



Community-based pandemic preparedness: COVID-19 procedures of a Manitoba First Nation community

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ABSTRACT

The COVID-19 pandemic has impacted the Canadian health, social and economic landscape beginning early in 2020. Efforts to stem the viral tide have called into cooperation international, federal, and provincial governments. These governments are drawing on public health and socio-economic measures to prevent outbreaks in some cases and reduce infections and death rates in others. First Nations are a seemingly peripheral part of the general response, with communities being served by Indigenous Services Canada, a federal government institution responsible for First Nations health care. A participant observation process enabled the reporting of the community's steps in pandemic planning and preparation. We showcase the work being accomplished on the ground in Nisichawayasihk Cree Nation, a community in northern Manitoba. This includes strong local leadership, evidence-based planning and decision-making, pooling and coordinating resources, ongoing communication, traditional medicines and health approaches, planning for mental health supports, ensuring food security and general safety for community members. All levels of community-based leadership along with strong, measured and well-coordinated action are required to prevent the outbreak of viral infections in First Nation communities.

Key Words First Nations; pandemic; planning and preparation.

INTRODUCTION

First Nations (FN) communities in Canada are tucked within provincial health systems, with federal support, and often follow provincial and federal leads, requirements, and mandates on matters of national concern. The COVID-19 pandemic has tested the country's ability to plan, prepare for, and respond to a public health threat of global proportions. There is a paucity of literature outlining how FN have acted or should respond in the face of pandemics to protect their people and communities. Such information would highlight strengths, provide a reference and offer examples to other Indigenous communities on useful steps that can serve to protect people in rural or remote FN communities. By reason of remoteness and/or rural living, Indigenous communities face unique geographical barriers, differential access to health care services, and limited health care personnel, often resulting in poorer health and outcomes (Benchimol et al., 2018; Goodridge, Lawson, Rennie, & Marciniuk, 2010; Harasemiw et al., 2018).

These challenges are exacerbated during national emergencies such as pandemics.

A report on lessons learned from the 2009 H1N1 influenza pandemic in Canada, noted how structural and administrative deficiencies in managing the pandemic resulted in negative impacts on Indigenous communities even as they became disproportionately burdened by the disease. The report outlined challenges in responding to the H1N1 influenza pandemic that ranged from insufficient infection control, inadequate supplies and equipment, insufficient human resources and training to structural racism hampering the government's response and action in the case of Indigenous populations and communities. To remedy the situation for future incidents, the report recommended preventive planning, attending to existing social determinants of health, improved infrastructure, and designing context-specific interventions. However, the report provides limited express information on how Indigenous communities planned for or responded to the pandemic (National

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Collaborating Centre for Aboriginal Health, 2016), which is the focus of this article.

As the world reels in the wake of a new coronavirus pandemic, it has been invaluable to share information and useful practices from across countries and communities in order to contribute to wider disease prevention and management efforts. It is to this end that this article reports on the emergency planning and preparation procedures of Nisichawayasihk Cree Nation (NCN) a Manitoba FN that has so far been successful in preventing an outbreak of the new coronavirus pandemic in the community. NCN is located about 800 kilometers north of Winnipeg, Manitoba and about 80 kilometers north of Thompson, Manitoba which is its closest town. NCN is Cree-speaking, with about 4,500 residents and over 5,000 members. The community is bordered by three rivers (Burntwood, Footprint, and Rat) and lush forests. NCN is an enterprising community whose outlook, against a long colonial history, is to work diligently towards self-determination and local empowerment. This article is shared in the hopes of learning together and spurring on other Indigenous rural and remote communities.

BACKGROUND

The Coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2 previously known as 2019-nCoV) is unprecedented in its severity and transmissibility. COVID-19 hit an unprepared world by storm in late 2019 and unfolded in full view of concerned peoples and communities globally. From Wuhan Hubei province China, the initial epicenter where the virus is said to have started (Wu et al., 2020), the disease has now travelled far and wide, reaching 212 countries and infecting well over 3 million people with nearly 240,000 deaths worldwide (World Health Organization, 2020b). Many watched with keen interest as China struggled to curtail the spread of the virus and to understand its nature and transmission characteristics. As more information became available, it was understood that the virus had high severity and mortality rates. Severity was higher in older patients, disproportionately affected people with comorbidities, and most infected patients had a history of exposure to Wuhan or others who had recently travelled to Wuhan, the epicenter (Guan et al., 2020; Fan, Fan, Li, Shi, & Liang, 2020; Liang et al., 2020; Xu et al., 2020).

Clinical symptoms were said to include a dry cough, runny nose, fever, and gastrointestinal infection symptoms (Guo et al., 2020; Lai, Shih, Ko, Tang, & Hsueh, 2020). Imaging characteristics included presentation with bilateral, multi-focal lung lesions detected using chest computed tomography (CT) scans (Fan et al., 2020; Xu et al., 2020; Zhang, Qiao, & Zhang, 2020). It is now known that COVID-19 is also spread through human to human contact through the respiratory tract, mainly through droplets and close contact with infected persons (Guo et al., 2020; Lai et al., 2020; Wang et al., 2020; Yang et al., 2020). Transmission is also noted to be high in locations frequented by large numbers of people, such as retail stores (Wang et al., 2020). Other details about the virus are being documented to inform further action, with modeling studies giving pointers on the possible impact of the disease, depending on preventive measures assumed (Li et al., 2020; Zhang et al., 2020).

The COVID-19 spread attained pandemic scale on March 11, 2020 (World Health Organization, 2020a). It arrived on Canada's shores through Ontario in January 2020, when a man who had travelled back from Wuhan, China, presented with symptoms and tested positive for the virus (Government of Canada, 2020a). To date, over 40,000 cases and 2,000+ deaths have been reported in Canada (Government of Canada, 2020b). Canada is also reporting known disease characteristics of cough, dyspnea, headache, general weakness, and pneumonia of greater severity in people with pre-existing conditions of cardiac disease, respiratory disease, and diabetes, with a near balance in gender distribution—55% female and 45% male—and rising numbers of community transmissions (Government of Canada, 2020b).

THE CANADIAN RESPONSE

The Canadian government joined international collaboration and coordination efforts with the World Health Organization (WHO) and also responded locally by keeping all Canadians frequently updated, putting out travel advisories against non-essential travel to high incidence countries. There have been repatriations of Canadians abroad, response coordination with all provinces and territories as well as with Indigenous leaders in the form of issuing public health guidance for surveillance and infection prevention and control (Government of Canada, 2020c). Funding was also disbursed to provinces and territories, but by and large, provinces and territories are responsible for activating public health measures such as reducing gatherings in public and providing direct health care to patients. Schools, places of worship, and non-essential retail shops were advised to shut down and companies were asked to operate from home as much as possible. Attention was also pledged to the needs of “federal populations,” including FN peoples and communities (Government of Canada, 2020c).

In Manitoba, Indigenous Services Canada (ISC) has been working with FN to support emergency response activities mainly by providing up-to-date COVID-19 information through weekly teleconferences, online (<https://www.gov.mb.ca/covid19/updates/index.html>) and by daily provincial COVID-19 updates and news conferences (Government of Manitoba, 2020). ISC has also distributed emergency preparation support funding and delivered Personal Protective Equipment (PPE) to an unverified number of FN communities, in keeping with federal commitments (Indigenous Services Canada, 2020).

It is interesting that the federal government made a commitment, in the face of the COVID-19 pandemic, to support access to health services that would be comparable with that of other Canadians (Government of Canada, 2020c). Historically, First Nations in Canada have not enjoyed comparable health services—or comparable health for that matter (Adelson, 2005; Barnabe et al., 2017; Beavis et al., 2015; Bombak & Bruce, 2012; Chen et al., 2015; Eggertson, 2015; Gone et al., 2019). This has led to calls for government accountability for persistent neglect (Abdolhosseini et al., 2016; TRC, 2015). Poorer structural and social determinants also elevate disease risk in FN populations and communities (Bethune et al., 2018; Browne et al., 2016; Coombes et al., 2018; Gracey & King, 2009; Greenwood & de Leeuw, 2012; Hajizadeh, Hu, Bombay, & Asada, 2018), so that quasi-emergency planning tends to

perpetually be operating in FN homes and communities. While the country seemed to have suddenly awakened to the importance of a comparable health services approach to address a pandemic, FN can be said to be reasonably acquainted with acute planning in daily unpredictable life. Regardless, that announcement was a welcome development to NCN, where people were stunned by the rapid spread of COVID-19 and welcoming of the federal response efforts overall.

METHODS

A participant observation lens (Anzul, Ely, Freidman, Garner, & McCormack-Steinmetz, 1991) was applied to guide information collection and reporting structure and accuracy. Observation included attendance and documenting of meetings, planning sessions, teleconferences, and reviewing COVID-19 situational updates and information. A summary of key activities over a six-week period (March 1 to April 30, 2020) is reported.

Gathering Strength to Combat COVID-19

Manitoba FN that had their eyes on the news and could imagine the potential havoc COVID-19 could wreak on their populations began assessing available resources to protect people and communities. NCN was guided along by a systems-thinking orientation in which all factors that could influence the outbreak and spread of COVID-19 were considered. Causal loop diagrams were drawn to depict case scenarios of how the disease could make its way into and spread within the community (Bradley, Mansouri, Kee, & Garcia, 2020) or conversely, how loopholes could be blocked to prevent an outbreak. The community recognized that in order to prevent or control an outbreak, appropriate clinical and public health measures would need to be in place. The community needed to: 1) Understand the virus, its nature and transmission characteristics; 2) Evaluate the population and any factors that could make them susceptible and yield poor disease outcomes, for example elderly patients or those with predisposing conditions; 3) Determine disease transmission routes, such as travel-related or community transmission potential; 4) Develop infection control pathways. In the case of COVID-19, there are no therapeutics or vaccines (Guo et al., 2020; Lai et al., 2020; Yang et al., 2020).

Preventing and Controlling COVID-19 in the Community

Having come through the H1N1 pandemic in 2009, FN understood that rural and remote communities plan differently than the general urban population (Mostaco-Guidolin, Bowman, Greer, Fisman, & Moghadas, 2012; Mostaco-Guidolin, Greer, Sander, Wu, & Moghadas, 2011; Mostaco-Guidolin, Towers, Buckeridge, & Moghadas, 2013). The best line of defense would be to ensure as much as possible that there are no outbreaks in the first place. NCN leadership comprised of Chief and Council (C&C) members, directors and managers of programs in the community, emergency and public health teams (which was to become to community's pandemic planning and preparation team [PPPT]), promptly sprang into action. The PPPT came together and started with a review of a pre-existing emergency response plan. Key emergency procedures, roles and responsibilities of C&C, Nurse-in-Charge (NIC), the local Emergency Management

Office (EMO), and officers were identified and highlighted. Available human resources for possible redeployment were identified as were other skilled people in the community, such as hunters, medicine pickers, and auto and electrical repairpersons. These skills and capacities would be useful in the event of a community emergency trigger and possible lockdown. The PPPT also identified and prepared locations that could be quickly converted for clinic, testing, and quarantine use and took comprehensive stock of available equipment and supplies at the local nursing station.

Specific Steps

These are the specific steps that were taken as part of the community's pandemic planning and preparation.

1. Reviewing emergency plans—A key step in our community pandemic planning was having emergency response documents in place. This provided a rallying document for the public health team and community leadership. It also provided a sense of preparedness and confidence that the community was ahead of the pandemic with an implementable plan.
2. Joint decision-making—Joint decision-making with public health, nursing staff and community leadership was crucial. The public health team provided information and recommendations on infection prevention and control measures, including hyper disinfecting high-traffic areas, such as the school and recreational facilities in the community. The NIC provided information on testing, priority populations, and facility capacities in the community. Leadership informed the community through memos and fielded questions. Memos and factsheets were distributed throughout the community to guide individual and corporate action. For example, the local school and teachers were duly briefed on the nature, transmission, and current situation of COVID-19. C&C observed and responded to teachers' concerns during the town hall-style briefing, and those discussions led to the decision to shut the school until further notice. This happened well ahead of provincial announcements of school closures for the rest of the year. This measure to prevent a possible outbreak among students and teachers happened quickly because all concerned leadership was together in assessing the situation and jointly making decisions along with the school board and education general authority.
3. Reviewing evidence—C&C requested and received expert public health information on COVID-19. The public health department conducted a comprehensive review of literature on the disease and provided evidence summaries to the PPPT. The team wanted to operate and make evidence-backed decisions based on information and ongoing updates from reliable sources.
4. Traditional health knowledge—The emergency PPPT called for medicine people in the community to prepare traditional medicines for the traditionally inclined in the community. Medicine people in the community went out on the land harvesting and

preparing medicines for the entire community. Preparations were to support personal immunity and to help disinfect households and public spaces. Traditional health practices were also conducted by medicine people for psychosocial and spiritual support. Sweat lodges, smudging, prayers, and land-based activities observing stipulated physical distancing measures were offered. Medicine bundles were readied and placed at the local counselling department for pick-up and distributed from house to house, especially to Elders who could not go to pick up their bundles.

5. Mental health and well-being—There was a significant amount of fear and anxiety in the population regarding contracting the infection and anxiety about what could happen to the community if there was an outbreak. Studies show that this tendency towards fear, anxiety, and worry in emergencies is commonplace (Mawson, 2005). Fear and anxiety can be worsened by loneliness—caused by self-isolation and quarantine measures in some instances—among individuals, older adults, and even health care workers and requires mental health supports (Banerjee & Rai, 2020; Cai et al., 2020; Goethals et al., 2020; Zhang & Ma, 2020). A mental health therapist and trained counsellors in the community were placed on alert to provide support when necessary to community members and for workers. They were to be proactive in reaching out to people who may be vulnerable in such cases, such as Elders, the bereaved or people in palliative care or struggling with predisposing conditions. There were intentional moments of prayers at meetings and planning sessions to help people stay calm and rely on the Great Spirit.
6. Securing public trust in authorities—C&C, together with the public health team, decided early on to frequently share accurate and reliable information with the community. This was intended to curb misinformation leading to panic, which was already quite rampant as people lifted false, incomplete, or contradictory information from Facebook or other social media. Some of the information circulating on social media was not consistent with public health or scientific evidence on COVID-19. It was also crucial to communicate all possible risks to individuals and the community as a way to motivate action and propel full adoption of recommended public health measures of hand washing, cough etiquette, physical distancing, and PPE use when in inevitable contact with an infected person.
7. Communication—The Chief provided information and updates on the local radio in both Cree and English. Information sheets and flyers were also developed or obtained from reliable sources and hand delivered to all homes in the community. In addition, weekly memos were placed on the community's website and emailed to all staff. Communication kept the community abreast of any action the leadership was taking to protect the people. All avenues were explored so that no one would be left behind on information or any measures being taken.
8. Infection control measures—The public health department conducted training sessions on PPE, provided information on disinfecting households, and frequently used spaces and homemade disinfecting sprays and wipes with bleach which can be effective against viral pathogens. Store-bought disinfecting supplies were also distributed to families with young children and those who would normally receive homecare services. Homes and living conditions were assessed during the door-to-door information distributions, families needing extra supplies were supported or advocated for to receive additional services, such as mould removal, food, and cleaning supplies.
9. Stockpiling and supports—Food packages were prepared for the most vulnerable members of the community and especially those with young children. The packages included non-perishable food items, cleaning supplies, personal hygiene supplies, diapers, and baby wipes. The local store was encouraged to stockpile groceries as uncertainty mounted regarding the COVID-19 pandemic. In the nearby town of Thompson, the pandemic had created panic and pandemonium with people hyper-shopping and items being out of stock for weeks at a time. Ordering those items directly into the community was a way to have sensible rations and prevent community members from commuting in and out of the community several times to see if needed items had become available in stores in town. Being assured of food and supplies had a calming effect on the population, making it easier to implement necessary public health measures such as stay-at-home orders.
10. Community safety—Following a systems analysis of possible COVID-19 impact on the community, C&C instituted a pre-emptive local state of emergency on March 20, 2020. A lockdown of the community also came into effect on March 22, 2020. NCN was one of the first communities to institute these measures in northern Manitoba. Community members with business outside of the community were advised to complete all obligatory business they had outside the community within a stipulated number of days and return to the community in preparation for the lockdown. The PPPT required the development of contingency work and business plans including taking stock of essential workers who were to stay on active duty during the lockdown. This step helped cushion any economic impact and maintain business function on a scaled back but active level.

11. Accounting for everyone—The PPPT implemented procedures for receiving all returnees into the community within a specified time period. This included members who had been living in urban centres and some who had become homeless and used homeless shelters in towns and cities. Spaces were prepared in which returnees could be quarantined and monitored for symptoms over a two-week period before reuniting with families. If they developed any symptoms, there were procedures laid out on homecare monitoring or safe transfer to hospital care. This step welcomed all members back home while also keeping the rest of the community safe.

CONCLUSION

Collaborative planning is crucial for community preparedness during pandemics, or indeed any emergencies. Reliable and frequent information provides guidance and calms the community while decisions are made on the best paths forward. NCN has demonstrated that FN have the capacity to pull together, pool resources and fight for the well-being of our people. As at the writing of the article, there are no COVID-19 cases recorded in the community. This makes a compelling case for community-based pandemic preparedness for all FN communities. Outside resources are important and do play a significant role, and community preparation is a bedrock without which chaotic situations can and do become uncontrollable, manifesting in fear, anxiety, and panic. A strong and prepared leadership is instrumental in maintaining confidence and marshalling resources to protect FN people and communities during pandemics.

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CONFLICT OF INTEREST DISCLOSURES

The authors have no conflicts of interest to declare.

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