Telehealth in Northern and Indigenous Communities

Report from the Telehealth Forum held October 5, 2017

Prepared by: Heather Exner-Pirot, PhD
University of Saskatchewan College of Nursing

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Executive Summary

The use of technology for improving the delivery of health services has become fundamental to modern healthcare. Telehealth – the means of delivering medical information and health care through the use of telecommunication technologies – holds particular promise in Saskatchewan and vast portions of Canada, due to the uneven distribution of specialized care between rural and urban population centres, the substantial distances which often must be travelled to receive health care, and challenges to recruitment and retention of health professionals in rural, remote and Indigenous communities.

Despite the promise and the need, telehealth use in most northern and Indigenous communities in Canada remains in an early adoption phase rather than a normal part of health care delivery. The technology exists, but the processes and uptake are evolving slowly.

To discuss the opportunities and challenges of telehealth implementation in northern and Indigenous communities, focusing on the Saskatchewan context, the University of Saskatchewan College of Nursing hosted a forum on October 5th, 2017, that brought together the province's key stakeholders on the topic: eHealth Saskatchewan, First Nations and Inuit Health Branch – Health Canada, Northern Inter Tribal Health Authority and the Federation of Sovereign Indigenous Nations. Speakers and participants were additionally drawn from Medical Services Branch – Ministry of Health, Saskatchewan Medical Association, Saskatchewan Registered Nurses Association, as well as a number of health care practitioners, clients and administrators.

The forum's Steering Committee members included: Lois Berry, Lorna Butler, Heather Exner-Pirot, Rachel Johnson, Joelena Leader, and Tony Tung from the University of Saskatchewan; Neil Olynick from eHealth Saskatchewan; Patrick Johnston from the Federation of Sovereign Indigenous Nations; Mary Carlson from the Northern Inter-Tribal Health Authority; and Normen Ducharme from First Nations Inuit Health Branch – Health Canada.

A day of constructive and to-the-point dialogue led to a number of key recommendations for advancing telehealth implementation. These included:

1. Developing a provincial telehealth strategy to address jurisdictional barriers.
2. Ensuring the delivery of telehealth services is eligible for compensation.
3. Improving health provider awareness and comfort with telehealth technologies.
4. Assessing the feasibility of web-based diagnostic and prescribing services for minor ailments.
5. Advocating for better bandwidth availability in First Nations and northern communities to take advantage of telehealth technologies.
6. Incentivizing telehealth uptake both by directing resources and savings to rural and remote clinics and providing equivalent compensation for physicians for telehealth as for in-person service delivery.
7. Better communicating the benefits of telehealth to practitioners, clients and the public.
8. Advocating for the establishment of a Canadian Telehealth Association, similar in role to the American Telemedical Association.

Introduction

Telehealth in Saskatchewan and Beyond: Implementation Challenges

Telehealth has been proven to provide high quality health care in an accessible and affordable manner. It is increasingly used for professional development, inter-professional consultation and teaching in the health sciences.

While its use is "exploding" in the United States, its uptake in Saskatchewan and Canada has been slower. Given the province's proportionately high rural and remote population, and under-served Indigenous communities, there is incredible unfulfilled potential in applying the benefits of telehealth to our health care system.

In order to identify some of the opportunities and address some of the barriers to more fully implementing telehealth services in Saskatchewan, particularly in northern and Indigenous communities, the University of Saskatchewan College of Nursing led the organization of a forum bringing together the province's key stakeholders on the topic: eHealth Saskatchewan, First Nations and Inuit Health Branch – Health Canada, Northern Inter Tribal Health Authority and the Federation of Sovereign Indigenous Nations. Speakers and participants were additionally drawn from Medical Services Branch – Ministry of Health, Saskatchewan Medical Association, Saskatchewan Registered Nurses Association, as well as a number of health care practitioners, clients and administrators.

The event was sponsored by the University of Saskatchewan College of Nursing, University of Saskatchewan and the Saskatchewan Health Research Foundation and co-chaired by Drs. Lorna Butler and Heather Exner-Pirot.

> "Telehealth is a cornerstone to the solution that we're all seeking: consistently high quality care at a lower cost."
>
> Yulun Wang, CIO and Founder, InTouch Health

This report provides background on the challenges to implementing telehealth, particularly in a northern and Indigenous context, and summarizes the themes, discussion and recommendations that arose from the forum.

Telehealth Overview

What is Telehealth?

Telehealth is a means of delivering medical information and health care through the use of telecommunication technologies. This may include providing clinical services to patients from a distance, monitoring a patient's vital signs from a remote health care facility, transmitting x-rays from a patient at a rural clinic to a radiologist in an urban hospital or broadcasting continuing education programs to physicians, Registered Nurses (RNs) and other providers throughout the province.

Telehealth does not typically create new or different health care services. It simply provides a new way to deliver existing services. On the clinical side, telehealth bridges the distance between patient and health care provider, by allowing patients to remain in their communities, while being seen by a health care provider at a distant site. This enables those living in rural communities or areas that are underserved to have improved access to health care. Telehealth also saves time and money by reducing the amount of travel time and expenses, as well as reducing the time patients are off work or away from family responsibilities.

With the use of videoconferencing, remote presence, or other equipment, a patient can have a live, real-time interaction with a specialist as if they are in the same room. The health care provider is able to conduct a sufficient examination of their patients by questioning them about their past history and current symptoms, getting information from on-site providers, such as the local RN, and by using electronic diagnostic equipment and other peripheral devices to mirror that of an in-person visit. This can be done by understanding the requirements from a provider perspective and identifying what peripherals are needed to ensure the patient is cared for the same way as in-person.

Telehealth Forum participants Arturo Muslera, Joelena Leader and Lois Berry

Though live-interactive videoconferencing and remote presence are common forms of technology used in telehealth, there are others, such as remote monitoring equipment, used in home health and intensive care programs. In both cases, clinical data is collected from the patient and transmitted to a health care provider at an off-site location. The provider reviews the data and acts accordingly based on the findings. The clinical data may include a patient's weight, blood pressure, heart rate, oxygen saturation, blood glucose, as well as other measurements, such as laboratory data, depending on the patient's condition.

Store-and-forward imaging is another technology used in telehealth that allows x-rays, CT scans, MRI images, digital images and other images to be transmitted from the patient site to a physician located at a distant health care facility. In the case of tele-radiology, images are sent to a radiologist to be read and the results are transmitted back to the patient site.

Telehealth also includes non-clinical services. Many telehealth sites can be connected at one time for collaborative purposes, continuing professional education such as grand rounds, administrative meetings, training and so on. Again, the use of telehealth reduces travel time and expenses.

Telehealth Overview

The Potential of Telehealth

There is a large body of evidence confirming the central promise of telehealth: that it provides consistently high quality care at a lower cost.

A summary of the peer-reviewed research on telehealth is available here. But generally the research has demonstrated that:

- Telehealth outcomes are generally found to be equivalent or higher than in-person services.
- Patient satisfaction rates are as high or higher than in-person care.
- Costs are lower than hospital based services (7.7% - 19% lower).

There are many types of medical care that have been delivered via telehealth which achieve these kinds of results, including tele-stroke care, tele-pharmacy, tele-psychiatry, tele-optometry/ophthalmology, tele-dermatology, tele-rehabilitation, remote monitoring, and other uses. It should not be assumed that certain types of health services cannot be delivered, or are inappropriate, via telehealth.

Current (2016-17) Telehealth Use in Saskatchewan

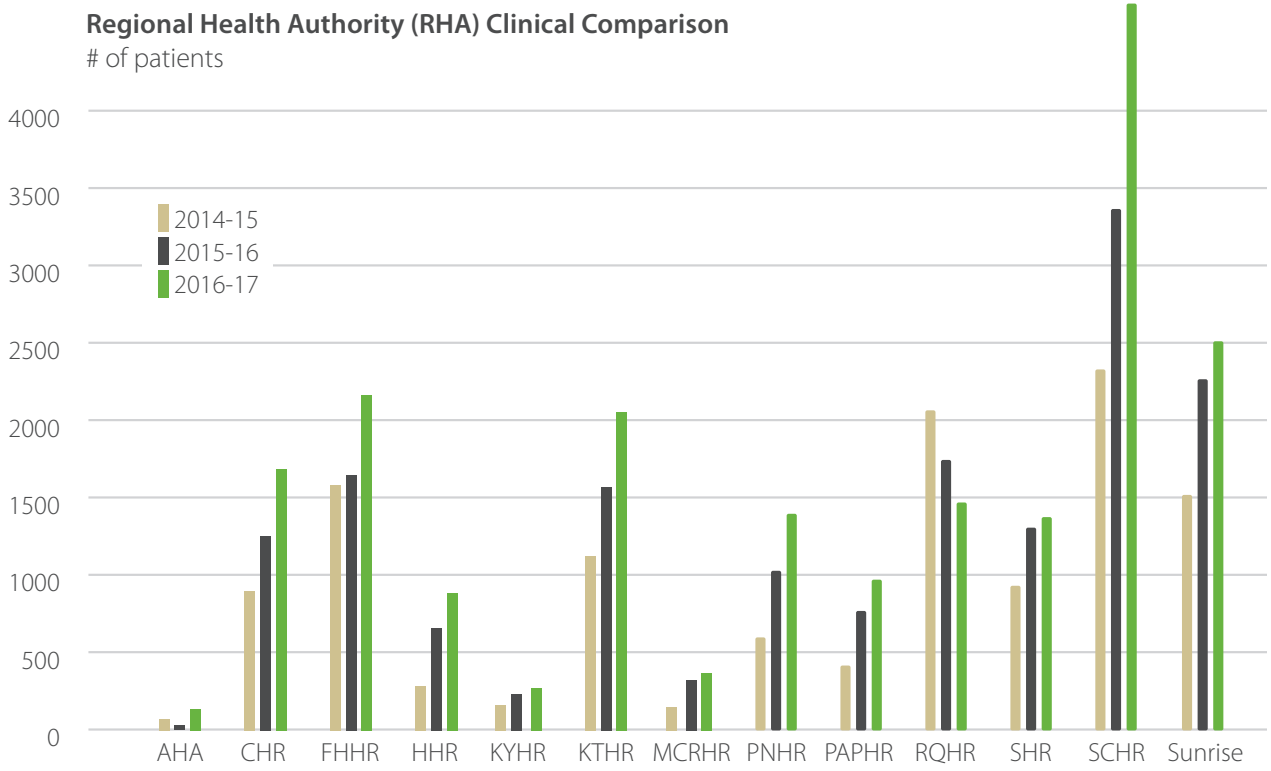
eHealth Saskatchewan saw a 49% growth in patients seen for clinical services between 2016 and 2017, including a 132% growth in patients seen in First Nations communities. Oncology is the top specialty being used with over 5600 patients seen in the 2016/17 fiscal year. This is largely due to the fact that oncology doctors are paid on salary, as opposed to private practitioners (thus fee provision is not an issue). For First Nations, TB (tuberculosis) clinics were the top specialty, with 168% growth from 2016.

In addition, over 4000 patients received Group Patient Education, a 61% increase in one year, and 30 new Telehealth Endpoints were added, bringing a total of 369 active Telehealth sites. There are 50 First Nations communities where telehealth equipment is available for use. Connectivity costs are a significant indicator of uptake for First Nations.

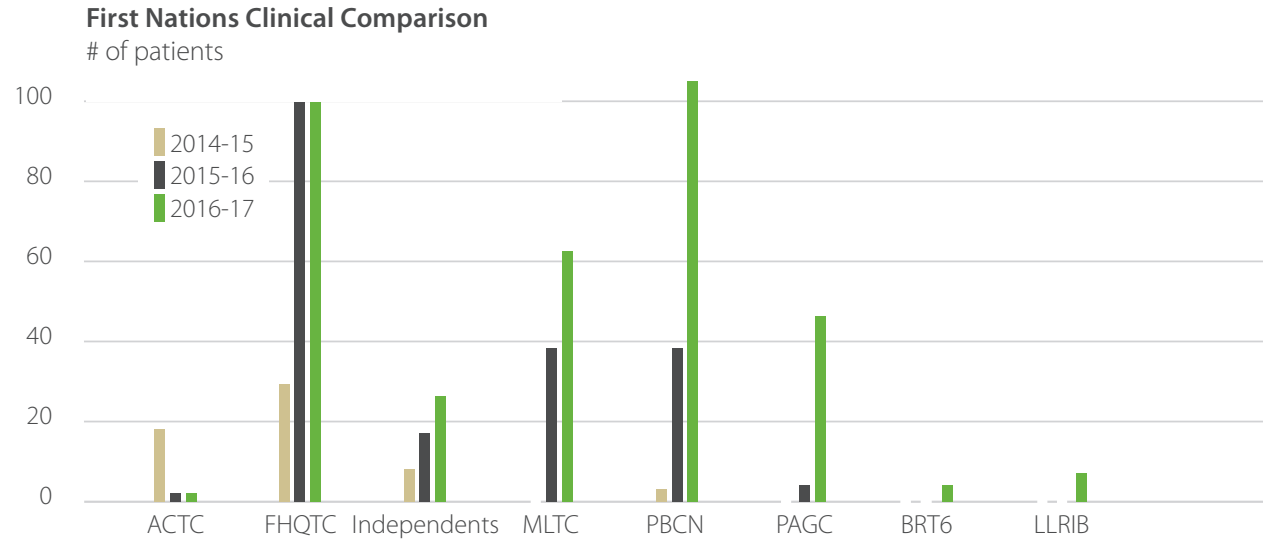
> An estimated six million kilometers of travel was saved by patients and family for clinical services in 2016/17.

(Data provided by eHealth Saskatchewan).

Telehealth Overview



AHA – Athabasca Health Authority **CHR** – Cypress Health Region **FHHR** – Five Hills Health Region **HHR** – Heartland Health Region
KYHR – Keewatin Yatthe Health Region **KTHR** – Kelsey Trail Health Region **MCRHR** – Mamawetan Churchill River Health Region
PNHR – Prairie North Health Region **PAPHR** – Prince Albert Parkland Health Region **RQHR** – Regina Qu'Appelle Health Region
SHR – Saskatoon Health Region **SCHR** – Sun Country Health Region **Sunrise** – Sunrise Health Region

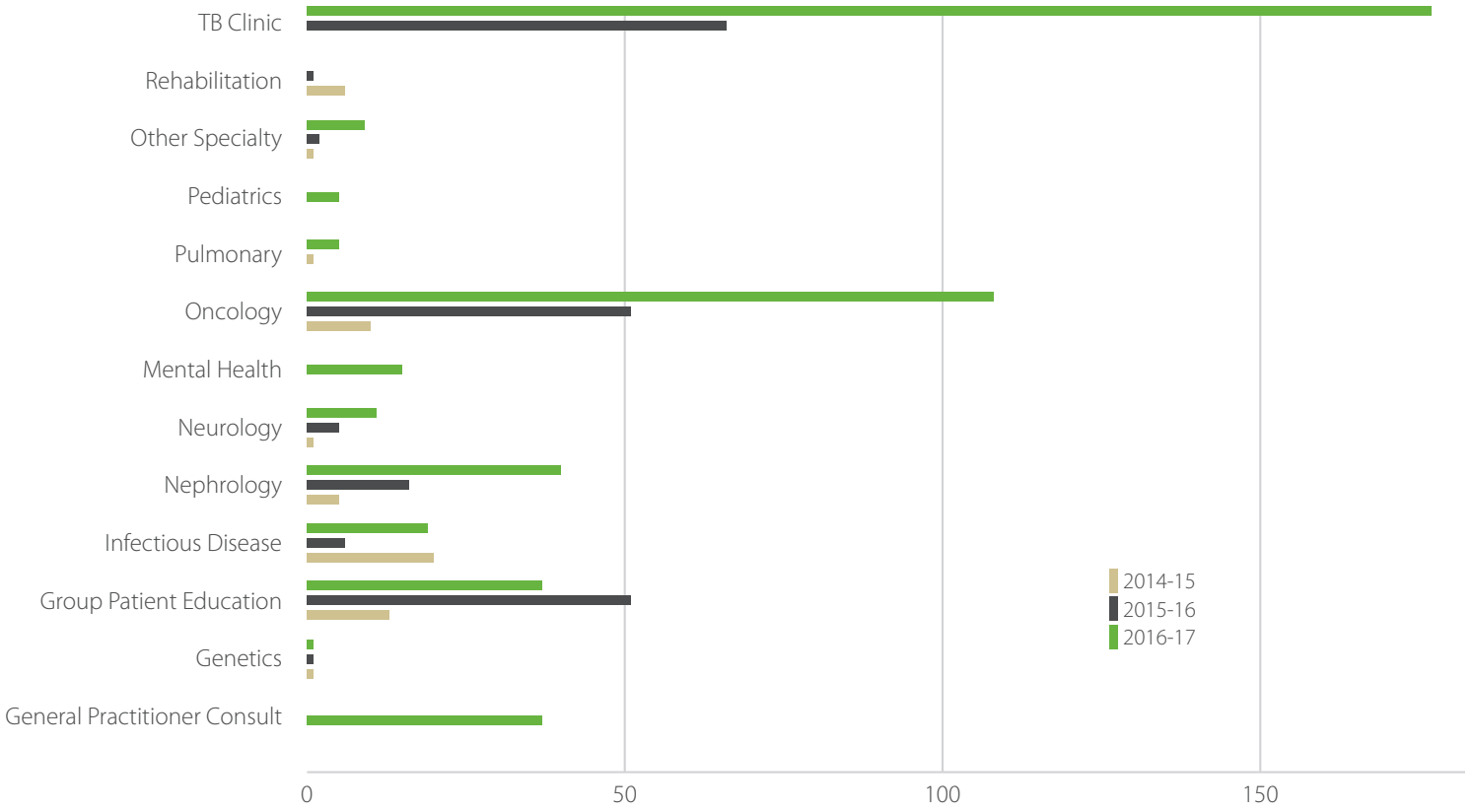


ACTC – Agency Chiefs Tribal Council **FHQTC** – File Hills Qu'Appelle Tribal Council **MLTC** – Meadow Lake Tribal Council
PBCN – Peter Ballantyne Cree Nation **PAGC** – Prince Albert Grand Council **BRT6** – Battle River Treaty 6 **LLRIB** – Lac La Ronge Indian Band

*Note: These two graphs have different scales (1000s for RHAs and 10s for FN)

Telehealth Overview

First Nations Clinical Utilization
# of patients seen



Implementation Challenges

Introducing new systems and processes in large and complex bureaucracies is always difficult. This section highlights some of the barriers to the implementation of telehealth.

Incentives

Perhaps the main reason for the higher uptake and growth in the United States' health care system versus Canada's is the lack of a profit incentive and competition in Canada that would provide motivation to more quickly adopt new processes. There seems to be a need for incentives at four levels:

(1) the government, or single payer, to save money/resources and/or improve services;

(2) the client, to receive better/more convenient/more accessible services;

(3) the local health care provider, often a nurse, who is with the patient, who may need to provide additional or different care than they would if the patient was simply sent to see the provider/specialist in-person; and

(4) the provider/specialist at the linked facility providing the expertise/diagnosis/treatment, who will need to be paid at the same rate, and not be inconvenienced by using technology over an in-person visit. In addition, the administrators responsible for particular clinics or health regions need the resources to host and install telehealth equipment and connections, and the human resources to coordinate appointments.

If telehealth is conceived as a plan that provides equivalent services at the same price, but requires expensive new technology and supports; or expands services but also costs; it will be difficult to get health ministries to invest in them. A critical mass of usage is also required to realize the cost benefits of investments in telehealth.

Culture and Behaviour

As the recent struggle to implement LEAN practices demonstrate, it is incredibly hard to change the culture and behaviors of large, complex systems, such as provincial health care. Many of the processes are path dependent on other processes and cannot be easily changed in isolation. Interjecting telehealth processes into existing systems promises a struggle with the status quo.

It will be difficult to change behaviours without either making telehealth as easy, or easier, than existing processes, and/or by providing performance or financial incentives. However, the current transition to a single health authority in Saskatchewan offers a window of opportunity to introduce changes, as new structures are evolving.

Fear/Distrust in Reliability and Ability of the Technology

A major concern iterated by rural and northern health care professionals is about the reliability of telehealth, given the often inferior connectivity in their communities.

This concern is certainly valid; the potential benefits of telehealth provide a solid business

case for further investing in rural and remote community broadband access. However, in Saskatchewan most rural and Indigenous health clinics have a dedicated internet line to their facility that greatly improves reliability; and many telehealth devices are optimized for low bandwidth. Using inter-facility telehealth and keeping the patient in the clinic can also reduce the risks association with medical transportation and the loss of cellular coverage over long distances. A greater concern is the cost of this connectivity, which can be prohibitive.

It is important to note the Canadian Radio-Television and Telecommunications Commission (CRTC) declared broadband internet a basic service in 2016, with a concomitant obligation to improve access, quality and affordability in rural and remote areas.

Payment for Services

One of the biggest current obstacles to implementing telehealth in Saskatchewan is the difficulty and confusion around payment for services. Physicians and other providers will not go out of their way to provide online and virtual services if they cannot get paid for them.

The best practice in the United States has been to seek legislation that ensures health care providers are paid the same rate for telehealth services as for in-person visits. Ideally, no distinction would be made in how services are delivered, but focus rather on what service is being delivered. In Saskatchewan, there are approved fee codes a General Practitioner (GP) can bill for providing physician services via telehealth when the physician and patient are both in a Medical Services Branch (MSB) approved facility. It's important to stress that telehealth services cannot be provided from a physician's own office, as no physician's offices are MSB approved facilities for the purposes of telehealth fee codes. This is directly connected to a regulatory barrier in regards to new technologies like mobile, tablet and desktop video solutions, which are now available and prominent in telemedicine programs in other provinces and the United States. Trends in telehealth are to move from expensive hardware-based telehealth room systems to software solutions like Skype for Business, Vidyo, etc. Legislation, policy and billing codes do not exist in Saskatchewan for these new technologies, making it difficult to embed these solutions into existing care models.

Regulatory Issues

In a similar vein, telehealth uptake has been hindered by restrictions to the ability of remote/off-site health care providers to provide care to patients who are not receiving care in the same province/territory in which they are licensed. If a patient is geographically in Saskatchewan, but seen by a physician in another province, the College of Physicians and Surgeons of Saskatchewan holds that it is responsible for licensing that physician. Other Colleges have taken the geographic location of the physician to determine which regulatory body is responsible for the licensure. For Registered Nurses, a fee is required to practice in different provinces, but licensure is not an issue.

In the United States, several states have made moves to allow providers to provide care across the country, through an inter-state compact, so long as they are licensed in the state of their physical location.

Telehealth comprises additional elements in terms of professional conduct and privacy issues that need to be reviewed.

Telehealth Overview

Privacy and Policy Implications

There are likely to be policy and liability implications associated with introducing telehealth and associated equipment. This can take time and resources to figure out. One example is the introduction of a remote presence robot into a hospital, which can create privacy issues. Who can access the robot and where can the robot travel to within a clinic?

The best practice is to maintain the same standards and practice guidelines for telehealth as for in-person visits.

Rural Clinic Capacity

In Saskatchewan and elsewhere, many rural and First Nations community health clinics are frequently short-staffed and over-burdened. Efforts to keep clients in their home community using telehealth are likely to transfer some responsibilities for care onto local nursing and other staff.

In addition, the comprehensive adoption of telehealth processes will require Information and Communications Technology (ICT) supports and maintenance. Many communities and smaller regions may not yet have the capacity to support a minimum standard of support and service.

Resources will need to be assigned to ensure there are not strong disincentives at the local level to adopt telehealth.

Need a Critical Mass of Users and Specialists

In order to obtain the financial benefits of telehealth, a critical mass of usage will need to be obtained. An up-front investment in technology, training and resources is required to adopt telehealth practices. If only a small number of practitioners subsequently use telehealth, the investment will not be a good one. This can be seen in the number of under-utilized telehealth suites and tools across Saskatchewan. There needs to be enough specialists on one end, and local providers on the other, leveraging the service to make it viable. Therefore, a commitment is needed at a variety of levels.

Sustainability

There are likely to be "early adopters" who are enthusiastic about the potential of telehealth and eager to use the system. This may be a necessary condition for telehealth implementation, and for finding and supporting champions. However for telehealth to be successful and sustainable, it will need to be adopted beyond single champions and pilot projects and become part of "normal" operations.

Post-secondary health sciences programs can be instrumental in normalizing telehealth by teaching the practice and theory to students before they are licensed practitioners, invoking an expectation of telehealth use in their clinical practice.

Standardization of technologies, across Canada, would improve uptake, jurisdictional coordination, cost effectiveness and the patient experience.

This section summarizes the keynote and panel presentations provided at the Telehealth Forum on October 5, 2017.

KEYNOTE PRESENTATION 1:

Keewaytinook Okimakanak eHealth Telemedicine Services

The conference began with a presentation by **Orpah McKenzie**, the eHealth Program Manager for Keewaytinook Okimakanak (KO) e-health in northern Ontario.

KO eHealth is currently Canada's only comprehensive First Nations-operated regional telemedicine system. They serve 26 remote First Nations communities. KO eHealth got its start in 1998 with federal funding to provide telehealth services. In 2009, KO eHealth and Ontario Telemedicine Network (OTN) signed a partnership agreement, which is still in place.

In 2016/17, 5630 requests were made for KO eHealth managed clinical services, with 53% being successfully delivered. The top six therapeutic areas from 2010-2017 included: mental health, addictions, general surgery, general practitioner, endocrinology (diabetes), and family visits.

Ms. McKenzie identified the benefits of telehealth as:

- Quicker access to medical specialists
- Reduced health professional isolation
- More timely patient care delivery in geographically isolated First Nations
- Improved patient outcomes – services in own home/community, particularly important for the elderly
- Convenient – don't have to leave children/family
- Respect for cultural integrity, traditional values, Indigenous language
- Reduced unnecessary referrals and visits to medical consultants outside the region
- Reduced cost and social burdens of traveling out of community (financial cost/social supports).

The challenges included:

- It was more difficult in the beginning to effectively communicate with physicians
- There have been human resource challenges, including regional staff supervision and community telemedicine coordinators turnover
- Technological issues, such as phone/internet connectivity occurs.

KO eHealth has generated more than $20 million in health system benefits in the past 11 years. In 2016/17, for example, KO eHealth generated $2 million more in medical transportation cost avoidance that it received for operations.

Panel & Keynote Summaries

PANEL DISCUSSION 1:

What's Happening in Saskatchewan Telehealth

The first panel included an overview of telehealth usage in Saskatchewan.

Neil Olynick, the Telehealth Program Lead for eHealth Saskatchewan, reviewed provincial telehealth usage. eHealth Saskatchewan has seen significant growth in the past five years, and last year served 17,000 patients. The telehealth program team manages 385 active endpoints in 137 communities. There are now 160 physicians/specialists using telehealth in Saskatchewan, a 50% increase year over year.

Mr. Olynick identified the following primary challenges:

- Clinical supports and capacity is challenged, as are spaces/room for telehealth consultations. Moving towards mobile device would alleviate this, as well as improve convenience and access
- The physician payment model is inadequate, outdated and restrictive. Policy and legislation need to be developed for new video software solutions that leverage mobility
- The scheduling system is not flexible
- Telehealth is not embedded in clinical practice, but practiced "on the side of the desk" by interested physicians.

Mr. Olynick suggested the lowest-hanging fruit for adding telehealth services is within tele-dermatology and the leveraging of Store and Forward Technologies to decrease wait times.

Participants listen to Neil Olynick describe eHealth Saskatchewan's activities

Panel & Keynote Summaries

Left: Normen Ducharme of Health Canada talks about FNIHB's telehealth activities

Right: Veronica McKinney of Northern Medical Services describes the issues affecting access to health care in northern Saskatchewan

Normen Ducharme, the Regional Manager for First Nations and Inuit Health Branch (FNIHB) eHealth Infostructure Program, outlined the use of telehealth in Saskatchewan's First Nations communities. There are now 50 First Nations telehealth sites, up from only eight in 2012/13. 33 First Nations communities are using telehealth, supported by eight eHealth coordinators. FNIHB organized 1059 sessions in 2016/2017.

Mr. Ducharme identified major areas of usage as mental health, chronic illness, professional development/education and administrative meetings. Benefits included increased access to health care services and cost savings.

Veronica McKinney, the Director of Northern Medical Services, discussed the use of the InTouch RP7 remote presence robotics – affectionately referred to as 'Rosie the Robot' – in Pelican Narrows, and soon La Loche, in northern Saskatchewan. There was evidence that remote presence could help address some of the region's challenges, including high mortality/morbidity, reduced access to care, and barriers to travel. Dr. McKinney also spoke about the importance of community collaboration right from the start, improved engagement and empowerment of patients and families and the patient as central/part of the decision-making process.

PANEL DISCUSSION 2:

Perspectives on Telehealth

This panel provided perspectives on telehealth from a Nurse Practitioner (NP), a client and an Information Technology (IT) adviser to provide a broader representation of the resources, peoples and processes involved in telehealth delivery.

Rachel Johnson, a RN/NP who uses Remote Presence (RP) technology in Pelican Narrows, described her experiences with a RP pilot and feasibility study. The technology was very useful in providing improved care to children and their families in the community. Having access to a specialist provided her with a sense of being empowered and confident, contributing to her skills and knowledge base.

However, Ms. Johnson also pointed out the benefits of telehealth – keeping more patients in their community for care – also transferred a heavier burden of care to the local nurse. This can be problematic in rural and northern health clinics where capacity is already maximized.

Ms. Johnson articulated Telehealth is effective and should be promoted, however administrators will need to take into account the implications of these decisions. Including nurses in discussions and decision-making for the practice setting is essential to making telehealth implementation effective and sustainable.

Vanessa Linklater from Pelican Narrows provided the client perspective. Ms. Linklater is a mother of five children, as well as a grandmother. She has experienced care for her child via Remote Presence five times. She indicated her experiences with telehealth were all positive. In particular, it saved her and her ill family member from having to make the long and difficult trip to Prince Albert (4 hours) or Saskatoon (6 hours).

Charles Bighead, the e-Health advisor for the Northern Inter Tribal Health Authority (NITHA), provided an IT perspective. He confirmed that each NITHA site is telehealth enabled, though bandwidth can be a challenge.

Mr. Bighead shared IT was the "easy part"; he indicated the networks are fairly reliable; however, there are challenges with power outages and IT human resources. The harder and more complex aspect was the business piece. The need to have the right people, processes and technology in place are critical. "Nothing works unless all three work."

Rachel Johnson describes her experiences using Remote Presence as a Nurse Practitioner in Pelican Narrows, while panelists Vanessa Linklater and Charles Bighead look on

Mr. Bighead indicated bandwidth charges were onerous and unreasonable, with prices escalating, rather than decreasing as in the South of the province. In addition, jurisdictional issues remain. There are mismatches between who incurs the cost of telehealth and who benefits. Mr. Bighead articulated the need for a provincial telehealth strategy to address some of these challenges.

KEYNOTE PRESENTATION 2:

Telehealth and Rural & Remote Health Care in Saskatchewan

The Honourable **Greg Ottenbreit**, Saskatchewan's Minister of Rural and Remote Health, provided the morning plenary address. He acknowledged the many challenges of providing services in rural and remote communities, such as weather and distances, and outlined some of the initiatives the province has taken to expand telehealth, including $500,000 for the remote presence pilot in northern Saskatchewan.

Minister Ottenbreit iterated the need to integrate telehealth processes and tools into care plans, rather than using them as an add-on. His message was that telehealth needs to become part of the culture of health care delivery.

Finally, Minister Ottenbreit was able to draw on his own experiences as a client of telehealth services to consult with his oncologist from his home community of Yorkton. He has experienced first-hand the convenience and accessibility of telehealth and committed to promoting its use in provincial health care services.

Minister of Rural and Remote Health the Honourable Greg Ottenbreit delivers his keynote address

KEYNOTE PRESENTATION 3:

Trends in Telehealth

The lunch time keynote address was delivered by **Yulun Wang**, the Founder and Chief Innovation Officer of InTouch Health, as well as a former President of the American Telemedical Association.

Mr. Wang provided a vision for the evolution of telehealth, from the operationalization of processes, to use of big data, to employment of artificial intelligence. He suggested that telehealth will enable the virtualization of health care delivery, removing physical and structural barriers between patients and providers.

The promise of telehealth is to improve access to care, reduce costs and better leverage expertise. However, as with any new technology, it can be burdensome to move from innovation and early adoption into mainstream operationalization – what he described as "crossing the chasm". Many of these challenges are exacerbated in health care, which is highly complex and involves public, as well as private goods, with the associated ethical and legal ramifications.

InTouch Health Founder and Chief Innovation Officer Yulun Wang with Saskatchewan's Minister of Rural & Remote Health Honourable Greg Ottenbreit

Technology is usually the easy part; the hard part is the people: changing the culture of how people work and receive care. He provided two paradigm shifts that lead to innovation by clinicians:

1) moving from the digital representation of the patient – such as using RP to connect to specialists and

2) changing thinking from the technology to the right expertise – the Network is the Hospital.

PANEL DISCUSSION 3:

Opportunities in Rural, Remote and Indigenous Telehealth

Tanya Holt, a pediatric intensivist, described her experience using the InTouch RP7 robot to deliver care to children in Pelican Narrows, Saskatchewan. In her field, time is critical to provide effective, and even life-saving, care. In a province as dispersed as Saskatchewan, this is often very difficult. The RP7 has allowed her to see and assess pediatric cases more quickly, and make better decisions about next steps (e.g. either urgent transport to a tertiary care facility, or providing care within the community). Telehealth has allowed her to provide better and more timely care to many children in the community, and in many cases has allowed families to avoid the long drive to hospitals in Saskatoon or Prince Albert unnecessarily.

Simon Bird, the Principal of Senator Allen Bird Memorial School in Montreal Lake Cree Nation, discussed the challenges he faces in providing adequate supports to his students. Many of his students need assistance in mental health/ counselling, speech therapy, occupational therapy, etc. Underfunding, often driven by jurisdictional issues, is a persistent problem. However, even when there are resources to provide these services, there is a lack of consistency in the professionals who service the school. This has negative impacts on the relationship students have with providers and the quality of their care. Mr. Bird sees telehealth and technology as a mechanism that could provide cost-effective and consistent care to his students, without them having to leave school – often the safest place in their lives. Many youth are accustomed to and even prefer communications via technology. Counselling could even be done by text messaging, and psychiatric services delivered by telehealth. Because the provider could be connected from anywhere, Mr. Bird believes telehealth services could improve consistency in care.

Heather Choquette, the provincial manager of Community Oncology Services for the Saskatchewan Cancer Agency, has fostered one of the most successful and accessed telehealth services in the province.

The province has 16 community oncology centres across the province. In Saskatchewan, rural patients often have to travel long distances to access care, absorbing travel and other costs associated with being absent from home, such as child care. Oftentimes a drive of several hours is coupled with a wait time of another hour for an actual visit with the specialist of 10-15 minutes. Telehealth allows them to provide more equitable care to clients across the province. Further, it makes it easier for family members to attend appointments with clients.

One of the main challenges identified by Ms. Choquette is ensuring the IT capacity "on the ground", as well as, having champions on the provider side who are willing to use telehealth.

PANEL DISCUSSION 4:

Legislative & Jurisdictional Issues

The final panel of the day began with Christine Baynton, the Chief Privacy Officer for eHealth Saskatchewan. Ms. Baynton discussed some of the structures in place to protect patient privacy, e.g. the 2003 Health Information Protection Act (HIPA). There is a need to balance provider information needs with the right of patients to privacy, and governments and health care providers have a number of obligations in this regard. Providers can be designated trustees of patients' personal health information, but must be careful not to inadvertently or purposefully share that information with non-trustees. Telehealth entails certain risks and requires strong safeguards.

There are also issues with sharing information across jurisdictions, e.g. from First Nations provincial health authorities and vice versa, especially if these have different or incompatible standards in place. Data sharing agreements can be developed, but require foresight and time.

Patrick Johnston, the Director of eHealth for the Federation of Sovereign Indigenous Nations, further touched on issues with data sharing and ownership from the First Nations perspective. He iterated the need to work across jurisdictions to provide better patient care to on reserve clients. He suggested that HIPA can be compatible with the OCAP (Ownership, Control, Access, Possession) principles for working with Indigenous peoples, but more work needs to be done to clarify roles and responsibilities. He also pointed out there is no legislation in Canada which provides for the protection of collective information – e.g. that of a community or community grouping, rather than an individual.

David Guerrero, the Senior Insured Services Consultant for the Government of Saskatchewan Medical Services Branch, discussed the practicalities of providing payment to physicians for services delivered via telehealth. In the Saskatchewan single payer system, physicians require fee codes to be reimbursed for their services. There are few fee codes for telehealth services in Saskatchewan – the technology has advanced far beyond the payment schedule.

There is nothing in the legislation that would prevent the addition of telehealth-specific fee codes. However, consideration must be given to anticipating use and volume of services, and to make compensation equitable to face-to-face service delivery. It would also be helpful if eHealth and Health Canada were able to coordinate better. Mr. Guerrero did suggest it was possible to simply use existing fee codes for telehealth services and not distinguish in the payment schedule the means of service delivery (e.g. in-person or via technology).

Mark Ceaser, representing the Saskatchewan Medical Association, provided some reflections from the physician perspective. He identified the need and promise for telehealth. He suggested that amongst other things, the high incidence of no-shows, which places a burden on the efficacy of our health care system, could be reduced through the use of telehealth. By reducing the challenges patients and families experience to travel long distances for appointments, there could be more efficiency in the system and improvement in quality of care as appointments are realized at the local clinic.

Some of the structures in place to promote telehealth use include appropriate payment

mechanisms, but also continuing education for physicians and other health professionals to become more comfortable and empowered to use telehealth. He posed an interesting dialogue with the previous speaker, Mr. Guerrero, on the issue of quality and the overwhelming evidence that consultation via telehealth is as good as face-to-face encounters. He suggested resources should not be invested in repeating research within a local context, but in implementing fee coding. This is consistent with Dr. Wang's address that telehealth can be more powerful than in-person interactions.

Mr. Ceaser also cautioned the audience about the potential risk of losing sight of holistic health needs by focusing on purely medical delivery of services via telehealth.

Mark Ceaser of the Saskatchewan Medical Association

What We Heard

Participants discuss challenges, opportunities and solutions to more fully implementing telehealth

Forum participants had an opportunity to meet in small groups to discuss what they perceive as the challenges, opportunities and solutions to more fully implementing telehealth in northern and Indigenous communities and beyond. This section summarizes the feedback.

1) Benefits of Telehealth:

- Quicker access to physicians and medical specialists
- Reduced health professional isolation
- More timely patient care delivery in geographically isolated First Nations communities
- Improved patient outcomes with services in own home or community. This was viewed as particularly important for the elderly and critically ill.
- Convenient to not have to leave community and stay with family/children
- Reduction in language barriers – local practitioners more likely to speak language
- Respect for culture and traditional values
- Reduction in unnecessary referrals and visits to medical consultants outside region
- Reduction in cost and social burdens of traveling out of community (financial cost/social supports)
- Family members can be included more easily in telehealth consultations.

What We Heard

2) Current Challenges to Telehealth Implementation:

- Clinical supports/capacity including space/room. Need to move to use of mobile devices, rather than place-dependent videoconferencing/ telehealth suites.
- Physician payment model and reimbursement
- Connectivity and bandwidth issues
- Human resource challenges – i.e. staff retention of community telehealth coordinators (CTC)
- Local capacity – need people from the community involved – training local people who will stay in the community
- Underfunding and inconsistency in services/access
- Scheduling not flexible enough at present
- Federal and provincial/interprovincial jurisdictional issues lead to gaps in services; e.g. Registered Nurses regulated through the provincial body, but employed by the federal government
- Silos of work and no central coordination system – eHealth Saskatchewan, Health Canada and others all doing different things
- Duplication of services and confusion due to new technologies being introduced to the health system from various points – eHealth, Saskatchewan Health Authority, University of Saskatchewan, FNIHB, etc.
- FNIHB transferred Registered Nurses make less in wages, affecting retention and capacity
- Clinics and clinicians should lead standardization, not the funder/ government.

3) What is Needed? Solutions to improve use of Telehealth in communities:

- Increased communication and collaboration with First Nations communities to increase utilization
- Telehealth needs to be embedded into normal clinical practice rather than as an add-on; need to integrate telehealth mechanisms into actual care plan
- Integrating virtual care model into regular clinical practice – commitment from clinical side is needed
- Need to align technology with policy – need a provincial strategy
- Find ways to reimburse physicians – fee for service codes; there must be a more straightforward way for physician payments
- Account for reimbursement of office space and overhead costs for remote sites engaged in telehealth
- Move to mobile units
- Community involvement right from the start
- Engage all decision makers
- Need to improve connectivity speed and cost (while prices have gone down elsewhere, prices have only gone up in Northern regions)
- Explore web-based diagnostic and prescribing services
- Identify and be cognizant of bandwidth requirements for different technologies
- Make the patient a central part of the decision-making process
- Improve engagement and empowerment of patients and families

What We Heard

- Train local people to reduce turnover – would provide more community control and contribute to Indigenous self-determination
- OCAP principles must be followed – protection of privacy/data for First Nations communities
- There is the potential to use the power of cloud (big data) for telehealth applications
- Telehealth could work well for mental health issues among youth
- Need to have technology in place and a champion to use it
- Balance between privacy and protection of information and the ability for people to access the information they need to do their job
- Ensure data security/authentication/ encryption
- Need time/build awareness of technology, so that people can adjust to seeing a provider on a screen vs. in-person
- Consistent service and follow-up
- Need to work together across services/ ministries – build in centralized coordination.

Recommendations

A number of thoughtful and constructive suggestions for how to move forward emerged from the Forum. This section summarizes those recommendations, with a call to action on the part of governments, health authorities, practitioners and post-secondary institutions.

1. Develop a provincial telehealth strategy to address jurisdictional barriers.
Ensure scheduling, technical requirements and payment is coordinated, and where possible, centralized.
Develop mechanisms to protect privacy while facilitating sharing of basic information needed to provide services effectively.
Allow widespread access of eViewer to other health care providers, including RNs.
Ensure telehealth infrastructure is developed and promoted for inter-professional use; not just physicians.
Move away from pilot projects and special funds, and start directing human and financial resources towards rationalizing the system for telehealth use – not particular tools (e.g. remote presence has certain advantages, but is not the most appropriate tool for every telehealth service). This would promote sustainability and confidence in telehealth applications.

Recommendations

2. Ensure payment for delivery of telehealth services.

Develop fee for service codes for telehealth services; or better yet:

Allow physicians and other providers to charge the same rate for services regardless of how they are delivered (in-person or via technology).

3. Improve provider awareness and comfort with telehealth technologies.

eHealth Saskatchewan to provide presentations and tradeshows at existing conferences.

Continuing Education providers (e.g. Continuing Education and Development for Nurses and Continuing Medical Education) to deliver professional education on telehealth and technology enhanced health care delivery.

University of Saskatchewan Health Sciences to teach eHealth and telehealth technologies, processes and benefits in their undergraduate curriculum.

4. Assess feasibility of web-based diagnostic and prescribing services for minor ailments (e.g. a 24 hour online clinic).

5. Advocate for better bandwidth availability in First Nations and northern communities to take advantage of telehealth technologies.

Negotiate reasonable rates for telehealth use of bandwidth.

Identify communities with substandard bandwidth availability for telehealth use.

6. Incentivize telehealth uptake.

Direct resources and savings to rural and remote clinics that use telehealth to compensate for the diversion from tertiary care centres and reduced transportation costs.

Provide equivalent compensation for physicians for telehealth and in-person service delivery.

7. Communications

Better communicate evidence-based benefits of telehealth to practitioners, clients and the public.

Ensure community collaboration from the start and the inclusion of remote on-site health professionals.

8. National advocacy

Advocate for the establishment of a Canadian Telehealth Association, similar in role to the American Telemedical Association, to:

i. Advocate for an interprovincial licensure compact for telehealth

ii. Advocate for equivalent compensation and standards of care for in-person and telehealth services

iii. Provide draft legislation

iv. Provide education and training to providers

v. Buy telehealth equipment in bulk; ensure systems are compatible.

Appendix 1 – Forum Agenda

Telehealth in Northern and Indigenous Communities: ***Improving Access through Innovation & Collaboration***

Thursday, October 5th, 2017 • The Willows – 382 Cartwright St. • Saskatoon SK, Treaty 6

8:30 Registration and Breakfast

9:05 Welcoming Remarks

9:20 **Orpah McKenzie** - eHealth Program Manager, Keewaytinook Okimakanak E-health (via videoconference)

9:50 ***What's Happening in Saskatchewan Telehealth***

- eHealth Saskatchewan - Neil Olynick, Telehealth Program Lead, eHealth Saskatchewan
- FNIHB - Normen Ducharme, Regional Manager, eHealth Infostructure Program Health Canada, Saskatchewan Region
- Northern Medical Services - Veronica McKinney MD, Director

10:30 Health Break

10:45 ***Perspectives on Telehealth***

- RN/NP Perspective - Rachel Johnson NP, Master's candidate University of Saskatchewan College of Nursing
- Patient Perspective - Vanessa Linklater, Pelican Narrows
- IT Perspective - Charles Bighead, eHealth Advisor, Northern Inter Tribal Health Authority

11:30 **Honourable Greg Ottenbreit** – Minister of Rural and Remote Health, Government of Saskatchewan

Telehealth and Rural & Remote Health Care in Saskatchewan

12:00 Lunch

12:45 **Lunchtime Keynote – Dr. Yulun Wang**, Chairman, Founder & Innovation Officer, InTouch Health

Trends in Telehealth

1:30 ***Opportunities in Rural, Remote and Indigenous Telehealth***

- Mental Health - Simon Bird, Principal, Senator Allen Bird Memorial School
- Cancer - Heather Choquette, Provincial Manager, Community Oncology Services, Saskatchewan Cancer Agency
- Pediatrics - Tanya Holt MD, Faculty in Pediatric Critical Care, University of Saskatchewan

2:15 ***Legislative & Jurisdictional Issues***

- Christine Baynton - Chief Privacy Officer, eHealth Saskatchewan
- David Guerrero - Medical Services Branch
- Mark Ceaser - Saskatchewan Medical Association
- Patrick Johnston - Director of eHealth, Federation of Sovereign Indigenous Nations

3:00 Health Break

3:15 Break-out table discussions: (1) Barriers to telehealth uptake and implementation; (2) Strategies for more accessible and effective telehealth services in northern and Indigenous communities

4:00 Reports to Workshop

4:25 Chair's Summary and Closing Remarks

Appendix 2 – Forum Participants

Registered Forum Participants

Ewan	**Affleck**	Norm	**Ducharme**	Faye	**Michayluk**
Abdul	**Araga**	Heather	**Exner-Pirot**	Corey	**Miller**
Rukayat	**Ayinla**	Val	**Fosseneuve**	JD	**Miller**
Marilyn	**Barlow**	Valerie	**Georget**	Gary	**Morris**
Christine	**Baynton**	David	**Guerrero**	Arturo	**Muslera**
Lois	**Berry**	Tanya	**Holt**	Pat	**Novakovski**
Faisal	**Bhuiyan**	Michelle	**Hrychuk**	Neil	**Olynick**
Charles	**Bighead**	Rachel	**Johnson**	Greg	**Ottenbreit**
Simon	**Bird**	Patrick	**Johnston**	Anna	**Pacik**
Judy	**Bouvier**	Andrea	**Kohle**	Esther	**Park**
Lorna	**Breitkreuz**	Joelena	**Leader**	Audrey	**Parke**
Raul	**Bulao**	Tammy	**Lidguerre**	Joanne	**Petersen**
Lorna	**Butler**	Vanessa	**Linklater**	Roderick	**Sanderson**
Mark	**Ceaser**	Stacey	**Lovo Grona**	Jessie	**Singh**
Heather	**Choquette**	Geoffrey	**Maina**	Tony	**Tung**
Mohammed	**Choudhary**	Shawn	**Masse**	Jay	**Vincent**
Portfolio	**Councillor**	Solomon	**Mcharo**	Yulun	**Wang**
Tamara	**Desjarlais**	Veronica	**McKinney**	Erin	**Wolfson**