



2015 CANADIAN TELEHEALTH REPORT

Public Version

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The development of this 2015 Canadian Telehealth Report, the fourth in the report series, reflects the ongoing support and contributions of Telehealth programs and agencies across Canada, and reaffirms the Canadian Telehealth community's passion and commitment to making a difference in healthcare delivery. While we consistently acknowledge the community's contributions through the COACH Canadian Telehealth Forum (CTF), it is through this unique bi-annual national report that we are able to properly salute the strength, enthusiasm and fervor of the staff and management of the many Telehealth programs, clinics and services across every jurisdiction, and in remote, rural as well as urban healthcare settings. Across Canada, patients and providers continue to benefit from the great work of so many in the Telehealth community.

The experiences shared by 25 countries around the world at the recent Global Telehealth 2015 conference hosted by COACH (visit www.coachorg.com for more information on GT2015) are reflected in many of the findings of the 2015 Canadian Telehealth Report. Developments in Telehealth in recent months and years reflect continued adoption and diversification in service delivery, along with a broadening of access – all of which are transforming the boundaries of traditional healthcare. Across Canada, cultural and socio-economic factors are progressively aligning to support successful clinical adoption. Technologies for delivery of Telehealth are increasingly well-established and diverse, encompassing either instantaneous interpersonal communications or as captured information transmitted for later attention. Workflows and models of care incorporating Telehealth are becoming more flexible and widely developed, and are successfully demonstrated in numerous rural, remote and urban healthcare settings across Canada.

On behalf of the COACH Board of Directors and all users of this Report, both nationally and internationally, I would like to thank the many contributors to the 2015 Canadian Telehealth Report. In particular I would note the leadership of Carol McFarlane as Chair, and congratulate all the members of the National Telehealth Report Committee, who began their work in the autumn of 2014 reviewing and refreshing the survey, worked to ensure complete responses in a timely fashion, and then reviewed the data as well as this report in preparation for publication. Of course, thanks also to the Telehealth programs and agencies that responded to the survey. Without your participation, this report would not have been possible.

Finally, special thanks to Grant Gillis, Executive Director, Canadian Telehealth Forum, for his management of the development of the report, and also to RoseMary MacVicar-Elliott, Carina Andreatta, Sasha Keane, Colin Gray and Alex Hennig who supported the editing, design and production.

In closing, I invite you to read and enjoy this report.



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Executive Summary

Since 2008, the CTF (Canadian Telehealth Forum) of COACH: Canada's Health Informatics Association has published its Canadian Telehealth Report (the 'Report') as a service to the Telehealth community. The Report is a bi-annual, survey-based publication of Telehealth programs and services across Canada. It is unique in providing jurisdiction-specific information on available Telehealth programs, services and outcomes across Canada, as well as future-oriented trends and tempos. It is widely recognized, receiving important domestic and international attention and contributing key information for analysis at the local, regional and jurisdictional levels. Circulation of the 2013 Report included distribution of approximately 300 printed and electronic copies, along with almost 1000 views of the online version of the Report.

The 2015 Canadian Telehealth Report is the fourth edition of the report (previous editions were published in 2008, 2011 and 2013), and covers the topic areas of:

1. Program demographics, volumes and related statistics.
2. Clinical services.
3. Client and stakeholder engagement.
4. Education and training.
5. Accreditation and compliance.
6. New/emerging practice techniques and technologies.

The Report's reference information is sourced from those Telehealth programs and services that responded to this year's survey. These come from all of Canada's federal, provincial, territorial and First Nations' jurisdictions, with the exception of Nunavut, and include many of the key Telehealth agencies that deliver healthcare to Canadians from coast-to-coast-to-coast. This information is collected

through the use of a national, on-line survey developed by COACH in collaboration with all the major jurisdictional programs and key Telehealth stakeholders and interests. The survey is composed of standardized data elements and definitions, and also provides opportunities to further inform the Telehealth community about special or new programs, as well as new and emerging Telehealth and related practice techniques and technologies.

This year's Report clearly shows the continued development and evolution of Telehealth across Canada. It demonstrates many positives including growth in the adoption and diversification of services, as well as the broadening of access to these services. These factors combined are expanding Telehealth in an overall sense but are also disrupting the boundaries of traditional healthcare delivery across Canada.

The principal contribution of Telehealth continues to be the elimination of distance barriers along with improved access to services that would often otherwise not be available in remote and rural communities. Fundamentally, Telehealth in Canada continues to connect providers with patients and clients through the digital transmission of voice, data, images, and clinical information, rather than physically moving patients or healthcare providers and educators. Access, timeliness, productivity, quality and convenience are all improving, and travel costs continue to be reduced if not avoided altogether. In terms of health education, Telehealth also continues to provide the very positive benefit of patients becoming engaged and more active participants in their own care and well-being, including receiving knowledge and information aimed at fostering their health and wellness in the comfort, convenience and safety of their own homes and communities.

Telehealth technologies are increasingly well established and diversifying, whether through newer services making use of text

messaging, or as captured information (i.e., store-and-forward) available for later use. Plans, policies and processes of care incorporating Telehealth are more widely developed and successfully demonstrated in numerous rural, remote and even urban healthcare settings.

While current healthcare resources continue to struggle to meet demands arising from an aging Canadian population and the veritable explosion of new and costly technologies and therapies, Telehealth continues to augment resources and address the growing gap between demand and capacity. New technologies entering the healthcare domain brim with the potential to empower patients and families, broaden and integrate healthcare delivery, and improve outcomes. Two particularly strong drivers here include:

- the **growth of mobile health (mHealth)**, which offers ongoing, comprehensive access to health information and care, augmenting patient-clinician communications through smartphones and tablet computers. Closely related, and the focus of a 'cameo' in this report, is the growth in personal and home health monitoring, which enables individuals to collect and provide valuable, enriched personal health information data for improved prevention as well as therapeutic care e.g., for chronic disease management
- the **advent of "virtual" healthcare**, using online, interactive environments to remotely engage with patients, thereby facilitating the desired patient-clinician relationship. In circumstances where patient privacy and confidentiality of personal health information are more of a concern (e.g., involving mental health or social issues), the virtual provision of healthcare is appealing and increasingly gaining traction. While not directly considered part of the Telehealth domain, various forms of virtual healthcare were identified in the report as potentially significant disruptors in the near future

These new, expanding and increasingly integrated services offer a more immediate and 'personalized' form of healthcare, leading to significant headway in the pursuit of more patient-centric models of care delivery.

All these interesting developments notwithstanding, it must be stressed that for the 2015 Report, as with previous editions, the collection and comparison of the data between jurisdictions remains particularly challenging. As the structure of the Telehealth programs and networks in Canada varies significantly between jurisdictions, so does the taxonomy and scope of data they collect. In response to this circumstance, and as part of the preparation of the survey for the 2015 Report, COACH and the CTF formed the National Telehealth Report Committee. While the overall responsibility of the Committee is the research, design and publication of the Report, its objectives also include improving the understanding of how Telehealth programs and agencies defined their utilization and service-related statistics and, where possible, revising the survey so that the responses are more easily comparable. Despite this effort, differences in how data is collected and collated by Telehealth programs remain. For accuracy, the specific service data provided by all respondents to the survey for the 2015 Report is provided in a separate 'Data Workbook' e-publication.

As with previous editions, the data supporting the 2015 Report comes from a consecutive 12-month period, taken at respective points in time selected by each of the jurisdictions. For most of the survey respondents, this was Fiscal Year (FY) 2013-2014. Otherwise it was Calendar Year (CY) 2014, save for one response that was FY2014-15. Any comparison of this report's data with other publications should be viewed with caution as the time frame and thus the reported data may be at variance amongst the reporting jurisdictions. It is also important to note that during their respective chosen reporting periods, the jurisdictions' Telehealth programs may have continued to add new clinical and educational sessions and might also have expanded the number of endpoints. Consequently, this report should only be considered as a 'snapshot' accurate at the time the data was collected by the jurisdictions. For further consideration of limitations of the Report and in particular the survey-based data, please see the "Limitations" section in the Preface of this Report.

The 2015 Report represents the second edition in which First Nations telehealth programs were invited to provide data on their Telehealth

programs. While not all programs were able to respond to the survey, and therefore a complete national picture is not currently available, the data that was provided remains important in understanding the growing availability of Telehealth services to First Nations communities. Enhancing the participation of First Nations' Telehealth programs in the survey is an area to which COACH, the CTF and the National Telehealth Report Committee will continue to devote more attention in future editions.

Results

What follows is a high-level overview of the results presented in the 2015 Report. Additional detail can be found in the body of the report, in the sections that correspond to the sub-titles below, as well as in the comprehensive 'Data Workbook' that comprises all the original data submitted by the Telehealth networks/programs that responded to the survey.

Telehealth Endpoints

All jurisdictions reported some expansion in the number of Telehealth endpoints. The aggregate reported national expansion of Telehealth endpoints between 2012 (7,297) and 2014 (10,351) was 41.5%, and from 2010 it was 59.8% (6,460).

Clinical Sessions

Across Canada, the total number of clinical telehealth sessions increased, from 282,529 in 2012 to 411,778 in 2014. The aggregate growth in volume was 45.7% between those two years. From 2010 to 2014, the aggregate growth was 120%.

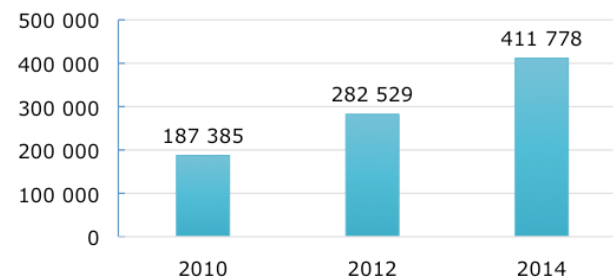


Figure 1: Number of Clinical Sessions in 2010, 2012, and 2014 Across Jurisdictions

Clinical Services

Eighty nine distinct areas of clinical service were reported in 2015. Newly reported in this report are the following: Cardiology-Pediatric; Community Medicine; Critical Care Medicine-General; Laboratory Medicine; Mental Health – Occupational Stress; Neonatal/Perinatal Care; Nuclear Medicine; Pathology (Forensic; Haematology; Neurology); Public Health & Preventive Medicine; Radiology-Oncology; Respiriology; as well as three new specialties in Surgery (Neurosurgery; Otolaryngology; Vascular).

The most commonly reported clinical services being delivered by Telehealth are:

- **100% of all reporting jurisdictions:** Mental Health (Psychiatry; Psychology), Neurology - General, Oncology, Pediatrics, and Rehabilitation (Occupational Therapy; Physiotherapy; Speech Language Pathology)
- **92.6% or 11 of 12 reporting jurisdictions:** Family Visitations, Internal Medicine, and Mental Health-Addictions
- **83.3% or 10 of 12 jurisdictions:** Cardiology-General, Discharge Planning, Nephrology-Dialysis, Pain Management, Endocrinology & Metabolism – Diabetes, Surgery (Plastic; Transplant), and Wound Management

Telehomecare & Remote Patient Monitoring

Ontario, New Brunswick, British Columbia and Québec reported telehomecare programs were in place and expanding. Nationally, between 2012 (2,465) and 2014 (3,802), the number of patients increased by 54%. Congestive heart failure(CHF) and Chronic obstructive pulmonary disease(COPD) continue to predominate the conditions being monitored.



CAMEO – “Remote Patient Monitoring in Canada”

A new component in the 2015 Report is the cameo, which is intended to focus on a specific topic relevant to the Telehealth community in Canada. The first cameo in the 2015 Report was prepared by Bobby Gheorghiu, Benefits Realization Leader at Canada Health Infoway. Entitled “Remote Patient Monitoring in Canada,” Bobby notes that, while in percentage terms, the growth in this area might appear to be healthy, it still represents a very small percentage of chronic disease sufferers across Canada who would be eligible to benefit from this form of Telehealth. Part of the explanation is that remote patient monitoring in Canada remains in a period of transition from small, research-driven projects and pilots towards larger, more widely available programs integrated into mainstream care delivery. It is important to note that such programs as Ontario Telemedicine Network’s Telehomecare initiative, which is already well underway, do require significant start-up capital and operational funding.

Telehealth Educational Services

Jurisdictions across Canada continue to use Telehealth to deliver educational services for patients and families as well as healthcare providers. Across Canada, a total of 90 distinct educational services are now supported for healthcare providers, and there are 64 distinct services for patients and their families. In aggregate across all reporting jurisdictions, Oncology, Pediatrics and Pharmacy

are the top educational services provided to healthcare providers (each of these is offered by 10 jurisdictions, with one more each preparing to offer the Oncology and Pharmacy services in the next twelve months). For the education of patients/families, the leading educational service provided is Dietetics, which is offered by eight jurisdictions, with one more preparing to offer this service in the coming twelve months.

Devices

There are several devices that are used as clinical peripherals in support of Telehealth-based care delivery. Not surprisingly, the number of digital devices (and their portability) has increased since the last survey. For the 2015 Report, Telehealth networks/programs were asked about the use of dermatology cameras, exam cameras, stethoscopes, otoscopes, ophthalmoscopes, ocular cameras, retinal cameras (for diabetic retinal exams), ultrasound scanners, home health monitors (HHMs) as well as tablet and smartphone-based apps.

Exam cameras are now used in all jurisdictions responding to the survey, save for the Northwest Territories and Prince Edward Island. Stethoscopes are used in eight of the reporting jurisdictions. Of note, otoscopes, retinal cameras, ultrasound scanners, tablets/ smartphones and dermatology cameras are also used in varying degrees across Canada.

Video Conferencing

Since the 2013 Report, use of video conferencing solutions has become even more widespread. In addition to traditional video conferencing systems (boardroom, mobile carts), of the 12 reporting jurisdictions, 10 provide for some form of desktop or mobile video conferencing in a systematic fashion. Of these jurisdictions, all ten use it for administrative purposes (including management and related meetings), and nine use it for clinical consultations as well as educational purposes. A variety of technologies are typically used by most jurisdictions to meet their video conferencing needs, including HDX4000, iPad/iPhones and Android devices, Real Presence, Skype, Lync, Videophone and others.

First Nations

The 2015 Report again profiles the pace and progress of First Nations Telehealth networks/programs in the major categories of the overall report including program statistics, clinical and educational services, medical peripherals, software video technology etc. For this edition of the report, three responses were submitted by the First Nations Health Authority (FNHA) Telehealth Program of British Columbia, the Alberta region of First Nations and Inuit Health (FNIH), and the Keewatinook Okimakanak eHealth Telemedicine Services (KOeTS) in Ontario. Since the 2013 Report, these organizations have made substantial progress on their scope of operations.

Qualitative Responses - “Additional Perspectives”

Another new component in the 2015 Report are responses to a series of ‘qualitative’ questions posed to the Telehealth networks/programs. These questions, which were an optional part of the survey, asked about new alternative metrics to assess the impact of Telehealth, new emerging practice trends and techniques of telemedicine and virtual care, key barriers to the ongoing growth and development of Telehealth, and how medical and nursing educational programs can better support virtual care.

The responses, as might be anticipated, were wide-ranging and interesting. They include: the tracking of carbon emissions; the closer scrutiny and analysis of user experiences; considering ‘cultural competency’ as it relates to the capacity of providers to engage with First Nations patients about their health and well-being; more integrated health information; on-demand and self-scheduling of care; improved self-management and access to disease-specific information; clinical practice transformation and evolution; avoiding/removing silos and streamlining the governance, management and operation of services; revisiting budget planning and expenditures and technology investment management; inspiring and supporting more applied, academic research into Telehealth in its various forms; and incorporating telemedicine and virtual care as part of the core curricula for healthcare providers.

Cameo – “Responding to a Changing Environment”



The second cameo to be featured in the 2015 Report was prepared by Carol McFarlane, Senior Strategy Lead at Ontario Telemedicine Network, and Chair of the COACH CTF National Telehealth Report Committee. This cameo explores the theme of Telehealth agencies in the role of virtual care steward and catalyst supporting the larger technological transformation of the healthcare system. Profiling OTN’s efforts in this context, this cameo touches on what Telehealth networks/programs across Canada can offer to advance virtual healthcare.

Conclusion

Fundamentally, Telehealth networks and programs across Canada continue to connect patients and their families to providers, by delivering care closer to their communities, and sometimes actually in their own homes. As shown in this year’s report, services are growing and access is expanding in myriad ways right across Canada. In terms of health education, Telehealth also continues to provide the very positive benefit of patients becoming more engaged and educated participants in their own care and well-being, including receiving disease and care-specific knowledge and information aimed at fostering their health and wellness – again, in the convenience and comfort of their own communities or homes.

The 2015 Report profiles the remarkable and ongoing growth of Telehealth across Canada, in particular the development and evolution of service creation, adoption and diversification. Telehealth continues to deliver on its traditional benefits of eliminating distance barriers while improving equity of access to services that often would otherwise not be available in remote and rural communities, along with reduced visits to the emergency rooms and enhanced healthcare provider-to-provider consultation.

All told, this growth underpins not only the rapid increase in volume of Telehealth services and access to those services, but also works

to institutionalize Telehealth as a 'disruptor' of the boundaries and processes of traditional healthcare delivery across the country. Certainly Telehealth will continue to expand and evolve as needs grow and change – in this respect, the advantages of improved access, lower costs and more specialized care will continue to be irresistible. It is interesting to observe, however, that as the overall evolution of healthcare continues, Telehealth itself will (and already is in some jurisdictions) be challenged to adopt and adapt to new mHealth and virtual health trends which are offering even more immediate, mobile, on-demand and 'personalized' forms of healthcare – all in the continued pursuit of more patient-centric models of care delivery.

Preface

“TELEHEALTH – ELIMINATING DISTANCE IN THE PRACTICE OF HEALTHCARE AND WELLNESS UTILIZING INFORMATION COMMUNICATION TECHNOLOGIES”¹

While succinct, the traditional description of Telehealth does not fully articulate the myriad, rapidly growing variety of technologies now being utilized to deliver healthcare and wellness over distances. These technologies range from the simple ‘plain old telephone system’ to more sophisticated technological solutions using combinations of video, store and forward, web portals and data messaging. In primary terms, Telehealth continues to eliminate distance barriers and improve upon equity of access to services that often would otherwise not be available in remote, rural and even some urban communities. Telehealth is still about transmitting voice, data, images, and information rather than physically moving patients or health practitioners and educators, thereby improving access, timeliness, productivity, quality, convenience and reducing travel costs. But it also has the added benefit, as with so many other technologies outside the health and healthcare space, that its clients (i.e. patients, families and others) can much more easily become active, informed participants in their own wellbeing, aware of and able to access on-line information as well as educational programs aimed at fostering wellness in the comfort, convenience and safety of their own homes and communities.

BACKGROUND

This is the fourth in a series of bi-annual reports (2008, 2010, 2013, 2015) developed by the CTF (Canadian Telehealth Forum),

1 Canadian Society of Telehealth. (2008). *Strategic Plan*, 2008.

a forum of COACH: Canada’s Health Informatics Association. The reports are based on responses to a survey sent to all jurisdictions – i.e. provinces, territories and First Nations Telehealth networks/ programs. Over succeeding editions, the reports have built on each other, providing ever more in-depth information on a program and jurisdiction-specific basis in order to better understand the expansion of Telehealth services being provided in Canada.

Incorporating feedback from the 2013 Canadian Telehealth Report, the 2015 edition offers more comprehensive information as well as additional features and profiles of Canadian Telehealth service providers, including new questions in the survey that explore the more qualitative side of Telehealth across Canada, as well as a new ‘Data Workbook’ approach to providing original survey responses to facilitate further research and analysis.

Throughout the report, this document will be referred to as the **2015 REPORT**. Survey data for this report is primarily from FY2013-2014 (April 1, 2013 to March 31, 2014), with four programs providing data for the 2014 calendar year, and one program reporting FY2014-2015 results. Please see the “Program Volumes Overview” section for jurisdiction-specific information.

METHODOLOGY

The survey for the 2015 Report was based on the one used for the 2013 Report, with revisions based upon input received from Telehealth stakeholders between October and December 2014. New clinical service areas have been added and others deleted or consolidated based on input from stakeholders. For the first time, this year’s survey was distributed electronically to stakeholders, allowing

provincial and territorial Telehealth programs/networks to compile and submit their responses in a progressive manner to a secure, online repository. Distributed in January, 2015, the survey garnered responses from all jurisdictions save for Nunavut, and was closed at the end of March 2015.

As with previous surveys and reports, the comparison of data between and among jurisdictions posed a challenge. While comparability is generally improving with each successive Report, the organization and processes of Telehealth networks/programs across Canada still vary significantly from jurisdiction to jurisdiction, and this continues to have an impact on the scope and scale of data collected, including the taxonomy that is used. To better understand these variations, and to improve the comparability of the results documented in the Report, the National Telehealth Report Committee reviewed and revised several iterations of the survey questionnaire before initiating the actual survey. These efforts notwithstanding, it is acknowledged that the data still reflects some variations within and between the jurisdictions. For the 2015 Report, these remaining differences are noted and/or explained.

The data supporting the 2015 Report represents the latest consecutive 12-month period for which each the Telehealth network/program was able to provide information. For most of the survey respondents, this was FY2013-2014, i.e. April 1st 2013 to March 31st 2014. Otherwise it was CY2014, i.e. January 1st to December 31st 2014, save for one response which was FY2014-15 (11 of 12 months). Given this, any comparison of this report's data should be viewed with caution as the time frame and thus the reported data is not uniform across all the reporting jurisdictions.

In order to provide a provincial and territorial level comparison, where the Telehealth networks/programs are regionally, authority or hospital-based, the data was aggregated. To optimize the data aggregation, one particular improvement in the 2015 Report has been how those jurisdictions where Telehealth networks/programs

are either regionally or health authority-based, responded. In their survey responses, these jurisdictions came together to compare their results prior to making their submission. As well, respondents were invited to verify their data in the Data Workbook before analysis and report writing was completed. As with previous Reports, the actual service data provided by the jurisdictions is also provided (for 2015, in the form of the spreadsheet-based Data Workbook) as companion material to the 2015 Report.

The structure of the various programs and networks also affects the comparability of some of the data. As an example, in Alberta there is one health region for the entire province, and all desktop video conferencing data for administrative purposes is captured across the organization by its central information technology department, not just for the Telehealth program. By comparison, due to their multiple structures, the other jurisdictions have only been able to provide data on the administrative use of desktop video conferencing used by the Telehealth program, thus the significant variation in reported volume in this particular use of Telehealth.

WHAT'S NEW IN THE 2015 REPORT

The 2013 Report received strong domestic and international attention (with distribution amounting to approximately 300 copies as well as almost 1,000 on-line views) and serves the Telehealth community as a national reference for practitioners, policy developers and academics across the country. As part of the post-publication process, COACH undertook a debrief with survey participants as well as project advisors. Excellent feedback was provided on improving the Report content as well as the survey process.

To improve oversight as well as facilitate ongoing engagement during the life of the 2015 Report project and also for the ongoing Report series, leading members of COACH's CTF as well as representatives from the jurisdictional Telehealth networks/programs were brought together as the National Telehealth Report Committee, which was

mandated with oversight of Report research, design, publication, marketing and communication.

While incorporating a wide array of feedback on the 2013 Report, the National Telehealth Report Committee has also worked in diligent and dedicated fashion with COACH staff to improve the overall definition and design of this year's survey and the arising Report, including:

- the electronic provision and submission of the survey allowing respondents to participate more efficiently
- refreshed definition of terms towards improved understanding
- revised survey questions, featuring updated clinical and educational service areas
- the introduction of qualitative, 'free response' questions on four topics relating to (1) Telehealth metrics, (2) new and emerging Telehealth practices and trends, (3) key barriers to the expansion of Telehealth services, and (4) the enhanced education of future clinicians to support virtual care
- the 'cameo' feature of important, contemporary Telehealth topics
- the provision of original survey response data in the form of a spreadsheet-based Data Workbook

In addition to these changes and improvements, the National Telehealth Report Committee is in forward-looking fashion as it considers the research and publication of off-cycle reports in the years between the bi-annual editions of the Canadian Telehealth Report.

LIMITATIONS

The data contained in this report represents a consecutive 12-month period and was gathered at a point in time selected by the jurisdictions. Primarily this was FY2013-2014, i.e. April 1st 2013 to March 31st 2014. A few jurisdictions were able to provide data for CY2014. One jurisdiction provided data for 11 of 12 months for

FY2014-2015. As well as affecting any jurisdiction-to-jurisdiction comparisons of data within the 2015 Report, any comparison with previous editions of the Report should likewise be considered with these differences in reporting periods in mind.

As noted earlier, the service data collected varies between jurisdictions, representing what is available from participating Telehealth networks/programs, and these are public organizations. This is important to keep in mind as some data may not be available, for example data from private clinics and/or services that are not part of the jurisdictions' Telehealth programs. As in previous Reports, it remains the case that while most data is collected by jurisdictions electronically, some data is only available through manual collection and/or calculation.

It is also important to note that during their respective chosen reporting periods, the jurisdictions' Telehealth networks/programs may have continued to add new clinical and educational sessions and may also have expanded the number of endpoints, thus this report should only be considered accurate for the period of time for which the data was collected. As with previous editions of the Canadian Telehealth Report series, this 2015 Report is a snapshot in time and any comparisons made between the data reported for this edition and previous reports should be made with due care and caution.

With respect to First Nations' data, the regional office of the First Nations and Inuit Health Branch, along with FNHA Telehealth Program of British Columbia and the Keewaytinook Okimakanak eHealth Telemedicine Services (KOeTS), provided the First Nations' data, but not all regional offices were able to respond to the survey so a complete national picture is not currently available. As well, there may be instances where there are data 'overlaps' between the First Nation Telehealth networks/programs and the data provided by the corresponding jurisdictions. This is one particular issue that the National Telehealth Report Committee plans to focus on in the near future.

Program Volumes Overview

All jurisdictions were asked to describe the broad capacity of their Telehealth network/programs by providing volume details (Table 1) that could be used for comparison across jurisdictions.

To further refine and understand the particular features of expansion of a Telehealth network/program, including those individuals receiving Telehealth-based services, the specific communities and venues involved etc., the following new indicators were added to the survey for the 2015 Report:

- *Total Number of Unique Individual Patients Served by the Telehealth Network/Program*
- *Total Number of First Nations Communities Served by the Telehealth Network/Program*
- *Total Number of Net-New First Nations Communities Served by the Telehealth Network/Program That Were Added in the Reporting Period*
- *Total Number of Clinician Centre Endpoints*
- *Total Number of Net-New Clinician Centre Endpoints Added in the Reporting Period*
- *Use of HHM (Home Health Monitors) by Patients/Providers/Communities*
- *Total Number of Store and Forward Clinical Sessions (excluding PACS Events/Images) Delivered in the Reporting Period*
- *Specific Support (Administrative/Clinical/Technical/Other) Provided by the Telehealth Network/Program for Its Local Telehealth Suites.*

PROGRAM VOLUMES OVERVIEW

Table 1: Program Volume Details by Jurisdiction
(including First Nations data as available per jurisdiction)

	BC	AB	SK	MB	ON	QC	NB	NS	NL	PE	YT	NT
Population (in 000s) *	4,667	4,175	1,134	1,292	13,750	8,245	753	943	526	146	37	43
Reporting Period	CY2014	FY13-14	FY13-14	FY13-14	FY13-14	FY13-14/ CY2014	FY13-14	CY2014	FY13-14	FY13-14	FY14-15	FY13-14
Total number of unique individual patients served by the Telehealth network/program	9,729	32,228 ¹	7,411	5,701	393,758 ²	9,318	3,961	--	13,135 ³	129	741	2,206
Total number of communities (non-First Nations) served by the Telehealth network/program	130	120	80	56	1,688 ⁴	161	38	52	154 ⁵	--	13	30
Total number of net-new communities (non-First Nations) served by the Telehealth network/program that were added in the reporting period	11	--	3	2	123 ⁴	82	2	1	3	--	--	--
Total number of First Nations Communities served by the Telehealth network/program	150	45	22	39	59	26	5	9	3	--	--	30
Total number of net-new First Nations Communities served by the Telehealth network/program that were added in the reporting period	3	--	4	5	20	--	--	3	--	--	--	--
Total number of health facility based endpoints	890	15,753 ⁶	185	197	516 ⁷	590	171	105	67	6	47	38
Total number of net-new health facility based endpoints added in the reporting period	--	5,284 ⁸	15	21	24	202	1	2	3	--	--	4
Total number of community/shared facility endpoints	186	15 ⁹	233	19	327 ⁷	97	--	36	--	--	21	74
Total number of net-new community/shared facility endpoints added in the reporting period	--	--	25	0	44	--	--	1	--	--	--	36
Total number of clinical centre endpoints	114	66	200	54	877 ⁷	1,300	105	10	64	6	13	38
Total number of net-new clinical centre endpoints added in the reporting period	--	7	23	3	74	82	2	3	6	--	--	4
Total number of telehomecare monitoring endpoints	322	0	0	0	1,778 ¹⁰	54	209	0	0	0	0	0
Total number of net-new telehomecare endpoints added in the reporting period	0	0	0	0	1,662 ¹⁰	0	0	0	0	0	0	0

PROGRAM VOLUMES OVERVIEW

	BC	AB	SK	MB	ON	QC	NB	NS	NL	PE	YT	NT
Number of unique individual patients that use an HHM (Home Health Monitor)	483 ¹¹	0	0	0	2,285 ¹¹	448 ¹¹	586 ¹¹	0	0	0	0	0
Number of healthcare providers monitoring an HHM's use	25	0	0	0	25	11	16	0	0	0	0	0
Number of communities receiving a Telehomecare Service	36	0	0	0	5 ¹²	5	24	0	0	0	0	0
Number of net-new communities receiving a Telehomecare Service	5	0	0	0	2 ¹²	2	0	0	0	0	0	0
Total number of real-time clinical sessions delivered in the reporting period	22,585	19,366 ¹³	11,716	16,085	305,269	8,791	8,088	3,417	13,135	117	741	2,468
Total number of store and forward clinical sessions (excluding PACS events/images) delivered in the reporting period	27,123	2,396	--	135	9,534	2,675	--	--	--	--	--	--
Total number of education sessions involving patients/families in the reporting period	226	763	921	383	104 ¹⁴	1,430	--	--	6	5	158	--
Total number of education sessions involving healthcare providers (e.g. Continuing Nursing Education [CNE]/Continuing Medical Education [CME], Rounds) in the reporting period	5,833	6,366	8,680	2,185	22,267	18,889	--	--	297	226	198	--
Total number of administrative meetings using Video Conferencing (non-clinical/educational) in the reporting period	5,813	278,102 ¹⁸	5,083	1,859	28,215	8,805	-- ¹⁵	-- ¹⁶	-- ¹⁷	19	111	--
Total number of other events/sessions (e.g. legal assessments) not covered above in the reporting period	50,558	80,753 ¹⁹	532	88	2,176	9,234	--	--	--	--	--	--

Legend:

-- Data not available

* "Estimates of population, Canada, provinces and territories. Table 051-0005 (2015 Q2 Estimates). Accessed from <http://www5.statscan.gc.ca/cansim> on July 29, 2015

1. Includes group patient education and excludes ophthalmology.
2. OTN tracks the total number of patients served by OTN during the reporting period (non-unique patients)
3. Total number patient appointments (not unique patients)
4. OTN tracks the number of active sites, as utilization data is not aggregated at a community (non-First Nations) level, but it is aggregated at a site level
5. Only sites were reported in previous Report – 154 endpoints for 2013-2014

6. 1,321 Hardware based and 14,432 Software based. No differentiation between health facility and clinical centres
7. OTN tracks endpoints as sites. This does not include the 434 virtual (personal video conferencing) sites as part of the OTN Hub initiative.
8. 45 Hardware based and 5,239 Software based. No differentiation between health facility and clinical centres
9. AHS leases all space within shared facilities
10. Net-new telehomecare monitoring endpoints are counted as number of enrolled patients that submitted data during April 1, 2013 – March 31, 2014
11. The total represents the number of unique patients who were actively monitored as of March 31, 2015 [Source: B.Gheorghiu, Canada Health Infoway].
12. OTN does not track telehomecare data at a community level, therefore number number of Local Health Integration Networks (LHINs) is identified instead when number of (net-new) communities is requested

13. Includes group patient education and excludes ophthalmology
14. OTN does not track the presence of patients/families in an education session. However, patients could be educated in clinical events
15. No differentiation between education sessions, administrative meetings or patients/families involvement.
16. With Lync and other web based platforms, there is no way to accurately report these numbers
17. Administrative meeting numbers not captured
18. Comprised of 277,794 Health/Administrative events involving AHS (13,783 VCS events + 264,011 Lync conferences, of which 17,560 used video) and 308 events for First Nations Inuit Health [AB]
19. Comprised of 80,649 events/sessions involving AHS (117 VCS events + 6,973 VC - Point to Point + 73,559 Lync Point to Point Video) and 104 events for First Nations Inuit Health [AB]

For their respective reporting periods, a total of 478,317 patients were served by Telehealth networks/programs across Canada. Of note, OTN in Ontario does not track the number of unique patients, but the total of patients served, and Newfoundland and Labrador tracks the total number of patient appointments rather than individual patients served. It is also important to note that this number does not include patients served outside of Telehealth programs through virtual or mobile health applications e.g., via the private sector.

Many jurisdictions saw an increase in the total number of Health Facility Endpoints (which includes Hospitals) as well as Community/Shared Facility Endpoints when compared against the 2013 Report. For example, Prince Edward Island increased from 2 to 6 (a growth of 200%), Manitoba increased from 64 to 197 (a growth of 207%), and New Brunswick increased from 138 to 171 (a growth of 24%).

Many jurisdictions also saw an increase in the total number of Community/Shared Facility Endpoints when compared to the 2013 Report. In definitional terms, this endpoint is a location where healthcare and non-healthcare related public services (e.g. education or justice services) are offered including Telehealth services. For example, Nova Scotia increased from five to 36 (a growth of 620%), British Columbia increased from 87 to 186 (a growth of 114%), and the Northwest Territories increased from 39 to 74 (a growth of 90%).

New for the 2015 Report, jurisdictions reported on the total number of Clinician Centre Endpoints. This endpoint is a location such as a physician's office, nursing station or other healthcare provider practice setting where healthcare services are offered, including Telehealth services. In this category, Québec led the way with 1,300 endpoints, followed by Ontario with 877 endpoints and Saskatchewan with 200. It should be noted that Ontario has an additional 434 'virtual' endpoints not included in its tally of 877 clinician centre endpoints; these virtual endpoints are part of OTN's new personal video conferencing (PCVC) service available through the OTN Hub.

For more information on OTN's Telehomecare Program, please visit <http://telehomecare.otn.ca/>

The Clinician Centre Endpoint is a location such as a physician's office, nursing station or other healthcare provider practice setting where healthcare services are offered, including Telehealth services.

Inaugurated for the 2013 Report, the survey for the 2015 Report again asked Telehealth networks/programs about the total number of Telehomecare Monitoring Endpoints. This endpoint is a location such as a patient's home or residential setting where telehomecare is provided. Four jurisdictions reported endpoints in this year's survey, including Ontario (1,778), British Columbia (322), New Brunswick (209) and Québec (54). Through Ontario Telemedicine Network's new Telehomecare program, that province has experienced substantial growth, having added 1,662 new telehomecare endpoints in the reporting period. In terms of the patients using a Home Health Monitor, the national total for the 2015 report was 3,802, including Ontario (2,285), British Columbia (483), New Brunswick (586) and Québec (448). Please see the cameo on Remote Patient Monitoring authored by Bobby Gheorghiu Benefits Realization Leader of Canada Health Infoway on page 41.

In summary, the total number of Telehealth network/program endpoints of all types across Canada has increased substantially since the 2013 Report.

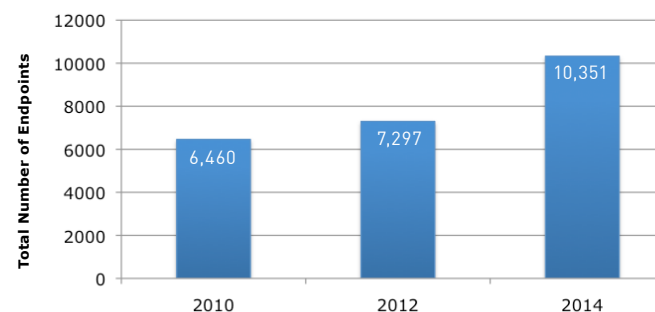


Figure 2: Total Number of Endpoints in 2010, 2012 and 2014 Across Jurisdictions

Delivery of Telehealth Clinical Sessions

Across Canada, the delivery of clinical care via Telehealth continues to expand, from 282,529 sessions in 2012 to 411,778 sessions in 2014. In percentage terms, the aggregate growth was 45.7% between 2012 and 2014, and 120% since 2010.

A **Telehealth Clinical Event/Session** is an event or session involving the clinical use of technology towards the care of a patient, such as clinician-to-patient consult or clinician-to-clinician consult. For the 2015 report, a distinction was introduced between 'real-time' clinical sessions and 'store-and-forward' clinical sessions, the latter excluding PACS events/images.

This distinction noted, the large majority of jurisdictions reported substantial increases in the *Total Number of Real-Time Clinical Sessions Delivered in the Reporting Period* compared to the 2013 Report (see Table 2 and Figure 3). The exceptions were British Columbia (down 12.6%), the Yukon (down 13.3%), and Northwest Territories (down 10.5%). When considering the real-time sessions with the (new) *Total Number of Store-And-Forward Clinical Sessions Delivered in the Reporting Period*, however, British Columbia's clinical sessions were up 92.3%.

Table 2: Total Number of Real-Time Clinical Sessions in 2010, 2012 and 2014

Jurisdiction	2010	2012	2014
BC	21,747	25,846	22,585
AB	9,129	11,737	19,366
SK	2,584	3,832	11,716
MB	6,959	12,367	16,085
ON	122,029	204,058	305,269
QC	5,060	6,790	8,791
NB	7,128	--	8,088
NS	1,694	1,666	3,417
NL	8,528	10,784	13,135
PE	--	82	117
YT	472	855	741
NT	771	2,757	2,468
NU	1,284	1,755	--
Totals	187,385	282,529	411,778

Per reporting jurisdiction, the Total Number of **STORE-AND-FORWARD CLINICAL SESSIONS DELIVERED** in the Reporting Period were:

1. B.C.: 27,123
2. Ontario: 9,534
3. Québec: 2,675
4. Alberta: 2,396
5. Manitoba: 135

DELIVERY OF TELEHEALTH CLINICAL SESSIONS



Figure 3. Total Number of Real-Time Clinical Sessions Delivered in the Reporting Period

- Data was not reported

Telehealth Clinical Services Overview

Across Canada, the provision of clinical Telehealth services continues to expand and broaden. As described in the preceding section, service growth is measured in terms of the aggregate number of sessions provided. Also noteworthy, however, is that services continue to broaden in different areas of speciality.

Table 3 indicates the clinical services that are available to patients within each jurisdiction. These clinical services are provided either within the jurisdiction directly, or by another jurisdiction. It is important to note that, in jurisdictions with more than one Telehealth network/program, the data have been aggregated so that despite the portrayal in the table, a given clinical service may not be available in all health regions or authorities within that jurisdiction. As well, despite efforts by the National Telehealth Report Committee to harmonize the names of clinical services, jurisdictions with Telehealth networks/programs may have their own naming conventions already in place. It is therefore possible that while additional services are available, they are not mentioned in this report. All jurisdictions taking part in the survey reported the respective services they had available.

89 distinct areas of clinical service were reported in 2015. Newly defined/specified services available include the following: Cardiology-Pediatric; Community Medicine; Critical Care Medicine-General; Laboratory Medicine; Mental Health-Occupational Stress; Neonatal/Perinatal Care; Nuclear Medicine; Pathology (Forensic; Haematology; Neurology) Public Health & Preventive Medicine; Radiology-Oncology;

Respirology; as well as three new specialties in Surgery – Neurosurgery, Otolaryngology, and Vascular.

Across jurisdictions, Nova Scotia has added the greatest number (33) of new clinical services to its offerings since 2012. Québec has added 30, and Saskatchewan has added 27 new clinical services. The most common new clinical service added by jurisdictions to their Telehealth programs was Critical Care Medicine - General (provided by six jurisdictions with another pending), followed by Community Medicine (provided by five jurisdictions with another pending) and Surgery - Vascular (provided by four jurisdictions).

The most commonly reported **CLINICAL SERVICES** being delivered by Telehealth are:

- **100% OF ALL REPORTING JURISDICTIONS:** Mental Health (Psychiatry; Psychology), Neurology - General, Oncology, Pediatrics, and Rehabilitation (Occupational Therapy; Physiotherapy; Speech Language Pathology)
- **92.6% OR 11 OF 12 REPORTING JURISDICTIONS:** Family Visitations, Internal Medicine, Internal Medicine and Mental Health-Addictions
- **83.3% OR 10 OF 12 JURISDICTIONS:** Cardiology-General, Discharge Planning, Nephrology-Dialysis, Pain Management, Endocrinology & Metabolism – Diabetes, Surgery (Plastic; Transplant), and Wound Management

Table 3: Available Clinical Services

Clinical Service	BC	AB	SK	MB	ON	QC	NB	NS	NL	PE	YT	NT
Anaesthesiology	■	■	■	■	■	■	■	■	■	■	■	■
Arthritis	■	■	■	■	■	■	■	■	■	■	■	■
Audiology-General	■	■	■	■	■	■	■	■	■	■	■	■
Audiology-ENT	■	■	■	■	■	■	■	■	■	■	■	■
Cardiology-General	■	■	■	■	■	■	■	■	■	■	■	■
Cardiology-Atrial Fibrillation	■	■	■	■	■	■	■	■	■	■	■	■
Cardiology-Echocardiogram	■	■	■	■	■	■	■	■	■	■	■	■
Cardiology-Pediatric	■	■	■	■	■	■	■	■	■	■	■	■
Community Medicine	■	■	■	■	■	■	■	■	■	■	■	■
Critical Care Medicine-General	■	■	■	■	■	■	■	■	■	■	■	■
Critical Care Medicine-Trauma Assessment	■	■	■	■	■	■	■	■	■	■	■	■
Deep Brain Stimulators (DBS)	■	■	■	■	■	■	■	■	■	■	■	■
Dermatology	■	■	■	■	■	■	■	■	■	■	■	■
Dietetics	■	■	■	■	■	■	■	■	■	■	■	■
Discharge Planning	■	■	■	■	■	■	■	■	■	■	■	■
Down Syndrome	■	■	■	■	■	■	■	■	■	■	■	■
Emergency Medicine	■	■	■	1	2	■	■	■	■	■	■	■
Endocrinology & Metabolism-Diabetes	■	■	■	■	■	■	■	■	■	■	■	■
Enterostomal Therapy (Ostomy care)	■	■	■	■	■	■	■	■	■	■	■	■
Epilepsy	■	■	■	■	■	■	■	■	■	■	■	■
Family Medicine	■	■	■	■	3	■	■	■	■	■	■	■
Family Planning	■	■	■	■	■	■	■	■	■	■	■	■
Family Visitations	■	■	■	■	■	■	■	■	■	■	■	■
Gastroenterology	■	■	■	■	■	■	■	■	■	■	■	■
Genetics	■	■	■	■	■	■	■	■	■	■	■	■
Genetics-HCP (Hereditary Cancer Program)	■	■	■	■	■	■	■	■	■	■	■	■
Geriatrics	■	■	■	■	■	■	■	■	■	■	■	■
Gynaecology	■	■	■	■	■	■	■	■	■	■	■	■
Infectious Diseases	■	■	■	■	4	■	■	■	■	■	■	■
Internal Medicine	■	■	■	■	■	■	■	■	■	■	■	■
Laboratory Medicine	■	■	■	■	■	■	■	■	■	■	■	■
Mental Health-Addictions	■	■	■	■	■	■	■	■	■	■	■	■
Mental Health-Eating Disorders	■	■	■	■	■	■	■	■	■	■	■	■

LEGEND:

- The service is offered by the Telehealth network/program, or available via another Telehealth network/program, for the clinical care of patients
- The service will be added in the next reporting period
- # Please consult the table note for further information
- The service is not offered

TELEHEALTH CLINICAL SERVICES OVERVIEW

Table 3: Available Clinical Services (continued)

Clinical Service	BC	AB	SK	MB	ON	QC	NB	NS	NL	PE	YT	NT
Mental Health-Forensic Psychiatry												
Mental Health-Occupational Stress												
Mental Health-Psychiatry												
Mental Health-Psychology												
Neonatal/Perinatal Care												
Nephrology-General					5							
Nephrology-Dialysis												
Nephrology-Renal												
Neurology-General												
Neurology-Stroke Emergent												
Nuclear Medicine												
Obstetrics												
Oncology												
Ophthalmology												
Pain Management												
Palliative Care												
Pathology-General												
Pathology-Forensic												
Pathology-Haematology												
Pediatrics												
Pharmacy												
Public Health & Preventive Medicine												
Pulmonary-General					6							
Pulmonary-Asthma					6							
Pulmonary-COPD					6							
Radiology-Diagnostic												
Radiology-Oncology												
Rehabilitation-Cardiac												
Rehabilitation-Child Development and Rehab (CDR)												
Rehabilitation-Occupational Therapy												
Rehabilitation-Physiotherapy												
Rehabilitation-Speech Language												

LEGEND:

- The service is offered by the Telehealth network/program, or available via another Telehealth network/program, for the clinical care of patients
- The service will be added in the next reporting period
- # Please consult the table note for further information
- The service is not offered

Table 3: Available Clinical Services (continued)

Clinical Service	BC	AB	SK	MB	ON	QC	NB	NS	NL	PE	YT	NT
Respirology	■		■					■			■	
Rheumatology		■						■				
Sexual Medicine					# 7	# 8					■	
Sleep Disorders	■			■				■				■
Social Services	■		■				■					
Surgery-General		■	■	■	■	■	■	■	■	■	■	■
Surgery-Cardiac	■		■					■				■
Surgery-Neurosurgery							■	■				
Surgery-Orthopaedics		■		■				■	■		■	
Surgery-Otolaryngology			■	■				■				
Surgery-Plastic	■		■	■	■	■	■	■	■	■	■	
Surgery-Thoracics	■							■	■		■	
Surgery-Transplant	■		■	■	■	■	■	■	■	■	■	
Surgery-Vascular			■	■	■	■	■	■	■	■	■	
Surgery-Other			■	# 9	# 9			■	■			
Telehomecare-Congestive Heart Failure (CHF)	■						■					
Telehomecare-COPD	■						■					
Telehomecare-Dementia							■					
Telehomecare-Diabetes							■					
Telehomecare-Hypertension					# 10							
Ultrasound	■		■									
Urology	■	■	■	■	■	■	■	■	■	■	■	■
Wound Management							■	■	■	■	■	■
Other	■	■			# 11		■	■	■	■	■	■

LEGEND:

- The service is offered by the Telehealth network/program, or available via another Telehealth network/program, for the clinical care of patients
- The service will be added in the next reporting period
- # Please consult the table note for further information
- The service is not offered

1. Telastroke and Sick Newborn programs
2. OTN classifies 'teleburn' and 'telastroke' under Emergency Medicine
3. OTN classifies Family Medicine as primary care (e.g., general practice)
4. OTN classifies pandemic under Infectious Diseases
5. OTN classifies dialysis under Nephrology-General
6. OTN classifies the Pulmonary Clinical Service (specifically General, Asthma and COPD) under the Respirology Clinical Service
7. OTN classifies the Sexual Medicine Clinical Service under Gynaecology

8. QC classifies Transgender Services under Sexual Medicine
9. The following are provide by Telehealth networks/programs under "Surgery – Other":
MB – Gastrointestinal, Dental and Gynaecological Surgery, ON – Oral Surgery
10. OTN does not have a telehomecare hypertension program, but hypertension is one of the co-morbidities of CHF.
11. The following are provide by Telehealth networks/programs under "Other":
AB - Weight Management and other specialities, ON – Immunology, Dentistry and Podiatry

Delivery of Telehealth Educational Sessions

Telehealth networks/programs in Canada make substantial efforts to provide continuing educational services to patients, their families and healthcare providers. For many in these groups, Telehealth-based education is their only access to regular, meaningful instruction and learning.

An educational event/session involves the use of technology to remotely instruct or train the patient or healthcare provider. This distance education is provided to improve the patient's care or wellness. For the healthcare provider, this distance education takes the form of continuing nursing or medical education (CNE/CME), clinical rounds, or technology in-services. Starting with the 2013 Report, jurisdictions were asked to segregate the educational services and sessions data between those available and delivered to patients/families, and those available to healthcare providers. In the survey for that Report, some jurisdictions were able to comply with this request, and others were not.

For the 2015 Report, all responding Telehealth networks/programs were able to respond with their data segregated as requested below:

- Total Number of Educational Sessions Involving Patients/Families in the Reporting Period
- Total Number of Educational Sessions Involving Healthcare Providers (e.g., CNE/CME, Rounds) in the Reporting Period

Nine of the reporting jurisdictions reported data for the 2015 Report (see Table 4) including British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Québec, Newfoundland & Labrador, Prince Edward Island and Yukon Territory.

Duly noting that not all jurisdictions were able to report on this portion of the survey, the overall aggregate increase (considering educational sessions involving patients/families as well as healthcare providers) from 2012 to 2014 is 78%. Of the total 69,297 educational sessions reported for 2014, by far the majority (65,301 or 94.2%) were

delivered to healthcare providers. An important caveat noted by OTN is that while that agency does not specifically track the presence of patients/families in Telehealth-based education sessions, there is of course an important degree of patient/family education as a result of interaction with clinicians during Telehealth-based clinical sessions. Patient education also takes place as part of 'coaching' on self-management component of telehomecare.

Table 4: Total Number of Educational Sessions in 2010, 2012 and 2014

Jurisdiction	2010	2012	2014 (Pat/Fam)	2014 (HCP)	2014 (Total)
BC	--	6,734	226	5,833	6,059
AB	3,786	1,810	763	6,366	7,129
SK	1,815	1,815	921	8,680	9,601
MB	1,653	2,112	383	2,185	2,568
ON *	10,492	13,965	104 *	22,267	22,371
QC	241	8,660	1,430	18,889	20,319
NB *	2,451		--	--	--
NS	1,693	1,454	--	--	--
NL	1,117	211	6	297	303
PE		476	5	226	231
YT	419	611	158	198	356
NT	715	1,087	--	--	--

* Telehealth network/program does not track the presence of patients/families in an education session; however, patients could be educated during clinical events

The **LARGEST INCREASES** in the **TOTAL NUMBER OF EDUCATIONAL SESSIONS** in the Reporting Period were in:

SK: 429%

AB: 294%

QC: 135%

DELIVERY OF TELEHEALTH EDUCATIONAL SESSIONS

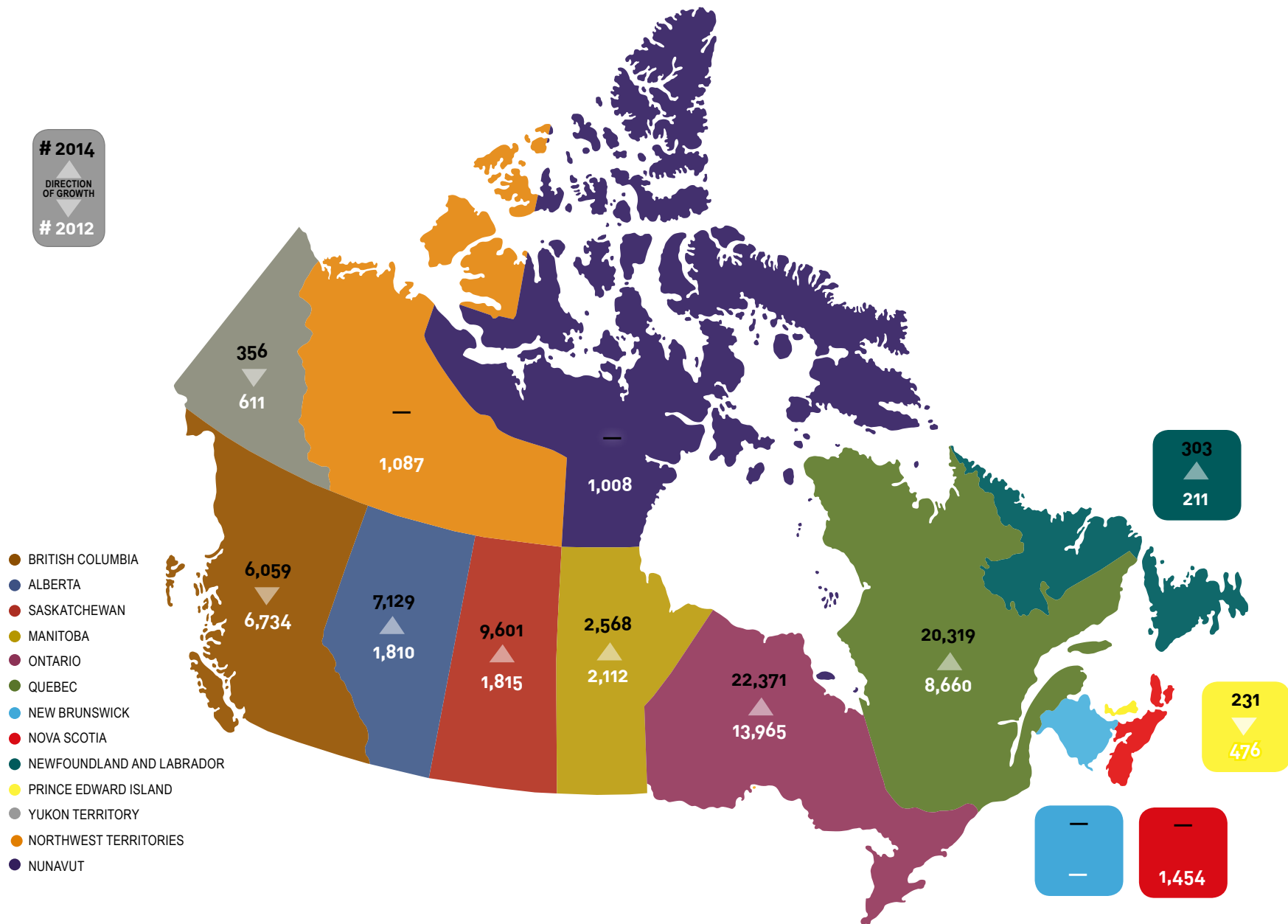


Figure 4. Total Number of Educational Sessions Across Canada — 2014 vs 2012

- Data was not reported

Telehealth Educational Services Overview

Patients & Providers

An important use of Telehealth technology continues to be the education of patients and their families, as well as healthcare providers. The availability of education in this manner overcomes the barriers of time and space, in an economically sustainable fashion that still permits meaningful, impactful transfer of knowledge and information essential to the health and wellbeing of patients, as well as the ongoing education and competence of healthcare providers, living in remote and rural Canada.

Table 5 lists the educational service areas reported by each jurisdiction. As noted in the preceding section, this is the first edition in the Canadian Telehealth Report series in which the education of patients and families is distinguished from the education of healthcare providers. In the context of educational services, the comparability between the data reported for 2014 and that of 2012 needs to be carefully considered, as the latter report did not distinguish between those made available to both patients/families and healthcare providers, and those that were provided to only one of the two.

While Table 5 profiles the educational services that are available to patients within each jurisdiction, Table 6 profiles the educational services that are available to healthcare providers within each jurisdiction. All jurisdictions responding to this section of the survey reported the respective services available in their jurisdiction.

These services are provided either within the jurisdiction directly, or by another jurisdiction. It is important to note that for jurisdictions

with more than one Telehealth network/program, the data has been aggregated so that notwithstanding the portrayal in the table, a given educational service may not be available in all health regions or authorities within that jurisdiction. For British Columbia, the services available also include those for FNHA. On behalf of Ontario, OTN offers a wide range of provider education on a number of clinical topics. Due to the fact that educators scheduling virtual learning events are not required to indicate the therapeutic area of care, statistical information is not representative of the population of interest. OTN also does not specifically track the presence of patients/families in Telehealth-based education sessions. That said, there is of course an important degree of patient/family education as a result of interaction with clinicians during Telehealth-based clinical sessions. In addition, patient education is a significant component of the telehomecare program as it relates to 'coaching' and self-management.

As well, despite efforts by the National Telehealth Report Committee to harmonize the names of educational services, jurisdictions with Telehealth networks/programs may have their own naming conventions already in place. It is therefore possible that additional educational services are available but are not included in this Report. Finally, as noted earlier, there is of course an important degree of patient/family education as a result of interaction with clinicians during Telehealth-based clinical sessions, which is not necessarily formally accounted for as patient educational services in Table 5.

PATIENT EDUCATIONAL SERVICES

64 distinct areas of patient educational service were reported in the 2014 survey. Newly defined/specified services available in one or more jurisdictions include the following: Anaesthesiology; Cardiology-Atrial Fibrillation; Community Medicine; Critical Care Medicine-General; Dietetics; Laboratory Medicine; Mental Health-Occupational Stress; Neonatal/Perinatal Care; Public Health & Preventive Medicine; Rehabilitation-Cardiac; and Respiriology.

What are the **MOST COMMON TYPES OF PATIENT EDUCATIONAL SERVICES** offered by jurisdictional Telehealth networks/programs?

- **DIETETICS** is provided in **EIGHT** jurisdictions, with one more preparing to offer this service
- **CARDIOLOGY-GENERAL, MENTAL HEALTH-ADDICTIONS AND ONCOLOGY** are provided in **FIVE** jurisdictions
- **ENDOCRINOLOGY & METABOLISM-DIABETES, GASTROENTEROLOGY AND GENETICS** are each provided in **FOUR** jurisdictions with **ONE** more preparing to offer each service

Table 5: Available Patient Educational Services

Educational Service Areas	BC	AB	SK	MB	ON ¹	QC	NB	NS	NL	PE	YT	NT
Anaesthesiology	■			■							■	
Arthritis			■								■	
Audiology-General	■											
Cardiology-General	■	■	■					■				■
Cardiology-Atrial Fibrillation	■											
Community Medicine			■									■
Critical Care Medicine-General											■	■
Dermatology	■											■
Dietetics			■	■		■	■		■		■	■
Discharge Planning	■									■		
Emergency Medicine											■	
Endocrinology & Metabolism-Diabetes	■	■	■				■			■		■
Family Medicine										■		■
Family Planning											■	
Family Visitations	■		■	■								■
Gastroenterology	■	■								■	■	■
Genetics	■	■				■		■			■	
Genetics-HCP (Hereditary Cancer Program)	■											
Geriatrics	■		■					■			■	
Gynaecology		■									■	
Infectious Diseases	■											
Internal Medicine											■	■
Laboratory Medicine											■	■
Mental Health-Addictions	■			■		■		■				■
Mental Health-Eating Disorders	■		■								■	■
Mental Health-Forensic Psychiatry												■

LEGEND:

- The service is offered by the Telehealth network/program, or available via another Telehealth network/program, for the education of patients
- The service will be added in the next reporting period

1. OTN does not track the presence of patients/families in an education session. However, patients could be educated during clinical events

Table 5: Available Patient Educational Services (continued)

Educational Service Areas	BC	AB	SK	MB	ON ¹	QC	NB	NS	NL	PE	YT	NT
Mental Health-Occupational Stress												
Mental Health-Psychiatry												
Mental Health-Psychology												
Neonatal/Perinatal Care												
Nephrology-General												
Nephrology-Dialysis												
Neurology-General												
Obstetrics												
Oncology												
Ophthalmology												
Pain Management												
Palliative Care												
Pediatrics												
Pharmacy												
Public Health & Preventive Medicine												
Pulmonary-General												
Pulmonary-Asthma												
Pulmonary-COPD												
Rehabilitation-Cardiac												
Rehabilitation-Child Development and Rehab (CDR)												
Rehabilitation-Occupational Therapy												
Rehabilitation-Physiotherapy												
Rehabilitation-Speech Language												
Respirology												
Rheumatology												
Sexual Medicine												
Sleep Disorders												

LEGEND:

■ The service is offered by the Telehealth network/program, or available via another Telehealth network/program, for the education of patients

■ The service will be added in the next reporting period

1. OTN does not track the presence of patients/families in an education session. However, patients could be educated during clinical events

Table 5: Available Patient Educational Services (continued)

Educational Service Areas	BC	AB	SK	MB	ON ¹	QC	NB	NS	NL	PE	YT	NT
Surgery-General												
Surgery-Cardiac												
Surgery-Orthopaedics												
Telehomecare-Congestive Heart Failure (CHF)												
Telehomecare-COPD												
Telehomecare-Dementia												
Telehomecare-Diabetes												
Telehomecare-Hypertension												
Urology												
Wound Management												
Other												

LEGEND:

- The service is offered by the Telehealth network/program, or available via another Telehealth network/program, for the education of patients
- The service will be added in the next reporting period

1. OTN does not track the presence of patients/families in an education session. However, patients could be educated during clinical events

HEALTHCARE PROVIDER EDUCATIONAL SERVICES

90 distinct areas of healthcare provider educational service were reported in the 2014 survey. Newly defined/specified services available in one or more jurisdictions include the following: Anaesthesiology; Cardiology (Atrial Fibrillation; Pediatric); Community Medicine; Critical Care Medicine-General; Dietetics; Laboratory Medicine; Mental Health-Occupational Stress; Neonatal/Perinatal Care; Nuclear Medicine; Pathology-Haematology; Public Health & Preventive Medicine; Radiation-Oncology; Rehabilitation-Cardiac; Respiriology, Surgery (Neurosurgery; Otolaryngology; Thoracics; Vascular; Other); and Telehomecare-Dementia.

What are the **MOST COMMON TYPES OF HEALTHCARE PROVIDER EDUCATIONAL SERVICES** offered by jurisdictional Telehealth networks/programs?

- Oncology and Pharmacy are offered in **TEN** jurisdictions, with **ONE** more preparing to offer this service.
- Pediatrics is offered in **TEN** jurisdictions.
- Rehabilitation (Occupational Therapy; Physiotherapy) are each provided in **NINE** jurisdictions.

Table 6: Available Healthcare Provider Educational Services

Educational Service Areas	BC	AB	SK	MB	ON ¹	QC	NB	NS	NL	PE	YT	NT
Anaesthesiology	■					■		■				
Arthritis	■					■					■	
Audiology-General	■					■						
Audiology-ENT						■						
Cardiology-General	■	■		■		■	■	■	■	■	■	■
Cardiology-Atrial Fibrillation	■					■						
Cardiology-Echocardiogram						■						
Cardiology-Pediatric	■					■	■	■	■			
Community Medicine		■				■					■	■
Critical Care Medicine-General	■					■		■				■
Critical Care Medicine-Trauma Assessment	■	■				■						
Deep Brain Stimulators (DBS)						■						
Dermatology	■					■						■
Dietetics	■	■		■		■		■		■	■	■
Discharge Planning	■			■		■		■			■	
Down Syndrome						■						
Emergency Medicine	■	■				■	■	■			■	
Endocrinology & Metabolism-Diabetes	■			■		■		■			■	
Enterostomal Therapy (Ostomy care)				■		■						
Epilepsy		■		■		■					■	■
Family Medicine			■	■		■		■	■		■	■
Family Planning						■						
Family Visitations				■		■					■	■
Gastroenterology	■	■		■		■		■	■		■	

LEGEND:

- The service is offered by the Telehealth network/program, or available via another Telehealth network/program, for the education of healthcare providers
- The service will be added in the next reporting period

1. OTN offers a wide range of provider education on a number of clinical topics. Due to the fact educators that schedule virtual learning events are not required to indicate the therapeutic area of care, statistical information is not representative of the population of interest

Table 6: Available Healthcare Provider Educational Services (continued)

Educational Service Areas	BC	AB	SK	MB	ON ¹	QC	NB	NS	NL	PE	YT	NT
Genetics	■	■		■		■	■				■	
Genetics-HCP (Hereditary Cancer Program)	■					■		■			■	
Geriatrics				■			■				■	
Gynaecology		■								■	■	
Infectious Diseases				■			■				■	■
Internal Medicine				■			■			■	■	■
Laboratory Medicine	■			■				■		■	■	
Mental Health-Addictions				■			■				■	■
Mental Health-Eating Disorders	■		■					■				■
Mental Health-Forensic Psychiatry				■								
Mental Health-Occupational Stress	■			■							■	■
Mental Health-Psychiatry				■			■				■	■
Mental Health-Psychology		■		■				■			■	■
Neonatal/Perinatal Care	■			■				■			■	■
Nephrology-General		■		■			■				■	■
Nephrology-Dialysis			■								■	
Nephrology-Renal		■		■							■	
Neurology-General	■			■			■		■		■	■
Neurology-Stroke Emergent		■		■							■	
Nuclear Medicine							■					
Obstetrics	■		■	■	■		■			■		
Oncology	■			■			■		■		■	■
Ophthalmology				■				■		■		
Pain Management	■			■				■			■	■

LEGEND:

■ The service is offered by the Telehealth network/program, or available via another Telehealth network/program, for the education of healthcare providers

■ The service will be added in the next reporting period

1. OTN offers a wide range of provider education on a number of clinical topics. Due to the fact educators that schedule virtual learning events are not required to indicate the therapeutic area of care, statistical information is not representative of the population of interest

Table 6: Available Healthcare Provider Educational Services (continued)

Educational Service Areas	BC	AB	SK	MB	ON ¹	QC	NB	NS	NL	PE	YT	NT
Palliative Care												
Pathology-General												
Pathology-Forensic												
Pathology-Haematology												
Pathology-Neuro												
Pediatrics												
Pharmacy												
Public Health & Preventive Medicine												
Pulmonary-General												
Pulmonary-Asthma												
Pulmonary-COPD												
Radiology-Diagnostic												
Radiology-Oncology												
Rehabilitation-Cardiac												
Rehabilitation-Child Development and Rehab (CDR)												
Rehabilitation-Occupational Therapy												
Rehabilitation-Physiotherapy												
Rehabilitation-Speech Language												
Respirology												
Rheumatology												
Sexual Medicine												
Sleep Disorders												
Social Services												

LEGEND:

■ The service is offered by the Telehealth network/program, or available via another Telehealth network/program, for the education of healthcare providers

■ The service will be added in the next reporting period

1. OTN offers a wide range of provider education on a number of clinical topics. Due to the fact educators that schedule virtual learning events are not required to indicate the therapeutic area of care, statistical information is not representative of the population of interest

Table 6: Available Healthcare Provider Educational Services (continued)

Educational Service Areas	BC	AB	SK	MB	ON ¹	QC	NB	NS	NL	PE	YT	NT
Surgery-General	■	■	■	■		■	■	■			■	■
Surgery-Cardiac			■	■		■	■	■			■	
Surgery-Neurosurgery	■		■	■		■	■	■				
Surgery-Orthopaedics		■	■	■		■						
Surgery-Otolaryngology			■	■		■						
Surgery-Plastic	■		■	■		■	■	■				■
Surgery-Thoracic			■	■		■					■	■
Surgery-Transplant			■	■				■			■	■
Surgery-Vascular			■	■		■						
Surgery-Other			■	■		■		■				
Telehomecare-Congestive Heart Failure (CHF)	■					■						
Telehomecare-COPD	■					■					■	■
Telehomecare-Dementia						■					■	■
Telehomecare-Diabetes						■						
Telehomecare-Hypertension						■					■	■
Ultrasound			■	■		■		■				
Urology			■	■	■	■				■		■
Wound Management	■			■		■		■				
Other	■	■	■	■		■	■	■				■

LEGEND:

- The service is offered by the Telehealth network/program, or available via another Telehealth network/program, for the education of healthcare providers
- The service will be added in the next reporting period

1. OTN offers a wide range of provider education on a number of clinical topics. Due to the fact educators that schedule virtual learning events are not required to indicate the therapeutic area of care, statistical information is not representative of the population of interest

Clinical Peripherals

The number of devices (and their portability) used as clinical peripherals in support of Telehealth-based care delivery has grown since the last survey (see Table 7). For the 2015 Report, Telehealth networks/programs were asked about the use of general exam as well as dermatology cameras, otoscopes, ophthalmoscopes, ocular cameras, retinal cameras (for diabetic retinal exams), ultrasound scanners, home health monitors (HHMs) and tablet and smartphone-based apps.

Exam cameras are now used in all jurisdictions save for the Northwest Territories and Prince Edward Island. Stethoscopes are used in eight of the reporting jurisdictions. Of note, otoscopes, retinal cameras, ultrasound scanners, tablets/smartphones and dermatology cameras are also used to varying degrees across Canada.

Table 7: Clinical Peripheral Devices

Clinical Peripheral Devices	BC	AB	SK	MB	ON	QC	NB	NS	NL	PE	YT	NT
Exam Camera	■	■	■	■	■	■	■	■	■	□	■	□
Stethoscope	■	■	■	■	■	■	■	■	■	■	□	□
Otoscope	■	□	■	■	■	■	■	□	□	□	□	□
Ophthalmoscope	■	□	□	□	■	□	□	□	□	□	□	□
Ocular Camera	■	□	□	□	□	□	□	□	□	□	□	□
Home Health Monitor (HHM)	■	□	□	□	■	□	■	□	□	□	□	□
Retinal Camera (for diabetic retinal exams)	■	■	□	□	■	■	□	□	■	□	□	□
Ultrasound	■	□	■	□	□	■	□	■	□	□	□	□
Tablet or smartphone	■	■	■	□	■	■	□	□	□	□	□	□
Dermatology Camera	■	□	□	■	■	■	■	□	□	□	□	□

LEGEND:

- Devices in use
- Devices not in use

Telehomecare and Remote Patient Monitoring

Telehomecare (previously referred to as “Home Telehealth” in the 2013 Report) is the use of home-based equipment to monitor a patient’s medical condition. These devices monitor such vital signs as pulse, blood pressure, blood sugar and weight, and transmit the data for review and assessment by a clinician.

For the 2015 Report, four jurisdictions (see Table 8) reported dedicated ‘Telehomecare’ programs – those being British Columbia, Ontario, Québec, and New Brunswick. These programs remain generally focused on supporting patients with chronic conditions including congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD) and diabetes. As Figure 5 makes clear, the number of telehomecare endpoints has increased since 2010 for the reporting jurisdictions. The number of telehomecare endpoints increased by 15% between 2010 (2,095) and 2012 (2,465), but by 2014 had slightly declined (2,363) by 4.1%. Most notably, Québec’s reported number of endpoints in 2014 (54) represents a steep decline from the 1,000 reported for 2010 and 2012. The Yukon Territory also reported no endpoints for 2014, whereas it had reported 18 in 2012. Despite the overall decline, the number of patients enrolled in telehomecare has increased, by the end of FY2014-15, to 3,802 patients.

Please see the cameo on remote patient monitoring on page 41, authored by Bobby Gheorghiu, Benefits Realization Leader, Canada Health Infoway.

Table 8: Telehomecare Monitoring Endpoints and Patients in 2014

	BC	ON	QC	NB
Number of Telehomecare Monitoring Endpoints	322	1,778	54	209
Number of Patients That Use a Home Health Monitor (HHM)	483	2,285	448	586

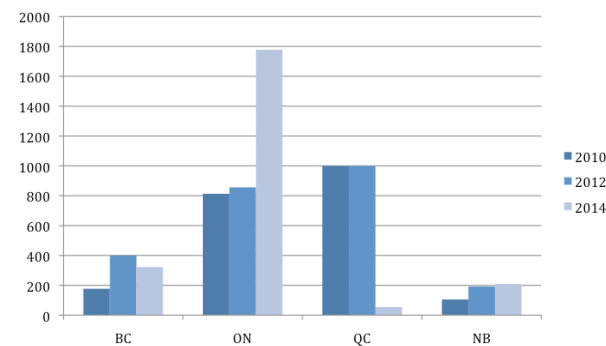


Figure 5: Total Number of Telehomecare Monitoring Endpoints in 2010, 2012 and 2014 Across Jurisdictions

Table 9 shows that, through one or more of its four Telehealth networks/programs, Québec reports collecting the largest number of vital sign types via telehomecare monitoring. Common areas of telehomecare monitoring include NIBP (Non-Invasive Blood Pressure), SpO2 (Oxygen Saturation), and heart rate, as reported by the four jurisdictions for each category.

Table 9: Telehomecare Monitoring Data

	BC	ON	QC	NB
NIBP	Yes	Yes	Yes	Yes
SpO2	Yes	Yes	Yes	Yes
Weight	Yes	Yes	Yes	Yes
Heart Rate	Yes	Yes	Yes	Yes
Glucose	Yes	Yes	Yes	Yes
ECG	Yes	Yes	Yes	Yes
Respirometry	Yes	Yes	Yes	Yes
Fetal Heart Rate	Yes	Yes	Yes	Yes
Other	Yes	Yes	Yes	Yes



CAMEO – Remote Patient Monitoring in Canada

By Bobby Gheorghiu, Benefits Realization Leader, Canada Health Infoway

Remote patient monitoring (RPM) refers to the delivery of healthcare to patients outside conventional care settings (e.g., a patient's home), made possible by connecting the patient and a healthcare provider through technology. It involves the electronic transmission of patient data (e.g., symptoms, vital signs, outcomes) from a remote home location to the provider, as well as the transmission of supporting services and processes required to conduct data review, interpretation, coaching and potential alteration to the patient's course of care.

As this technology and associated methods of care delivery have evolved, so have the terms used to describe them. While terms such as telehomecare, home monitoring, and home health monitoring, among others, may still be referenced today, they all describe essentially the same process. Regardless, the overarching objective of programs using RPM is to improve patients' quality of life and ability to manage their conditions while reducing the need for repeat hospital admissions and emergency department visits. Evidence in Canada and internationally, for the most part, has demonstrated significant success in meeting these objectives, with the most compelling example coming out of the Veterans Health Administration in the U.S. There, by 2012, more than 90,000 patients were enrolled in RPM programs where they experienced greater than 40% reduction in hospitalization compared to usual care, across a broad spectrum of chronic conditions.

While outcomes in Canadian RPM evaluations have been positive, especially in the areas of congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD), the number of patients enrolled in

these RPM programs has not grown significantly. As shown in this iteration of the National Telehealth Report, just under 4,000 patients¹ across the country are actively enrolled in RPM programs. While this is nearly double the output from 2010, it still represents a minute percentage of the overall number of chronic disease sufferers across the country who would be eligible to participate in these programs. Part of the explanation is that RPM is in a period of transition across Canada from small research-driven projects and pilots towards larger, more sustainable programs that are increasingly being integrated into mainstream care delivery processes. These programs, such as OTN's Telehomecare initiative, which is already well underway, require significant start-up capital and operational funding, extensive change management, and a rethinking of established care pathways and processes (to support the flow of information between providers) before being able to accelerate patient recruitment. At a health system level, it will be important to ensure that there is re-alignment of funding and incentives from acute care towards the community in order to support the growth of RPM programs.

Finally, there is some evidence that growth in the application of RPM technology is happening at a more grass-roots level, for example, initiated out of hospital clinics and specialty programs rather than provincially-funded initiatives. In 2013, more than 20% of hospitals surveyed in Canada reported providing patients with remote telemonitoring services in the previous 12 months. In addition, a 2014 survey found that 1% of Canadian adults used medical devices that captured and transmitted data to their healthcare team for monitoring chronic disease or post-surgical discharge.² These results serve to show that both health system funders and clinicians are seeing the potential of RPM as a means of delivering more efficient and effective care and we are likely to see it playing a larger part in mainstream care delivery in the near future.

1. A total of 3,802 patients were actively monitored as of March 31, 2015 (see Table 1. "Program Volume Details" earlier in this report).

2. Connecting Patients with Providers: A Pan-Canadian Study on Remote Patient Monitoring." Canada Health Infoway. June 2014.

<https://www.infoway-inforoute.ca/en/component/edocman/1918-rpm-benefits-evaluation-study-full-report-final/view-document?Itemid=101>

Desktop and Mobile Video Conferencing

Desktop and mobile video conferencing are increasingly affordable and dependable methods of direct communication in Telehealth across Canada. These particular forms of video conferencing allow healthcare providers to connect with one another and with patients/families for clinical as well as educational purposes, while avoiding the expense and, in some situations, access issues of traditional video conference equipment that remains facility-based due to its large size and support requirements. By facilitating the face-to-face interaction between patients and healthcare providers, desktop and mobile video conferencing allow and often enhance the relationship of trust between healthcare providers and their patients.

In Table 10 below, ten of the reporting jurisdictions provide for some form of desktop or mobile video conferencing (Newfoundland and Labrador, as well as Prince Edward Island, do not). All of the reporting

jurisdictions use these technologies for administrative purposes. Nine of the ten also use these technologies for clinical consultations as well as educational purposes (Northwest Territories does not).

Compared to the 2013 Report, these results represent substantial increases in the use of desktop and mobile video conferencing for administrative and educational purposes. In the previous edition of the Canadian Telehealth Report, six jurisdictions (British Columbia, Alberta, Ontario, Québec, New Brunswick and Nova Scotia) were using video conferencing for administrative purposes, and four (British Columbia, Alberta, Manitoba and New Brunswick) reported use of video conferencing for educational purposes. Since the 2013 Report, two more jurisdictions (Saskatchewan and Yukon Territory) reported use of video conferencing with patients for clinical consultations.

Table 10: Desktop and Mobile Video Conferencing

Jurisdiction	Users Provisioned for Use (and #)	Desktop and Mobile Video Conferencing			
		Administrative	Educational	Clinical Consultation	Other
BC	YES (360)				
AB	YES (14,432) ¹				
SK	YES (40)				
MB	YES (25)				2
ON	YES (1,467)				
QC	YES (209)	3	4		
NB	YES (77) ⁵				
NS	YES (9)				
NL	NO				
PE	NO				
YT	YES ⁶				
NT	YES (0)				

Legend:

- video conferencing is available
- desktop and mobile video service is new for this report
- #** Please consult the table note for further information
- video conferencing is not available

1. 14,432 users via Alberta Health Services (14,250 Lync and 183 CMAD/RP). Total Lync licensed end users are reported, including healthcare providers
2. Manitoba's Teletroke & Sick Newborn Program
3. Only the McGill and Université de Montréal programs use desktop and mobile Video Conferencing for administrative purposes
4. The Université de Laval program does not use desktop and mobile video conferencing for educational purposes
5. Includes direct and indirect clinical users
6. Yukon Territory is provisioned via British Columbia (PHSA - Provincial Health Services Authority)

Table 11 below shows the different technologies in use with Telehealth networks/programs for desktop and mobile video conferencing. The 2015 Report represents the second time that the types of desktop and mobile video conferencing technologies have been surveyed. Movi/Jabber remains one of the most popular technologies, with Real Presence also growing in popularity. Both are used in six jurisdictions. iPad tablets are in use in five jurisdictions. HDX4000 is in use in four jurisdictions, and Lync in three.

The 2015 Report also profiles the very rapid uptake of 'Smartphones' for mobile video service. Whereas the 2013 Report found that iPhones were in pilot in just one jurisdiction, iPhones are now in use in three jurisdictions (Alberta, Ontario and Québec) and Android phones in four jurisdictions (British Columbia, Alberta, Ontario and Québec).

Table 11: Technology Used for Peer to Peer Video Conferencing and Associated Use Policies

Jurisdiction	Technology Used/Supported For Software Video Conferencing										Use Policies (Privacy and Security)	External Use of Technologies
	HDX 4000	iPad	iPhone	Android	Real Presence	Movi/Jabber	Skype	Lync	Video Phone	Other		
BC											1	
AB											2	
SK												
MB												
ON											3	
QC		9	9	9	9	9					4	5
NB											6	
NS												
NL												
PE	--	--	--	--	--	--	--	--	--	--	--	--
YT											7	
NT											8	

1. Tangent and Surface Pro III Tablets.
2. CMA Desktop
3. OTN – Polycom, Cisco Infrastructure; Cisco endpoints
4. REACT, Frontline Communicator
5. CeCoT du RUIS Sherbrooke and Université de Montréal do not use these technologies outside their Telehealth networks/programs
6. Telepresence Management Suite; Second Opinion Telemedicine Solutions
7. Tandberg MXP 95
8. Radvision Scopia
9. CeCoT du RUIS Sherbrooke does not use the iPad, iPhone, Android, Real Presence or Movi/Jabber technologies

Legend:

- Technology in use
- Technology is not in use
- # Please consult the table note for further information
- Software video conferencing is unavailable

If not properly managed, delivering Telehealth services by video conferencing can introduce distinct privacy and security vulnerabilities not present with in-person consultations in a healthcare provider's office. These vulnerabilities include misunderstanding and/or inappropriate operation of the technology, as well as overall network security. Each jurisdiction requires specific policies and procedures (e.g. to ensure that the video conferencing session is secure from non-authorized viewing) to ensure the ongoing privacy and confidentiality of personal health information.

Ten jurisdictions (British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Québec, New Brunswick, Newfoundland and Labrador, Yukon Territory and the Northwest Territories) all have 'conditions of use' or similar policies including the privacy, security and confidentiality of patients' personal health information.

Six jurisdictions including British Columbia, Alberta, Québec (two of the four regional programs), New Brunswick, Nova Scotia, and the Yukon Territory allow the use of their software video technologies outside their immediate Telehealth networks/programs.

Telehealth Technology Supporting Administrative Events/Sessions

In addition to its myriad applications in Telehealth, facility-based video conferencing remains in use by many jurisdictions across Canada for a substantial number of administrative events/sessions, including team meetings, technology in-services, program planning and related managerial purposes. While the use of desktop based conferencing technology (see the previous section) is rapidly becoming the norm for healthcare provider peer-to-peer and healthcare provider-to-patient/family meetings, the use of facility-based video conferencing technology remains in regular use for 'many-to-many' meetings.

For the purposes of the survey and the 2015 Report, an administrative event or session involves the non-clinical or non-educational use of Telehealth technology such as video conferencing equipment for

program management purposes. It is appreciated that these events/sessions may not be counted fully (or at all in some situations) by Telehealth networks/programs in consistent fashion. In other jurisdictions such as Alberta where there is one health region for the entire province, all desktop video conferencing data for administrative purposes is captured across the Alberta Health Services organization by its Unified Communications Services portfolio, not just for the Telehealth program.

Eight jurisdictions responded to this portion of the survey, providing data (see Figure 6) to the indicator **Total Number of Administrative Events Using Video Conferencing in the Reporting Period.**

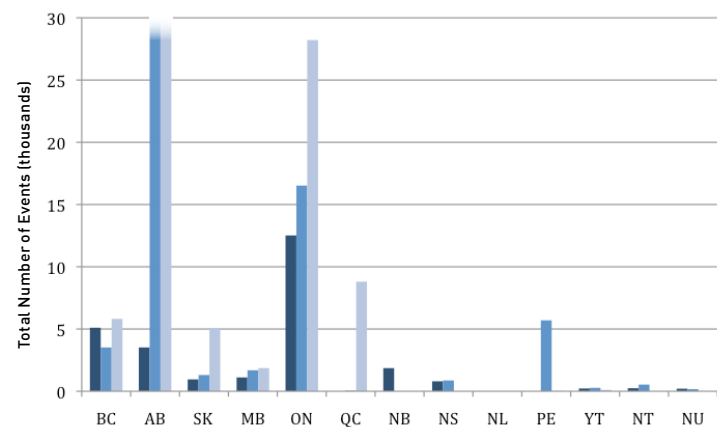
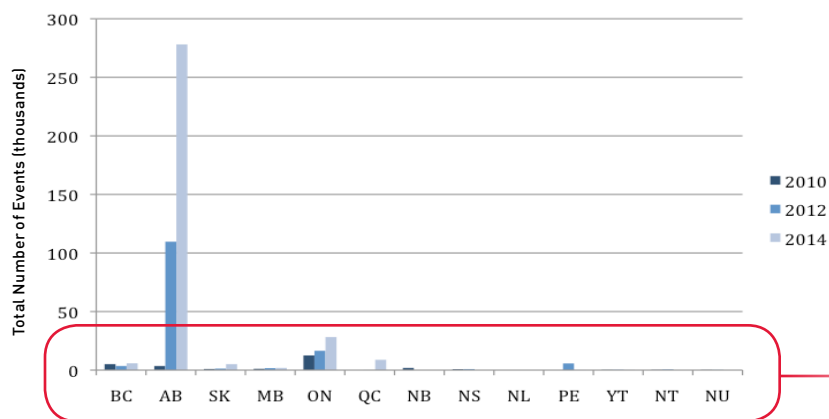


Figure 6: Total Number of Administrative Events Using Video Conferencing in 2010, 2012 and 2014, Across Jurisdictions

Accreditation of Telehealth Programs

In Canada, Telehealth networks/programs can voluntarily seek to be reviewed and accredited either separately or as a component of a hospital, health authority or health region via Accreditation Canada. Accreditation Canada is a non-profit, independent organization that provides healthcare organizations with an external peer review process in order to assess the quality of their services based on recognized standards of excellence. Accreditation Canada standards are based on five key elements of service excellence: clinical leadership; people; process; information; and performance.

Accreditation Canada has recently released its 2016 Telehealth standard. The provision of a dedicated standard recognizes the growing importance of Telehealth as a key component in the overall delivery of healthcare in Canada. It is noteworthy that this standard builds on the important work that began with the Canadian Society of Technology's National Initiative for Telehealth Framework of Guidelines (NIFTE). The foundational work of the CST (now the CTF with COACH) remains important to the Telehealth community and, while published more than a decade ago, the NIFTE Guidelines continue to be acknowledged globally as setting a foundational level of excellence for Telehealth services.

The new Accreditation Canada standard for Telehealth enables the assessment of those organizational components that support quality and safety in the delivery of Telehealth services. As organizations often work collaboratively to deliver Telehealth services, the shared

responsibility for compliance towards the effectiveness of Telehealth services is duly reflected in the standard, including but not limited to investing in quality services, team competence, equipment and network procurement and maintenance, safety and efficacy of services, as well as accessibility and efficiency of information systems, and finally achieving and sustaining positive, quality outcomes.²

Table 12 and Figure 7 profile the accreditation status and intentions of Telehealth networks/programs.

Seven of the jurisdictions reported that at least one or more of their hospitals, health authorities or Telehealth networks/programs is accredited. Of the five remaining jurisdictions, three reported accreditation as part of a larger program/facility accreditation or via Regional Health Authority accreditation. One Telehealth network/program not currently accredited reported that they were planning accreditation in the near future (Newfoundland and Labrador, within the next 36 months). It is important to note that, across Canada, while some Telehealth networks/programs are not accredited, Telehealth services provided through hospitals, clinics and regional health authorities are indeed accredited. Of interest, some teletriage programs are also accredited, for example Telehealth Ontario and Telecare 811 in New Brunswick.

² For more information on the 2016 Telehealth Standard, visit Accreditation Canada at www.accreditation.ca

Table 12: Accreditation of Telehealth Programs

	BC	AB	SK	MB	ON	QC	NB	NS	NL	PE	YT	NT
Accredited	YES ¹	YES ²	YES *	NO*	NO*	YES ³	YES	YES ⁴	NO	YES *	NO	NO*
Planning Accreditation	Within 24-36 Months ⁵	YES	YES *	NO*	NO*	NO	--	Within 24-36 Months	Within 36 Months	N/A	NO	NO*

Legend:

* Telehealth services are accredited as part of a larger program/facility accreditation or via Regional Health Authority accreditation

1. 2 of the 6 Regional Telehealth Networks/Programs are accredited
2. Alberta Health Services is accredited
3. 3 of the 4 Regional Telehealth Networks/Programs are accredited
4. 2 of the 9 former health authorities (Capital District Health Authority, and IWK) are accredited.
5. 1 of the 4 unaccredited Regional Telehealth Networks/Programs is planning to be accredited in the next two years

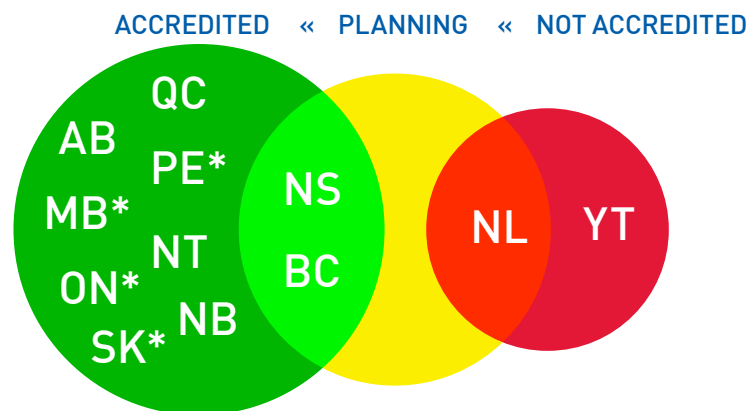


Figure 7: Accreditation of Telehealth Programs

* Telehealth services are accredited as part of a larger program/facility accreditation or via Regional Health Authority accreditation

Teletriage Services

The majority of jurisdictions across Canada have now implemented teletriage services, where individuals can talk with a nurse or other trained individual about their symptoms, and thereby potentially avoid a visit to a clinic or hospital. Pharmacist and dietitian consultation services are also available in some jurisdictions.

These teletriage services typically operate 24 hours a day/7 days a week. In some provinces, dialing 8-1-1 on the phone or going online (e.g. Nova Scotia) means facilitated access to non-emergency health information and services. Translation services are also available on demand, depending on the jurisdiction. For those patients or clients

who are deaf or hearing-impaired, many jurisdictions also provide TTY (text telephone) assistance.

Ten of the reporting jurisdictions offer teletriage services (see Table 13). With the exception of Yukon Territory, where teletriage service is provided by an out-of-province organization (British Columbia), all teletriage services are provided by in-province organizations. Jurisdictional teletriage services are not generally provided directly by the jurisdictional Telehealth networks/programs, but by other organizations that tend to operate independently, reporting to the provincial or territorial Ministry of Health.

Table 13: Teletriage Services Across Canada

Jurisdiction	Teletriage Website URLs	Teletriage Services	Organization Providing Teletriage Services
BC	http://www.healthlinkbc.ca/	YES	HealthLinkBC
AB	http://www.albertahealthservices.ca/223.asp	YES	Health Link
SK	https://www.saskatchewan.ca/live/health-and-healthy-living/manage-your-health-needs/healthline	YES	Government of Saskatchewan
MB	http://www.wrha.mb.ca/healthinfo/healthlinks/index.php	YES	Winnipeg Regional Health Authority/Provincial Health Contact Centre
ON	http://www.ontario.ca/page/get-medical-advice=telehealth-ontario	YES	Telehealth Ontario
QC	http://wpp01.msss.gouv.qc.ca/appl/m02/M02RechInfoSante.asp	YES	Infosanté
NB	http://www.gnb.ca/0217/Tele-Care-e.asp	YES	Department of Health
NS	http://811.novascotia.ca/	YES	811 Health Link
NL	http://yourhealthline.ca/en/index.html	YES	Health Line/FoneMed
PE	--	NO	--
YT	http://www.healthlinkbc.ca/	YES	HealthLinkBC
NT	--	NO	--

LEGEND: -- Teletriage service is not available

New to the 2015 Telehealth Report were these additional questions:

- How Many Teletriage Calls Were Received in the Reporting Period?
- What Were the Most Frequently (Top 3-5) Asked Teletriage Questions?

For those reporting jurisdictions, call volumes for their respective periods and the most frequently asked questions are profiled in Table 14.

Table 14: Teletriage Volumes and Frequently Asked Questions

	Volumes	FAQs
BC	673,000	Navigating the Healthcare System; Nursing; Pharmacy; Dietitian
AB	597,904 ¹	Respiratory Problems; Communicable Disease Control; Trauma
SK	--	--
MB	152,812	Fever; Abdominal Pain/Chest Pain; Medication Inquiries
ON	742,971	Chest Pain, Diarrhoea, Colds, Cough, Headache, Infection, Exposure
QC	N/A	N/A
NB	82,702	Chest Pain, diarrhoea, Vomiting, Headache, Cough, Fever/Chills in Children (<11 yrs)
NS	119,729	Abdominal Pain/Discomfort, Chest Pain/Discomfort; Medication Questions (Adults)
NL	N/A	N/A
PE	--	--
YT	N/A	N/A
NT	--	--

1. Call volumes provided refer to clinical nurse teletriage services only

Telehealth Program Websites

Across Canada, public Telehealth program websites (including First Nations) are offered in ten jurisdictions, as portrayed in Figure 8 below. These informative websites (see Table 15) provide information about current Telehealth initiatives, updated services, facility locations, as well as relevant articles and other essential Telehealth information.

These websites currently offer only a limited number of interactive tools such as encounter scheduling, PHR (personal health records) and CDM (chronic disease management) assessment. This is the second successive survey through which the Canadian Telehealth Report is measuring the availability of interactive public tools such as satisfaction surveys. Future advances in improving public experience of Telehealth programs may involve increasing the number and types of interactive public tools.

Figure 8: Public Telehealth Program Websites

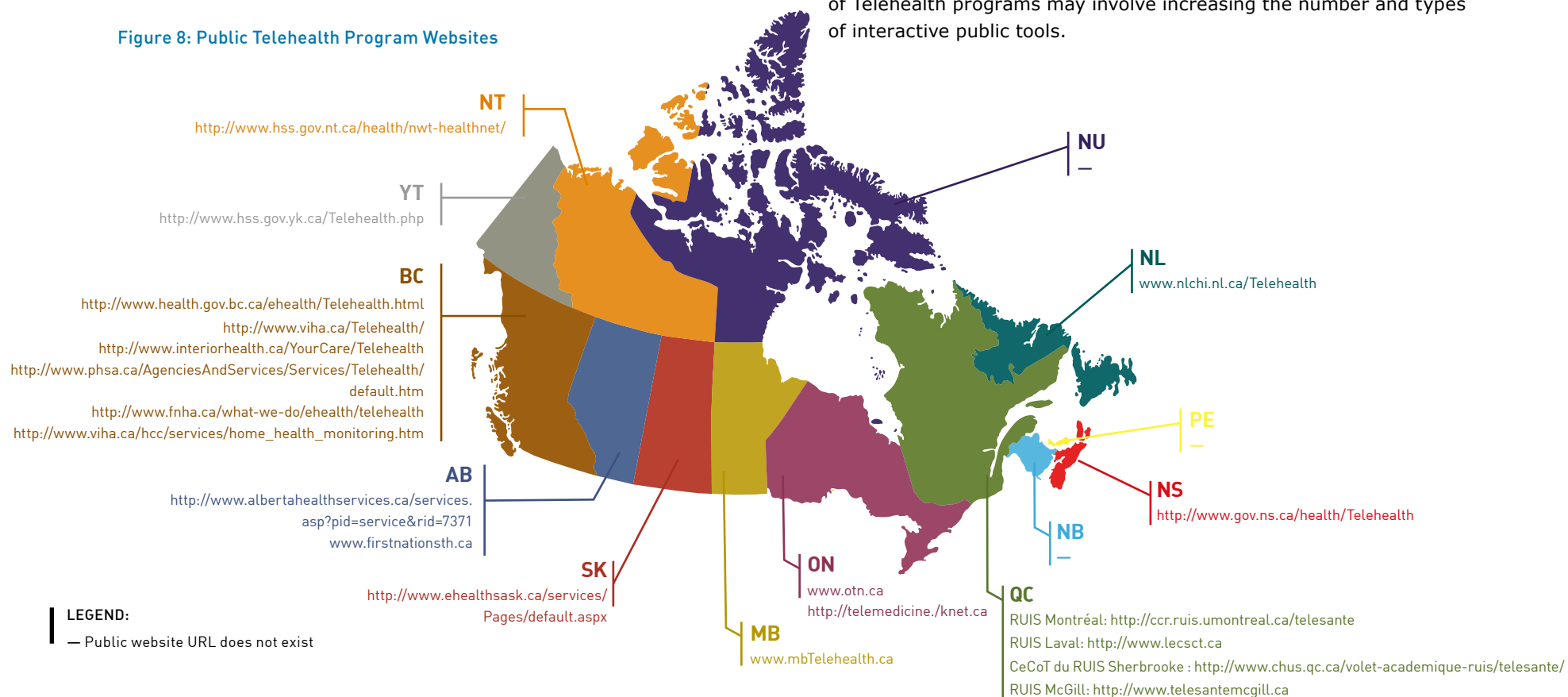


Table 15: Available Public Websites and Tools

Please see Table 22 on p.61 for First Nations data on public websites and tools

Jurisdiction	Public Website URL	Public Interactive Tools					
		Encounter / Consult Scheduling	CDM Assessments	Satisfaction Survey	PHR	Wayfinding Interactive Map	Other
BC	http://www.health.gov.bc.ca/ehealth/Telehealth.html http://www.viha.ca/Telehealth/ http://www.interiorhealth.ca/YourCare/Telehealth http://www.phsa.ca/AgenciesAndServices/Services/Telehealth/default.htm	NO	NO	NO	NO	YES	YES ¹
AB	http://www.albertahealthservices.ca/services.asp?pid=service&rid=7371	NO	NO	NO	NO	NO	YES ²
SK	http://www.ehealthsask.ca/services/Telehealth/Pages/telehealth.aspx	NO	NO	NO	NO	NO	NO
MB	www.mbTelehealth.ca	YES	NO	YES	NO	YES	YES ⁴
ON	www.otn.ca ⁶	NO	NO	NO ⁷	NO	NO	YES ³
QC	RUIS Montréal: http://ccr.ruis.umontreal.ca/telesante_ RUIS Laval: http://www.lecsct.ca RUIS McGill: http://www.telesantemcgill.ca CeCoT du RUIS Sherbrooke: http://www.chus.qc.ca/volet-academique-ruis/telesante/	YES	NO	YES ⁸	NO	YES ⁸	YES ⁴
NB	N/A	N/A	N/A	N/A	N/A	NO	N/A
NS	http://www.gov.ns.ca/health/Telehealth	NO	NO	NO	NO	NO	NO
NL	www.nlchi.nl.ca/Telehealth	NO	NO	NO	NO	NO	NO
PE	N/A	N/A	N/A	N/A	N/A	NO	N/A
YT	http://www.hss.gov.yk.ca/Telehealth.php ⁵	NO	NO	NO	NO	NO	NO
NT	http://www.hss.gov.nt.ca/health/nwt-healthnet/	NO	NO	NO	NO	NO	NO

1. Interactive lifestyle check-up tools, symptom checkers, directories for health services and navigation, and informative videos and materials

2. Alberta First Nations Telehealth provides the ability to see calendars, view recordings, and access handouts/how to documents

3. Blog, newsletter data tool, learning centre/webcasts

4. Self-help guides (instructions, trouble-shooting, support)

5. Website accessible but not currently maintained

6. OTN offers access to the Hub through otn.ca

7. Feedback survey is available

8. Not available from CeCoT du RUIS Sherbrooke

Legend:

N/A – Public website URL does not exist

Figure 9 identifies the jurisdictions that offer Telehealth program-specific websites to staff and authorized individuals. Repeating a pattern begun with the survey for the 2013 Report, the 2015 Report survey once again posed questions about how web-based support for healthcare providers and staff working in the space has progressed and evolved (see Table 16).

Ten of the reporting jurisdictions have one or more specific internal websites accessible to staff and authorized individuals. This represents an increase of two jurisdictions (Saskatchewan and the Yukon Territory) since the 2013 Report. The array of interactive tools, such as encounter and consult scheduling, satisfaction surveys, and eLearning modules, varies from jurisdiction to jurisdiction. Highlights of services available include:

- British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Québec, New Brunswick and Nova Scotia offer tools for encounter and consult scheduling (this represents double the jurisdictions offering this service since the 2013 Report)
- British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Québec, Nova Scotia and Newfoundland and Labrador offer

self-help guides, and the same jurisdictions except for Saskatchewan offer eLearning modules

- British Columbia, Saskatchewan, Québec and Newfoundland and Labrador offer user satisfaction surveys
- British Columbia, Alberta, Ontario, Québec and Nova Scotia also provide interactive maps of facilities with Telehealth accessibility

New Brunswick also uses its internal website to offer bridge-booking for video conferencing for operational staff.

Figure 9: Internal Websites Accessible to Staff and Authorized Individuals

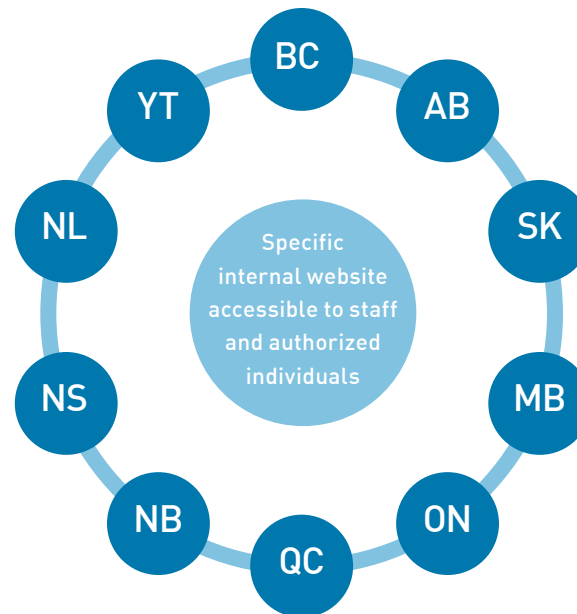


Table 16: Internal Websites and Tools Accessible to Staff and Authorized Individuals

Jurisdiction	Specific Internal Website Accessible to Staff and Authorized Individuals	Internal Interactive Tools				
		Encounter / Consult Scheduling	Satisfaction Survey	Interactive Maps of Facilities with Telehealth Accessibility	eLearning Modules	Self-Help Guides (Instructions, Troubleshooting, Support)
BC	YES	■	■	■	■	■
AB	YES	■	□	■	■	■
SK	YES	■	■	□	■	■
MB	YES	■	□	■	■	■
ON	YES	■	□	■	■	■
QC	YES	■	■	■	■	■
NB	YES	■	□	■	■	■
NS	YES	■	□	■	■	■
NL	YES	□	■	□	■	■
PE	NO	N/A	N/A	N/A	N/A	N/A
YT	YES	■	■	■	■	■
NT	NO	N/A	N/A	N/A	N/A	N/A

Legend:

■ Tool is available

□ Tool is not available

N/A – Internal website does not exist

Electronic Scheduling

Electronic scheduling is the use of a software application to schedule meetings, consultations and appointments. It provides an array of important benefits for Telehealth programs/networks, allowing users to search for available appointments based on clinician availability, by time and date, and by appointment duration. In particular, these programs facilitate network/program-wide access and scheduling functionality, which works to make the most of scarce specialist staff and related equipment and resources. Appointments-in-progress, as well as missed or rescheduled dates, can also be tracked and coordinated to ensure patient compliance as well as optimizing healthcare provider productivity. Moreover, most scheduling systems now facilitate secure remote and mobile viewing for even greater ease of access.

All jurisdictions responding to the 2014 survey now use some form of electronic scheduling to support their respective Telehealth networks/ programs (see Table 17). In 2010, electronic scheduling was used internally by program staff in six of the jurisdictions; in 2012, this had increased to nine jurisdictions. Many of these jurisdictions now also provide self-scheduling that directly empowers healthcare providers to support their patients. Furthermore, in jurisdictions with two or more Telehealth networks/programs, electronic scheduling can coordinate appointments across networks/programs within their given jurisdictions, and across many other jurisdictions as well.

Table 17: Systems Used for Electronic Scheduling and Availability of Use

Jurisdiction	Electronic Scheduling System					Internal Use by TH Program Staff	Online Viewing (Providers)	Online Viewing (Patients)	Online Scheduling (Providers)	Online Scheduling (Patients)	Other
	iScheduler	VC Scheduler	MS Outlook	Custom Made Scheduler	Other						
BC	■		■			■	■		■		
AB		■	■			■			1		
SK		■				■					
MB	■					■	■		■		
ON				■		■	■		■		
QC				■	2	■	■		■		
NB			■			■	■				
NS		■				■					
NL	■						■				
PE					3	■					
YT		■	■			■					
NT		■				■					

1. Self-scheduling by end-users for MS Lync (on-line meetings) via MS Outlook
2. IRIS; TMS (Suite Cisco Telepresence Management System)
3. Cerner Works via Citrix

Legend:

- System available/In use
- System not available/Not in use

Progress also remains to be made as to the integration of electronic scheduling with other jurisdictional systems such as Electronic Health Records (EHRs) and digital health solutions. Just three jurisdictions (Québec, Prince Edward Island, and the Northwest Territories) have Telehealth networks/programs with this integration in place. Only New Brunswick reported this integration as a priority within the next twelve months.

Figure 10 shows the different systems used for e-scheduling. Again, all jurisdictions responding to the survey reported use of some form of e-scheduling. In terms of number of jurisdictions' Telehealth networks/programs, there is relative equality with VC Scheduler and MS Outlook in use in five jurisdictions, respectively. iScheduler is used in three jurisdictions. Ontario (OTN) and Québec (two of the four regional authorities) continue to use respective custom made schedulers.

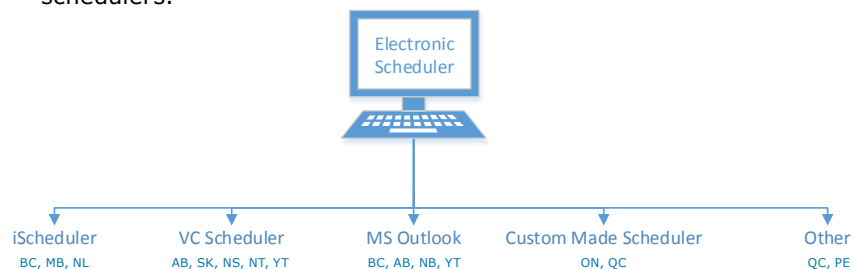


Figure 10: Electronic Scheduling Systems

In Figure 11, the jurisdictions in red are the ones in which internal and provider use of electronic scheduling systems is new since 2013. The jurisdictions in black reported these uses in the 2013 Report. Seven of the 13 jurisdictions support online schedule viewing by providers. Online scheduling by providers is currently available in four of the reporting jurisdictions, which is also an improvement from 2010 in which just three of the jurisdictions reported this function. Noteworthy is that none of the jurisdictions responding to this section of the survey have Telehealth networks/programs which

provide patients with either on-line appointment viewing, or with the functionality to schedule their own appointments.

Internal Use by Telehealth Program Staff	• BC AB SK MB ON QC NB NS NL PE YT NT
Online View - Healthcare Providers	• BC AB MB ON QC NB NL
Online Scheduling - Healthcare Providers	• BC MB ON QC

Figure 11: Internal and Healthcare Providers' Use of Electronic Scheduling

Figure 12 shows e-scheduling across telehealth networks/programs. Eight jurisdictions (British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Québec, Newfoundland and Labrador, and Northwest Territories) provide e-scheduling for telehealth networks/programs within their respective jurisdictions. Of these eight jurisdictions, only the Northwest Territories does not also provide inter-jurisdictional e-scheduling.

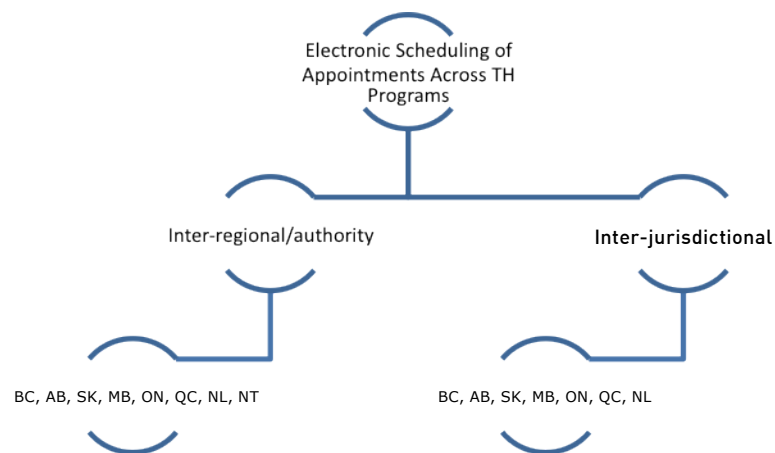


Figure 12: Electronic Scheduling of Appointments Across Telehealth Programs



First Nations

First Nations across Canada, through such organizations as the FNHA Telehealth Program of British Columbia, the Alberta region of First Nations and Inuit Health (FNIH), and Keewaytinook Okimakanak eHealth Telemedicine Services (KOeTS) in Ontario, are working arduously to engage with their communities and support them in the delivery of much-needed clinical care, education and related health services.

While a major part of their work of course revolves around Telehealth technologies and services, the abiding emphasis throughout involves positive engagement that is understood and accepted. As expressed so concisely in a recent FNIH publication, "...we don't tell communities what Telehealth to adopt – we support communities in their adoption of Telehealth as per their priorities, needs and initiatives ..."³

Take FNHA for another example. One of the newer First Nations Telehealth programs, FNHA is working to support First Nations across British Columbia, including individuals, families and communities to "... achieve and enjoy the highest level of health and wellness by working with them on their health and wellness journeys; honouring traditions and cultures; and championing First Nations health and wellness within the First Nations Health Authority organization and with all of our partners."⁴ One of the focal points of FNHA's Telehealth program involves primary care: it's been a growing and increasingly successful reality in BC First Nations communities for a number of years now, and FNHA is working to progressively equip and connect more family physicians directly with those communities.

KOeTS has a similar focus on working closely with its communities and thereby ensuring that the services delivered and how they are provided are appropriate, respectful and sustainable. As one elder put

it so eloquently, "... it is important to have the same mind, working together equally with all communities."⁵

As noted in previous editions of the Canadian Telehealth Report, healthcare for First Nations is complex due to the lack of in-community healthcare professionals, differences in language, culture and spirituality, challenges in the coordination of services, while having to negotiate several levels of governance and accountability, let alone the remote nature of the many communities needing ongoing healthcare services. That having been said, it is just as important to note that Telehealth is designed and delivered to overcome many of these challenges. The consequence is that, across Canada, we see the growing reality of many First Nations communities benefiting from Telehealth and working even harder to increase the adoption, availability and utilization of services.

The survey for the 2015 Report enjoyed strong, but not complete, participation from First Nations Telehealth networks/programs, whether it was part of an overall provincial or territorial submission or a distinct response from a First Nation. While not telling the complete story of Telehealth services for all First Nations communities, the data from British Columbia, Alberta and Ontario (see Table 18 below) is considered fairly representative of the greater whole and reflects the growing uptake and evolution of services. COACH and the Canadian Telehealth Forum are very interested to enhance the engagement with First Nations Telehealth stakeholders and interests, and will be working with them to increase the overall response to the bi-annual survey and therefore better profile the progress and accomplishments of this important area of Telehealth in Canada.

3 Overview of Telehealth in Alberta First Nations (June 21, 2012). Health Canada, First Nations Inuit Health – AB Region.

4 First Nations Health Authority Annual Report 2013-2014 – Overview. First Nations Health Authority, British Columbia.

5 KO Telemedicine Brochure (c.2014). Keewaytinook Okimakinak eHealth.

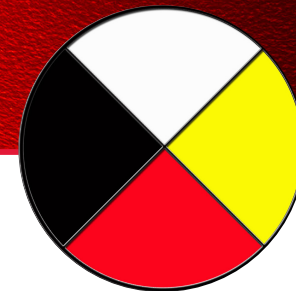


Table 18: First Nations Program Volume Details

	FNHA (BC)	FNIH (AB)	KOeTS (ON)
Total number of unique individual patients served by the Telehealth network/program	N/A	2,797	2,852
Total number of First Nations Communities served by the Telehealth network/program	39	45	27
Total number of net-new First Nations Communities served by the Telehealth network/program that were added in the reporting period	5	0	0
Total number of health facility based endpoints	197	66 ¹	0
Total number of net-new health facility based endpoints added in the reporting period	21	49 ²	0
Total number of community/shared facility endpoints	19	15	2
Total number of net-new community/shared facility endpoints added in the reporting period	0	45 ²	0
Total number of clinical centre endpoints	54	66 ³	30
Total number of net-new clinical centre endpoints added in the reporting period	2	7	0
Total number of telehomecare monitoring endpoints	0	0	0
Total number of net-new telehomecare endpoints added in the reporting period	0	0	0
Number of unique individuals patients that use an HHM (Home Health Monitor)	0	0	0
Number of healthcare providers monitoring an HHM's use	0	0	0
Number of communities receiving a Telehomecare Service	0	0	0
Number of net-new communities receiving a Telehomecare Service	0	0	0
Total number of real-time clinical sessions delivered in the reporting period	2,000	2,328	2,852
Total number of store and forward clinical sessions (excluding PACS events/images) delivered in the reporting period	800	469	0
Total number of education sessions involving patients/families in the reporting period	80	65	104
Total number of education sessions involving healthcare providers (e.g. Continuing Nursing Education [CNE]/ Continuing Medical Education [CME], Rounds) in the reporting period	60	775	791
Total number of administrative meetings using Video Conferencing (non-clinical/educational) in the reporting period	150	308	769
Total number of other events/sessions (e.g. legal assessments) not covered above in the reporting period	0	104 ⁴	2,176 ⁵

1. Hardware based.
2. Software based.
3. FNHA views endpoints as multi-use (i.e., clinical, educational, meeting) but 19 of the 66 are primarily clinical endpoints.
4. Total for January, February and March (2014) only.
5. 2,176 SL-P services enabled by KOeTS at local education authority endpoints.

LEGEND

N/A Jurisdiction did not provide data



Home Telehealth

As with non-First Nations Telehealth networks/programs, home Telehealth offers definite and unique advantages and opportunities for enhancing access and improving quality of service. Uptake of home Telehealth by First Nations Telehealth networks/programs, however, remains an opportunity, with no endpoints or patients formally reported in the survey for the 2015 Report.

Accreditation of Telehealth Networks/Programs

Of the three reporting First Nations Telehealth networks/programs, none are as yet accredited. Two programs, however, are planning for accreditation: FNIH in Alberta is planning for accreditation within the next 24 months, and KOeTS in Ontario has requested funds from Health Canada to conduct a full accreditation of their services including Telehealth. FNHA in British Columbia has no plans at present for accreditation.

ACCREDITED « PLANNING « NOT ACCREDITED

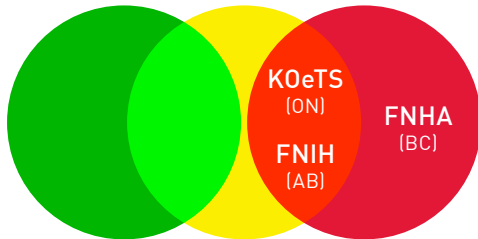


Figure 13: Accreditation of First Nations Telehealth Programs

Clinical Service Areas

As tracked by the three reporting First Nations Telehealth networks/programs, there has been strong growth in the clinical services

available to the communities they service (see Table 19 below). As with the provincial and territorial Telehealth networks/programs, these clinical services are provided either by the Telehealth network/program itself or (for those jurisdictions with more than one Telehealth network/program) by a Telehealth network/program within the same jurisdiction, or from another jurisdiction. For the reporting First Nations Telehealth networks/programs in this report, most of the KOeTS Telehealth clinical services are provided by Ontario Telemedicine Network, FNIH-AB's Telehealth clinical services are provided by Alberta Health Services, and FNHA's Telehealth clinical services are provided by other Telehealth networks/programs in British Columbia. For the 2015 Report, the First Nations Telehealth networks/programs were surveyed on the same available services as the provincial/territorial networks/programs.

The Telehealth clinical service areas reported as available range from anaesthesiology to wound management, and also include such services as dietetics, geriatrics and ophthalmology. Common across all three reporting Telehealth networks/programs are cardiology (general), dermatology, family medicine and family visitations, nephrology (general), and oncology.

Of those reporting, Keewaytinook Okimakanak eHealth Telemedicine Services in Ontario offers the most services, with a total of 51; this compares to 34 clinical services in the 2013 Report. The FNIH Telehealth network/program in Alberta reported a total of 31 clinical services available; this compares to 19 in the 2013 Report. Reporting separately for the first time, the FNHA Telehealth Program in British Columbia described 11 available clinical services. On an 'as-needed' basis, all FN communities have access to the clinical service offerings provided by other health authorities in British Columbia; the FNHA approach is to focus on establishing primary care and connecting to HA where particular clinical services are needed.

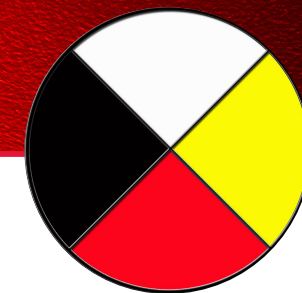


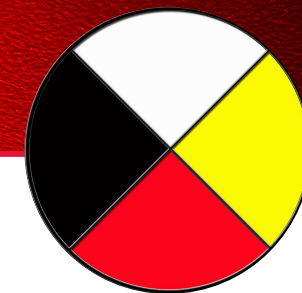
Table 19: Available First Nations Clinical Services

Clinical Service	FNHA (BC)	FNHI (AB)	KOeTS (ON)
Anaesthesiology			
Arthritis			
Audiology-General			
Audiology-ENT			
Cardiology-General			
Cardiology-Pediatric			
Community Medicine			
Critical Care Medicine-General			
Dermatology			
Dietetics			
Discharge Planning			
Down Syndrome			
Emergency Medicine			
Endocrinology & Metabolism-Diabetes			
Enterostomal Therapy (Ostomy care)			
Epilepsy			
Family Medicine			
Family Visitations			
Gastroenterology			
Genetics			
Genetics-HCP (Hereditary Cancer Program)			
Geriatrics			
Gynaecology			
Infectious Diseases			
Internal Medicine			
Mental Health-Addictions			
Mental Health-Eating Disorders			
Mental Health-Forensic Psychiatry			
Mental Health-Psychiatry			
Mental Health-Psychology			
Neonatal/Perinatal Care			
Nephrology-General			
Nephrology-Renal			

Clinical Service	FNHA (BC)	FNHI (AB)	KOeTS (ON)
Neurology-General			
Obstetrics			
Oncology			
Ophthalmology			
Pain Management			
Palliative Care			
Pathology-General			
Pathology-Haematology			
Pediatrics			
Pharmacy			
Public Health & Preventive Medicine			
Pulmonary-General			
Rehabilitation-Occupational Therapy			
Rehabilitation-Physiotherapy			
Rehabilitation-Speech Language			
Respirology			
Rheumatology			
Social Services			
Surgery-General			
Surgery-Orthopaedics			
Surgery-Plastic			
Urology			
Wound Management			
Other			

LEGEND

- The service is offered by the FN Telehealth network/program
- The service is not offered by the FN Telehealth network/program
- The service will be added in the next reporting period



First Nations Educational Service Areas

As with the growth in available clinical services in general across Canada, First Nations Telehealth networks/programs have also been making progress in providing continuing educational services to patients and their families, as well as healthcare providers (see Tables 20 and 21). As with those who receive their Telehealth services through provincial and territorial networks/programs, Telehealth-based education provides First Nations communities with their primary means of access to regular, meaningful and locally available instruction and learning.

To remind, new for the 2015 Report is the distinction between educational services for healthcare providers, as compared to patients and their families. Regardless either target audience, all educational services are either made available by the Telehealth network/program itself or (again for those jurisdictions with more than one Telehealth network/program) by a Telehealth network/program within the same jurisdiction, or otherwise from another jurisdiction altogether.

Only KOeTS and FNIH-AB reported their available Telehealth educational services separately. FNHA in British Columbia reported their educational services in consolidated fashion with the other Telehealth networks/programs in British Columbia. For the latter, all educational services available to other B.C.-based Telehealth networks/programs are also available to the First Nations Health Authority.

Provider Education

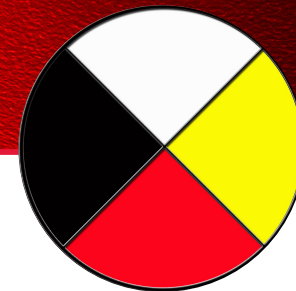
The FNIH Telehealth network/program in Alberta reported a total of 25 educational services available to healthcare providers; this compares to 19 in the 2013 Report. Keewaytinook Okimakanak eHealth Telemedicine Services in Ontario reported 9 educational service areas being available; this compares to 6 clinical services in the 2013 Report.

Table 20: First Nations Healthcare Provider Educational Services

Educational Service Area	FNIH (AB)	KOeTS (ON)
Arthritis		
Cardiology-General		
Community Medicine		
Critical Care Medicine-General		
Dietetics		
Emergency Medicine		
Endocrinology & Metabolism-Diabetes		
Enterostomal Therapy (Ostomy care)		
Family Visitations		
Gastroenterology		
Genetics		
Geriatrics		
Mental Health-Addictions		
Mental Health-Psychiatry		
Mental Health-Psychology		
Neonatal/Perinatal Care		
Nephrology-General		
Neurology-General		
Neurology-Stroke Emergent		
Oncology		
Palliative Care		
Pediatrics		
Pharmacy		
Public Health & Preventive Medicine		
Pulmonary-Asthma		
Rehabilitation-Occupational Therapy		
Rehabilitation-Speech Language		
Surgery-General		
Wound Management		
Other		

LEGEND

- The service is offered by the FN Telehealth network/program
- The service is not offered by the FN Telehealth network/program



Patient/Family Education

Keewaytinook Okimakanak eHealth Telemedicine Services in Ontario reported 8 educational service areas being available to patients and their families, whereas the FNIH Telehealth network/program in Alberta reported a total of 3 educational services available.

Table 21: First Nations Patient Educational Services

Educational Service Areas	FNIH (AB)	KOeTS (ON)
Cardiology-General		
Community Medicine		
Dietetics		
Endocrinology & Metabolism-Diabetes		
Family Visitations		
Gynaecology		
Mental Health-Addictions		
Public Health & Preventive Medicine		
Rehabilitation-Occupational Therapy		
Rehabilitation-Physiotherapy		

LEGEND

- The service is offered by the FN Telehealth network/program
- The service is not offered by the FN Telehealth network/program

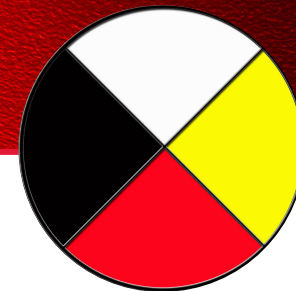
Telehealth Websites

Each of the three reporting First Nations Telehealth networks/ programs hosts (in the case of FNHA in British Columbia and KOeTS in Ontario) or otherwise shares (as in the case of FNIH in Alberta) a public website (see Table 22 below). These websites provide basic information about Telehealth programs and services, guidance on accessing services, and general announcements. With the FNIH site, users have the ability to see calendars, view recordings and access handouts and 'how to' documents. Generally, these sites are not exclusive to Telehealth and, as part of each First Nation's efforts to deliver healthcare, provide subject-specific information on wellness and other non-Telehealth related healthcare services and activities.

Each of the three reporting First Nations Telehealth networks/ programs also provides internal websites for staff, featuring useful interactive tools such as encounter/consult scheduling, eLearning modules, satisfaction surveys, self-help guides as well as wayfinding maps.

Table 22: First Nations Public & Private Website-Based Telehealth Information

FN Telehealth Network / Program	Public Website URL	Public Interactive Tools				
		Encounter/ Consult Scheduling	eLearning Modules	Satisfaction Surveys	Self-Help Guides	Wayfinding Interactive Maps
FNHA (BC)	http://www.fnha.ca/what-we-do/ehealth/telehealth					
FNIH (AB)	www.firstnationsth.ca					
KOeTS (ON)	http://telemedicine.knet.ca					



Clinical Peripherals

As with their provincial and territorial counterparts, First Nations Telehealth networks/programs have access to a growing array of clinical peripherals that expand the scope and enhance the capacity of device-based Telehealth diagnostics and treatment. The three First Nations' responses to the survey for the 2015 Report profile the growing uptake of these medical devices, which now include general exam as well as dermatology cameras, retinal cameras (especially to diagnose diabetic retinopathy), otoscopes and ophthalmoscopes. Tablets as well as smartphone-based apps are also either in wider use as compared to the 2013 Report or are being trialed. These devices are used for primary care (including health prevention and promotion), maternal care, as well as for post-surgical and rehabilitative care, and chronic disease management. As of yet, none of these clinical peripherals are in home use.

Desktop & Mobile Video Conferencing

Compared to the results portrayed in the 2013 report, desktop and mobile video conferencing for Telehealth purposes has enjoyed strong growth over the past two years in First Nations communities as shown in Table 23. While it continues to be used by the FNHA in British Columbia and FNIH in Alberta for administrative and educational purposes, it is now used by all three Telehealth networks/programs for clinical consultation. The latter was only the case for Alberta in the 2013 Report.

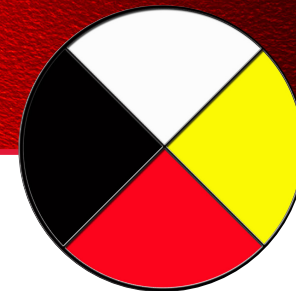
Table 23: First Nations Desktop and Mobile Video Conferencing

Jurisdiction	Users Provisioned for Use (and #)	Desktop and Mobile Video Conferencing		
		Administrative	Educational	Clinical Consultation
FNHA (BC)	-			
FNIH (AB)	YES (9)			
KOeTS (ON)	YES (4)			

In terms of technology used, FNIH in Alberta has the widest array available for use (see Table 24). All three have policies in place to support the use of these technologies, e.g. to support the privacy and security of personal health information. As well, all three are able to use these technologies outside of their respective Telehealth networks/programs.

Table 24: Technology Used by First Nations for Peer to Peer Video Conferencing & Associated Use Policies

Jurisdiction	Technology Used/Supported For Software Video Conferencing										Use Policies (Privacy and Security)	External Use of Technologies
	HDX 4000	iPad	iPhone	Android	Real Presence	Movi/Jabber	Skype	Lync	Video Phone	Other		
FNHA (BC)												
FNIH (AB)												
KOeTS (ON)												



Electronic Scheduling

All three First Nations Telehealth networks/programs responding to the survey for the 2015 Report report some form of electronic scheduling in use (see Table 25). All three provide these systems for internal use by Telehealth program staff, specifically FNIH in Alberta for online viewing for healthcare providers, and KOeTS in Ontario for online viewing for healthcare providers as well as online scheduling.

FNHA in British Columbia and KOeTS in Ontario can further use their electronic scheduling systems to coordinate appointments: FNHA can do this with other Telehealth networks/programs within B.C.; KOeTS can coordinate appointments across jurisdictions.

Similar to the majority of provincial/territorial responses, progress remains to be made as to the integration of electronic scheduling with other jurisdictional systems such as Electronic Health Records (EHRs) and digital health solutions. None of the three reporting First Nations Telehealth networks/programs currently have this capability, nor was it a stated priority within the next twelve months.

Table 25: Systems Used by First Nations for Electronic Scheduling and Availability of Use

Jurisdiction	Electronic Scheduling System					Internal Use by TH Program Staff	Online Viewing (Providers)	Online Viewing (Patients)	Online Scheduling (Providers)	Online Scheduling (Patients)	Other
	iScheduler	VC Scheduler	MS Outlook	Custom Made Scheduler	Other						
FNHA (BC)	1										
FNIH (AB)											
KOeTS (ON)				2							

1. Currently supported by the Provincial Health Services Authority (PHSA).

2. OTN Telemedicine Service Manager/NCompass.

Legend:

■ System available/In use

□ System not available/Not in use

Additional Perspectives

A new component to the national Telehealth survey and the 2015 Report is a series of 'qualitative' questions posed to the Telehealth networks/programs. These questions, prepared by the National Telehealth Report Committee, were an optional part of the survey. They asked respondents to share their perspectives and, where possible, plans with respect to four questions on alternative performance metrics, emerging practice trends and techniques, key barriers to the growth and development of Telehealth, and how clinical professional educational programs can better support Telehealth.

The actual questions were as follows:

- What are other ways to measure the impact of Telehealth/telemedicine over and above program structure and services information and utilization?
- What new and emerging practice trends and techniques in telemedicine and virtual care have the opportunity to positively impact patient care?
- What key barriers to expansion, growth and development are holding back funders, healthcare providers and patients from providing more virtual-based care?
- How can educational programs e.g. medical/nursing schools support the advancement of virtual care?

The responses, as might be anticipated, were wide-ranging and quite interesting. Save for Prince Edward Island, all Telehealth networks/programs responded to at least one of the four questions, with the majority responding to all of them.

What are other ways to measure the impact of Telehealth/telemedicine over and above program structure and services information and utilization?

A wide-ranging array of metrics, covering costs, staff turn-over, patient lengths of stay, readmission and transfer rates, utilization rates and quality of life metrics were proposed. More novel metrics proposed included some of the following:

- Reduction of carbon emissions;
- Healthcare provider travel reduction; and
- Cultural competence, specifically the capacity of providers to engage First Nations patients in a dialogue about their health and well-being.

The wider and more sophisticated use of satisfaction surveys was also proposed, based on demographic and geographic parameters. One particular suggestion included the survey of actual users of Telehealth (rather than the service provider organizations) as to the qualitative impact of Telehealth on practices and care. Also, for more of a research focus, the Committee was urged to consider the closer scrutiny and analysis of user experiences in particular, and in general to partner with leading academics and post-secondary institutions that have done more in-depth Telehealth impact analyses and can use comparative data to validate (or refute) previous findings.

What new and emerging practice trends and techniques in telemedicine and virtual care have the opportunity to positively impact patient care?

A number of novel practice trends and techniques were proposed in the responses from Telehealth networks and programs. Characteristic of these were concerns as well as aspirations regarding engagement,

costs, collaborative knowledge creation and sharing to avoid disruptions to the continuity of care etc.

The overriding themes of many of the suggestions involved integration and/or extending the reach of Telehealth networks/ programs, including but not limited to:

- Software based video conferencing that could become part of the patient record;
- Availability of 'on demand' access to on-line scheduling which would be integrated with jurisdictional EHRs;
- Harnessing the transformational power of mobile solutions to get care closer to the patient at the time of need; and
- "Cautiously" leveraging the power of social media to facilitate knowledge transfer ... which may reshape/recreate what is Telehealth 'best practice'

What key barriers to expansion, growth and development are holding back funders, healthcare providers and patients from providing more virtual-based care?

A number of important barriers were noted in the various responses. These ranged from the organizational to the operational, some of which are under the control of the Telehealth network/program but many of which are not; furthermore, many of the noted key barriers are also characteristic of impediments in the large healthcare systems across Canada:

- The lack of a single, coherent governance and management structure featuring shared funding;
- Inconsistent privacy and security legislation (e.g., there are important, confounding differences in the protection of personal health information in the primary care setting as compared to the acute care setting);

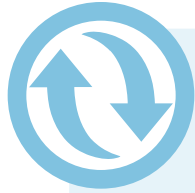
- Uncoordinated licensure, qualifications and privileging across (and sometimes within) Telehealth networks/programs;
- Limited or no interoperability of Telehealth systems with EMRs, EHRs and other digital solutions; and
- Telehealth technology being unavailable at key times/places during a patient and family's journey through the healthcare system (e.g., lack of integrated scheduling across health authorities in a given jurisdiction).
- Multiple, confusing fee codes and reimbursement schedules;
- Burdensome scheduling and booking processes;
- A focus on expensive new technologies to the detriment of basic change management and planning expertise that communities require to use what they currently have;
- Internet performance (which, if insufficient, greatly impacts video conference quality) being dependent on bandwidth which in turn is controlled by local telecommunications provider; and
- Uncertainty about which organizations should play the lead role in supporting and serving First Nations, Métis and Inuit depending on the location (urban, rural or remote).

How can educational programs e.g. medical/nursing schools support the advancement of virtual care?

Many of the responses for this question focused on how education and training needs to reflect both current and emerging practices, and in particular how this vitally needs to be integrated with the core clinical curricula for healthcare providers so that the latter is not overly focused on the traditional 'face-to-face' mode of patient-clinician engagement and that there is "early exposure to technology."

One response noted that future healthcare professionals need to understand the "... value of technology, consumer trends, transformation and change philosophy (i.e. acceptance of patients receiving care virtually vs going to physician's office) ...". Another response also proposed the creation of fellowships and research into virtual care, along with mentoring and preceptorships through coops, residencies and other learning opportunities so as to support direct experience and knowledge transfer.

As for existing clinicians, it was suggested that dialogue should be provoked among specific clinician groups to determine which of their services are 'Telehealth ready.' This would then followed by dedicated funding to craft educational programs to build technological as well as cultural competencies among healthcare professionals to prepare them for the transformation of how they deliver care virtually.



CAMEO – Responding to a Changing Environment

By Carol McFarlane, Senior Strategy Lead, Ontario Telemedicine Network

John F. Kennedy summed it up well when he said “Change is the law of life. And those who look only to the past or present are certain to miss the future.”

This sentiment reflects one of the underlying themes driving OTN’s evolution from telemedicine solution provider to virtual care steward and catalyst.

Why should telemedicine solution providers be open to change?

To begin with, in Ontario the building blocks are in place for the successful day-to-day integration of a telemedicine network. That is, the infrastructure is in place - thousands of providers and healthcare organizations are connected, support services such as scheduling and training are being leveraged, and the appetite for the adoption of telemedicine is evident through the presence of patient-centered programs including Telehomecare, Telestroke, and Teledermatology. A shift in thinking is also being driven by a technology landscape that is constantly producing easy-to-use and cost-effective solutions, and increasing consumer awareness of, access to, and utilization of healthcare devices. Given its valuable contribution, and similar to what other provinces have offered to advance virtual healthcare, what will OTN’s distinctive steward and catalyst role within the healthcare system look like?

As a steward of the virtual healthcare ecosystem, it is important to analyze existing publically-funded telemedicine investments and propose recommendations to stakeholders ranging from provider remuneration to equipment and human resource allocations to ensure that the system is receiving maximum value and that telemedicine becomes main stream. OTN partnered with one of Ontario’s Local Health Integration Networks (LHINs) to perform a collaborative three year review focused on the investment in nursing resources dedicated to supporting telemedicine adoption and integration.

Provincial agencies are well-poised, and have a responsibility to utilize their cumulative learnings and subject matter expertise to act as a catalyst with the goal to making telemedicine mainstream.

OTN is accomplishing this through effective partnerships with senior leaders of organizations that operate from a ‘system’ perspective to help build their capacity on how to integrate virtual care planning into their strategic design process. Virtualizing elements of chronic disease management programs, enhancing patient transitions through virtual solutions, delivering exercise programs into the home for frail and seniors and supporting integrated funding initiatives are just some of the examples of how this is playing out. Innovation is at the forefront as OTN catalyzes the health care system through collaboration with providers, funders and researchers to pilot, test, and scale new technologies that support new models of care all guided by provincial political priorities and evidence-based quality of care.

This is a pivotal time in health care and OTN can’t wait to evolve its role and continue to be a part of the action.

What's Next for the Canadian Telehealth Report?

Future Priorities

As with previous editions of the Canadian Telehealth Report, jurisdictional and First Nations stakeholders and interests from across Canada will be invited to identify upcoming priorities for their respective Telehealth networks/programs. These priorities will be researched and incorporated, through both closed as well as open-ended questions, in the survey for the 2017 Canadian Telehealth Report.

As described in the "Additional Perspectives" section of this Report, several priorities are already emerging, including but not limited to the following:

- The evolution and adaptation of technology infrastructure and governance to better serve more healthcare providers, patients/families and communities-at-large in both person-to-person/point-to-point interactions as well as in more collaborative, team-based settings
- The expansion and increased sophistication of portable and personal digital technologies including 'smartphones,' tablets and other portable devices that facilitate mobile and 'on-demand' access
- The greater, more immediate availability of personal health information to patients/families and across care settings through integration with Electronic Health Records (EHRs) and other digital health solutions
- The incorporation of greater education and training on digital technologies for healthcare providers in their initial professional education

And in the Near Future ...

Moving forward, and as part of post-publication activities associated with the de-brief of the research and development of the 2015 Report, COACH and the Canadian Telehealth Forum (CTF) will engage with the jurisdictional and First Nations participants to improve the value of the Canadian Telehealth Report by:

- Gathering lessons learned and understanding experiences from the 2015 Report and the underlying survey
- Revising and clarifying existing survey questions, as well as adding new questions as required
- Working with stakeholders towards an even more consistent Telehealth taxonomy to improve comparability of data
- Adding new indicators/questions to ensure the survey is contemporary with Canadian Telehealth practices as these continue to grow, evolve and mature

The next Canadian Telehealth Report is scheduled for publication in the spring of 2017, and the project processes will begin once again for that report in the autumn of 2016. In the meantime, the National Telehealth Report Committee will consult with COACH and the jurisdictional and First Nations partners in consideration of an 'off-cycle' report for publication in 2016. This proposed report would focus more intensively on particular key trends and/or technology that either currently or in the near future is anticipated to affect the Telehealth community in Canada. Watch for further updates on this and other Telehealth 'goings-on' at COACH and with its Canadian Telehealth Forum.

Appendix A: Glossary

Administrative Event/Session

An event or session involving the administrative use of technology, e.g. video conferencing equipment, for Telehealth network/program management purposes.

Clinical Centre

A location such as a physician office, nursing station or other healthcare provider practice setting where healthcare services are offered including Telehealth services.

Clinical Event/Session

An event or session involving the clinical use of technology towards the care of a patient including: clinician-to-patient consult, clinician-to-clinician consult, etc.

Clinical Service

A Telehealth service where distance care is provided to the patient.

Community

A particular area or geographic place considered together with its inhabitants, who may share a common characteristic(s).

Community/Shared Facility

A location where healthcare and non-healthcare related public services, e.g. education or justice services, are offered including Telehealth services.

Educational Event/Session

An event or session involving the educational use of technology to instruct or train the patient or the provider.

Health Facility

A location, e.g. a hospital, where exclusively healthcare related services are offered including Telehealth services.

Home Health Monitor (HHM)

A device used in delivering Telehealth service in the patient's home or residential setting, e.g. a digital glucometer that can connect to a network to deliver results to a provider.

Jurisdiction

A federal program, a province, a territory, or a First Nation for which Telehealth services are being reported.

Patient

A person receiving or utilizing a Telehealth service.

Note: For the purpose of this survey, the terms "patient" and "client" are considered synonymous.

Patient Educational Service

A Telehealth service where distance education is provided to the patient (or the patient's family) towards their care or wellness.

Provider

A clinician (i.e. a healthcare provider) or a technical staff member (i.e. a technology service provider) who provides the Telehealth service.

Provider Educational Service

A Telehealth service where distance education is provided to a clinician or related Telehealth staff, e.g. continuing medical education (CME), clinical rounds, technology in-services etc.

Reporting Period

The survey asks each Telehealth network/program to confirm the 12 contiguous months of Telehealth-related data being provided. Ideally, this will involve the most recent year of information available.

Telehealth Endpoint

A defined location where a Telehealth service is received.

Telehealth Network/Program

An organization or agency which provides one or more Telehealth programs and/or services.

Telehomecare Endpoint

A patient's home or residential setting where telehomecare is provided.

Telehomecare Service

A Telehealth service involving the provision of care to a patient's home or residential setting.

Teletriage Program

A program that provides unscheduled primary assessment, first aid and other health related advice to the general public by healthcare providers, e.g. nurses, usually via a published call in number e.g. 1.800.XXX.XXXX or 811. These programs are normally provided at the jurisdictional level.

About COACH

COACH: Canada's Health Informatics Association is *the voice of health informatics (HI) in Canada*, promoting the adoption, practice and professionalism of HI. COACH represents a diverse community of accomplished, influential professionals who work passionately to make a difference in advancing healthcare through information technology. HI is the intersection of clinical, IM/IT and management practices. Members are dedicated to realizing their full potential as professionals and advancing HI through access to information, talent, credentials, recognition, programs and a broad range of services and specialized resources. www.coachorg.com