teledermatology and Champlain BASE since their respective inceptions, and given the interest observed in eConsult over the past six months, eConsult activity levels should continue to grow with solution maturity and user awareness. As eConsult systems continue to evolve, continuous system improvement cycles are recommended to adapt to the needs of the growing user base. Future integration with electronic medical records (EMRs) and online billing systems will also increase use and adoption of eConsults over time. Strategies to onboard new users and increase their use of the system should take into consideration clinical needs of family physicians, NPs and their delegates in

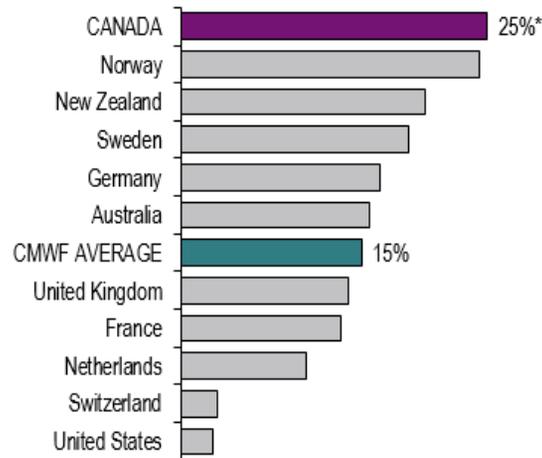
Category	Key Findings	Implications for Future Consideration
User Experience	<ul style="list-style-type: none"> There is evidence of eConsult activity growth and value under both the Managed Specialty Service Model and Direct-to-Specialist Models. Family physicians, NPs and specialists reported high degrees of satisfaction in terms of system onboarding, use, training and support. However, opportunities for continuous improvement were noted. 	<ul style="list-style-type: none"> terms of their community's access to speciality needs and their existing referral patterns. In order to define the operating model for a Provincial eConsult Service, both the Managed Specialty and Direct-to-Specialist service models need to be further examined so that their relative strengths are understood. User feedback regarding enrollment, training, technical support and ease of use needs to be continuously solicited so as to ensure sustained use and continual systems improvement/updates. Training could be improved by using mixed methods (online videos, one-on-one training, hands-on experience, documentation, etc.). Additionally, providing eConsult access and training during clinical residencies could be explored in order to help to ensure adoption of the eConsult service when in practice. It is also important to take note of key strategies that were applied for the pilot that are viewed to have been critical to the successful implementation of eConsult, and ensure that these continue to be part of the go-forward tactics.
Patient Experience	<ul style="list-style-type: none"> Family physicians and NPs reported they believe that eConsults provide patients with a positive experience. Family physicians and NPs reported that the use of an eConsult frequently resulted in the avoidance of an in-person referral and visit to a specialist. As a result, the experience is improved by not having to invest additional personal time and resources to travel and attend a visit. 	<ul style="list-style-type: none"> Further studies would benefit from evaluating the value of eConsult systems on the patient experience through direct engagement of patients, collecting data from patients, and empirical analysis of specialist visit avoidance. Different situations could also be tracked by the system such as when the patient refuses to obtain specialist advice through an eConsult and wants to have a face-to-face referral instead.
Changes to Practice	<ul style="list-style-type: none"> While eConsult systems have a positive impact on family physician and NP activities/tasks, there is a range of opinions on whether they have positively or negatively improved workflow, clinical role efficiencies and referral patterns. 	<ul style="list-style-type: none"> It will be important to continue to assess the impact of eConsults on changes to workflow and other operational practices. As eConsult models evolve, a critical success factor is continuing to build family physician and NP awareness on the nuances and sub-specialties that exist within specialist types in order to decrease inappropriate referrals and eConsult requests.

1. Introduction and Context

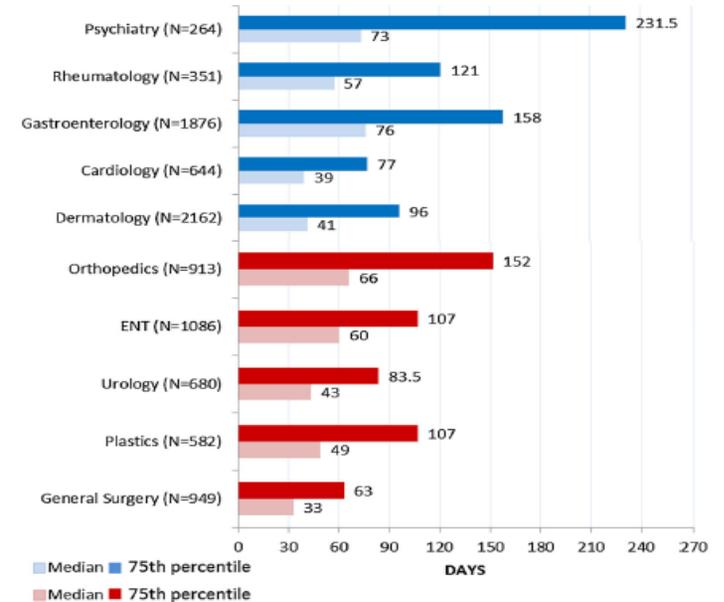
1.1 Overview

Lengthy patient wait times for specialist consultation and treatment present some of the largest barriers to accessing care in Canada. A Commonwealth Fund (CMWF) international health policy study showed that 25% of older Canadians wait more than two months to see a specialist, and that Canada ranked last compared to 11 CMWF countries¹. A BioMed Central study published in 2014 indicated that “wait times to see specialists in Ontario are longer than those reported nationally, with median waits from 39 to 76 days and 33 to 66 days for medical and surgical specialties respectively^{2,3}” Wait times vary based on region and specialty type, and have negative impacts on access, quality and cost of patient care. Over the last number of years, there have been several efforts to improve access to specialists and decrease wait times across the province⁴. These include a provincial wait time strategy, new service delivery models, and centralized intake for hip and knee surgeries.

Proportion of older adults (age 55 and older) who waited for at least 2 months to see a specialist



Wait times (in days) from a family physician referral to having a medical or surgical specialist consultation visit



Source: BioMed Central Report

Another strategy that has been deployed in Ontario and other jurisdictions is the implementation of electronic consultations, or eConsults, to improve access to specialists. In Ontario, two eConsult systems, the Champlain BASE eConsult and the Ontario Telemedicine Network (OTN) Teledermatology systems, have been in use since 2010.

¹ Canadian Institutes of Health Research and Canadian Institute for Health Information. 2015. "How Canada Compares: Results from the Commonwealth Fund 2014 International Health Policy Survey of Older Adults." Canadian Institute for Health Information. January. Accessed July 2015. <https://www.cihi.ca/en/health-system-performance/performance-reporting/international/wait-times-for-primary-and-specialist>.

² Jaakkimainen, Liisa, Richard Glazier, Jan Barnsley, Erin Salkeld, Hong Lu, and Karen Tu. 2014. *Waiting to see the specialist: patient and provider characteristics of wait times from primary to specialty care*. Research Article, Toronto: BioMed Central Family Practice.

³ Liddy, Clare, and Erin Keely. 2014. *Understanding needs and impact of eConsult in the Champlain LHIN*. Applied Health Research Question Report, Champlain Base eConsult.

⁴ Liddy, C., Rowan, M., Afkham, A., Maranger, J., Keely, E.. Building access to specialist care through e-consultation. *Open Medicine*, North America, 7, Jan. 2013. Available at: <http://www.openmedicine.ca/article/view/551/492>. Date accessed: 04 Aug. 2015.

The application of eConsult has also been applied in other jurisdictions with positive results. For example:

- In the Netherlands, Zorgdomein, a privately developed referral and consultation solution, has successfully integrated with 10 EMRs and various hospital information systems over 12 years. It is used by 60% of hospitals and 80% of family providers.
- In the UK, the electronic consultation in Chronic Kidney Disease project, in the City of Bradford & Airedale, was created to reduce the number of inappropriate referrals by providing a service that allows secondary care clinicians to view primary care records to decide if a face-to-face appointment is appropriate.
- In the US, the San Francisco General Hospital's eReferral web-based system integrates directly into the hospital's existing Electronic Health Records (EHR) and uses the information contained within to assist in populating referral forms. A specialist reviews the referral request and communicates the appropriateness and urgency for scheduling directly with the referring primary care provider (PCP). Where possible the specialist answers the referral question and eliminates the need for a face-to-face visit. 60% of PCPs reported improved access for their patients' non-urgent issues and 54% reported improved wait times for their patients to have a new appointment with a specialist compared with prior referral methods.
- Also in the US, at the Mayo Clinic, the time frame for virtual consults was shorter than traditional consultations—1 day, 6 hours vs. 7 days, 20 hours. e-Consultation improved timeliness from 89 days for a face-to-face dermatology visit to 12 days for an e-Consultation⁵.

Building on Ontario's strategies to date and taking the learning and insights from the experience of other jurisdictions and from Ontario's existing eConsult systems, the province is also exploring the use of electronic consultations with specialists as another means to improve access to specialists. To advance eConsult in Ontario, OntarioMD has partnered with the Ministry of Health and Long-Term Care (MOHLTC), the Ontario Telemedicine Network (OTN) and the Champlain Local Health Integration Network (LHIN) to implement a phased eConsult initiative. The purpose of this model is to improve patient access to care through the use of online eConsult technology platforms. These systems are designed to enable PCPs, i.e. family physicians and nurse practitioners (NPs), to seek the expertise of specialists prior to, or in place of, a patient referral.

⁵ OntarioMD eConsult Business Plan Proposal, Consultation Draft V4, August 2014

1.2 What is an eConsult?

An eConsult occurs when a primary care provider (PCP), such as a family physician or NP, electronically sends a question to a specialist. This can be a simple question (e.g., about a drug dosage) or a more complex question following an initial assessment by the family physician or NP (e.g., sending a question with images of the patient for a virtual dermatology assessment). eConsults may avoid the need to refer a patient to a specialist for diagnosis and treatment.



An eConsult differs from an eReferral in that the patient does not have to go and see the specialist. The patient's condition is discussed between the patient's PCP, and the specialist. With an eReferral, the patient goes to the specialist for an initial consultation after the family physician or NP sends the specialist the referral information.

1.3 What are the potential benefits of eConsult services?

eConsult services have the potential to play a key role in decreasing patient wait times for specialist care and can result in improved patient outcomes at a lower cost. Previous studies of eConsult solutions have reported several benefits including, but not limited to:

- Enabling healthcare professionals to exchange patient health information more efficiently with one another
- Allowing healthcare professionals to electronically request advice from one another and to coordinate patient care better
- Reducing the number of unnecessary specialist referrals
- Helping family physicians and NPs to locate the right specialist the first time
- Providing patients with faster access to specialist advice

1.4 Ontario eConsult Systems

There are three distinct eConsult systems, involving six regional partner groups, currently in use in Ontario:

1. Champlain BASE eConsult
2. OTN Teledermatology
3. OTN eConsult

While each of the systems supports an eConsult model, the systems differ based on several factors:

1. **Implementation timing and duration of operation** – Each system was implemented at different points in time between 2009 and 2015.
2. **Implementation region** - There are six regional partners for the three eConsult systems:
 - Champlain BASE is implemented in two regions
 - OTN eConsult is implemented in three regions
 - OTN Teledermatology is implemented across the province
3. **Service Delivery Model** – There are two service delivery models which differ based on the communication pathway between the family physician or NP, and the specialist.
4. **Included Specialities** – Each system has differing numbers and types of specialists (See Appendix C).

	Champlain BASE eConsult	OTN Teledermatology	OTN eConsult
eConsult System			
Implementation Year	Established: 2009 Proof of concept: 2010 Broader implementation: 2011 (Champlain); 2015 (MH)	2010	Established: 2014 Proof of concept: 2015
Implementation Region (Regional Partner)	<ul style="list-style-type: none"> • Champlain LHIN • Mississauga Halton (MH) LHIN 	<ul style="list-style-type: none"> • OTN Dermatology across Ontario 	<ul style="list-style-type: none"> • FAST Partners (Toronto Central & Central LHIN) <ul style="list-style-type: none"> ○ Sunnybrook Health Sciences Centre ○ North York General Hospital ○ Toronto East General Hospital • South West LHIN <ul style="list-style-type: none"> ○ London Health Sciences Centre ○ St. Joseph's Health Centre • North East LHIN <ul style="list-style-type: none"> ○ North Bay Regional Health Centre
Service Delivery Model	Managed Specialty	Direct-to-Specialist	
Included Specialties*	67	1	23

*as of June 30, 2015

Service Delivery Models

In addition to variances in implementation time and region, the eConsult systems utilize one of two service delivery models based on the communication pathway between family physicians or NPs and specialists. The Champlain Base eConsult System utilizes the 'Managed Specialty' service model, whereas both OTN Teledermatology and OTN eConsult utilize the 'Direct-to-Specialist' service model.

Service Model 1: Managed Specialty

1. Family physician/NP asks a specific question providing relevant information and sends a consult request or question to a selected specialty. Patient identification is not mandatory.
2. Case Assigner receives the request (no Personal Health Information (PHI) is visible) and assigns it to a specialist registered with that specialty service to answer/respond.
3. Specialist receives question and provides response to family physician/NP using the application. There can be back and forth conversation
4. Family physician/NP can appropriately treat or refer patient based on specialist response.
5. Family physician/NP completes a survey on the encounter after the eConsult is completed.

Service Model 2: Direct-to-Specialist

1. Family physician/NP asks a specific question to a selected specialist or community of specialists, providing patient identification and relevant history.
2. Specialist receives question and provides response to family physician/NP using the application. Can be back and forth conversation.
3. Family physician/NP can appropriately treat or refer patient based on the specialist response.
4. Family physician/NP completes a survey on the encounter after the eConsult is completed.

1.5 The Provincial eConsult Study - Phase 1 Pilot

Phase 1 of the Provincial eConsult initiative compared the two eConsult service delivery models across the six regional partners. The purpose of the study was to assess the value proposition of eConsult services in order to determine whether a Provincial eConsult Service is required.

Duration

Planning for Phase 1 started in September 2014, with usage data collected from the systems between January and September 2015.

Objectives

The main objectives of Phase 1 were to:

- Provide a baseline of eConsult data as part of a formal Benefits Evaluation Study which will inform decisions required for a provincial eConsult Service
- Work with six regional partners to contribute to an eConsult “proof of concept” to test various eConsult service models
- Assemble an eConsult Requirements Working Group to define requirements for a provincial eConsult service.
- Test different eConsult fee/remuneration structures for specialists.

*This report presents the results of the **Benefits Evaluation Study** conducted for the Provincial eConsult initiative - Phase 1 Pilot.*

2. eConsult Benefits Evaluation

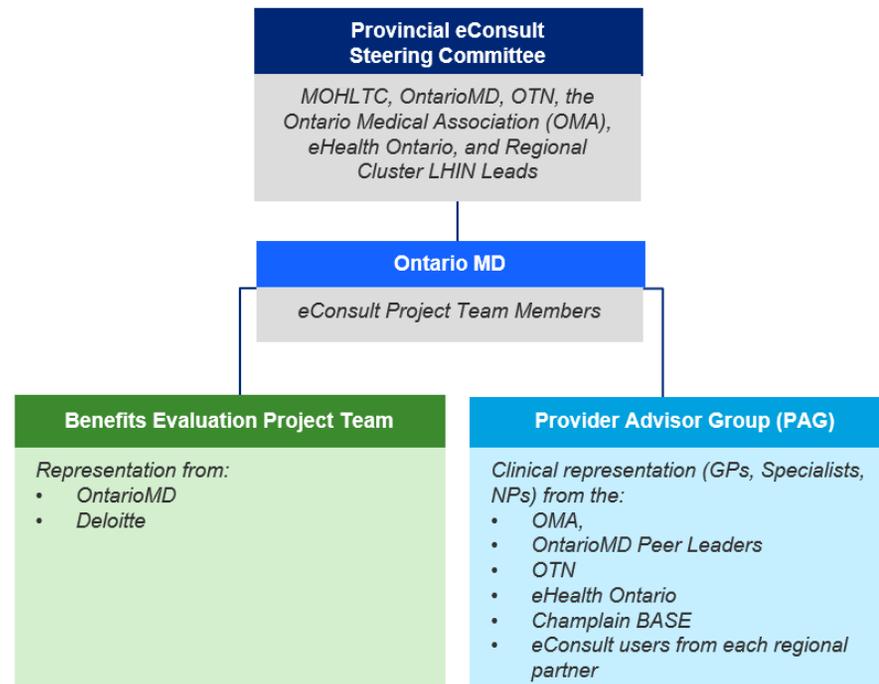
2.1 Objectives

The specific objectives of the BE were to:

- Assess the potential benefits of the eConsult service to patients, providers and the health system with the guidance of the Primary Care Performance Measurement Framework published by Health Quality Ontario in June 2013.
- Assess the different models of eConsult service delivery and identify the key attributes required in a provincial eConsult service.

2.2 Benefits Evaluation Governance Model

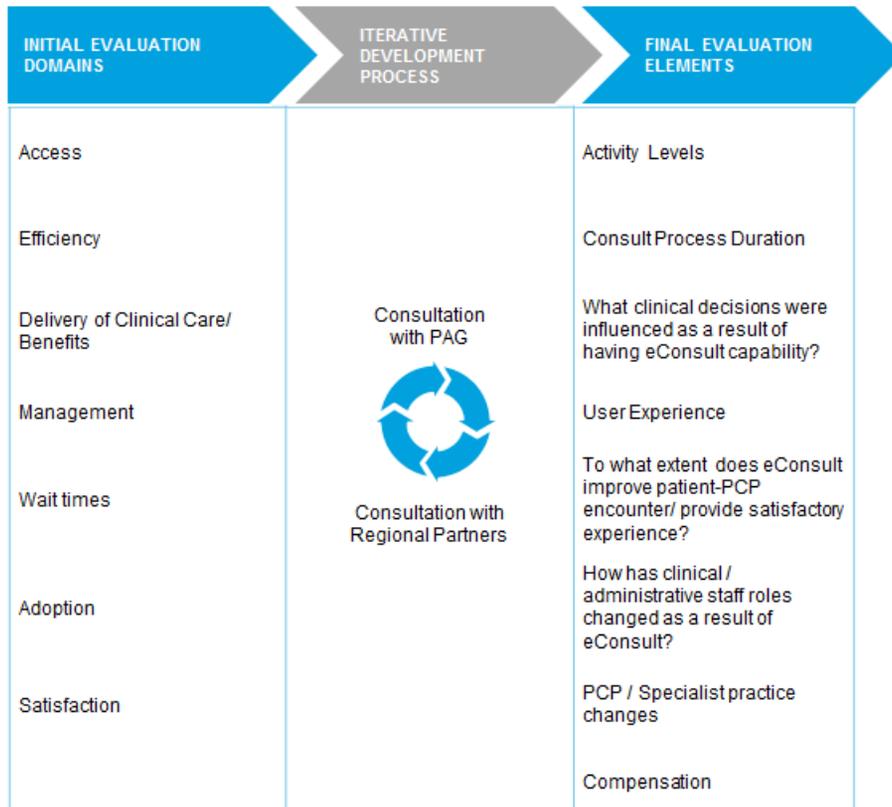
Oversight for the eConsult initiative was provided by a Provincial Steering Committee, with OntarioMD providing overall project management leadership for the initiative as a whole, including the BE Study. It should also be noted that clinical engagement and input was a critical element of the BE Study process; this leadership was provided by the Provider Advisory Group. The diagram below provides an overview of the various stakeholders involved. Details regarding the specific membership for the Provincial Steering Committee, Provider Advisory Group and BE project team can be found in Appendix A - page 41



3. Benefits Evaluation Framework

3.1 Framework Development Process

Framework development was an iterative process which started with a draft framework developed by OntarioMD. The draft framework contained seven domains, under which a number of indicators were identified. Guiding the development of the framework were the following key guiding principles which were intended to shape the key lines of enquiry for the Benefits Evaluation Study:



- Comparison of the impact of regional, demographic and adoption variation on the eConsult business models available for the region (Managed Specialty vs. Direct-to-Specialist)
- Targeted reduction in wait times for primary care consultation with specialists
- Improved continuity in care
- Reduction in the number of avoidable referrals
- Improvements to the quality of information sent to the specialist
- Improved satisfaction levels for family physicians, NPs, specialists, and delegates

Deloitte worked closely with the PAG and regional partners to review, modify and adapt the framework to best meet the objectives of the BE Study.

When adapting the framework, the project team examined factors such as:

- Ease of data capture across systems
- Alignment with BE goals
- Optimal balance of qualitative and quantitative data
- Ability to inform future roll-outs
- The Institute for Healthcare Improvement's (IHI) Triple Aims regarding population health and patient care experience
- Overall comprehensiveness

The project team specifically consulted with regional partners (Champlain BASE and OTN) to determine if data capture based on the initial framework indicators was feasible with the existing eConsult systems. If data capture was not feasible through the existing systems, Deloitte determined if indicator data could be captured using alternative methods, such as surveys and focus groups. The feedback from these conversations was incorporated to build the final BE framework. The full BE framework and underlying assumptions in developing the framework is available as a compendium document to this report.

4. Study Methodology

Over a 12 month period, a four-phased process was used to conduct the evaluation which consisted of the measurement of 44 indicators across eight evaluative dimensions.

4.1 The Evaluation Process



- **Project Initiation and Framework Validation:** Using the draft framework originally developed by OntarioMD as a baseline, a revised BE framework was created in collaboration with the PAG and regional partners. The PAG was engaged throughout the entire process to review and endorse the framework and respective indicators.
- **Baseline Evaluation:** The baseline evaluation included 23 indicators over four domains. The purpose of the baseline was to assess the referral process prior to the eConsult BE Study. The baseline evaluation was presented in March 2015 using data from January and February.
- **Post-Implementation Evaluation:** The end-point evaluation utilized a revised BE framework with 44 indicators across the various evaluative dimensions. The purpose of the end-point evaluation was to assess the impact of the eConsult initiative on patient care and provider practice post-implementation. The post-implementation evaluation was presented in July using data from January to June 2015.
- **Final Reporting:** Data collected from the baseline and post-implementation evaluation was compiled into a final report that presents data from the 44 BE indicators across the various evaluative dimensions.

*It is important to note that this study has been designed to serve as a key input to inform Ontario's strategic implementation of eConsult.

4.2 Baseline Evaluation Data Sources

To inform the baseline evaluation of the eConsult initiative, data from enrollment information and web-based surveys was collected in January and February 2015.



Enrollment Information

- eConsult Phase 1 initiative participant demographic information including:
 - Regional partner
 - Provider type
 - Provider specialty
 - Practice type
 - LHIN
 - Postal code
- Some regional partners provided less demographic information than others. Only the common data elements were used for the demographic summary.



Web-based Survey

- 10 minute survey open from January 19th to February 27th distributed to almost 3200 participants (PCPs, Specialists and Delegates).
- Survey includes questions pertaining to the following categories:
 - About You
 - Activity Levels
 - Referral Process Duration
 - Current Referral Model
- Survey analysis was conducted on responses collected until February 20th. Comprehensive survey results will be included in the final report.

A detailed list of each of the baseline indicators and their affiliated evaluation elements and data sources is listed in the Benefits Evaluation framework compendium document to this report.

4.3 Post-Implementation Evaluation Data Sources

To inform the Phase 1 post-implementation evaluation of the eConsult initiative, data from January to June 2015 was collected and analyzed from four primary sources:

 Enrollment Information	 Web-based Survey	 Focus Groups and Interviews	 System Usage Data
<ul style="list-style-type: none">• eConsult Phase 1 initiative participant demographic information including:<ul style="list-style-type: none">– Regional partner– Provider type– Provider specialty– Practice type– LHIN– Postal code• Some regional partners provided less demographic information than others. Only the common data elements were used for the demographic summary.	<ul style="list-style-type: none">• Survey open from May 25th to June 26th and distributed to 3002 participants (PCPs, Specialists and Delegates).• Survey included questions pertaining to each of the evaluative elements in the framework.• Survey was closed on June 26th and there were 398 respondents.	<ul style="list-style-type: none">• OntarioMD facilitated 10 in-person/phone focus groups in May and June with 57 clinicians who had used their respective eConsult system at least once during the pilot time frame.• Focus Group topics included experience using eConsult, clinical workflow, compensation, orientation and support, and the future of eConsult	<ul style="list-style-type: none">• System usage data was provided from each eConsult system under evaluation.• Due to the variability in the 3 systems, not all indicators were tracked consistently.• System Usage Data for all systems was obtained for Q4 (January to March) and for Q1 (April to June)

The number of indicators evaluated increased from 23 at baseline to 43 at the end-point as the number of measurement points in the evaluation framework associated with understanding system use and user experience could only be measured at the end-point post-implementation. A detailed list of each of the post-implementation indicators and their affiliated evaluation elements and data sources is listed in Appendix B on page 421, and in the Benefits Evaluation framework compendium document to this report.

4.4 Key Study Limitations

Although efforts were made to minimize limitations during the creation of the BE framework, a number of limitations have influenced the level of analysis and findings reported:

1. **Indicator inconsistency across systems:** The three eConsult systems largely capture and report on similar indicators, but the manner in which they define and capture the data varies in some cases. This limits the direct alignment of the indicator across all partners. For example, Champlain BASE measures the total eConsult time based on initiation time to completion of a survey post e-Consult, while other systems measure total process time based on a different end-point. During the development of the evaluation framework and the identification of indicators, it was important to achieve a balance between qualitative and quantitative inputs. Where system data was not available for a particular indicator, insights were gained via targeted surveys, focus groups and stakeholder interviews.
2. **Pilot participant limitations:**
 1. **Respondent recruitment:** Although efforts were made to recruit survey participants across care settings, much of the recruitment efforts were focused on providers practicing in group settings such as Family Health Teams.
 2. **Survey response rates:** Overall, for benefits evaluation studies such as this one where an objective third party is acting as the survey administrator, survey response rates were greater than expected. Response rates were >40% for all regional partners with the exception of Teledermatology participants. However, it is important to note that due to the proportionately large number of Teledermatology participants (2,364), a smaller percentage (3%) response from this partner's participants does skew the overall response rate for surveys used as part of the BE process.
3. **Timing limitations:**
 1. **Varied implementation timelines for eConsult Systems:** Since systems were implemented at different times, some regions had more experience with system adoption and utilization. This limited the direct comparability of BE results across regions.
 2. **Limited pilot duration:** The short six month timeframe from the baseline evaluation to the post-implementation evaluation limited the data collection potential for the Benefits Evaluation Study. The short duration limited the opportunity to progressively gather insights from practitioners as they evolved in their use of eConsult solutions, particularly for OTN eConsult partners. Moreover, the short timeframe also limited the ability to engage patients in a meaningful manner and track and evaluate the impact of the eConsult system on patient wait times for specialist appointments.
4. **Comparative analysis of service delivery models:** The study focused on assessing the value and benefits of eConsult models as a whole and did not get into the specifics of the two service delivery models.

5. Benefits Evaluation Results

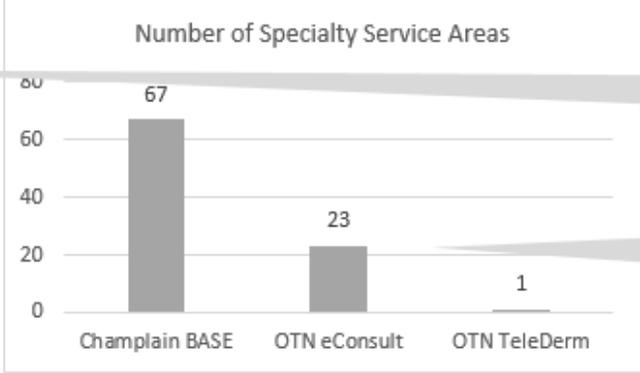
This section presents results from the enrollment information, web-based surveys, focus groups and system usage data. The BE framework was translated into key focal areas for the study to understand and assess through the BE process. The 43 indicators across all eight framework evaluation elements were consolidated into six reporting categories that outline key findings as per the table below:

Reporting Categories	# of Indicators	Description
Understanding Pilot Participants	12	<i>Description of the eConsult pilot participants in terms of their area of expertise, regional and practice locations, level and other demographics</i>
System Use and Adoption	12	<i>Review of system activity levels and growth over time</i>
User Experience	4	<i>Understanding the family physician, NP and specialist experience with the eConsult system enrollment, training, technical support and ease of use.</i>
Impact on Patient Care	7	<i>Understanding the effect of the eConsult systems on patient care outcomes such as timely referral, treatment plan execution, patient safety and speed of diagnosis.</i>
Patient Experience	1	<i>Understanding how eConsults improve patient experience</i>
Changes to Practice	7	<i>Understanding how the eConsult system does or does not change the referral activities, tasks and workflow for family physicians, NPs and their delegates</i>
TOTAL	43	

For a detailed breakdown of the alignment of each indicator across the final evaluation elements and reporting categories see Appendix B on page 41.

5.1 How to read the Benefits Evaluation Report

In the sections that follow, this report summarizes key findings for each reporting category. Associated with the findings, the supporting evidence and rationale are provided, along with implications that should be considered for future advancement of eConsult solutions and models. Below is an overview of the outline used to summarize the findings for each reporting category.

BENEFITS EVALUATION REPORTING CATEGORY									
<i>Description of the Reporting Category</i>									
KEY FINDINGS	SUPPORTING EVIDENCE AND RATIONALE								
 <table border="1"><caption>Number of Specialty Service Areas</caption><thead><tr><th>Reporting Category</th><th>Number of Specialty Service Areas</th></tr></thead><tbody><tr><td>Champlain BASE</td><td>67</td></tr><tr><td>OTN eConsult</td><td>23</td></tr><tr><td>OTN TeleDerm</td><td>1</td></tr></tbody></table>	Reporting Category	Number of Specialty Service Areas	Champlain BASE	67	OTN eConsult	23	OTN TeleDerm	1	<p>Key Findings: Overall high level findings to contextualize the data</p> <p>Supporting Evidence or Rationale Quantitative and qualitative data to demonstrate findings</p>
Reporting Category	Number of Specialty Service Areas								
Champlain BASE	67								
OTN eConsult	23								
OTN TeleDerm	1								
IMPLICATIONS FOR FUTURE CONSIDERATION	<p>Implications for Future Consideration Impact of the findings to inform future studies</p>								

5.2 Impact on Patient Care

IMPACT ON PATIENT CARE

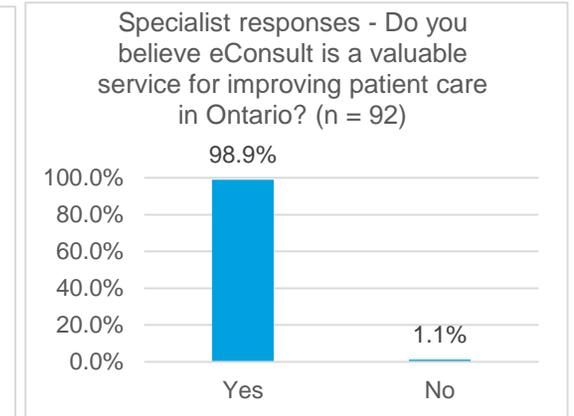
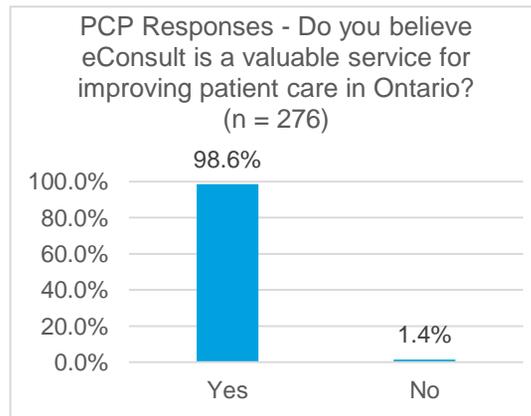
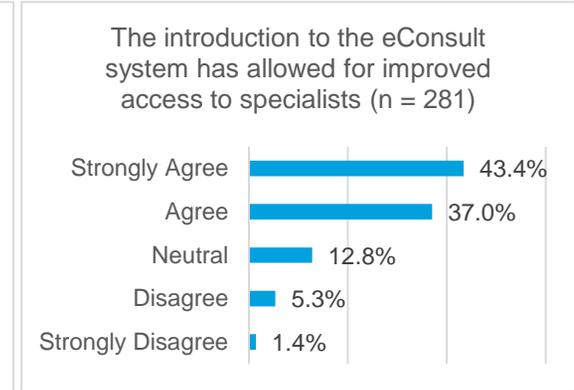
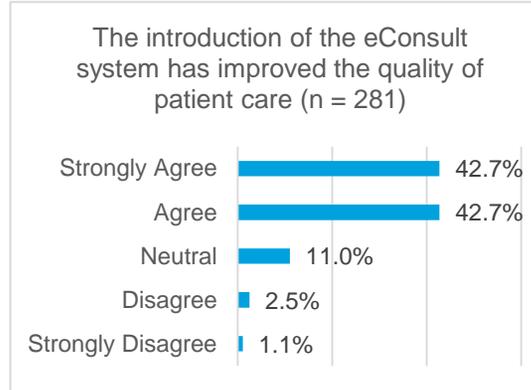
Understanding the effect of the eConsult systems on patient care outcomes such as timely referral, treatment plan execution, patient safety and speed of diagnosis.

KEY FINDINGS

PCPs and specialists share the belief that the eConsult model is of value to patient care

- Pilot participants report strong evidence for the fact that eConsults not only improve patient access to quality care, but also prevent unnecessary referrals, thereby improving overall patient care.
- According to over 98% of PCPs and specialists surveyed, the eConsult tool is valuable in improving patient care.

SUPPORTING EVIDENCE AND RATIONALE



IMPACT ON PATIENT CARE

Understanding the effect of the eConsult systems on patient care outcomes such as timely referral, treatment plan execution, patient safety and speed of diagnosis.

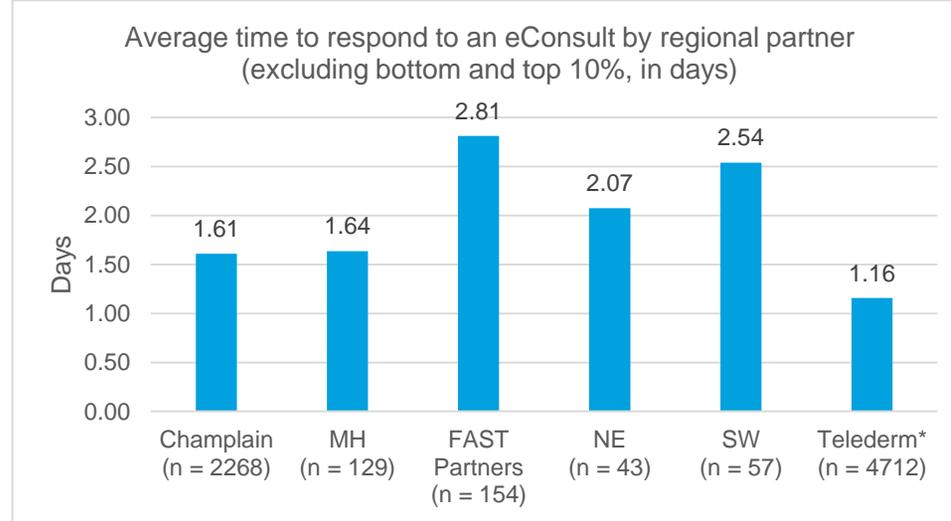
KEY FINDINGS

eConsults reduce the time a patient has to wait to have access to a specialist

- Based on pilot results, indications are that eConsult offers the potential to have a positive impact on specialist access. Average wait times for a specialist to respond to an eConsult request across all systems are much lower than the seven day expected timeframe. In fact, average response times were within three days and ranged from 1.16 to 2.81 days across the regional partners.
- This is much shorter than the self-reported wait times indicated in our baseline survey: family physicians, NPs and specialists reported lengthy wait times with the traditional referral process. According to the baseline analysis, 45% of family physicians and NPs reported that it typically takes more than 64 days (>9.14 weeks) for a specialist to see a patient for non-urgent cases. Specialists reported lower wait time estimates, with 36% reporting wait times of 0-35 days (1-5 weeks) to schedule appointments for non-urgent cases. While there appears to be differences in perceptions with regard to precisely how long the wait time is, both PCPs and specialists do appear to acknowledge that wait times are an issue.
- However, it should also be noted that a faster response does not mean a better response. It is also important to take the quality of responses into account.
- As expected, the overall eConsult time does vary by specialty as the clinical context and nature of the clinical interaction is different between specialties (See Appendix C).
- Further study on factors that influence specialist response time and quality of response needs to occur.

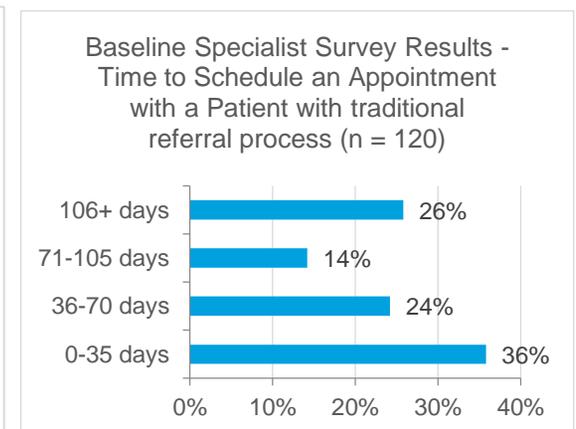
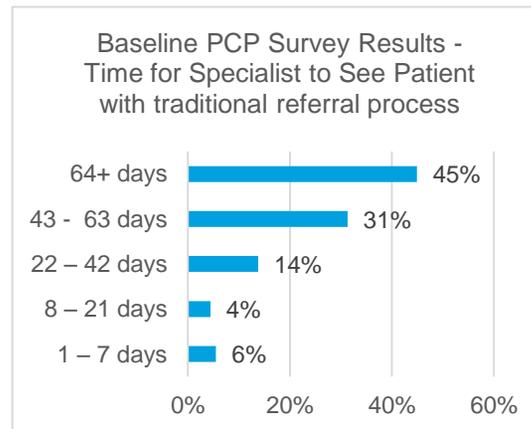
SUPPORTING EVIDENCE AND RATIONALE

Post-implementation average eConsult response and close time by region:



*Based on specialist's last response

Baseline stakeholder reported perception of patient wait-times to see a specialist:



IMPACT ON PATIENT CARE

Understanding the effect of the eConsult systems on patient care outcomes such as timely referral, treatment plan execution, patient safety and speed of diagnosis.

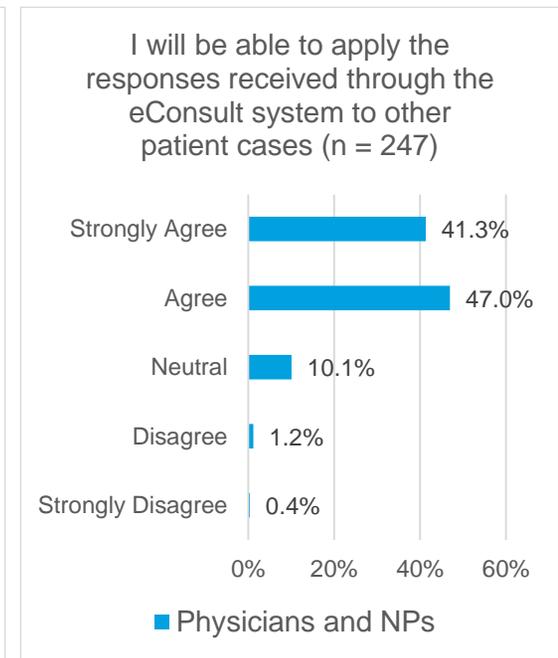
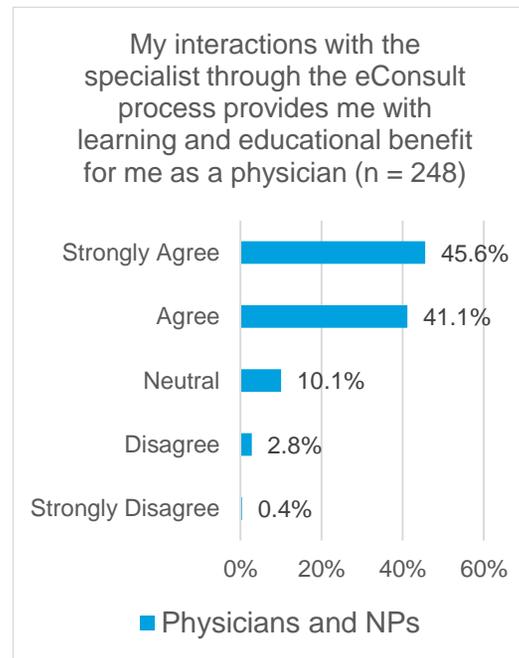
KEY FINDINGS

eConsults enable stronger connections between family physicians/NPs and specialists, thereby supporting learning by all practitioners.

- eConsults provide family physicians and NPs with the opportunity to expand their clinical knowledge through case-based learning. Additionally, they act as a medium for specialists to exchange educational material with family physicians and NPs and provide a “just-in-time” educational model where information received from the specialist can be applied right away. This allows the PCP to remain the Most Responsible Provider (MRP) for their patients.
- eConsult can be used to recommend other opportunities for learning such as Extension for Community Healthcare Outcomes (ECHO) in cases where the provider needs advanced specialty knowledge.
- Specialists have reported that the introduction of the eConsult system allows them to support the ongoing professional development of their primary care colleagues and that they often include teaching points in their eConsult response.
- This exchange of clinical knowledge allows for two-way capacity building because it also increases specialist appreciation for primary care, which in turn improves care coordination and quality.

SUPPORTING EVIDENCE AND RATIONALE

Educational Value of eConsults for family physicians and NPs



IMPLICATIONS FOR FUTURE CONSIDERATION

- Study results demonstrate improved access to care. However, implications of eConsults for patient care quality could be evaluated further through measurement of patient outcomes.
- To further expand eConsult educational value, exploration with the relevant regulatory bodies to include eConsults as recognized learning credits should be considered. Additionally, providing eConsult access and training during clinical residencies could be explored in order to support education of trainees and to encourage adoption of the eConsult service when in practice.
- As Ontario moves into Phase 2, the impact of eConsults on waitlist time for access to specialists should continue to be measured to assess the broader implications on patient care.

5.3 Understanding Pilot Participants

UNDERSTANDING PILOT PARTICIPANTS

Description of the eConsult pilot participants in terms of their area of expertise, regional and practice locations, level and other demographics

KEY FINDINGS

The range of pilot participants constituted family physicians, nurse practitioners (NPs), specialists and their delegates, the majority of whom were associated with the more mature eConsult systems (Teledermatology and Champlain BASE).

- Enrollment and access to the eConsult systems were provided to:
 - 5,492 family physicians, NPs and their delegates
 - 223 specialists and their delegates
- A number of providers elected delegates to utilize the eConsult system on their behalf. In total there were:
 - 1,441 family physician or NP delegates
 - 38 specialist delegates
- The number of PCPs, specialists and delegates enrolled in an eConsult system varied by system and by region due to the difference in system maturity and recruitment process. The Champlain BASE eConsult and OTN Teledermatology systems launched in 2010 whereas the OTN eConsult system launched in January 2015 and the MH LHIN only joined Champlain BASE in January 2015.

SUPPORTING EVIDENCE AND RATIONALE

Participants by Regional Partner								
Participants		OTN eConsult			Teledermatology	Champlain BASE eConsult		Total
		SW LHIN	FAST Partners	NE LHIN	Across Ontario	Champlain LHIN	MH LHIN	
PCPs (Family Physicians and NPs)	Family Physician/NP	72	192	118	3,010	559	100	4051
	Delegates	34	37	34	1,281	42	13	1441
	Total	106	229	152	4,291	601	113	5,492
Specialists	Specialist	19	20	7	26	101	12	185
	Delegates	13	5	7	13	0	0	38
	Total	32	25	14	39	101	12	223
TOTAL Family Physicians, NPs, Specialists & Delegates		138	254	166	4,330	702	125	5,715

UNDERSTANDING PILOT PARTICIPANTS

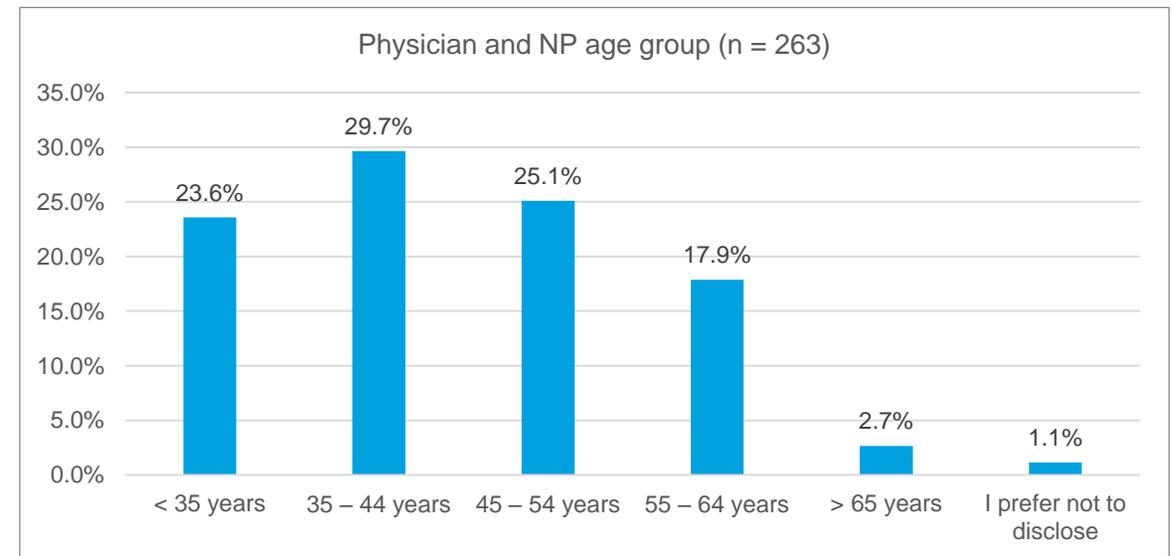
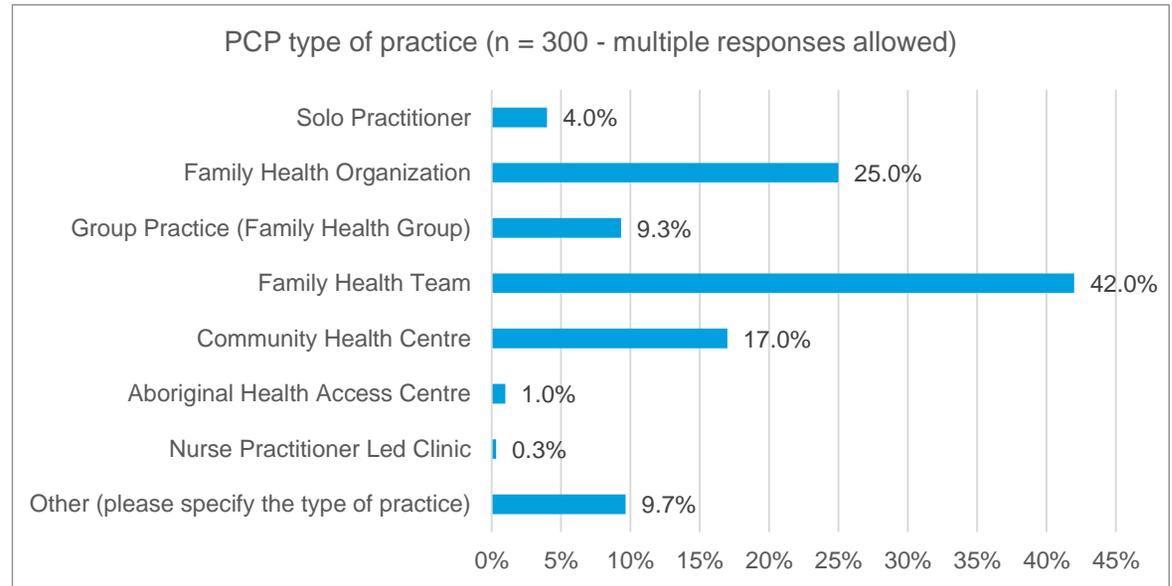
Description of the eConsult pilot participants in terms of their area of expertise, regional and practice locations, level and other demographics

KEY FINDINGS

Family physician and NP survey respondents represent a broad cross section in terms of age, with the majority reporting practicing in a group or inter-professional practice.

- The majority of PCP respondents practiced in Family Health Teams (FHTs) and Family Health Organizations (FHOs), which is in line with participant enrollment data.
- It is important to note that some respondents may have identified themselves as being part of more than one practice setting type.
- Moreover, these results may also be reflective of the recruiting process that was taken to enroll family physicians and NPs into the study, which targeted inter-professional practice settings, particularly in the case of OTN eConsult.
- The age distribution of family physicians and NPs who utilized the eConsult systems and responded to the survey is wide with the majority ranging from younger than 35 to 64 years of age.

SUPPORTING EVIDENCE AND RATIONALE



UNDERSTANDING PILOT PARTICIPANTS

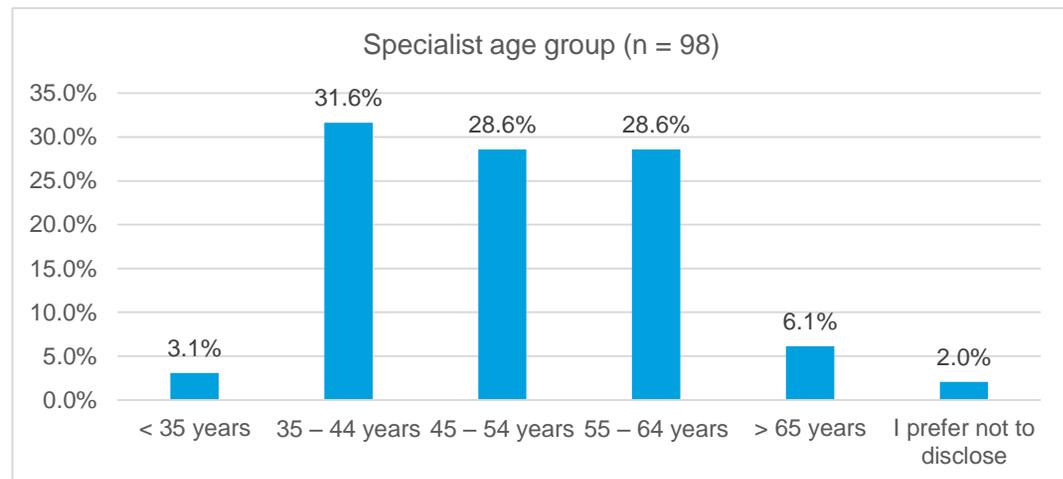
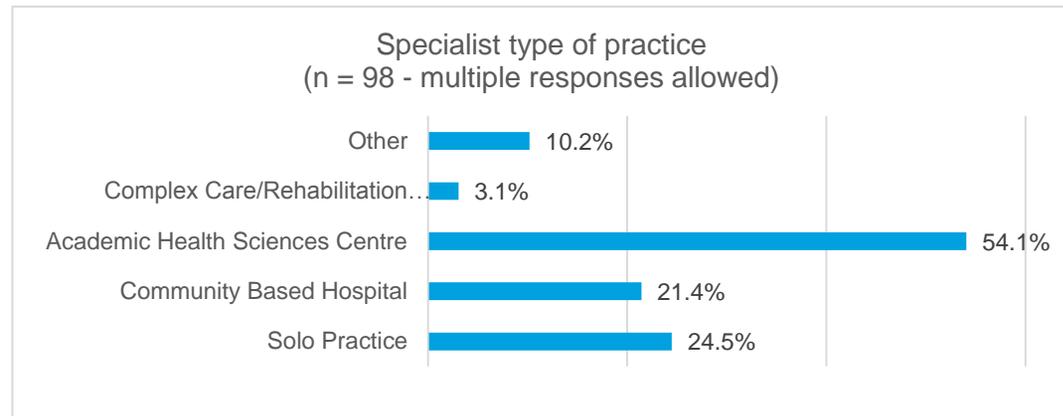
Description of the eConsult pilot participants in terms of their area of expertise, regional and practice locations, level and other demographics

KEY FINDINGS

Specialist participants represent a broad cross section in terms of age, with the majority of survey respondents reporting affiliation with either an academic or community hospital.

- The majority of the specialist respondents practiced in Academic Health Sciences Centres (AHSC), which is in line with participant enrollment data.
- The age distribution of specialists who utilized the eConsult systems and responded to the survey is wide with the majority between the ages of 35 and 64.

SUPPORTING EVIDENCE AND RATIONALE



UNDERSTANDING PILOT PARTICIPANTS

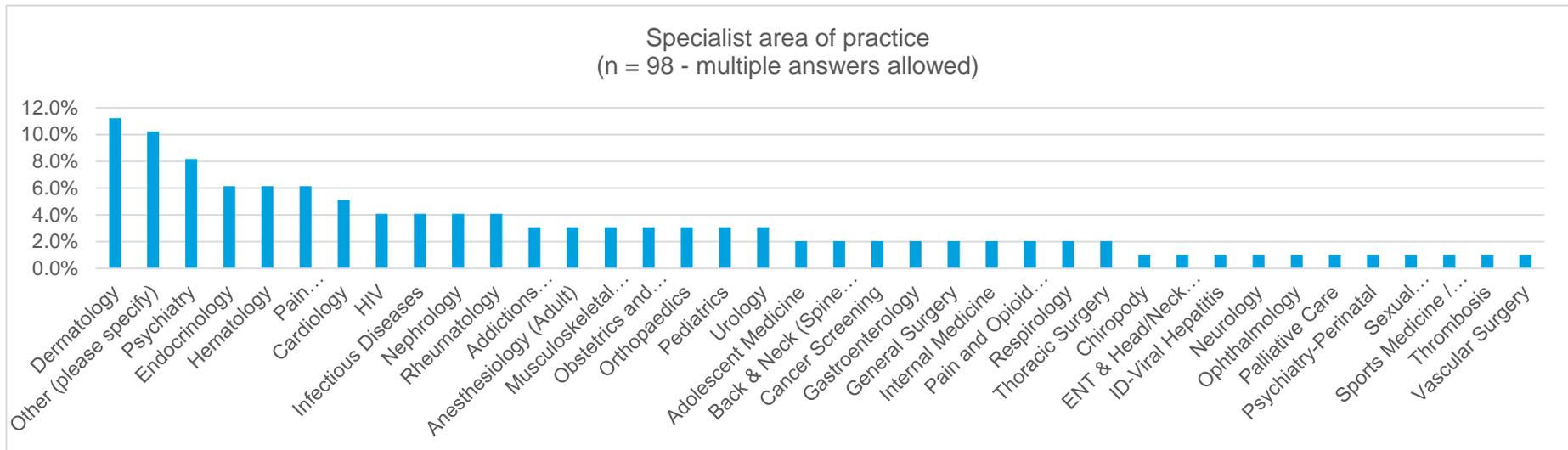
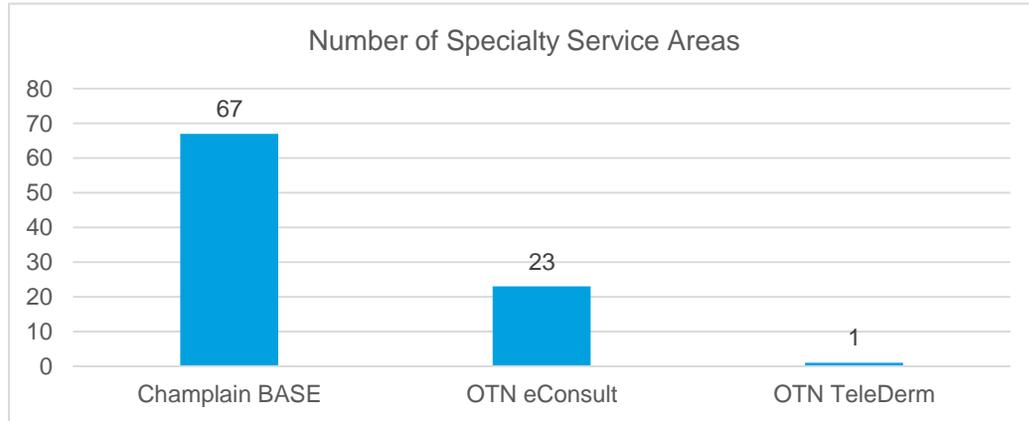
Description of the eConsult pilot participants in terms of their area of expertise, regional and practice locations, level and other demographics

KEY FINDINGS

A number of different specialties were part of the eConsult pilot, but as expected, given the inclusion of Teledermatology, specialties such as dermatology were highly represented in the survey responses.

- Of the three eConsult systems, the Champlain BASE eConsult system had the most specialty service areas.
- It is important to note that there was a conscious management of the number of specialists in each system due to limitations in budget available for the eConsult pilot.

SUPPORTING EVIDENCE AND RATIONALE



UNDERSTANDING PILOT PARTICIPANTS

Description of the eConsult pilot participants in terms of their area of expertise, regional and practice locations, and other demographics

IMPLICATIONS FOR FUTURE CONSIDERATION

- The high enrollment of family physicians, NPs and specialists as part of the eConsult pilot demonstrates overwhelming interest in the potential for eConsult solutions and service models.
- Training and technical support for eConsult Systems should target delegates in addition to family physicians, NPs and specialists given the key roles that delegates appear to play in many practices in facilitating the consult process between primary care practitioner and the specialist.
- When engaging and working with practitioners going forward, targeted strategies should be adapted, recognizing that there is no single best approach to onboard and work with eConsult users. Practitioners who practice in independent settings vs. those who practice in an inter-professional context will require different strategies to ensure that they get connected and have the opportunity to access and use eConsult as part of their practice.

5.4 System Use and Adoption

SYSTEM USE AND ADOPTION

Review of system activity levels and growth over time

KEY FINDINGS

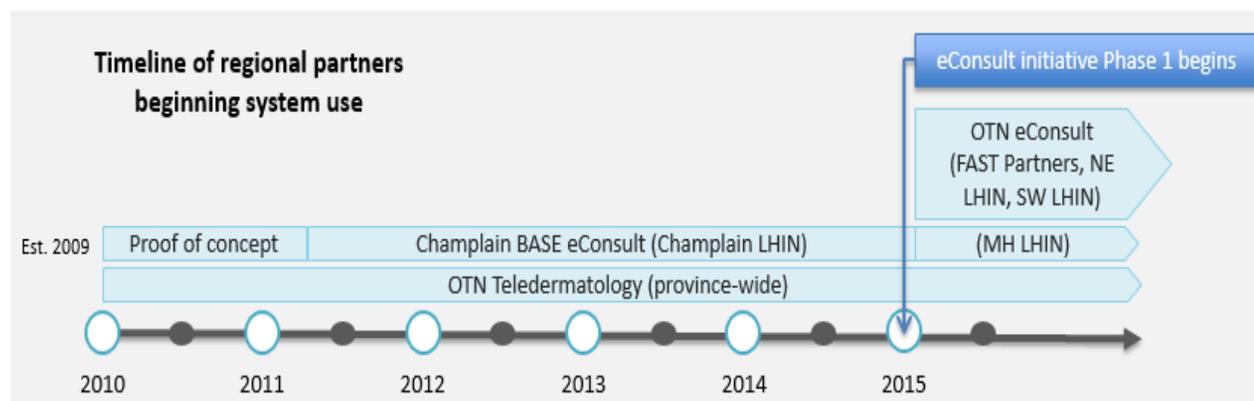
All eConsult systems showed progressive uptake over the course of the six month BE.

- All regional partners demonstrated growth in eConsult activity, but as expected, the more established systems (i.e. Teledermatology and Champlain BASE) reported the greatest activity in terms of eConsults completed. Users of these solutions have greater experience and use. The relative maturity of these solutions increases both the awareness and the integration of the solution into the workflow and practices of the family physicians, NPs and delegates who use those solutions.
- With time and use, it is expected that OTN eConsult activity will also increase as both Teledermatology and Champlain BASE also noted a similar early stage experience and progressive growth over time.
- A change management working group has been established with the regional partners to design additional approaches to integrated learning from Phase 1 and proactively implement strategies to improve and accelerate the rate of solution adoption and use.

SUPPORTING EVIDENCE AND RATIONALE

eConsults closed from January to June 2015

eConsults Closed/Completed by regional partner							
Time Period	OTN eConsult			Teledermatology	Champlain BASE eConsult		Total
	FAST Partners	NE LHIN	SW LHIN	Across Ontario	Champlain LHIN	MH LHIN	
Q4: January 1, to March 31, 2015	56	17	12	2,190	936	49	3,260
Q1: April 1, to June 30, 2015	98	26	45	2,522	1,332	80	4,103
TOTAL	154	43	57	4,712	2,268	129	7,363



SYSTEM USE AND ADOPTION

Review of system activity levels and growth over time

KEY FINDINGS

There is a wide range of specialties involved in eConsults, but the top 10 specialties for both the Champlain BASE eConsult and the OTN eConsult systems constitute between 70% and 80% of the total.

- OTN Teledermatology only offers the dermatology specialty, therefore the breakdown by specialty is not shown for this system. Teledermatology has the largest volume of eConsults across all systems.
- Dermatology eConsults are the most commonly requested for the Champlain BASE system. The dermatology specialty is not offered on the OTN eConsult system
- Hematology, neurology, endocrinology, obstetrics and gynecology, and cardiology eConsult requests are also common across both the Champlain BASE and OTN eConsult systems.

There is evidence of growth in eConsult activity demonstrating value for specialists participating under both the Managed Specialty and Direct-to-Specialist service models.

- Champlain BASE utilized the Managed Specialty model, and the other regional partners utilized the Direct-to-Specialist model.

eConsult integration with other systems would enhance utilization and ease of use.

- Stakeholders reported through focus groups and survey responses that eConsults could be enhanced through integration with:
 - EMRs
 - Automatic billing systems

SUPPORTING EVIDENCE AND RATIONALE

Closed eConsults by Specialty:

Top specialties requested for Champlain BASE eConsult			
#	Specialty	# eConsults closed	% of total eConsults
	Total across all specialties	2,397	100%
	Top 10 Specialties combined	1,741	72.6%
1	Dermatology	388	16.2%
2	Pediatrics	227	9.5%
3	Endocrinology	174	7.3%
4	OBS/GYN	172	7.2%
5	Cardiology	161	6.7%
6	Hematology	148	6.2%
7	Neurology	138	5.8%
8	Orthopaedics	137	5.7%
9	Infectious Diseases	99	4.1%
10	Gastroenterology	97	4.0%

Top specialties requested for OTN eConsult			
#	Specialty	# eConsults closed	% of total eConsults
	Total across all specialties	254	100%
	Top 10 Specialties combined	191	75.2%
1	Hematology	48	18.9%
2	Endocrinology	34	13.4%
3	Neurology	22	8.7%
4	Infectious Diseases	17	6.7%
5	Urology	16	6.3%
6	Cardiology	13	5.1%
7	Gastroenterology	12	4.7%
8	Obstetrics and Gynecology	10	3.9%
9	Psychiatry	10	3.9%
10	Gynecologic Oncology	9	3.5%

SYSTEM USE AND ADOPTION

Review of system activity levels and growth over time

IMPLICATIONS FOR FUTURE CONSIDERATION

- Based on the growth of OTN Teledermatology and Champlain BASE since their respective inceptions, and given the interest observed in eConsult over the past six months, eConsult activity levels should continue to grow with solution maturity and user awareness.
 - As eConsult systems continue to evolve, continuous system improvement cycles are recommended to adapt to the needs of the growing user base. Future integration with EMRs and online billing systems will also increase use and adoption of eConsults over time.
 - Strategies to onboard new users and increase their use of the system should take into consideration clinical needs of family physicians, NPs and their delegates in terms of their community's access to speciality needs and their existing referral patterns.
 - In order to define the operating model for a provincial eConsult service, both the Managed Specialty and Direct-to-Specialist service models need to be further examined so that their relative strengths are understood.
-

5.5 User Experience

USER EXPERIENCE

Understanding the family physician, NP and specialist experiences with eConsult system enrollment, training, technical support and ease of use.

KEY FINDINGS

PCPs report high degrees of satisfaction in terms of system onboarding, use, training and support.

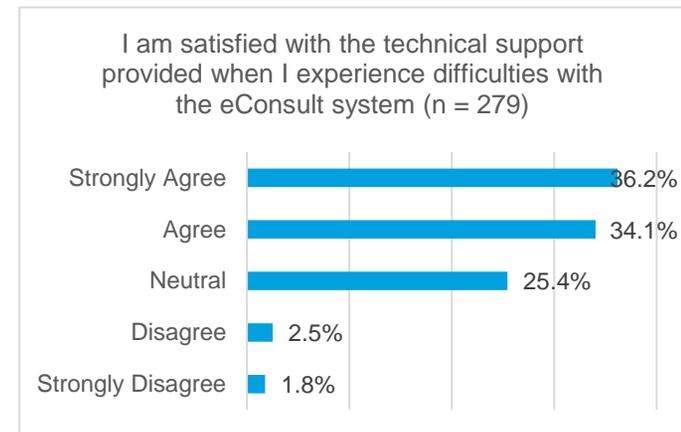
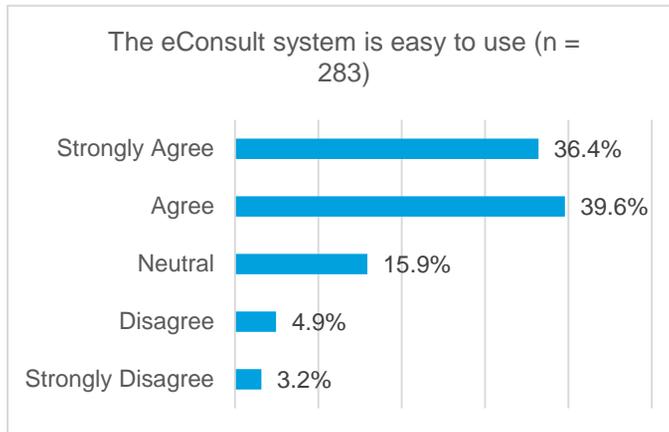
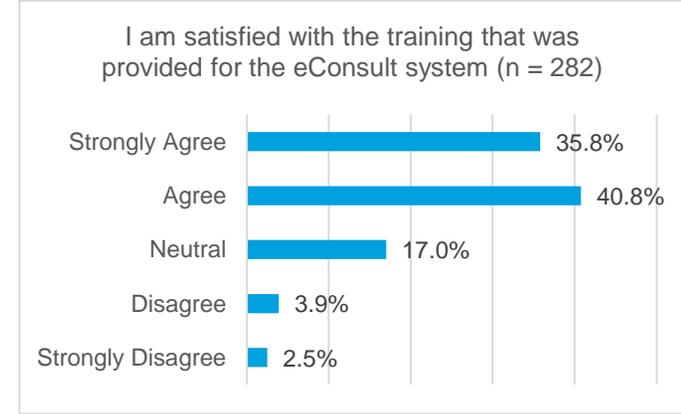
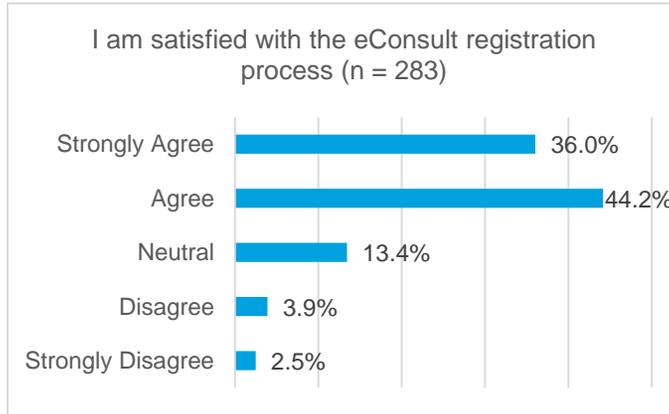
- Across the three eConsult systems, family physicians, NPs and delegates reported that they were satisfied with the registration process, training, technical support and the ease of use; overall, 80% are satisfied with the registration process, 77% are satisfied with the training, 70% are satisfied with the technical support and 76% are satisfied with the ease-of-use.

Opportunities for continuous improvement have been noted:

- Focus groups indicated that the use of mixed training methods, such as videos and hands-on practical training would enhance the training experience for a variety of learners.
- Participants also believe that incorporation of eConsult training during family physician residencies would increase adoption.

SUPPORTING EVIDENCE AND RATIONALE

PCP user experience:



USER EXPERIENCE

Understanding the family physician, NP and specialist experiences with eConsult system enrollment, training, technical support and ease of use.

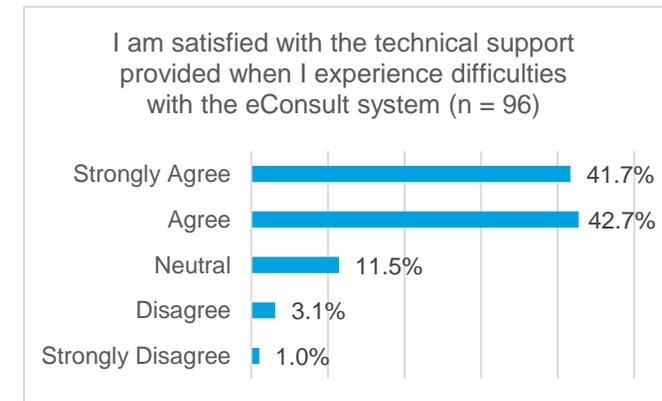
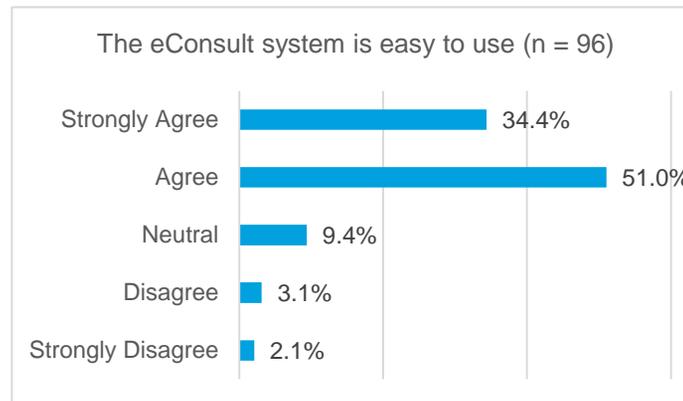
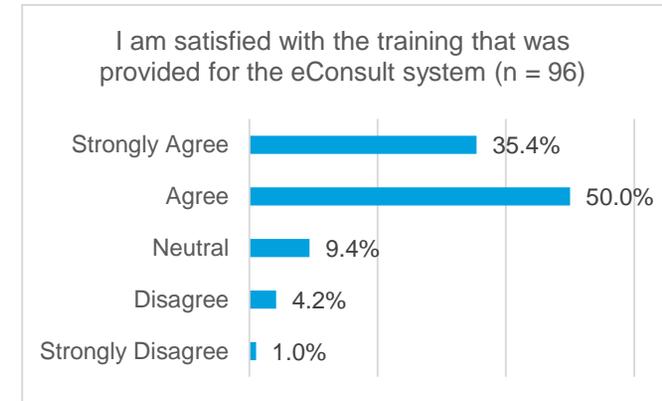
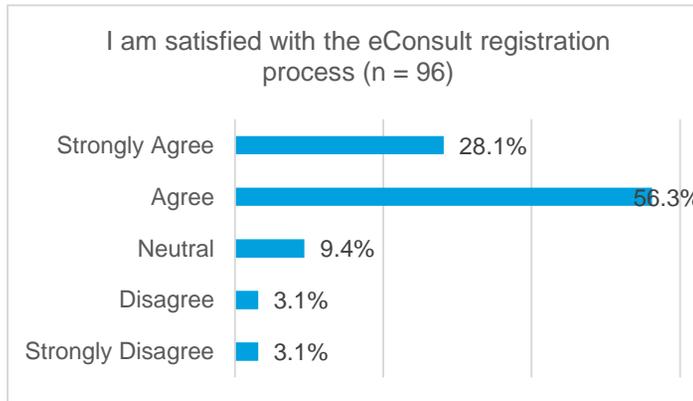
KEY FINDINGS

Specialists report high degrees of satisfaction in terms of system onboarding, use, training and support.

- Across all three eConsult systems, specialists have also reported satisfaction with the eConsult registration process, training, technical support and overall ease-of-use of the system.
- Overall, 84% are satisfied with the registration process, 85% are satisfied with the training, 84% are satisfied with the technical support and 85% are satisfied with the ease-of-use of the systems.

SUPPORTING EVIDENCE AND RATIONALE

Specialist user experience:



USER EXPERIENCE

Understanding the family physician, NP and specialist experiences with eConsult system enrollment, training, technical support and ease of use.

IMPLICATIONS FOR FUTURE CONSIDERATION

- The overall eConsult user experience for family physicians, NPs and specialists was positive. However, user feedback regarding enrollment, training, technical support and ease of use needs to be continuously solicited so as to ensure sustained use and continual system improvement/updates.
 - Training could be improved through the use of mixed methods (online videos, one-on-one training, hands-on experience, documentation, etc.). Additionally, incorporating eConsult training during clinical residencies could help to ensure adoption of the eConsult service when in practice.
-

5.6 Patient Experience

PATIENT EXPERIENCE

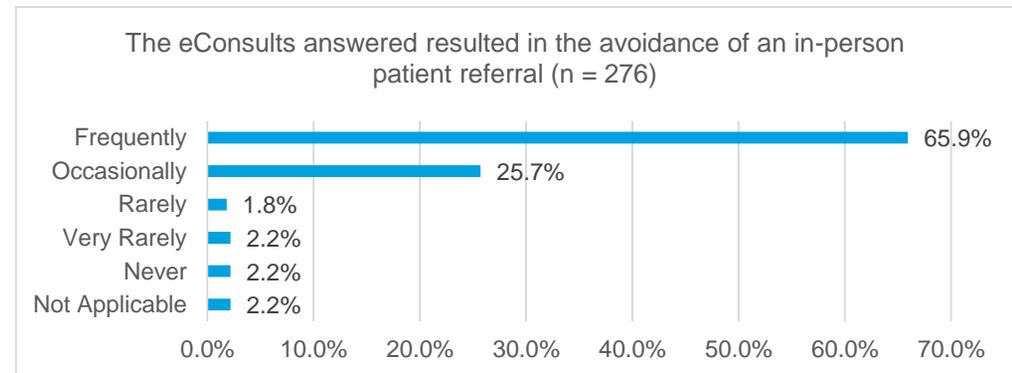
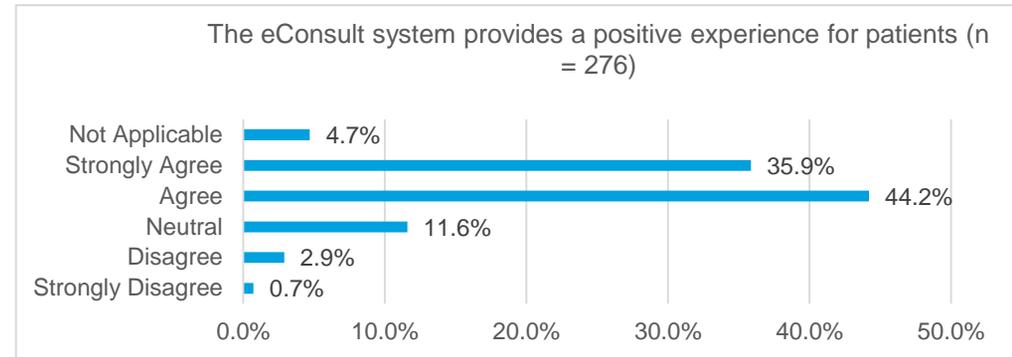
Understanding how eConsults improve the patient experience

KEY FINDINGS

Based on survey respondents, there is evidence that eConsults support and improve the patient experience.

- Family physicians and NPs are advocates for their patients and therefore were asked to provide their opinion on the impact of eConsults on the patient experience.
- Family physicians and NPs reported that they believed the eConsult system provides patients with a positive experience.
- Survey results indicated that the eConsults frequently prevented unnecessary patient travel by avoiding the need for in-person specialist visits.

SUPPORTING EVIDENCE AND RATIONALE



IMPLICATIONS FOR FUTURE CONSIDERATION

- Further studies would benefit from evaluating the value of eConsult systems on the patient experience through direct engagement of patients, collecting data from patients, and empirical analysis of specialist visit avoidance.

5.7 Changes to Practice

CHANGES TO PRACTICE

Understanding how the eConsult system does, or does not, change the referral activities, tasks and workflow for family physicians, NPs and their delegates.

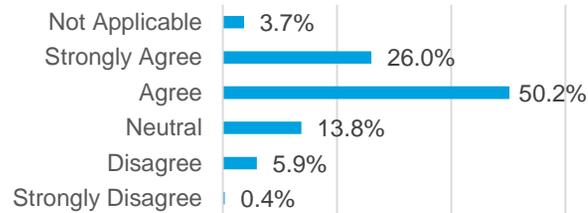
KEY FINDINGS

Further understanding of the true impact on practice changes is anticipated with time and use of eConsult.

- While the eConsult systems are fairly easy to utilize and have a positive impact on PCP activities/tasks, generally speaking, there is a broad range of opinions on whether the system has positively or negatively improved workflow and clinical role efficiencies for family physicians, NPs, or their administrative staff.

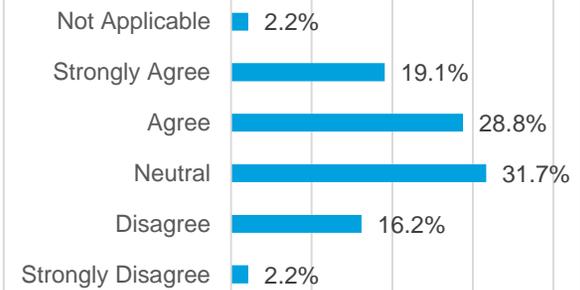
SUPPORTING EVIDENCE AND RATIONALE

The activities/tasks I perform as a PCP are positively impacted with the use of the eConsult system (n = 269)

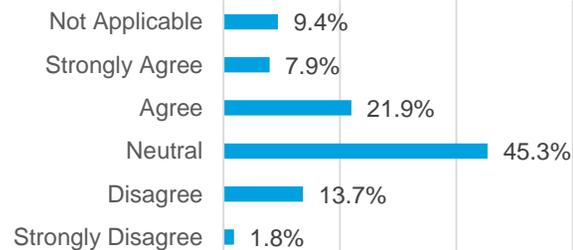


■ Physicians, NPs, Nurses and Allied Health

My workflow is more efficient with the use of the eConsult system (n = 278)



Administrative roles in my practice are more efficient with the use of the eConsult system (n = 278)



CHANGES TO PRACTICE

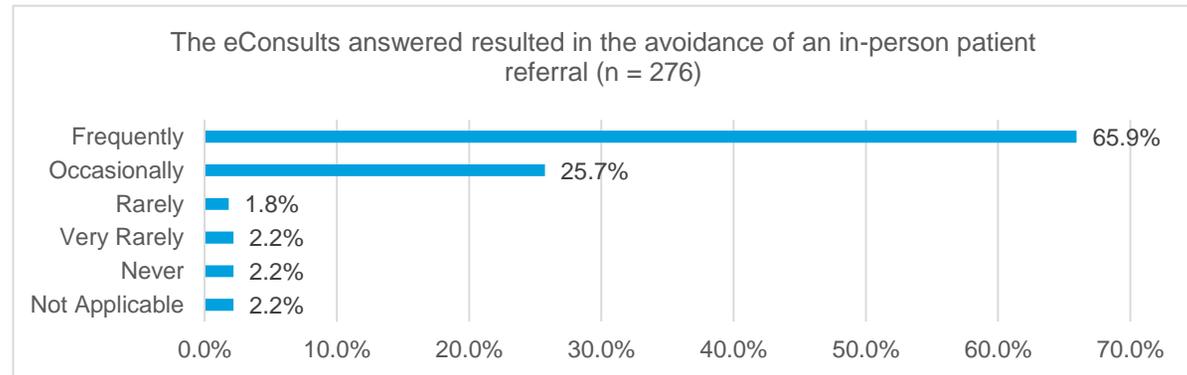
Understanding how the eConsult system does, or does not, change the referral activities, tasks and workflow for family physicians, NPs and their delegates.

KEY FINDINGS

Further understanding of the true impact on referral patterns is anticipated with time and use of eConsult.

- eConsults decreased the need for in-person specialist referrals because family physicians and NPs were better positioned to determine whether further consultation was necessary. For the most part, eConsults only occasionally or rarely required further in-person visits.
- eConsults have enabled family physicians and NPs to more readily connect with specialists.

SUPPORTING EVIDENCE AND RATIONALE



IMPLICATIONS FOR FUTURE CONSIDERATION

- As eConsult moves to the next phase of implementation and development, it will be important to continue to assess the impact of eConsults on changes to workflow and other operational practices.
- As eConsult models evolve, a critical success factor is continuing to build family physician and NP awareness of the nuances and sub-specialties that exist within specialist types in order to decrease inappropriate referrals and eConsult requests.

6. Conclusion

The findings of this study demonstrate a strong collaborative effort, and an overall governance and leadership structure that is committed to continuous improvement, ongoing engagement of stakeholders to implement eConsult systems, and a commitment to creating value for patients, family physicians, NPs, specialists, delegates, and for the system as a whole. The BE demonstrated:

- **All family physicians, NPs and specialists believe there is value in the eConsult model** in terms of the opportunity to improve access to care, quality of care and efficiency of system resources. Not only do eConsults significantly reduce the time to receive specialist advice, they also provide educational value for family physicians, NPs and specialists resulting in capacity building and improvements in care quality.
- Overall, the **user experience was positive** especially because of the time and resources spent on enrollment, training and technical support - all pivotal components necessary for the continued adoption and utilization of the eConsult systems.
- **As awareness and familiarity with the eConsult systems increases over time, system utilization is expected to grow**, as was evident by the experiences of Champlain BASE, Teledermatology and the growth of the pilot OTN eConsult model.
- Strategies to **engage delegates and individual practitioners across care settings** should be considered and incorporated into eConsult rollout plans.
- It is important to **integrate eConsults into the day-to-day workflow** of family physicians, NPs, specialists and their respective delegates, with EMR and electronic billing integration being essential for systems optimization.

In summary, based on the findings of this BE study, it is clear that eConsult offers great potential to further improve patient care and the professional experience of family physicians, NPs and specialists as they work together in the interests of their patients. The achievements to date have provided a strong foundation for OntarioMD to move forward with Phase 2 of the eConsult implementation. Taking the learning and insight from the Phase 1 BE, OntarioMD and its partners are well-positioned to take the next critical steps in advancing eConsult from a pilot and innovation to a widely-used and prevalent part of health care delivery in Ontario.

Appendix A: Team Members

Details of membership for the Steering Committee, Provider Advisory Group and BE Project Team

Steering Committee Membership	Provider Advisory Group Membership	BE Project Team Membership
Greg Hein (MOHLTC) – Co-Chair	Dr. Darren Larsen (OMA & OntarioMD)	Elizabeth Keller (OntarioMD)
Sarah Hutchison (OntarioMD) - Co-Chair	Dr. Rob Williams (OTN)	Nadia Rashid (OntarioMD)
Dr. Ed Brown (OTN)	Dr. Wei Qui (eHealth Ontario)	Simon Ling (OntarioMD)
Sime Pavlovic (eHealth Ontario)	Dr. Clare Liddy (University of Ottawa's Department of Family Medicine)	Jenya Doudareva (OntarioMD)
Dr. Darren Larsen (CMIO, OMA/OntarioMD)	Dr. Erin Keely (The Ottawa Hospital)	Young Lee (Deloitte)
Scott McLeod (Central West LHIN)	Beth Cowper-Fung (Georgina Nurse Practitioner-Led Clinic)	Juliane Novak (Deloitte)
Chantale Leclerc (Champlain LHIN)	Dr. Rob McFadden (St. Joseph's Health Care, London)	
Michael Barrett (South West LHIN)	Dr. Jocelyn Charles (Sunnybrook Health Sciences Centre)	
	Dr. Yves Raymond (White Pines FHN)	
	Dr. Mira Backo-Shannon (OakMed FHT)	

Appendix B: Framework Development

Summary of Evaluation Elements, Indicators and Data Sources

The tables below outline the evaluation domains of the BE framework and the associated indicators for each category. Through the iterative development process, the number of indicators evaluated grew from 23 at baseline to 43 at the end-point.

Baseline Evaluation:

Evaluation Element	Baseline Indicators	Data Sources
1. Activity levels	16	Enrollment Information/ Web-based Survey
2. Consult process duration	3	Enrollment Information/ Web-based Survey
3. PCP / specialist practice changes	3	n/a
4. To what extent does eConsult improve patient-PCP encounter/ provide satisfactory experience?	1	Web-based Survey
	TOTAL	23

Post-Implementation Evaluation

Evaluation Element	Post-Implementation Indicators	Data Sources
1. Activity levels	22	Enrollment Information/ Tracking Log/ Web-based Survey
2. Consult process duration	8	Enrollment Information/ Tracking Log/ Web-based Survey
3. PCP / specialist practice changes	4	Web-based Survey
4. To what extent does eConsult improve patient-PCP encounter/ provide satisfactory experience?	1	Web-based Survey
5. User experience	4	Web-based Survey/ Focus Groups
6. What clinical decisions were influenced as a result of having eConsult capability?	1	Web-based Survey/ Focus Groups
7. How have clinical / administrative staff roles changed as a result of eConsult?	3	Web-based Survey/ Focus Groups
	TOTAL	43

Alignment of Indicators across Evaluation Elements and Reporting Categories

Post-Implementation Evaluation	
Final Evaluation Elements	# of Indicators
Activity levels	22
Consult process duration	8
User experience	4
What clinical decisions were influenced as a result of having eConsult capability?	1
To what extent does eConsult improve patient-PCP encounter/ provide satisfactory experience?	1
How have clinical / administrative staff roles changed as a result of eConsult?	3
PCP / specialist practice changes	4
TOTAL	43

Final Report		
Reporting Categories	# of Indicators	Description
Understanding Pilot Participants	12	<i>Description of the eConsult pilot participants in terms of their area of expertise, regional and practice locations, level and other demographics</i>
System Use and Adoption	12	<i>Review of system activity levels and growth over time</i>
User Experience	4	<i>Understanding the family physician, NP and specialist experience with the eConsult system enrollment, training, technical support and ease of use.</i>
Impact on Patient Care	7	<i>Understanding the effect of the eConsult systems on patient care outcomes such as timely referral, treatment plan execution, patient safety and speed of diagnosis.</i>
Patient Experience	1	<i>Understanding how eConsults improve patient experience</i>
Changes to Practice	7	<i>Understanding how the eConsult system does, or does not, change the referral activities/tasks and workflow for family physicians, NPs and their delegates</i>
	43	

A detailed breakdown of each indicator across the final evaluation elements and reporting categories is outlined in the table below:

eConsult Benefits Evaluation Framework Indicators by Evaluation Element and Reporting Category		
Evaluation Elements	Indicators	Reporting Category
Activity levels	Number of PCPs registered with eConsult per service model	System Use and Adoption
	Location of PCP (which regional partner, and which area within the regional partner)	Understanding Pilot Participants
	Type of PCP	Understanding Pilot Participants
	Number of CHC, FHT, FHO, FHN, Single Practice PCPs	Understanding Pilot Participants
	Number of PCPs using an EMR	Understanding Pilot Participants
	Number of PCPs using a delegate to create consult(s)	Understanding Pilot Participants
	Number of PCPs registered with eConsult phase 1	Understanding Pilot Participants
	Percentage of active PCPs using eConsult per service model	System Use and Adoption
	Percentage of PCPs that have withdrawn from the Service / per service model	System Use and Adoption
	Average number of PCPs requesting eConsults per region during Proof of Concept period	System Use and Adoption
	Percentage change in eConsult requests over Proof of Concept period	System Use and Adoption
	Number of specialist referrals made by PCP per month	System Use and Adoption
	Number of specialist eConsults made by PCP per month	System Use and Adoption
	Number of specialty service areas per eConsult service model (Phase 1)	Understanding Pilot Participants
	Percentage of active specialists using eConsult per service model	System Use and Adoption
	Number of specialists per specialty area	Understanding Pilot Participants
	Location of specialist	Understanding Pilot Participants
	Type of specialist (i.e. academic/community, etc.)	Understanding Pilot Participants
	Percentage of specialists practicing in an academic/rural/community hospital or private practice	Understanding Pilot Participants

eConsult Benefits Evaluation Framework Indicators by Evaluation Element and Reporting Category		
Evaluation Elements	Indicators	Reporting Category
	Percentage of specialists that have withdrawn from the service / per service model	System Use and Adoption
	Number of eConsults completed by specialist per month	System Use and Adoption
Consult process duration	Percentage of eConsults requiring more than one iteration to be resolved	System Use and Adoption
	Average time to create an eConsult	System Use and Adoption
	Time between PCP sending eConsult request and specialist's response (minimum, maximum, average time) by regional partner	Impact on Patient Care
	Time between PCP sending eConsult request and specialist's response (minimum, maximum, average time) by specialty	Impact on Patient Care
	Time between PCP sending eConsult request and PCP closing the eConsult (minimum, maximum, average time) by regional partner	Impact on Patient Care
	Number of eConsults that were closed by regional partner	Impact on Patient Care
	Number of eConsults that were closed by specialty	Impact on Patient Care
	Percentage of consult requests requiring specialist clarification	Impact on Patient Care
User experience	PCP/specialist satisfaction with eConsult enrollment process	User Experience
	PCP/specialist satisfaction with eConsult training	User Experience
	PCP/specialist satisfaction with eConsult technical support	User Experience
	PCP/specialist's ease of use of eConsult	User Experience
PCP / Specialist practice changes	Percentage of e-Consults that do not need to see specialist	Changes to Practice
	Percentage of e-Consults that are seen by specialist in person	Changes to Practice
	Percentage change in inappropriate referrals	Changes to Practice
	Percentage change in erroneous referrals	Changes to Practice
Which clinical decisions were influenced as a result of having eConsult capability?	Perceived change in clinical decisions as specialist response reports are received electronically and in a more timely manner (e.g., more timely referral, treatment plan execution, improved patient safety, speed of diagnosis, more educated decision making)	Impact on Patient Care

eConsult Benefits Evaluation Framework Indicators by Evaluation Element and Reporting Category

Evaluation Elements	Indicators	Reporting Category
To what extent does eConsult improve patient-PCP encounter/ Provide satisfactory experience?	Rating of overall value of eConsult for the patient as reported by PCP	Patient Experience
How have clinical / administrative staff roles changed as a result of eConsult?	Changes to workflow and roles as a result of time saved with the introduction of eConsult	Changes to Practice
	Changes in activities/tasks performed by PCPs/office staff	Changes to Practice
	Workflow efficiency improvement by eConsult	Changes to Practice

Appendix C: Listing of Compendium Documents

List of Compendium Documents

1. Benefits Evaluation Framework
2. Surveys (baseline and end-point)
3. eConsult Baseline Evaluation Results Report
4. End Point Survey Results
5. Demographic and System Usage Data Summary Report
6. eConsult Training Manuals

Please note that these compendium documents are available upon request.

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