



# Equality of opportunity for Canadian Indigenous communities and Digital Healthcare.

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March 5, 2024 – Cameron Fry, BrightBuild® Technologies

## Preface

Working in acute healthcare facilities as a professional technology expert, my experiences have greatly influenced my comprehension of the inequalities that affect remote indigenous communities, especially when it comes to obtaining and deploying vital technologies such as Mass Notification Systems (MNS). The information provided herein seeks to highlight some of the complex issues remote communities tend to confront within their healthcare infrastructure, mostly due to economic and financial differences with larger and more robustly funded cities in Canada and the US.

Throughout my journey, I have remained dedicated to finding and advocating for solutions that complement the resources found in these isolated areas. I firmly believe that large, costly manufacturers do not always need to completely revamp their current business structures to achieve technological equity. Rather, it advocates for a more nuanced approach that acknowledges the distinctive circumstances of these communities and works to adapt technology in a sustainable and approachable manner.

Technology vetting from suppliers that have created their solutions in settings similar to isolated indigenous communities is a key component of our goals at BrightBuild. This approach stems from the belief that technologies developed in comparable environments are innately more sensitive to the unique requirements and difficulties associated with our Indigenous communities. This is done in place of simply locating more affordable alternatives, which departs from ensuring that the solution fits each need correctly. Remote, economically disparate communities are a reality worldwide, hence, our practice of seeking out and vetting technologies developed with these types of considerations meets needs and delivers success without excessive financial burden to the spaces where they are implemented.

In this introduction, we are implying the critical need to bridge the technology gap with intelligence, equality, and respect for the distinct cultural and economic circumstances of isolated indigenous people. This is in favor of the common machinations associated with the business of Canadian healthcare, and the common vendors who provide services within. A specific summary of these problems in the context of digital safety and mass notification technologies is offered, defining how and why specific solutions might promote a balance that protects current resources and encourages technological development without jeopardising the community's financial stability or autonomy.

## Technology and Healthcare

Technology integration in healthcare has been a game-changing worldwide trend that has improved patient management, treatment quality, and access to medical information. However, because of logistical problems and economic inequality, isolated Indigenous healthcare institutions in Canada have a difficult time procuring and successfully implementing these innovations. When contrasting federally supported Indigenous healthcare services with the resource's accessible urban healthcare facilities, a concerning problem is illuminated that paints a picture of disparity that should not exist in a time of progress.

The primary challenge is the financial disparity between mainstream Canadian healthcare institutions and Indigenous communities wholly reliant on government funding. Canadian primary healthcare captures funding from multiple providers, including but not restricted to, federal and provincial allocations based on region and infrastructure, foundations, corporate donations, foreign investment in research and the like. Conversely, funding for Canada's indigenous communities is distributed via a convoluted web of federal, provincial, and territorial agreements funded almost entirely through the tax system. The federal government, which recognises its constitutional obligations to First Nations, Inuit, and Métis peoples, is the main source of financing. Health care, education, housing, and infrastructure are just a few of the many services covered by this money and is distributed by several agencies including Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) and Indigenous Services Canada (ISC).

The differences in indigenous vs standard Canadian healthcare funding and allocations are glaring. Allocated financial resources frequently fall short of what is required. An example of this is found in the Non-Insured Health Benefits (NIHB) programme, which offers eligible Indigenous peoples additional health benefits, has come under fire for its restrictions and red tape. This is in stark contrast to the provincial healthcare systems who offer more extensive services in larger nonindigenous urban areas. Smaller facilities in these areas are strategically connected to larger community health units to allow for a trickle-down of purchased services and technologies without the financial strain experienced by stand-alone disparate facilities within the vast diaspora of indigenous communities.

In fact, it may be claimed, for those who are prepared to investigate more closely, that landed immigrants and refugees have frequently found it simpler to access premium healthcare services than indigenous peoples trying to participate in solutions like the NIHB schema. As an illustration, indigenous veterans—those who have served in war zones like Afghanistan face distinct physical and mental health issues that are directly related to cultural differences as compared to their non-indigenous counterparts. Research has shown that, in comparison to their non-Indigenous counterparts, Indigenous personnel of the Canadian Armed Forces (CAF) had greater incidence of addiction, post-traumatic stress disorder (PTSD), and other mental health conditions. The scarcity of contextually appropriate, and culturally aware physical healthcare and mental health services in their native communities is a major contributing cause to these difficulties.

## Indigenous Healthcare and Canadian Veterans

Although there is a significant level of quantitative data explicitly concentrating on Indigenous soldiers returning from Afghanistan, what is known about these returning soldiers' points to a greater risk of addiction, self-harm, and suicide. For instance, more comprehensive research revealed that suicide rates are far higher in these communities than the general population, with young Indigenous men being especially vulnerable. These more general patterns most likely hold true even if specific data about Indigenous veterans may not be easily accessible, underscoring the urgent need for focused assistance and intervention. These veterans joined CAF with strong assurances of equality and personage that realized through the hard work and effort required for Canadian military qualification. They distinguished themselves in battle, and returned home, as equals, with the same wounds and aftermath of their warfighting as their nonindigenous counterparts, only to once again be rendered disparate from the essential support they earned within CAF operational theaters. Returning to their home communities for respite and restoration, for many, become the greater battle.

The need for thorough awareness of the particular difficulties encountered by Indigenous communities, especially the special requirements of veterans returning from war, should serve as the foundation for a commitment to creating parity in healthcare that reflects the same investment in progress and development within the rest of Canada.

Technology has already proven itself to be a key factor in closing the service delivery gap by providing accessible and culturally relevant virtual mental health care, telemedicine, and remote patient monitoring. Telehealth systems, for example, can enable prompt and efficient mental health therapies by facilitating real-time connection between Indigenous patients in rural areas and professionals based in metropolitan centres. Furthermore, in these environments, the employment of specific Mass Notification System technology can vastly improve patient and healthcare worker safety.

As an example, anonymous reporting of mental health concerns using digital platforms can lessen the stigma attached to asking for assistance. Technology may also help in the creation of individualised treatment plans that are supported by data analytics, enhancing patient outcomes and service quality. Mobile applications and wearable technology can help with continuous mental health condition monitoring and management by providing resources for self-symptom monitoring, stress reduction, and mindfulness.

## Safety and Support for Caregivers

Conversely, close attention to the methods being used for caregiver safety and well being are already defined as essential to standardized Canadian healthcare, however, for a number of reasons, these systems are significantly less accessible within indigenous communities who *desperately* need them. Many of the events that have pushed the rapid adoption of digitally personalized staff duress systems in larger centres are predicated on the very same conditions experienced by indigenous communities, who experience these events with greater frequency and in greater number than their urban counterparts. The aforementioned disparity is continuously through the limited if not completely absent access to the same safety technologies and systems deemed essential for staff safety in every other Canadian healthcare facility.

While it is true that the Canadian government has started to take notice of these challenges and that Veterans Affairs Canada (VAC) has put in place special programmes targeted at providing support to Indigenous veterans, the outcomes of these initiatives are yet unknown, and the exogenous factors are just beginning to show themselves as critical to the caregivers who support these communities.

Given these factors, there is an evident and pressing need for more funding for technology in Indigenous healthcare settings, and greater freedom for the professionals within these communities to pursue and implement these technologies without interference.

### The Importance of Ease of Use in Digital Transformation

Isolated Indigenous communities can struggle with the exact same issues as any other isolated community in the practicalities of implementing using new technologies. This isolation makes it difficult to have and maintain the infrastructure needed to support many of the available technologies. Dependence on specific IoT infrastructure and energy makes things difficult. Also, the average age and technical capabilities of staff who serve these remote communities require the technologies they do implement to be easy, self supporting and require less heavy lifting in the order of change management.

As a whole, when comparing the technical structure of healthcare facilities in Canada, Indigenous healthcare services are less advanced than their metropolitan counterparts because of the exogenous factors rooted in geographical remoteness, which also makes staff training in the newest medical technology challenging and costly. In the area of personal safety, the gaps are beginning to show themselves with greater visibility.

Logistical and financial obstacles are also a large challenge, both for a government who are legitimately trying to do the right thing, and the leaders of these communities who carry a much heavier load than their urban counterparts. From a technical perspective, remote Indigenous healthcare institutions simply cannot provide the same standard of treatment as more technologically sophisticated facilities if they do not have access to the newest technologies, methods, and the trained staff to run them. This reality perpetrates restrictions and obstacles even on the most basic elements of telemedicine, diagnostic tools, and electronic health records, all of which have a big influence on patient outcomes. From the outset, this gap also restricts critically important access to mental health support and specialty medical treatments, which depend more and more on technology integration, in addition to physical health care.

## A Necessary and Essential Commitment

Although a tangible degree of progress has been achieved in bridging these gaps via collaborations with organisations committed to improving healthcare for Indigenous people, there are frequently issues with scalability, sustainability and ease of implementation towards these initiatives that obstruct the efficiency and timelines essential to success. While there is now evidence that all tiers of government are beginning to work together with Indigenous communities to bridge these gaps, the journey is only beginning.

*To use a metaphor, “the canoe must be paddled equally from both sides.”*

The past decade has demonstrated that it is not technologies that are needed per se as much as the greater and more important pursuit of *successful and meaningful outcomes* achieved through their use. Many remote communities in Ontario, Atlantic Canada and Northern BC who were early adopters of standardized digital technologies over the past decade have commenced efforts to decouple systems from their facilities. An overall dissatisfaction is rooted in, but not restricted to poor or delayed response from certified service providers, extended downtimes, hidden costs, strategic obsolescence, the inability to integrate systems together without prohibitive costs, or even at all, and most importantly, reduced user engagement resulting from cumbersome and time-consuming training and change management requirements.

History has painted a clear picture that illustrates the heavy lifting required to implement large technologies into smaller remote communities is not beneficial for either party. The provider cannot simply change the rules of market cost and margin for one and not the other, as it destabilizes the intrinsic value of the product to its volume usership. This simply isn't done, as the larger clients will eventually ask for an explanation as to why a small rural community is entitled to the same services for a fraction of the price.

Although creative workarounds exist where restrictions are placed within these systems that guide the customer through a pay-to-play strategy around functionality, research returns a stark reality that this is fully disruptive to the implementation process, and cumbersome to change management and engagement efforts made by the client, diminishing the effective usership of the purchased system. If the revenue model of the provider does not accommodate the underlying uniqueness of the space in which the product is deployed, history has proven that imbalances will quickly form, forcing a new procurement cycle at great and unsustainable expense to the end user.

*“In the simplest of terms, where a simple solution is required, a complex response tends to obfuscate the pathway to the desired outcome.”*



These conclusions clearly illuminate the simple truth that the right technology for these communities is that which has already been purpose built to the unique characteristics of the physical, human, and financial realities of the space being served. In the simplest of terms, if the shoe fits, wear it.

The outcomes required using the technology must be achievable without the need to restructure delivery methods, compromise the shape of the solution, or it's capabilities. It should be immediately useable by staff without difficulties in training or understanding. It should be deployable with change management resources that are similar to the rest of existing systems used by the facility. It should be serviceable through simple remote steps, sustainable and free of hidden or ambiguous fee structures.

In a world where we have just departed from the first decade in global digital transformation, Secapp MNS technology is in its 12<sup>th</sup> year of operation, has achieved a broad spectrum usership of almost 1000 corporate clients worldwide, and is processing tens of millions of alerts and messages annually through a quarter of a million direct users. The Secapp MNS application is by definition, a broad-spectrum solution, meaning that it has a diversified client base that extends across multiple spaces and business types within it's usership. From basic Healthcare facilities all the way to Air Transportation and Rescue, and everything in between, Secapp has been sharpened and honed through a direct focus on continuous improvement. Also, as a nuclear power vendor, Secapp has been qualified to the highest level of stability and performance globally and maintains top clearance levels as a third-party COTS Mass Notification Solution.

Secapp was manufactured directly to meet the needs of the country of Finland first, with a population of 5.5 million. Most of Finland is remote, rural, and has the same limitations shared by Canadian Indigenous communities, who's economy is not suited to large cumbersome technologies designed to be sold in cities like Toronto, New York, Los Angeles, London, Tokyo Etc. This technology has been curated from the ground up in a manner that directly reflects the economics, technical requirements, sustainability and operational needs of rural and remote communities, first in Finland, and now within Canadian territories, towns, villages and most importantly: indigenous communities. The Secapp MNS can be immediately deployed to teams of 2 to 30000 effectively in less than *two hours*, and is the most cost effective, easy to deploy, sustainable and supportable application of it's type available worldwide.

At BrightBuild, we have partnered with Secapp through our discovery that this innovative COTS application is the "Shoe that fits" in these remote and unique spaces. As a digital safety and communication platform, Secapp meets the economic and operational requirements native to these communities head on, without any functional compromises, or changes and modification to it's service offerings. Secapp also has the most cost effective 5- and 10-year sustainability metrics and can also be purposely modified to integrate with most, if not all disparate digital systems operating within any healthcare or community space.