

# Community responses to the COVID-19 pandemic in Inuit Nunaat

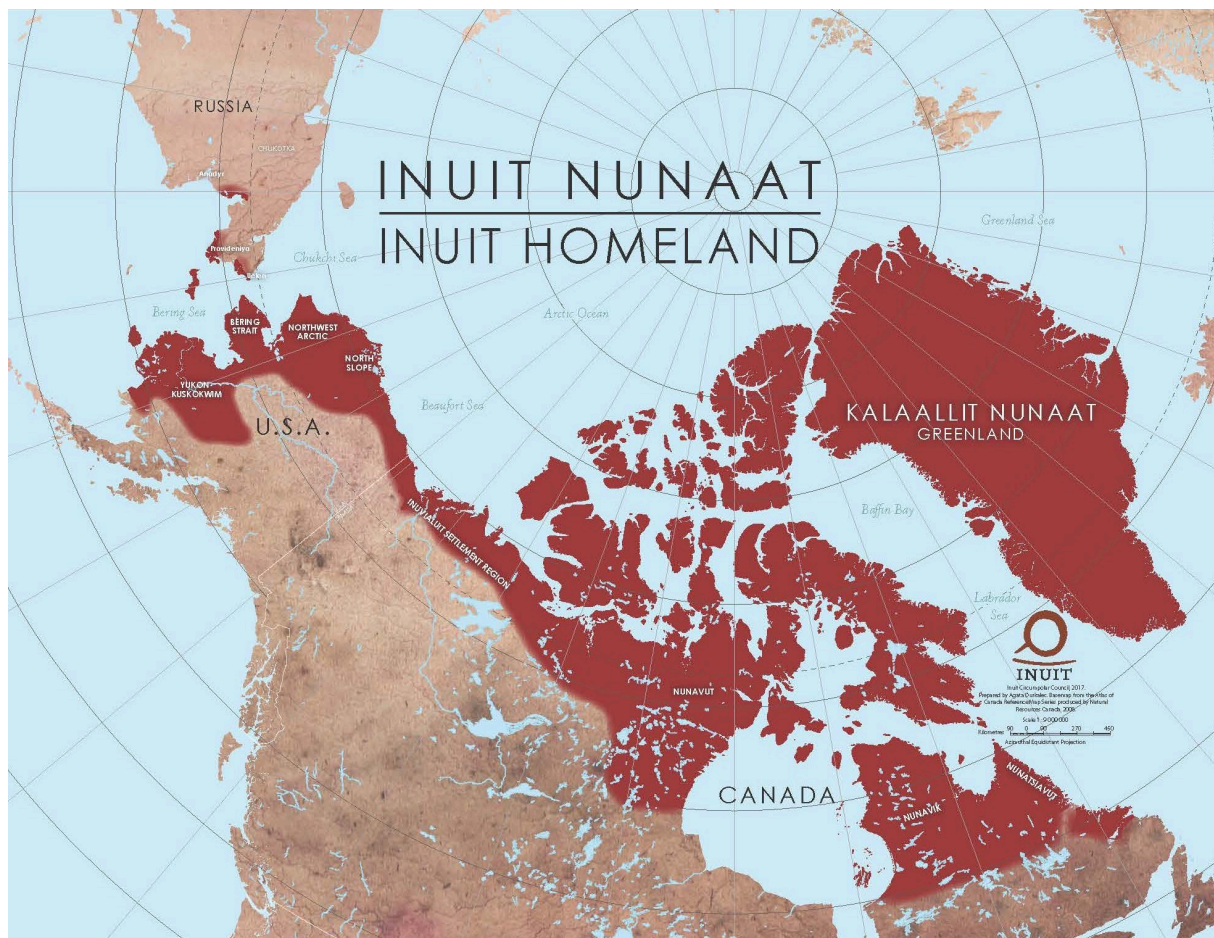
Robyn Long, Selma Ford, and John Crump

*This paper examines how the COVID-19 pandemic has simultaneously heightened the vulnerability of Inuit communities as well as amplified collective resilience. First, we address the intersection of existing challenges to Inuit health, well-being, and social and cultural environments with the pandemic. By situating these issues within the long-standing inequities facing Inuit communities, we discuss how the pandemic has exacerbated negative outcomes at the individual, community and cultural levels. We then outline themes of Inuit-led responses to enhance collective well-being during the COVID-19 pandemic. Particular attention is given to responses that address overlapping issues, for example, mental health, infrastructure, and food security. We draw upon a variety of sources of information to highlight culturally grounded responses, including Inuit government agencies and corporations, nonprofit organizations, news outlets, interviews with community leaders, and partners of the Inuit Circumpolar Council. The examples provided exemplify pathways that Inuit institutions and organizations draw upon for organizing and sharing resources. Thereafter we discuss how amplifying Inuit ingenuity does not minimize the ongoing impact of social and political inequities, but rather underscores the evolving ability of Inuit institutions to respond to wide-scale social and health challenges. In conclusion, we provide insights and policy recommendations that advance Inuit communities' management and responses to pandemics.*

Robyn Long, MSW, Seven Directions: A Center for Indigenous Public Health, University of Washington;  
Selma Ford, Health Officer - Inuit Circumpolar Council – Canada; John Crump, Senior Policy Advisor,  
Inuit Circumpolar Council – Canada

## Introduction

Inuit communities have been largely successful in protecting residents from COVID-19 infections and mortality while also developing culturally grounded strategies to buffer the social, economic, and mental health impacts of the pandemic. These achievements are particularly noteworthy in light of the longstanding social inequities and infrastructure deficits facing communities. In this paper, we situate the COVID-19 pandemic within the historical trauma of past pandemics and continuing inequities, including housing, water and technology deficits, food insecurity, and challenges to mental health and well-being. Thereafter, we draw attention to Inuit initiatives during the pandemic, including community-wide protective measures, vaccination efforts, and locally-driven responses to health and well-being. Finally, we discuss policy steps that are necessary to advance Inuit health, including centering Inuit self-determination, addressing infrastructure inequities, and strengthening Inuit food sovereignty initiatives. This paper draws upon examples from across Inuit Nunaat, the homeland of approximately 180,000 Inuit spanning Canada, Greenland, the U.S.A. (Alaska), and Russia (Chukotka) (see Figure 1: Map of Inuit Nunaat). The Inuit Circumpolar Council (ICC) represents the rights and interests of Inuit in all these areas at the international level. Interviews and many of the reports cited in this paper were provided by ICC's country offices and contacts. Where firsthand information from the offices was limited, most notably in the case of Chukotka, we drew upon government reports, scientific manuscripts, and local news sources.



**Figure 1:** Map of Inuit Nunaat

## **The impact of past pandemics in Inuit Nunaat**

The innovative and resourceful nature of Inuit culture is why collective loss and historical trauma from past pandemics frame the way many communities understand the threat of COVID-19. The influenza pandemic of 1918 devastated many communities. In Brevig Mission, Alaska, the disease killed 90% of the residents and in Nunatsiavut, Canada it claimed the lives of more than 30% of residents in the region (Higgins, 2007). It was particularly deadly in Okak and Hebron, where it led to the death of 77% and 86% of residents respectively (Inuit Tapiriit Kanatami [ITK], 2020c). This profound loss resulted in the entire community of Hebron being dismantled and relocated. Survivors have shared that a sense of depression haunted the community long after the pandemic had ended (Higgins, 2007). Tuberculosis (TB) has been an ongoing threat to the health and stability of Inuit communities for more than a century. The TB mortality rate among Inuit in Canada doubled between 1938 and 1953, while it dropped by 78% for the general population during the same period (Tester et al., 2001). Treatment for TB required Inuit to be relocated to southern Canada where they stayed in sanatoria for months or years. In the 1960s, an estimated 50% of Inuit in Canada had spent time in sanatoria (ITK, 2020c). This separation was socially and emotionally difficult given historical traumas of colonization's forced confinement and separation of Inuit families. Further, Inuit who passed away in the sanatoria were often buried in cemeteries without their family members' knowledge. In some cases, it could be years until a family learned that a loved one died. The Canadian federal government has apologized for the mistreatment of Inuit and currently funds a program to support family members in locating their loved ones' graves (LeTourneau, 2019). TB remains a perpetual threat to Inuit; TB rates among Inuit in Canada are 300 times the Canadian-born non-Indigenous population (Kiddell-Monroe et al., 2020).

Inuit leaders have referenced this shared history as a central reason communities were quick to implement protective measures against COVID-19. In an interview about community responses to COVID-19, Minnie Grey, Chair of ICC's Circumpolar Inuit Health Steering Committee (CIHSC) and Executive Director of the Nunavik Regional Board of Health and Social Services (NRBHSS), reflected:

Our people suffered so much historically from foreign illnesses that were new to them. I remember hearing stories from my mother and grandmother of the days when people were all dying around them from illness that were all so new to them. And I think we have learned from those times that the protection of our most vulnerable is very important, such as our Elders and those with low immune systems. (Inuit Circumpolar Council [ICC], 2020c)

While the memory of loss from past pandemics remains present, the similarities between those diseases and COVID-19 is also clear – they are all highly infectious and require far-reaching public health responses grounded in culturally relevant approaches. It is within this historical backdrop and collective experience that Inuit approached the COVID-19 pandemic.

## **Contextualizing the COVID-19 pandemic**

Longstanding inequities facing communities have rendered Inuit more vulnerable to COVID-19 and other impacts of the pandemic than the general population. Such inequities include the lack

of transit and access to medical infrastructure, shortage of adequate housing and access to clean water, pre-existing food insecurities, and disproportionate levels of mental health challenges. These are illustrated in Figure 2: Inuit vulnerabilities to the COVID-19 pandemic and discussed in detail below.

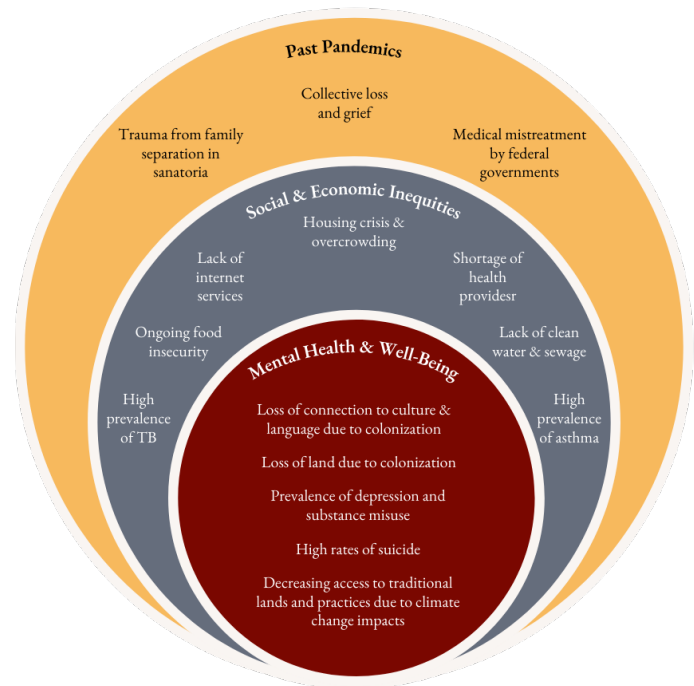
### Infrastructure challenges

At the start of the COVID-19 pandemic, Inuit communities and agencies called attention to heightened risk of virus transmission given widespread infrastructure challenges (ICC, 2020b; see also Arctic Council, 2020; ITK, 2020c). Most Inuit communities across Inuit Nunaat are reachable only by fly in/fly out (FIFO) on small aircrafts and lack basic healthcare facilities. For example, among Inuit communities in Canada, there are only two hospitals with a combined capacity of 86 patients with no options for long-term in-patient care (ITK, 2020c). Similarly in Alaska, patients needing serious care, including respirators, must be flown to regional medical facilities (Sambo Dorough, 2020). In Greenland, a third of the Inuit population live outside Nuuk, which is the only place a ventilator is available (Indigenous Peoples Major Group for Sustainable Development, 2021). This infrastructure deficit means transporting patients in need of rapid medical care is a challenge and limits swift public health responses including rapid testing.

Most Inuit communities rely on limited road, marine, and air infrastructure for food and water deliveries. Water infrastructure is particularly troublesome during pandemics. There are 117 Inuit communities in Alaska, Canada, and Greenland without access to piped drinking water and sewer systems (ITK, 2020a). Historically, these substandard water and sanitation systems have rendered Inuit more vulnerable to the spread of infectious diseases, such as influenza and pneumonia, and more in need of hospitalization (Hennessy et al., 2008). Coupled with inadequate water supplies, communities are burdened with high costs of cleaning supplies. The COVID-19 pandemic has further exposed how inadequate water infrastructure can restrict proper hygiene practices and increase the risk of virus transmission. Janice Grey, who served as Deputy Mayor of the village Aupaluk in Nunavik during the COVID-19 pandemic, shared that it was a challenge for the municipality to ask residents to conserve water while at the same time telling them to increase hand washing and cleaning (J. Grey, ICC Interview, 2022).

Inuit communities also experience the most significant housing deficits when compared to non-Indigenous communities. In Canada, more than 40% of Inuit live in overcrowded housing compared to only 2% of the general population due to a housing crisis exacerbated by climate change (ITK, 2019). Inuit in Alaska, Greenland, and Chukotka face a similar housing crisis. At the start of the pandemic, Inuit agencies stressed that it would not be feasible for all Inuit to follow public health isolation recommendations, rendering it difficult to mitigate local COVID-

Figure 2: Inuit vulnerabilities to the COVID-19 pandemic



19 transmission (ICC, 2020b). Speaking of the first COVID-19 outbreak in Nunavik, Minnie Grey noted that it was a cluster of 13 infected people within one household and public health authorities were quick to support them and effectively limited transmission to the rest of the community (ICC, 2020c). Community wide infrastructure deficits mean there was also a lack of public facilities where those infected with COVID can isolate (ITK, 2020c). Inuit across all regions were fearful that overcrowding would be a source of transmission and loved ones would get sick. Interviews with Inuit youth reveal they were particularly scared of the virus spreading within their community and infecting Elders due to limited healthcare infrastructure and overcrowding (Thomas et al., 2022).

Broadband connectivity is a longstanding issue for Inuit communities, which Inuit Tapiriit Kanatani (ITK), Canada's national Inuit organization, and others have labeled the "digital divide". In a report detailing this inequity, ITK found that only 68% of Inuit living within Inuit Nunangat (the Inuit homeland in Canada) have access to internet compared to 94% of the general Canadian population (ITK, 2021b). This infrastructure gap is a result of insufficient federal investments and the high costs of services through private providers. Inuit households that do have internet access generally do not have enough speed to support video conferencing or downloads, which severely hampers online learning, remote employment options, and telehealth service delivery.

### **Economic & food security**

Inuit agencies and governments raised economic and food security as an immediate concern when business and travel restrictions from the COVID-19 pandemic went into effect. For example, across Inuit Nunangat, most projects requiring material (e.g., construction) are dependent on sealift carriers to bring in supplies from southern Canada (Stoney, 2021). This meant that business closures in southern Canada stalled the import of materials and delayed construction projects. Further, Inuit communities rely on seasonal labor. Travel restrictions during the pandemic meant only essential workers were permitted to visit Inuit communities, impacting the availability of short-term laborers for local businesses (Stoney, 2021). In Greenland, the majority of income is generated through tourism and fishing – both of which came to a halt during closures (CIHSC, 2020). As a result of such closures, unemployment during the pandemic was at historic highs across Inuit Nunaat (Arctic Council, 2020a).

The Arctic Council (2020) reports that pandemic related closures impacted the already vulnerable availability, affordability, and quality of foods in Inuit communities. Prior to the pandemic, for example, Inuit in Canada paid two to three times more for market foods than the general population due to high transportation costs (Pakseresht et al., 2014). Unemployment increases coupled with high food costs severely threaten families' food security. ITK has documented that Inuit food insecurity also increased because of the pandemic's disruptions to supply chains (ITK, 2020c). In Alaska, Ravn Airlines' bankruptcy and flight cancellations abruptly stopped travel and food shipments to dozens of villages (Johnson et al., 2021). Simultaneously, rising fuel costs and unemployment limited traditional harvesting opportunities for Inuit hunters who must travel by car or snowmobile. Combined with the impacts of climate change such as reduced sea ice, hunters were already faced with longer travel distances and higher fuel costs. Traditionally, Inuit hunters share harvests with other community members; thus, their inability to harvest impacts their family as well as the broader community (ICC, 2020a).

### Mental, social, and cultural well-being

Early in the pandemic, Inuit organizations and leaders predicted the pandemic would exacerbate mental health challenges for Inuit (Arctic Council, 2020a). Inuit well-being is deeply relational and within the context of cultural, familial and communal systems. As illustrated in Figure 2, which was developed during the 2021 ICC Inuit Health Summit, these systems have been continuously challenged and torn apart by historical and intergenerational trauma from colonization, including the forced separation of families and placement of children in residential schools, attempted erasure of language and culture, and breakdown of traditional political structures. As a result, there is a prevalence of mental health challenges, including suicide, across Inuit Nunaat. The summit in which the illustration was developed brought together (virtually) youth from across Inuit Nunaat. At this summit, youth talked about the importance of being connected to culture as a source of protection that promotes mental wellness. The image depicts the forces that impact mental wellness and shows that a root cause of many mental health issues is colonialism. Graphic recordings were done in real time to capture and highlight discussions regarding the important connection between mental wellness and culture. In Canada, for example, the suicide rate among Inuit adults is four times higher than for the general population, with the highest rates among Inuit males aged 15 to 24 (Kumar & Tjepkema, 2019). Similar realities face Inuit in other regions. In Alaska, suicide rates in Iñupiaq and Yup'ik communities have been as high as 90/100,000 people (Allen et al., 2011) – a stark contrast to the general U.S. rate of 13/100,000 (Suicide, 2022), meaning they are more than six times likely to die by suicide than the general population. These pre-existing challenges are central when discussing the impact of the COVID-19 pandemic on Inuit mental health and well-being.

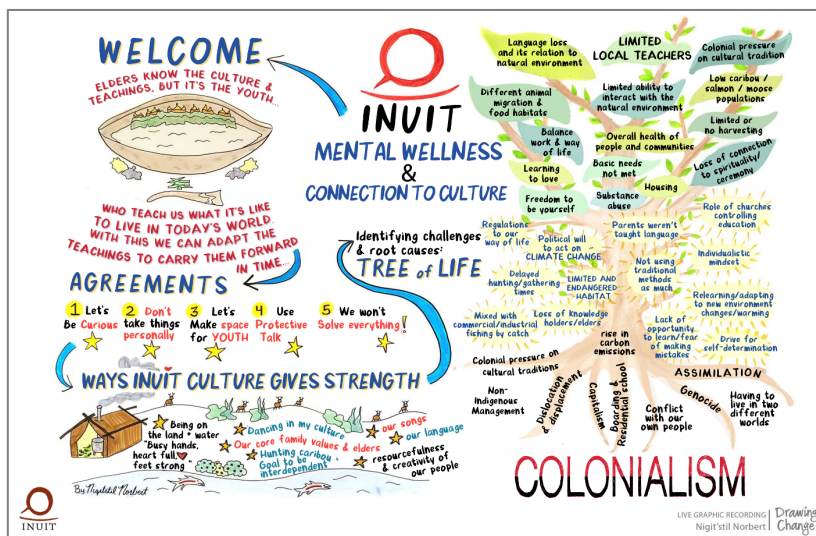


Figure 3: ICC Inuit Health Summit Inuit Mental Wellness & Connection to Culture

Similar to past pandemics, the COVID-19 pandemic altered family and community relations once again by requiring youth to physically distance themselves from Elders, which became a source of distress for many families (Arctic Council, 2020). Research has shown that youth broadly have been particularly vulnerable to negative mental health outcomes during the pandemic (D’Amico et al., 2020; Meherali et al., 2021). Increased social isolation due to educational and extracurricular activities closures and heightened insecurity due to unemployment have threatened to exacerbate existing symptoms of depression and anxiety

among Inuit youth (Thomas et al., 2022). Families with new and young children were also deeply impacted. Trine Abelsen, M.D., based in Nuuk, Greenland, shared that social distancing was a challenge for most in the community. Further, she was pregnant when the pandemic started and explained it “was a time when you needed your loved ones. It was so hard not to have them there to share in the joy or daily moments” (Abelsen, ICC Interview, December 8, 2022).

Prior to the pandemic, Inuit also faced barriers to accessing mental health services due to geographic isolation and limited telecommunications infrastructure for telehealth services. Most mental health providers worked on a fly-in, fly-out (FIFO) system. Research with FIFO providers serving Inuit Nunangat during the COVID-19 pandemic highlights challenges during restrictions, including not being able to feasibly provide in-person services due to the required quarantine measures (i.e., two weeks before and after traveling to a community) (Roberts et al., 2021). Providers aiming to switch to remote services faced barriers, most notably poor internet connectivity, and some indicated that teleservices were most effective with established clients (Roberts et al., 2021).

Globally, the pandemic has been associated with increases in poor mental health, including rising levels of clinical distress among the general population (Xiong et al., 2021). In Canada, self-reported rates of fair/poor mental health are higher among Indigenous peoples versus non-Indigenous Canadians (38% to 23% respectively), including higher rates of moderate to severe anxiety (Arriagada, et al., 2020). While Inuit specific data are not consistently available across the region, local and provincial governments have noted increases in mental health challenges and substance misuse. The connection between mental health, past pandemics, and infrastructure deficits was effectively encapsulated by former ICC Chair Dalee Sambo Dorough in a press release regarding COVID-19:

Inuit across our homelands are working to maintain our traditional culture under very trying circumstances. We are used to living together in groups. Social distancing is a foreign concept and our past experiences with such an advisory were triggered by devastating illnesses such as tuberculosis (TB), measles, and polio. This is why we must adapt. The issues we have been working to overcome for decades, such as overcrowded housing, lack of proper sewage and potable water systems, high rates of TB, and poor broadband connectivity become starkly evident during a pandemic, and increase the risks of spreading the disease. (ICC, 2020b)

## **Responses to COVID-19: Protecting Inuit well-being**

At the start of the pandemic, Inuit communities established local emergency response teams, with whom mayors and other government leaders had weekly calls. In Nunavik the Regional Emergency Preparedness Society was set up to coordinate closely with the Nunavik Regional Board of Health and Social Services (NRBHSS) on measures such as isolation guidelines and travel restrictions (CIHSC, 2020). Further, these response teams maintained regular contact with one another, which enabled isolated communities to receive emerging information on the virus. During an interview, Janice Grey, recounted from her time as Deputy Mayor of Aupaluk that these regular check-ins were critical for villages to check in on COVID-19 rates and standardize messaging on protective measures (Grey, ICC Interview, 2022). The National Inuit Committee on Health (NICoH), ICC, ITK, the National Inuit Youth Council, and Pauktuutit (an

organization representing Inuit women) supported information sharing and regular pandemic updates among Inuit communities across Canada. Similarly, ICC Alaska facilitated COVID-19 meetings and communications among communities from the Yukon-Kuskokwim region to the North Slope. These forums were an important foundation for Inuit to understand the pandemic's impact, as well as to advocate for local solutions ranging from protective measures and vaccination campaigns to well-being initiatives.

### **Community-wide protective measures**

Regardless of what national or federal governments employed, Inuit governments at all levels implemented protective measures including travel restrictions and tracking everyone coming in/out of their communities. Across the Arctic, some of the strictest measures implemented were in Greenland. This included prohibiting all entry to the island, suspending internal travel, and mandatory lockdowns and quarantines for areas affected by COVID-19 (Tiwari et al., 2022). When Greenland did begin to open back up in mid-2020, they required pre-flight testing and quarantine in combination with testing after arrival (Greenland Health Authority, 2022). In Nunavut, Canada, a territory-wide lockdown meant that non-residents were not permitted to enter communities and there was a mandatory two-week quarantine period in a hub outside the region for residents returning (Vilches et al., 2022). An emergency order issued in 2020 for Alaska's North Slope Borough called for caution while traveling in the context of Inupiat values of caring for one another. The order, entitled *Think before you travel*, opened with the statement, "You are your brother's keeper. That is how life has always been up here on the North Slope. Think before you travel. Every time you go, you are making a critical health decision for yourself, your family, your friends, your co-workers – and your elders. Listen to them. Seek their counsel." (Office of the Mayor, 2020).

Alongside travel restrictions, other non-pharmaceutical interventions (NPIs; e.g., mask wearing, social distancing, business and school closures) were effective in limiting the spread of COVID-19. In a September 2020 meeting, representatives from all ICC country offices shared that measures such as restrictions on events and gatherings, mandatory handwashing in public, and mask wearing had been essential in keeping cases and mortality minimal (CIHSC, 2020). Communities were also creative in overcoming infrastructure challenges during the pandemic. In response to immediate pandemic needs, they stockpiled protective equipment and tests so they were less dependent on deliveries (Arctic Council, 2020a). In Chukotka, clinics purchased oxygen and respiratory equipment, which were not previously available, and designated a special ambulance for patients with COVID-19 symptoms (CIHSC, 2020). The Government of Nunavut tackled communities' isolation by implementing a local pilot project to reduce their reliance on charter flights (Government of Nunavut, 2022b). This initiative ensured communities had ongoing air service that was not disrupted by COVID-19 closures from outside airline companies and, due to its success, was extended multiple times. Proactive testing and monitoring to reduce transmission ranged from community wide, as in Chukotka, to close contact settings, such as daycares and Elder's homes in Nunavut (CIHSC, 2020, Government of Nunavut, 2022a).

Addressing the lack of adequate water and sewage infrastructure was an immediate public health priority across Inuit Nunaat. Within the first week of the pandemic in Canada, Nunavut Tunngavik Inc., the land claims organization representing Inuit from that territory, began funding local municipalities to ensure there were daily water deliveries to households so residents could



maintain proper hygiene and cleaning practices. This involved hiring additional drivers and extending hours (Nunavut Tunngavik Inc., 2020). In many regions, such as Aupaluk Nunavik, water comes from a local lake and the municipality had to hire people to clear snow so they could withdraw water (J. Grey, ICC Interview, 2022). An additional benefit of these initiatives was hiring residents who had been unemployed due to pandemic-related closures.

The NRBHSS underscores that these public health strategies and NPIs in Nunavik were critical in preventing community transmission of COVID-19 for the first 18 months of the pandemic, (NRBHSS, 2022). Similarly, modeling COVID-19 transmission outbreaks in Nunavut shows that without NPIs the outbreak in November 2020 would have been 4.7 times higher and 13.5% of the total population would have become infected with COVID-19 prior to the availability of vaccines (Vilches et al., 2022). More broadly, epidemiological trends show that, particularly at the start of the pandemic, confirmed cases and mortality rates across Indigenous communities in the Arctic were better than their southern counterparts in the same countries (Petrov et al., 2021). This success was a benefit of communities' isolation and local and regional leadership that enacted protective measures. While these strategies could not prevent the virus from entering entirely, they did provide a window of time for clinics to prepare and residents to get vaccinated.

### **Vaccination efforts**

Despite some historical vaccine hesitancy rooted in systematic medical mistreatment, Inuit were some of the first to begin vaccination efforts. This success is largely due to communities having sovereignty over when and how vaccines were rolled out. Further, communications about vaccines emphasized their safety, as well as the need to protect communities. In Alaska, campaigns grounded in Tribal cultural values and messaging were found to have increased vaccination rates (Tiwari et al., 2022). In Canada, the Qikiqtani Inuit Association (QIA) created a series of resources including videos, in English and Inuktitut, that addressed vaccine concerns and their importance in protecting loved ones (QIA, 2020).

The remoteness of communities and lack of freezer storage facilities posed a barrier to widescale vaccination efforts in Inuit Nunangat. Local governments set up short vaccination "blitzes", two to five day clinics in each community, to address this challenge (Nunatsiaq News, 2022). In many places, these clinics promoted incentives to draw people in for the short timeframe. In Nunavut, youth were eligible to receive a \$100 gift card and adults were eligible to receive one of five \$2,000 cash prizes (Brown, 2021; The Canadian Press, 2021). Local officials have emphasized that the cost of these incentives was small compared to the need to achieve herd immunity. Inuit governments were also strategic in which communities received vaccines first. In Greenland, residents in Nuuk were offered the vaccine first since it was predicted an outbreak would occur in a larger town before villages, where clinics would require more resources (McGwin, 2021).

### **Funding advocacy**

Inuit agencies and governments have long advocated for financial resources to support Inuit led solutions to food security (ICC, 2020a). These efforts were critical during the pandemic as economic assistance was needed to support those impacted by unemployment. For example, the Canada Recovery Benefit, a federal program, provided \$500 CAD a week to individuals whose income was reduced by 50% or more because of the pandemic. While this direct economic assistance was a critical lifeline for many families, only an estimated 44% of Indigenous peoples experiencing economic hardship during the pandemic reported accessing federal programs

(Arriagada, et al., 2020). Inuit were active in highlighting the need for funding streams that local governments and agencies could direct to communities. These efforts were successful in Canada, where the federal government committed \$8 million to the four Inuit land claims organizations to support initiatives such as food voucher programs, nutritional education initiatives, meal delivery services, and community harvester programs. This funding enabled Inuit communities to respond to local needs quickly and effectively throughout the pandemic and funded many of the initiatives discussed below.

### Community-driven initiatives

As soon as pandemic related closures began increasing unemployment rates, Inuit communities and governments embarked on a number of initiatives to address food insecurity (Arctic Council, 2020a). Food hampers, grocery cards, and elder and school food programs became widespread across Inuit Nunaat (Mashford-Pringle et al., 2021; QIA, 2020). Isolation kit programs also became an important means to support households with food during illness or required isolation (Lohead, 2021; Nunavut Tunngavik Inc., 2022). Kits also included cleaning supplies, infant items, and games for children. In Canada, the four land claim organizations supplied households with cleaning supplies free of charge during the height of the pandemic. Nearly every Inuit community across Canada started programs that offered grocery vouchers to elders. Communities also reported hiring residents to deliver groceries – which both ensured food could be dropped off at residents’ homes and provided a source of income to many individuals (NRBHSS, 2022).

Funding for harvester programs was important in addressing a multitude of negative impacts from COVID-19 and upholding Inuit customs. For example, each hunters and trappers association in Nunavut received up to \$40,000 to harvest and distribute food to communities (Government of Nunavut, 2020). The Nunatsiavut COVID-19 Marine Harvesters Support Program provided 50 liters of gasoline to families each week. The program also allowed families owning a boat to harvest on behalf of a family approved for emergency relief (Nunatsiavut Government, 2020). Similarly funded initiatives across Canada became central to community health and well-being during the pandemic.

“This is such a big part of our life, being out on the land. Land is a healer. We’re providing families and people in the communities [with] gas and food vouchers who want to take their families on the land. This is a big part of mental wellness.” Minnie Grey, Chair, ICC’s CIHSC and Executive Director, NRBHSS

Support for harvester programs is a holistic approach to supporting Inuit food-security. A connection to land and water is central to Inuit Qaujimagatuqangit (IQ), a term with roots in Nunavut that is increasingly more widely used to describe Inuit societal values. Further, food sharing is a long-standing Inuit tradition and central to cultural well-being. The ability of harvesters to return to their subsistence lifestyles and provide for their communities promotes positive mental health, which had decreased as a result of pandemic related unemployment. In Chukotka, preventative measures at the start of the pandemic were implemented to ensure that hunting and fishing could continue (CIHSC, 2020).

In addition to promoting health, the harvesting, preservation, and sharing of country foods is central to transmission of IQ between generations. During harvests, for example, Elders share knowledge about the many uses of country foods including nutritional, medicinal, clothing, and housing – all of which is grounded in learning “how to be within one’s environment” (ICC, 2020a). The importance of programs addressing food security and Inuit values has received increased attention during the pandemic, as illustrated in the Community Highlight: Inukjuak, Nunavik.

#### **Community Highlight: Inukjuak, Nunavik**

In the Hudson Bay region of Nunavik, 84% of Inuit are food insecure and pay 48% more for groceries than residents in Southern Quebec. Sirivik\*, a local nonprofit addressing food security through Inuit values, became a lifeline for many families when the COVID-19 pandemic began. Sirivik’s programs range from operating a food centre and community kitchen to youth programming such as on the land workshops and cooking skills activities. The team quickly responded to the community’s shifting needs during the pandemic with programs to:

- Deliver hot meals to Elders four days a week;
- Distribute weekly food boxes to over 100 homes for an average of 500 recipients; and
- Provide daily food boxes to individuals under quarantine.

During the pandemic, they also continued their Ulluriat program, hiring local hunters to take youth on the land to hunt and engaging elders to provide guidance on country food preparation. Sirivik’s ability to rapidly mobilize and provide stable essential food support demonstrates the immense benefit of having permanent local specialized food security resources.

*The above information was provided by the Nunavik Regional Board of Health and Social Services (NRBHSS)*

*\* The name Sirivik is from an Inuktitut expression for gratitude and excitement before sharing a meal.*

*Learn more about their programs at <https://sirivik.ca/>.*

The provision of health information and services such as healing gatherings in Inuktitut has been important in bringing communities together and addressing trauma. Nunavut Tunngavik Incorporated, for example, collaborated with regional organizations to support events for youth, families and Elders (CIHSC, 2020). Inuit government and organization websites and social media outlets consistently posted information on closures, infection rates, support programs, and vaccines in Inuktitut, Inuktitut Qaliujaaqpait (a writing system with Roman orthography), and English. Further, ITK created a COVID-19 booklet for children in all three versions (ITK, 2020b). The Alaska Public Interest Research Group helped community members to translate COVID-19 information into Inupiaq and Yup’ik. The mother-daughter duo leading Inupiaq translations noted that some new words had to be introduced to the language (Bissett, 2021). Mental health public service announcements and YouTube videos were offered by a variety of youth leaders, including Crystal Martin-Lapenskie, former President of the National Inuit Youth Council in Canada, who recorded in Inuktitut and English (Bell, 2020). In Nunavik, the government health board ensured that social services, including youth protection and women’s shelters, were considered essential so they could be maintained through the pandemic and expanded communications to increase awareness about their availability (ICC, 2020c).

Programs centering around Inuit culture and values have been essential in supporting well-being and mental health. Pandemic related closures meant the many traditional events, such as celebrations of life, had to be cancelled, postponed, or dramatically altered. Embrace Life Council, an Inuit nonprofit in Nunavut, offered a range of programs that could be done while in isolation or social distancing including compiling traditional sealskin, beaded earring home kits, and social media contests such as building snow sculptures or writing Inuktitut words in the snow (Embrace Life Council, 2020). In Alaska, an Inuit music group Pamyua and local radio station KYUK teamed up to leverage technology to share music and dancing online when Cama-I, the annual Alaska Native festival, was cancelled due to the pandemic (Eurich, 2020). Janice Grey, from Nunavik, Canada, reflected that these types of activities, as well as small gestures by residents, were central to “stave off the loneliness and keep the community spirit going” since the physical distancing had caused many to feel isolated from their support networks (J. Grey, ICC Interview, 2022). At the 2021 ICC Inuit Health Summit, participants engaged in an important discussion on suicide prevention centered in Inuit values of being connected to one another (Figure 4).

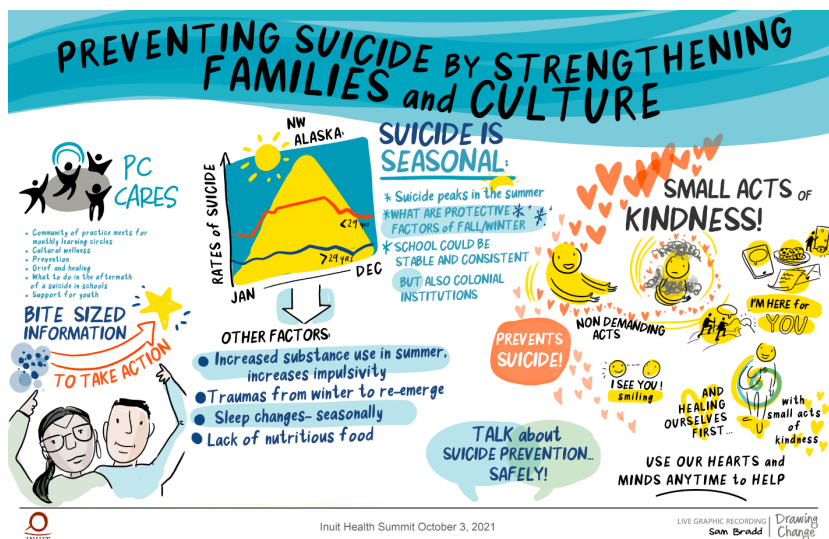


Figure 4: ICC Inuit Health Summit suicide prevention strategies

As the pandemic continued, and isolation increased during the Delta and Omicron waves, many communities found safe ways to convene in person. The Inuvialuit Regional Corporation, in the western Canadian Arctic, for example, launched a Community Elder Workers program to hire residents to visit Elders and assist them with household tasks. The program also aimed to combat the isolation Elders experienced with increased COVID-19 regulations (Inuvialuit Regional Corporation, 2021). In 2020 and 2021, a program in Nunavik called Nurrat (Inuktitut for “baby caribou”) brought more than 300 youth in 14 villages outside for workouts or workshops grounded in Inuit knowledge or skills. One participant, Joshua Nathan Kettler, shared that the program boosted his self-esteem and that it was far better than what he usually did after school (spend time online) since “you’re going out on the land, finding your own culture.” (Grant, 2022). Communities in Alaska’s North Slope initiated a “Walk for Hope and Healing” as a safe way for people to reconnect in person after vaccines were widely available in the spring of 2022. More than 50 people joined the event in Utqiagvik under the larger Healthy Ways Project that included family activities, potlucks, and storytelling, and community talks (Naiden, 2022).

A theme in all Inuit conversations about the pandemic was the difficulty of being separated from family members. Inuit well-being is rooted in social connectedness and closeness with family. As highlighted above, community initiatives that strengthened these bonds supported Inuit through the pandemic. In a research study on Inuit youth well-being during COVID-19, participants reported that strong community cohesion and collaboration improved their wellness (Thomas et al., 2022). In particular, they indicated feeling that everyone was “doing their part” to keep their community safe. Also, they noted that being part of food distributions, outdoor sports, and land gatherings fostered emotional support during times of isolation and closures.

#### ***Finding Ways to Stay Connected***

During the COVID-19 pandemic, Inuit found new ways to remain connected to one another. Janice Grey reflected that in her village, Aupaluk, this took many forms rooted in traditional Inuit values, especially sharing. People were baking bannock for one another and hunters were delivering fish to neighbors. Ms. Grey shared that she would put cloth pouches on her dogs so they could deliver little things to her mother’s house. **“The cultural practice of sharing was keeping us connected”**, she explained, “We were sharing in food. We were sharing in memes. We were talking on the phone. We took for granted older ways of communication. We started getting little handwritten cards from nieces and nephews.” (J. Grey, ICC Interview, 2022).

## **Discussion & policy recommendations**

The swift, decisive action of Inuit governments and communities was successful in protecting the majority of residents from COVID-19. Despite the wide scale infrastructure and healthcare access inequities, COVID-19 infection and mortality rates in many parts of Inuit Nunangat were far lower than the general populations in their respective countries – particularly at the start of the pandemic. There have been important distinctions between countries that are central to preparing for future pandemics. Petrov et al. (2021) note that regions where Inuit hold a greater amount of territorial sovereignty, such as Canada and Greenland, had limited outbreaks of COVID-19 due to the strong preventative measures. Conversely, regions where pandemic policies and closures were less locally driven, such as in Alaska and Russia, had higher rates of COVID-19 cases and mortality (Petrov et al., 2021). However, the impacts from these rates were often lessened by successful vaccination efforts. For example, many Alaskan Native communities had more than 50% of residents vaccinated by April 1, 2021 (ARCTICenter, 2021). Tiwari et al. (2022) attribute these pandemic related successes to the three-pronged public health approach employed by Inuit. This includes: 1) *delaying* the arrival of the virus through protective measures and culturally specific messaging; 2) *preparing* for the pandemic through vaccine campaigns and building up the healthcare system; and 3) *responding* to outbreaks through Indigenous self-determination and knowledge combined with available healthcare resources.

The successes and lessons learned by Inuit are central to preparing for future pandemics, or other wide-scale emergencies such as natural disasters. The pandemic has also highlighted the need to quickly address three aspects that will ensure Inuit positive health and well-being: 1) centering Inuit knowledge and self-determination; 2) correcting infrastructure inequities; and 3) strengthening Inuit food sovereignty initiatives. These are elaborated on below.

### **Centre Inuit self-determination**

Advancing Inuit self-determination is paramount to ensuring positive health and well-being. Self-determination encompasses the autonomy to manage areas critical to culture, society and livelihoods, including land and governing institutions. Another important aspect of self-determination is the right to participate in and influence decision-making at all levels that impact Inuit within a province or nation (Wilson & Per, 2019). As previously noted, the right and territorial autonomy of Inuit communities to establish public health protocols was central to effective strategies that limited the spread and impact of COVID-19 (Lancet, 2020; Petrov et al., 2021). As Minnie Grey noted, the sovereignty of Inuit today versus in the past has been a positive force in shaping public health responses:

We are very fortunate as Inuit today that we are able to be involved in ensuring that our people are cared for, and that we have our public health authorities in place to transfer knowledge to our population. Inuit involvement in decision-making pertaining to managing the pandemic has been really key. (ICC, 2020c)

Similarly, in Greenland, Trine Abelson, M.D., reflected that the locally implemented restrictions were important in delaying COVID-19 outbreaks until people were able to get vaccinated. (Abelsen, ICC Interview, December 8, 2022).

The right of Indigenous peoples to self-determination is enshrined in the United Nations Declaration on the Rights of Indigenous Peoples. Federal and provincial governments must make legal commitments to the rights of Inuit – and to all Indigenous peoples – to ensure this right and help facilitate the creation of Inuit led health policies and programs. Self-determination is a prerequisite for all other human rights and shapes how other policies should be implemented.

### **Address Infrastructure Inequities**

Inuit agencies have been vocal in advocating for equitable health, housing, water, and technology infrastructure. The COVID-19 pandemic has exposed how communities are further vulnerable to poor health outcomes because of longstanding infrastructure deficits. The 2022 ICC Declaration of the 14<sup>th</sup> Assembly underscored that it is essential for federal governments across Inuit Nunaat to collaborate closely with Inuit to close the infrastructure gap (ICC, 2022). Below are three areas that rendered Inuit more vulnerable to poorer health and well-being during the pandemic that should be urgently addressed.

1) Housing: Inuit have long advocated for funding to remedy the acute housing crisis. Alleviating overcrowded households is central to reducing the spread of diseases and improving mental well-being. In Canada, Inuit-led advocacy efforts were recently successful in attaining a three-fold increase in federal funding for housing. The federal government's seven-year budget, released in 2022, includes \$845 million for housing improvements across Inuit Nunangat (ITK, 2022).

2) Water: Inuit do not have the same access to clean water and sanitation as the general populations in their respective countries. Further, Inuit communities without access to piped water bear the financial burden of having water hauled to homes and they are at higher risk of a multitude of disease including respiratory tract, skin, and gastrointestinal (Hennessy et al., 2008; ITK, 2020a; Thomas et al., 2016). Upholding the right to clean water is critical to promoting health and human rights.

In August 2021, ICC and ITK presented a joint submission to the United Nations Rapporteur on the human rights to safe drinking water and sanitation to document challenges to clean drinking water in Inuit Nunaat. The submission outlines recommendations to address this challenge, including a) calling on federal governments to make Inuit specific investments in water and sanitation; b) emphasizing the Arctic Council's role in leveraging collaboration across the region; c) requesting the Government of Canada to extend the policy on eliminating long-term boil water advisories for First Nations communities to include Inuit communities; and d) asking state and academic institutions to prioritize investments in Inuit-led research on water and sanitation (ITK, 2021c).

3) Internet: It is essential for governments to invest in the implementation of national broadband or fiber networks to reach Inuit communities. ITK has published a detailed assessment of broadband gaps and opportunities across Inuit Nunangat, including the potential benefits and drawbacks of fiber versus satellite based on Arctic environments and weather (ITK, 2021b). The report underscores that many Arctic nations, including Finland, Sweden, and Norway, provide high-capacity broadband connectivity to remote communities, noting similar efforts are feasible for other regions in the Arctic. Such connectivity is critical to promote access to information, including options for online learning in the event of future pandemics. Reliable, high-speed internet is also critical for the implementation of successful telehealth services in Inuit Nunaat.

While federal funding is critical to addressing these infrastructure inequities, there is also a need to create pathways for communities to generate local solutions to these issues. Communities must be leading the design and implementation of such projects, as well as receiving training for maintaining infrastructure.

### **Strengthen Inuit food sovereignty initiatives**

In addition to improving transportation and housing infrastructure, Inuit agencies have worked to achieve investments in public infrastructure that uphold food sovereignty. ICC defines food security as “the natural right of all Inuit to be part of the ecosystem, to access food and to care-take, protect and respect all of life, land, water, and air. It allows for all Inuit to obtain, process, store, and consume sufficient amounts of healthy, nutritious, and preferred food,” (ICC, 2020, pg. 17). ICC further notes that food sovereignty is a critical dimension of food security, which assures Inuit the right to determine their own harvesting, fishing, land, and water policies. ITK (2021a) has outlined a detailed strategy for advancing Inuit food security, including:

- 1) reducing Inuit poverty and addressing the high cost of living in the region;
- 2) implementing school programs to support the most vulnerable families;
- 3) investing in local food production options that support country food preparation;
- 4) supporting harvesting and sharing networks; and
- 5) addressing infrastructure deficits, such as storage facilities and supply chains.

While the pandemic has shined a spotlight on food insecurity, it has long been a challenge for Inuit due to rising costs of living and social inequities. It is also an increasing concern as impacts from climate change alter wildlife migration patterns, limit access to traditional hunting territories, and intensify weather patterns and decrease hunting safety.

## Conclusion

The Arctic Council’s Sustainable Development Working Group noted that COVID-19 would be a “stress test on public infrastructure and highlight areas where vulnerabilities must be examined and addressed” (Arctic Council, 2020b, p.8). As discussed in this paper, Inuit were indeed vulnerable to the virus due to widespread infrastructure deficits alongside social and economic inequities. Based on experience from past pandemics, Inuit adapted quickly to the uncertain and emerging situation that COVID-19 presented. Throughout the pandemic, Inuit communities and institutions called attention to the importance of locally driven solutions. There were tangible successes, including protective measures to limit virus outbreaks, effective vaccine campaigns, and holistic approaches to food insecurity and mental well-being. These achievements demonstrate that self-determination is the foundation for preparing for future pandemics. Concrete commitments to supporting Inuit self-determination mean federal governments must act on longstanding inequities through partnerships that are guided by Inuit leadership. Such strategies are critical to reducing future pandemic vulnerabilities and can also create opportunities to immediately and effectively promote Inuit health and mental well-being.

## Acknowledgements

The authors are grateful to staff in the Inuit Circumpolar Council country offices and the Circumpolar Inuit Health Steering Committee for their leadership during the pandemic, and for supporting this paper by sharing reports, updates and for facilitating interviews with community leaders.

## References

- Abelsen, T. (2022, December 8). *Inuit Circumpolar Council Interview: The impact of COVID-19 and Inuit responses* [Personal communication].
- Allen, J., Levintova, M., & Mohatt, G. (2011). Suicide and alcohol-related disorders in the U.S. Arctic: Boosting research to address a primary determinant of health disparities. *International Journal of Circumpolar Health*, 70(5), 473–487. <https://doi.org/10.3402/ijch.v70i5.17847>
- Arctic Council. (2020a). *Covid-19 in the Arctic: Briefing Document for Senior Arctic Officials* (p. 83). Arctic Council. <https://oaarchive.arctic-council.org/handle/11374/2473>
- Arctic Council. (2020b). *Sustainable Development Working Group’s (SDWG) Analysis and Advice for SAOs: Arctic Council COVID-19 Work* (p. 33).
- ARCTICenter. (2021). *University of Northern Iowa. ArcticVAX: COVID-19 Vaccination in the Arctic*. <https://univnortherniowa.maps.arcgis.com/apps/dashboards/babca707eac450c8604afc38230608b>
- Arriagada, P., Frank, K., & Hou, F. (2020). *Economic impact of COVID-19 among Indigenous people* [Government]. Statistics Canada. <https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00052-eng.htm>
- Bell, J. (2020, September 10). Groups across Inuit Nunangat use digital tools to embrace life. *Nunatsiaq News*. <https://nunatsiaq.com/stories/article/groups-across-inuit-nunangat-use-digital-tools-to-embrace-life/>



- Bissett, H. (2021, July 20). *Translating critical information into Inūpīaq, other languages crucial to their survival*. KNBA: A Koahnic Broadcast Station. <https://www.knba.org/news/2021-07-20/translating-critical-information-into-inupiaq-other-languages-crucial-to-their-survival>
- Brown, B. (2021, January 14). *Nunavut municipality holds cash draw for vaccinated residents* | *CBC News*. Canadian Broadcasting Corporation (CBC). <https://www.cbc.ca/news/canada/north/nunavut-cash-draw-covid-vaccinations-1.5872160>
- Circumpolar Inuit Health Steering Committee (CIHSC). (2020). *Meeting Summary: United Nations Special Rapporteur on the Rights of Indigenous Peoples and the Circumpolar Inuit Health Steering Committee (CIHSC) Engagement Session* (p. 6). <http://bit.ly/3viLVmr>
- D'Amico, E. J., Palimaru, A. I., Dickerson, D. L., Dong, L., Brown, R. A., Johnson, C. L., Klein, D. J., & Troxel, W. M. (2020). Risk and Resilience Factors in Urban American Indian and Alaska Native Youth during the Coronavirus Pandemic. *American Indian Culture and Research Journal*, 44(2), 21–48.
- Embrace Life Council. (2020). *Resources*. Embrace Life Council. <https://inuusiq.com/resource/>
- Eurich, J. (2020, March 8). *Virus Doesn't Stop Yup'ik Dancing*. KYUK Public Radio. <https://www.kyuk.org/arts-culture/2020-05-08/virus-doesnt-stop-yupik-dancing>
- Government of Canada. (2020). *Canada Recovery Benefit (CRB)* [Government]. <https://www.canada.ca/en/revenue-agency/services/benefits/recovery-benefit.html>
- Government of Nunavut. (2020, March 19). *COVID-19 GN Update—March 19, 2020*. <https://www.gov.nu.ca/executive-and-intergovernmental-affairs/news/covid-19-gn-update-march-19-2020>
- Government of Nunavut. (2022a). *COVID-19 Rapid Antigen Self tests*. Government of Nunavut. <https://gov.nu.ca/in/node/49230>
- Government of Nunavut. (2022b, February 3). *News Release: Sanikiluaq pilot project flight extended to July 2022* [Press Release]. [https://www.gov.nu.ca/sites/default/files/2022-01\\_nr25\\_premier\\_sanikiluaq\\_pilot\\_project\\_flight\\_extended\\_to\\_july\\_2022\\_-\\_eng.pdf](https://www.gov.nu.ca/sites/default/files/2022-01_nr25_premier_sanikiluaq_pilot_project_flight_extended_to_july_2022_-_eng.pdf)
- Grant, J. (2022, January 9). Nunavik outdoor education program empowers Inuit youth. *Canadian Broadcasting Corporation (CBC)*. <https://www.cbc.ca/news/canada/montreal/nunavik-outdoor-education-program-1.6306539>
- Greenland Health Authority. (2022). *The COVID-19 pandemic in Greenland: An Overview* [Briefing]. Government of Greenland.
- Hennessy, T. W., Ritter, T., Holman, R. C., Bruden, D. L., Yorita, K. L., Bulkow, L., Cheek, J. E., Singleton, R. J., & Smith, J. (2008). The relationship between in-home water service and the risk of respiratory tract, skin, and gastrointestinal tract infections among rural Alaska natives. *American Journal of Public Health*, 98(11), 2072–2078. <https://doi.org/10.2105/AJPH.2007.115618>
- Higgins, J. (2007). The 1918 Spanish Flu. *Heritage Newfoundland & Labrador*. <https://www.heritage.nf.ca/articles/politics/1918-spanish-flu.php>
- Indigenous Peoples Major Group for Sustainable Development. (2021). *SDG Progress Report | The Arctic Region* (p. 32). Indigenous Peoples Major Group for Sustainable Development. [bit.ly/3jub2Aa](http://bit.ly/3jub2Aa)
- Indigenous Services Canada. (2021, March 11). *The Government of Canada provides \$8 million to Inuit organizations to address food insecurity* [Government]. <https://www.canada.ca/en/indigenous->

- services-canada/news/2021/03/the-government-of-canada-provides-8-million-to-inuit-organizations-to-address-food-insecurity.html
- Inuit Circumpolar Council. (2020a). *Food Sovereignty and Self-Governance: Inuit Role in Managing Arctic Marine Resources* (p. 144). Inuit Circumpolar Council Alaska. <https://www.inuitcircumpolar.com/project/food-sovereignty-and-self-governance-inuit-role-in-managing-arctic-marine-resources/>
- Inuit Circumpolar Council. (2022). *2022 Inuit Circumpolar Council Declaration*. Inuit Circumpolar Council. <https://iccalaska.org/wp-icc/wp-content/uploads/2022/07/2022ICC-DECLARATION-1.pdf>
- Inuit Circumpolar Council. (2020b, March 3). *Ongoing Coronavirus Pandemic Highlights Infrastructure Gaps Across Circumpolar Regions Related to Inuit Health – Demonstrates Strength of Inuit Culture* [Press Release]. <https://www.inuitcircumpolar.com/news/ongoing-coronavirus-pandemic-highlights-infrastructure-gaps-across-circumpolar-regions-related-to-inuit-health-demonstrates-strength-of-inuit-culture/>
- Inuit Circumpolar Council. (2020c, September 1). *unikkaat / unipkaat unqipaghat / nallunairutet Circumpolar Waves: COVID-19 in the Arctic with Minnie Grey* [Interview]. <https://www.buzzsprout.com/1171082/5242024>
- Inuit Tapiriit Kanatami. (2019). *National Inuit Climate Change Strategy* (p. 48). Inuit Tapiriit Kanatami. [www.itk.ca/national-inuit-climate-change-strategy/](http://www.itk.ca/national-inuit-climate-change-strategy/)
- Inuit Tapiriit Kanatami. (2020a). *Access To Drinking Water In Inuit Nunangat* (2, p. 20) [Quarterly Research Briefing]. <https://www.itk.ca/access-to-drinking-water-in-inuit-nunangat/>
- Inuit Tapiriit Kanatami. (2020b). *The Potential Impacts Of COVID-19 On Inuit Nunangat* (p. 15). Inuit Tapiriit Kanatami. [www.itk.ca/the-potential-impacts-of-covid-19-on-inuit-nunangat/](http://www.itk.ca/the-potential-impacts-of-covid-19-on-inuit-nunangat/)
- Inuit Tapiriit Kanatami. (2020c). *COVID-19 Tool For Kids: My Name is Coronavirus*. <https://www.itk.ca/COVID-19-tool-for-kids/?lang=ius>
- Inuit Tapiriit Kanatami. (2021a, August 16). The Digital Divide: Broadband Connectivity in Inuit Nunangat. *Inuit Tapiriit Kanatami*. <https://www.itk.ca/the-digital-divide-broadband-connectivity-in-inuit-nunangat/>
- Inuit Tapiriit Kanatami. (2022, April 8). \$845M Federal Budget Investment in Inuit Housing a Boost for Inuit Nunangat. *Inuit Tapiriit Kanatami*. <https://www.itk.ca/845m-federal-budget-investment-in-inuit-housing-a-boost-for-inuit-nunangat/>
- Inuit Tapiriit Kanatami, D. (2021b, August 27). Inuit Joint Submission to UN Special rapporteur calls on governments to make major investments in clean water, sanitation. *Inuit Tapiriit Kanatami*. <https://www.itk.ca/inuit-investments-water-sanitation/>
- Inuvialuit Regional Corporation. (2021, December 14). *Inuvialuit Regional Corporation and Gwich'in Tribal Council Announce a Pilot Project to hire Community Elders Workers* [Text/html]. Inuvialuit Regional Corporation (IRC). <https://www.irc.inuvialuit.com/news/inuvialuit-regional-corporation-and-gwichin-tribal-council-announce-pilot-project-hire>
- Johnson, N., Erickson, K. S., Ferguson, D. B., Jäger, M. B., Jennings, L. L., Juan, A. R., Larson, S., Smythe, W. K. S., Strawhacker, C., Walker, A., & Carroll, S. R. (2021). *The Impact of COVID-19 on Food Access for Alaska Natives in 2020* (noaa:34309). <https://doi.org/10.25923/5cb7-6h06>

- Kiddell-Monroe, R., Ranta, M., Enook, S., & Saranchuk, P. (2020). Inuit communities can beat COVID-19 and tuberculosis. *The Lancet. Public Health*, 5(6), e312. [https://doi.org/10.1016/S2468-2667\(20\)30091-8](https://doi.org/10.1016/S2468-2667(20)30091-8)
- Kumar, M., & Tjepkema, M. (2019). *Suicide among First Nations people, Métis and Inuit (2011-2016): Findings from the 2011 Canadian Census Health and Environment Cohort (CanCHEC)*.
- Lancet, T. (2020). Self-determination and Indigenous health. *The Lancet*, 396(10248), 361. [https://doi.org/10.1016/S0140-6736\(20\)31682-2](https://doi.org/10.1016/S0140-6736(20)31682-2)
- LeTourneau, M. (2019, April 26). *Nanilavut program leads to relief for those searching for loved ones' graves*. NUNAVUT NEWS. <https://www.nunavutnews.com/nunavut-news/nanilavut-program-leads-to-relief-for-those-searching-for-loved-ones-graves/>
- Lochead, D. (2021, December 21). Cambridge Bay delivers on food hamper drive. *Nunatsiaq News*. <https://nunatsiaq.com/stories/article/cambridge-bay-delivers-on-food-hamper-drive/>
- Mashford-Pringle, A., Skura, C., Stutz, S., & Yohathanan, T. (2021). *What we heard: Indigenous Peoples and COVID-19: Public Health Agency of Canada's companion report* [Education and awareness]. Public Health Agency of Canada. <https://www.canada.ca/en/public-health/corporate/publications/chief-public-health-officer-reports-state-public-health-canada/from-risk-resilience-equity-approach-covid-19/indigenous-peoples-covid-19-report.html>
- McGwin, K. (2021, July 20). Greenland must learn to live with COVID, public health officials say. *ArcticToday*. <https://www.arctictoday.com/greenland-must-learn-to-live-with-covid-public-health-officials-say/>
- Meherali, S., Punjani, N., Louie-Poon, S., Abdul Rahim, K., Das, J. K., Salam, R. A., & Lassi, Z. S. (2021). Mental Health of Children and Adolescents Amidst COVID-19 and Past Pandemics: A Rapid Systematic Review. *International Journal of Environmental Research and Public Health*, 18(7), 3432. <https://doi.org/10.3390/ijerph18073432>
- Naiden, A. (2022, April 1). *North Slope communities use Inupiaq values to heal during the pandemic*. The Arctic Sounder. Retrieved May 27, 2023, from [http://www.thearcticsounder.com/article/2213north\\_slope\\_communities\\_use\\_inupiaq\\_values\\_to](http://www.thearcticsounder.com/article/2213north_slope_communities_use_inupiaq_values_to)
- Nunatsiaq News. (2022, January 20). 'Vaccination blitz' returning to Nunavik. *Nunatsiaq News*. <https://nunatsiaq.com/stories/article/vaccination-blitz-returning-to-nunavik/>
- Nunatsiavut Government. (2020). *Nunatsiavut Public Notice: PCOVID-19 Marine Harvesters Support Program.pdf*. <https://www.nunatsiavut.com/wp-content/uploads/2020/05/Public-Notice-COVID-19-Marine-Harvesters-Support-Program.pdf>
- Nunavik Regional Board of Health and Social Services. (2022). *Annual Report: Department of Public Health 2021—2022* [Annual Report]. Nunavik Regional Board of Health and Social Services.
- Nunavut Tunngavik Inc. (2020, March 26). *Immediate Investment Towards Handwashing made by NTI*. Nunavut Tunngavik Inc. <https://www.tunngavik.com/in/news/immediate-investment-towards-handwashing-made-by-nti/>
- Nunavut Tunngavik Inc. (NTI). (2022, January 20). *NTI Isolation Kit Program – Frequently Asked Questions (FAQs)*. Nunavut Tunngavik Inc. <https://www.tunngavik.com/news/nti-isolation-kit-program-frequently-asked-questions-faqs/>

- Office of the Mayor (2020, August 28). *Emergency Order 09-2020: Think before you travel. The Official Website of the North Slope Borough*. <https://www.north-slope.org/wp-content/uploads/2022/01/Emergency-Order-09-2020.pdf>
- . Pakseresht, M., Lang, R., Rittmueller, S., Roache, C., Sheehy, T., Batal, M., Corriveau, A., & Sharma, S. (2014). Food expenditure patterns in the Canadian Arctic show cause for concern for obesity and chronic disease. *International Journal of Behavioral Nutrition and Physical Activity*, 11(1), 51. <https://doi.org/10.1186/1479-5868-11-51>
- Petrov, A. N., Welford, M., Golosov, N., DeGroot, J., Devlin, M., Degai, T., & Savelyev, A. (2021). Lessons on COVID-19 from Indigenous and remote communities of the Arctic. *Nature Medicine*, 27(9), Article 9. <https://doi.org/10.1038/s41591-021-01473-9>
- Qikiqtani Inuit Association. (2020). *COVID-19 Initiatives*. <https://www.qia.ca/covid-19-initiatives/>
- Roberts, C., Darroch, F., Giles, A., & van Bruggen, R. (2021). Plan A, Plan B, and Plan C-OVID-19: Adaptations for fly-in and fly-out mental health providers during COVID-19. *International Journal of Circumpolar Health*, 80(1), 1935133–1935133. PubMed. <https://doi.org/10.1080/22423982.2021.1935133>
- Sambo Dorough, D. (2020, July 16). *The impact of Covid-19 on Inuit communities: Interview with Dalee Sambo Dorough, Chair of the Inuit Circumpolar Council* [Interview]. <https://www.arctic-council.org/ru/news/the-impact-of-covid-19-on-inuit-communities/>
- Stoney, A. (2021, April 18). *The Untold Impacts of Covid-19 on Inuit Communities in Nunavut*. <https://www.kroegerpolicyreview.com/post/impact-of-covid-19-on-inuit-in-nunavut>
- Suicide*. (2022). National Institute of Mental Health (NIMH). <https://www.nimh.nih.gov/health/statistics/suicide>
- Tester, F. J., McNicoll, P., & Irniq, P. (2001). Writing for our lives: The language of homesickness, self-esteem and the Inuit TB “epidemic.” *Études/Inuit/Studies*, 25(1/2), 121–140. <http://www.jstor.org/stable/42870610>
- The Canadian Press. (2021, June 21). *Vaccinated youth in Nunavut community to receive \$100 gift card*. OHS Canada Magazine. <https://www.ohscanada.com/vaccinated-youth-nunavut-community-receive-100-gift-card/>
- Thomas, A., Bohr, Y., Hankey, J., Oskalns, M., Barnhardt, J., & Singoorie, C. (2022). How did Nunavummiut youth cope during the COVID-19 pandemic? A qualitative exploration of the resilience of Inuit youth leaders involved in the I-SPARX project. *International Journal of Circumpolar Health*, 81(1), 2043577. <https://doi.org/10.1080/22423982.2022.2043577>
- Thomas, T. K., Hickel, K., & Heavener, M. (2016). Extreme water conservation in Alaska: Limitations in access to water and consequences to health. *Public Health*, 137, 59–61. <https://doi.org/10.1016/j.puhe.2016.06.002>
- Tiwari, S., Petrov, A. N., Devlin, M., Welford, M., Golosov, N., DeGroot, J., Degai, T., & Ksenofontov, S. (2022). The second year of pandemic in the Arctic: Examining spatiotemporal dynamics of the COVID-19 “Delta wave” in Arctic regions in 2021. *International Journal of Circumpolar Health*, 81(1), 2109562. <https://doi.org/10.1080/22423982.2022.2109562>
- Vilches, T. N., Abdollahi, E., Cipriano, L. E., Haworth-Brockman, M., Keynan, Y., Sheffield, H., Langley, J. M., & Moghadas, S. M. (2022). Impact of non-pharmaceutical interventions and vaccination on COVID-19 outbreaks in Nunavut, Canada: A Canadian

- Immunization Research Network (CIRN) study. *BMC Public Health*, 22(1), 1042.  
<https://doi.org/10.1186/s12889-022-13432-1>
- Wilson, G. N., & Per, S. (2019). *Indigenous Self-Determination in Northern Canada and Norway* (IRPP Study 69, p. 40). Institute for Research on Public Policy. <https://irpp.org/research-studies/indigenous-self-determination-in-northern-canada-and-norway/>
- Xiong, P., Ming, W.-K., Zhang, C., Bai, J., Luo, C., Cao, W., Zhang, F., & Tao, Q. (2021). Factors Influencing Mental Health Among Chinese Medical and Non-medical Students in the Early Stage of the COVID-19 Pandemic. *Frontiers in Public Health*, 9, 603331.  
<https://doi.org/10.3389/fpubh.2021.603331>