



Source: iStock

## From the Floodwaters: Siksika Nation and the Bow River Flood Insights for Public Health Responses to Long-term Evacuation

The National Collaborating Centres for Public Health (NCCPH) led a project to explore knowledge gaps and inform priorities for public health responses to long-term evacuations due to natural disasters. This included identifying issues related to the impact of natural disasters on First Nations communities. The long-term evacuees project led to the development of three knowledge products for public health professionals. See page 13 for more detail.

### HOW CAN EVACUEES' STORIES INFORM PUBLIC HEALTH?

First Nations peoples in Canada are more likely than other populations to be evacuated as a result of natural disasters and emergencies.<sup>1-3</sup> Research evidence has shown that broad and far-reaching effects of emergency evacuations on First Nations peoples and communities are derived from several factors, including disruptions to deep and longstanding connections to the land, stressed economies, unpredictable availability of heat and gas, limited transportation options, and the generally remote nature of reserve lands.<sup>1,3-7</sup>

The evidence falls short when it comes to determining how and to what extent First Nations peoples cope and recover after natural disasters and emergency evacuations.<sup>1,8</sup> For public health at all levels, questions also remain about their role, how best to support long-term recovery, and where improved coordination with local, and other levels of emergency management or response may be required.

Understanding the priorities for emergency management and public health roles in long-term evacuation circumstances must begin with listening to those most affected and honouring the knowledge that comes from the lived experience of disaster evacuation. Stories from the evacuation experiences of First Nations peoples can provide greater understanding of the long-term impacts of evacuation, and raise new and important implications for public health practice.

Through a narrative approach, this case study explores the effects of evacuation on the Blackfoot people of the Siksika Nation following the Bow River flood in the summer of 2013. The setting and circumstances of the Bow River Basin flood, described in the text box on page 2, help to characterize the severity of the disaster and duration of the evacuation. The following accounts from community members illustrate the depth and complexity of impacts, building insight on factors that may contribute to, or mitigate, long-term effects of evacuation from natural disasters and identifying priorities for public health.

## SIKSIKA NATION AND THE BOW RIVER FLOOD

The 2013 flood in the Bow River Basin was one of the most costly natural disasters in Canadian history, with approximately \$6 billion in damages and loss of human life. The flood originated in the southern Canadian Rockies of Alberta and, within three days, made its way through the province to the city of Calgary and the eastern slope communities of Banff, Canmore and High River.<sup>9</sup>

One of the many communities in the path of flood destruction was the Siksika Nation, situated in the main floodway corridor of the Bow River, approximately 80 km east of Calgary.<sup>9</sup> Siksika First Nation is a large community with a registered population of 7,556 members, just over half of whom live on reserve,<sup>10</sup> and is located in traditional Treaty 7 territory.<sup>11</sup>

The Siksika Nation was hard-hit by the flood, which left 771 community members homeless and most of the 1,000 evacuated members of the community displaced for over five years. The disaster also caused extensive material loss and structural damage to the community, including the destruction of 134 homes on the Siksika Nation, 307 homes on land leased from the Siksika Nation, 12 water wells, two water treatment plants, a sewage lagoon, two bridge crossings, and numerous road connections and other infrastructure.<sup>9</sup>

---

## EVACUATION EXPERIENCES FROM THE BLACKFOOT PEOPLE OF THE SIKSIKA NATION

The following narrative provides first-hand accounts of emergency evacuation experiences from the Blackfoot people of the Siksika First Nation. The stories were gathered as part of a community-based research project which invited community leaders and members to contribute to and share benefits from knowledge created about experiences of natural disaster, evacuation and long-term displacement. Ethics approval was provided by the Health Research Ethics Board of the University of Manitoba. With consent of the participants, interviews were held with nine Siksika evacuees,

including seven Band members and two Band administrators, who shared memories and reflections on their evacuation experiences and paths of recovery. Their stories were collected by researchers who drew on their relationships and familiarity with the community, as well as skills in Indigenous-centred research practices.<sup>12</sup> Although the stories are anonymous, the words of individuals are quoted verbatim to help retain the meaning and authenticity of lived experiences.

Evacuees' stories are laid out in several themes that follow a rough chronology, beginning with initial experiences of the disaster and the Siksika Nation's evacuation, and continuing with experiences of resettlement and longer-term challenges. Some added information is provided from published accounts of the disaster to give context to the evacuees' statements.

## Shock and Uncertainty

In June 2013, a state of emergency was enacted in response to exceptionally severe and devastating flooding of the Bow River, which forced the emergency evacuation of eight low-lying First Nations communities within the Siksika Nation. Siksika evacuees recalled their experiences from this initial stage of evacuation as traumatic and disorienting. One of the emergency responders reflected on how the initial shock and trauma of the flood affected evacuees: *“I think what we noticed, with some of the people, the initial shock. Some could not speak.”* Another evacuee described the difficult experiences of uncertainty, *“The most difficult was seeing all the people, and our, as a Nation, lose what was personal to them. You know, a place to lay their head, a roof over their home, how to provide with their food, and how to provide on a day-to-day basis ... people didn’t understand where to go, or when to go, what to do.”*

Other evacuees talked about the uncertainty surrounding community displacement: *“When the homes were flooded, people, just the ones that had, let’s say, health issues, went to the sportsplex because they had to move out of the house. A lot of people just moved to the hill, to higher ground. And they took their belongings and their trailers, and they set up camp there because they wanted to watch over their house.”*

---

**“The most difficult was seeing all the people, and our, as a Nation, lose what was personal to them. You know, a place to lay their head, a roof over their home ... and how to provide on a day-to-day basis”**

## Confusion around Emergency Operations

After the evacuation order was issued, the Siksika Nation established an emergency operations centre at a local sportsplex. Emergency operations were administered by an ad hoc emergency management team comprised of Siksika Nation staff, with support from a group of summer students.<sup>13</sup> Volunteers from surrounding First Nations communities and local, national and international organizations also provided assistance with debris clearing, household cleaning, and local food distribution in the weeks following the disaster.<sup>9</sup>

Evacuees who also served as emergency responders recalled that starting up emergency operations was an incredibly confusing time for the emergency management team. One emergency responder talked about the challenge involved with validating offers of support: *“All the supports came all at once. We didn’t know to say, ‘Well, who’s legit?’ That’s where some of the confusion came in. Because some people were being told, ‘Well, utilize the students from [the university],’ which really doesn’t justify if they had any experience dealing with disasters ... when the province got involved, their technician started assessing those people coming in.”*

With the operations centre up and running, the emergency management team began the process of moving flood-affected evacuees to hotels in nearby cities, booking rooms and ensuring meals for evacuees.<sup>13</sup> This, too, was an extremely stressful time for the emergency management team: *“During the initial response phase, we started having briefings every morning. And, so during, after, there was always Nation members approaching us, saying, ‘What about my house? What about my food? Where am I going to stay?’ So, we were bombarded by all of those questions.”*

One emergency responder highlighted the importance of continuity and trust, not only for evacuees receiving services, but for those working behind the scenes to deliver services: *“People change jobs all the time, and there’s a lot more revolving door positions, you know, for frontline people. And so, those to have ongoing training or practice. I don’t know how you’d refer to them, but practice scenarios where ... that disaster team gets to know each other and to trust each other, rather than never ... than pulling it together at the last minute.”*

## Poor Communication about Resources

Due to gaps in communication and information sharing processes, information about available supports did not reach all of the Siksika evacuees. News of available emergency supports was shared only through social media, which was not accessible to everyone. One emergency responder expressed frustration about methods used to disseminate information on available resources for Siksika evacuees: *“People were advertising on Facebook and I remember thinking, the families that I worked with, many of them had no exposure to computers. They have cell phones, but the idea of using social media was more for younger people. I worked with an older population, or the ones that were really on social assistance. They just didn’t have those kinds of access or information. Some people still relied on the brochures, local media, the radio station ... I just couldn’t understand how people would assume that everybody would be on Facebook or that everybody had Facebook, because that wasn’t a reality for many people.”*

Without the aid of modern communication methods, many evacuees relied on family and other community members for information about available resources. Some evacuees were more proactive in finding information on what supports were being offered to evacuees and where to access these resources. Frustrated with the lack of information about the types of supports available for Siksika evacuees, one evacuee talked about calling around to find needed services and learning about other supports that were also available for evacuees, although not well advertised: *“So, we started phoning, you know, other places. And they said, ‘Hey, you need to go over here if you have any questions or concerns.’ There was counselling available, psychologists available, as well for your health.”*

---

**“[Evacuees] were expected to go seek services on their own... People oftentimes didn’t have no ride or transportation to access.....”**

## Inequitable Access to and Distribution of Resources

Evacuees talked about challenges with the availability of and access to emergency support services, including frustration with frequently changing emergency management teams, broken promises about forthcoming services and supports by emergency responders, and the inequitable distribution of resources. Several evacuees left the community to address unmet special needs, only to learn that fewer services were actually available to them off reserve. One evacuee remembered there were challenges with jurisdictional boundaries and different areas of coverage between Band departments: *“For a while there, my kids were being transported by Siksika Disability, until the Board of Education couldn’t do it anymore because they said we were off the reserve ... Disabilities [another department with off-reserve jurisdiction] took over, and they started taking my kids to school.”* Another evacuee who left the reserve commented on the missed opportunity to access services that were available only to evacuees living on reserve, *“We’re not on the map on the reserve, so they’re having a hard time relocating all the people that moved.”*

The location chosen for the delivery of services, including the food bank, impeded access for some evacuees. Prior to the flood, the community already struggled with food security. Following the disaster, an emergency food bank was established and it quickly became an important service for evacuated community members. One evacuee reflected on the value of this service: *“I think the only ones that have really, really helped when I really needed it, was the food bank. That’s where I can honestly say I’m really going to miss it.”* Given the large size of the community, finding transportation to the food bank and other emergency services proved to be a major barrier for evacuees. In some situations, emergency responders used their own vehicles to transport evacuees to and from different places for emergency support. One evacuee explained, *“[Evacuees] were expected to go seek services on their own, especially in the east end of Siksika. I think that’s a really interesting point. Most of the services were located in Siksika Central. People oftentimes didn’t have no ride or transportation to access, to go see an addictions worker, to attend an AA meeting, to even go to a clinical appointment. Other than if they were already on the list for homecare coming to see them.”*

## Creative and Culturally Relevant Outreach in Service Delivery

Emergency responders adopted practices intended to improve service access in creative ways that might be appropriate for community members. Meeting evacuees in their temporary homes and delivering services in Blackfoot language allowed emergency responders to provide support that was well accepted by evacuees with distinct needs, such as elderly people, those who live with a chronic illness, and children with disabilities. One emergency responder reflected on the importance and benefits of this practice: *“Meeting the people in their own homes, their temporary situations ... people were much more open to be seen in their own comfort ... for the most part, it allowed for a lot more trust building that people would be willing to open their doors to you, to be able to be seen in that situation. You know? I think it was more of a cultural thing ... Rather than them seeing you as a psychologist or as a professional coming to do counselling, they saw me more as somebody coming in to visit and checking in on them in a much safer, non-intrusive way.”*

Another emergency responder talked about the need to be creative in delivering services to evacuees: *“We went door-to-door, and we also set up workshops ... Working with local Elders*

*to just expose them to supports available. Getting people from the various departments to provide presentations so that they could be, so that they can know each other and give each other support.”*

## The Siksika Way of Life: Helping Out and Sharing

Several evacuees talked about the *“Siksika Way of Life”*, which means helping out and sharing with one another: *“We see some that don’t have it. So, we take some, and go give it to them. I hire some of them to work for me too. ‘Here. My world is really suffering. Do this stuff for me.’ Some of them get their lights cut off. They’ve got nothing to eat. We gather up food, and go give it to them. And then, how am I supposed to feel going to get all those extra things there, when we can still try and do it on our own, to help people?”* A related concept that emerged from the discussions with evacuees pertained to the notion of pride, which, in some instances, served as a barrier for evacuees asking for help. In fact, several evacuees admitted that their pride, stemming from the Siksika Way, prevented them from proactively seeking out and accessing services that may have been available to them.



Source: iStock

Evacuees also drew on the *Siksika Way* concept when speaking about gaining knowledge and survival skills from their parents and grandparents. They had learned to survive off the land in the absence of modern conveniences, and to survive and adapt to new environments. Evacuees applied that knowledge to situations that arose during their evacuation. As one evacuee explained, *“We knew how to survive, and I was taught very well by my Mom ... We have a generator, and we have heaters, and we blocked off our living room, so we all lived in one room. So, we managed in here. We had a generator for the TV, microwave. The fridge was our whole house, so we don’t have to worry about frozen food.”*

## Loss of Home, Identity, Security

Several months after the emergency evacuation, many Siksika evacuees were still residing in hotels, camping on the traditional land, or billeting with families and friends.<sup>13</sup> This initial phase of the evacuation was especially challenging for evacuees who lost their home to the flood. One evacuee shared, *“It was my sanctuary, my home ... where I raised my children. The only thing I had was my vehicle and what we could pack in the vehicle, and then we left. So, we had to start all over.”*

The idea of home was a significant concept for evacuees because it represented a place of security and sense of belonging for evacuees. The traditional land of the Siksika Nation was occupied for generations by clan-based family networks, and the housing layout of each community within the Siksika Nation was based on traditional clan relations. For many community members, the site of their house signified much more than a location; it was a place that defined their home and identity.<sup>9</sup>

Evacuees spoke of the intense grief they felt as a result of losing their home and the tremendous effect this had, not only on their own health and well-being, but also on the health of their family and community. One evacuee shared, *“There were days where I was so lost. I didn’t really know where to go. I couldn’t just run back*

*home because it wasn’t there anymore ... It was really hard to deal with. I put how I was feeling aside because I was too worried about my kids ... I was dealing with a lot. I was dealing with how my kids were taking it.”* Another evacuee said, *“But when we were coming home, we had no home to come to, so it was tougher for [my children] to understand. [They] did take it hard, wanting to come home, but I had to explain, ‘No, we’re going to stay over here for now.’”*

Losing a home was particularly hard-felt by single parents of children with significant health conditions. For one evacuee, in particular, losing a home also meant losing the safety, security, structure and stability that came with the notion of home. This experience proved stressful for this family: *“[My child] has Down Syndrome ... [my children] are used to a lot of structure. [The flood] threw us out of our routine ... It was stressful for [them]. Stressful to teach [them] and help [them] understand that we don’t have a home anymore.”*

## Insecure, Unsuitable, Unsafe Temporary Lodging

In the six years following the flood, Siksika evacuees had to make a number of additional forced moves, each of which entailed insecure, temporary, and low-quality housing. For evacuees dealing with physical disability or mobility challenges, the repeated moves merely added to their stress, as one evacuee explained, *“It was harder for us. We couldn’t just get up and move in here or there because with my son in a wheelchair.”*

To help address the shortage of housing for evacuees, ATCO trailers were set up as relief shelters at three different locations within the Siksika Nation. Sleeping quarters in the trailers had one double bed, a place to hang coats and jackets, a small dresser, a washroom, and a television; they did not include cooking facilities or refrigerators to store food. Evacuees described the trailers as overcrowded, uncomfortable, and not suitable for families with children.



Source: iStock

Some evacuees talked about their concerns with the safety of trailers: *“My children are not safe. Their rooms are down the hallway. Therefore, we must constantly ensure they are safe.”* A few of the evacuees described the environment within the trailers as being very controlled and regimented, *“like residential school all over again,”* with curfews and required security check-ins when leaving or returning to the trailers. One evacuee recalled, *“I just felt like I’m in prison there. So, I get up in the mornings, I eat, and then I’m gone, maybe ‘til supper or sometime, then I go back.”*

Evacuees explained that the ATCO trailers were available only to on-reserve evacuees, leaving some evacuees who were away at the time of the flood without a place to stay: *“I wasn’t able to have an ATCO trailer home, just because I was away for school. When I came back, they were all full. Thank God I had family that opened their doors towards us and took us in for the time that we were out of a home.”* One evacuee expressed frustration with repeated problems that arose in the provision of accommodations: *“We couldn’t go in there because my son is in a wheelchair. So, we ended up in [a nearby community]. We kind of moved from [one motel] to the other one there next to it. Then, they couldn’t accommodate us because there was no elevator there. So, we finally ended up at [another motel]. We were actually there for almost a year and a half.”*

## Inadequate, Isolating Interim Housing

After about a year and a half, *“New Temporary Neighbourhoods”* (NTNs) were established, replacing the ATCO trailers. This new interim housing was comprised of 144 trailer units with a capacity to house over 600 evacuees.<sup>9</sup> As with the ATCO trailers, several evacuees talked about the substandard quality of these new accommodations: *“Some of them were in poor shape when they came here, even though they were looked at [as] brand new. Because you’ve got to remember that was a quick process ... to move them from wherever and come over 200 to 500 kilometres ... set them up.”*

Evacuees talked about how the new accommodations led to strong feelings of isolation for many evacuees: *“There was many that felt that they were forgotten within the community, once they were moved into the NTNs. And others whose homes were not as damaged and were able to move into their renovated homes also reported the same concern. People felt the sense of isolation you know?”* This perception of interim housing also speaks to the importance that a sense of comfort, security, and belonging in one’s home and community has for evacuees’ recovery following an emergency evacuation, as has been described earlier.

## Added Household Management Responsibilities

The New Temporary Neighbourhoods (NTN) not only disrupted family and community structures within the Siksika Nation, but also created added financial responsibilities for evacuees: *“You’ve got to remember that some of these families, we could have had four families in one house. And when the flood hit those families in that one house, those three other families got their own unit. And when they got their own unit, some of them were ‘This is the first time I’m on my own. I am now responsible for the home.’ And they couldn’t maintain that.”*

The constant movement from one temporary housing situation to another was draining on displaced families, especially when those accommodations included added responsibilities, such as having to manage one’s own utility accounts and pay for services that were not previously part of the household budget. As explained by one evacuee: *“You have to almost start new. Like, if you’re going to move into an NTN ... But then, you had to be responsible for your power. You have to pay. And you got to remember, there was a bunch of billing issues, stresses ... they had to help clear up their last utilities.”* Another evacuee elaborated, *“There’s hundreds of dollars owing because some of the meters kept going, and no one shut them off properly. And then, they had to clear up their accounts. And someone had to pay. And then re-register your new house location to your old location, and then to your new location, which meant we were going to move again. Crazy.”*

## Increased Substance Use and Addictions

The precarious housing situations experienced by evacuees contributed to feelings of depression, anxiety, and anger among evacuees, which, for some, gave way to increased alcohol use, addictions, violence, and vandalism following their move to the NTNs: *“I also noticed just a tremendous amount of increase of alcohol and drug abuse after they moved into the trailers. Because they were really highly monitored in the ATCO trailers, because of security guards, and people would be asked to leave if they were caught with drinking. But, once they moved into the trailers, it just seemed, like, people were already struggling with alcohol. It became worse. And you started to see lots of other stuff surface ... violence, the vandalism.”* The vandalism had added consequences, as it drastically reduced the number of houses available to evacuees within the NTNs: *“There was 120 NTNs that came. Right now, there’s about 30 of them that were vandalized, so no one’s living in the 30 right now.”*



Source: iStock



## Poor Quality and Environmental Contamination of New Housing

Several years after the emergency evacuation, Siksika evacuees began moving into newly built homes within the community. A number of evacuees expressed deep concern with poor workmanship, defects or other problems with their new home, including windows that were installed backwards, stairways that did not meet standard building codes, flooded basements, mould, and contaminated drinking water. One evacuee said, *“They had moved into their new home. The water was not tested right and, so, they had to be retested, and the water lines had to be re-dug because they didn’t do the proper testing.”* Another evacuee expressed the need for assurances and transparency on environmental restoration of building sites: *“Even now, as all the houses that were totally damaged with the flood, and all the mould, those ones that were being torn down, and then they’re now being... there’s a space near the house where they’re being dug. And some of that, some of that stuff gets hauled away. But what’s left and what gets dug up, I’m not sure if that information was being told to the people and what that means.”*

Environmental safety issues had other implications for health and wellbeing. Due to potential contamination of the soil and water following the Bow River flood, access to traditional foods and medicines was restricted. One evacuee expressed concern with the lack of public health oversight in this regard, *“Seasonal harvests, the berries, the mints, and the medicines. Some of the people that would pick in these areas didn’t want to pick anymore. They didn’t know how long they were to wait. Someone told them they should wait five years, but people were still scared.”* Another evacuee talked about the safety of community members who continued to harvest, despite environmental contamination: *“Some people, after a few years, they were just picking. I don’t know if that has ever been cleared to say, ‘Yes, that mint that’s coming off the ground, or those berries, are okay’ and ‘There’s no long-term contamination.’”* This evacuee also maintained that post-flood soil sampling should be conducted prior to evacuees returning to their communities, to ensure not only safe harvesting practices, but also to make sure homes are not built or reconstructed on polluted lands.

## Mental and Physical Health Impacts

The evacuation took its toll on the health and well-being of several evacuees. Nearly all of the evacuees reported feeling isolated, abandoned, and socially withdrawn at some point in their evacuation. The health of evacuees, especially those with a chronic-illness, seemed to worsen with each move, as a result of the stress, uncertainty, and discomfort involved with being away from home. *“People that had pre-existing health conditions, especially with the elderly, I noticed those got worse. Whether it was the diabetes or heart conditions, or just their overall health. They were finding it harder to recover or maintain a sense of the health coming back into balance because of the added stress of having to wonder when they were going to go home, would their house be ready in a certain time. You know, if it helped their pain, or whatever issues that they were dealing with. Some of them ended up in hospital. There were clearly some people that died as a result.”* Another evacuee attributed the premature death of evacuees to *“the stress, poor diet.”* Several evacuees expressed intense sadness about the community members that *“never made it into their new homes.”* As one evacuee commented, *“Some went to their new home in a coffin.”*

Evacuees talked about the emergency evacuation provoking trauma, stress, poor diets, unexpected deaths, child apprehensions, and increased addictions, all of which had a negative effect on the mental health of evacuees. One evacuee reflected on her daughter’s mental health decline: *“When the flood happened, my second oldest daughter, she has bi-polar. I think what happened in the flood got her condition kind of worse. So, she ended up in the hospital in [the city]. Ever since then, there wasn’t any help that could be given to her here ... she never did come home after that. She ended up in a group home. She’s still there now. These are the kids that I’m raising now. Those are her two kids.”*

Some evacuees experienced several emotional and psychological effects of evacuation, as was described by one evacuee: *“Depression, anxiety, emotions, crying, anger, frustrations, doubt ... They couldn’t believe what we went through. They couldn’t believe the state of the house. They couldn’t believe the normal, everyday functions in our house. Most of the things were always in a rush. We never really stayed home for about a year after because, when the river rose, we took one more look at it wondering if we had to pack again.”* Other evacuees disclosed similar fears of a repeat disaster: *“When vehicles drive by, [they] hear a rumbling. ‘Is that the river coming through the trees?’ We would jump up and look out at night with a flashlight, just to see if water was coming again.”*

## Importance of Routines and Community Connections

The flood “*threw us out of our routine*”, was how one single parent described the disruption to family life caused by the flood. Several other evacuees explained that staying as close as possible to their usual daily routine helped them to cope with the evacuation. One evacuee explained that it was important for her and her children to continue with their schooling because it provided a sense of normalcy: “*I was in school at that time ... it was the only routine that I was able to do ... I lost everything. I had no place to stay, had to think, ‘What am I going to do with my children?’ All their stuff was gone. I had to live in the moment and say, ‘Okay kids, what’s important?’ Everybody’s okay. The kids are in school. I was in school ... I had to keep my daily routine for school.*”

Another evacuee thought that community connections and relying on one another for support “*made [them] stronger and healthier.*” As one evacuee remembered, “*There were times we were starting to feel down, so we would encourage to pick ourselves up to do something, and we would just leave and do some other stuff. That would keep us motivated, and then we would come back. Probably the only thing we got sick from was the cold or a flu.*” Other evacuees also talked about the community strength and resilience that was found in coming together and supporting each other through their healing and recovery: “*A healing circle or whatever, a talk. It didn’t happen right away. What we did was we did crafts and, then, I was teaching the women how to sew moccasins ... when that came, I think they felt comfortable enough that they started sharing. It was all the women that were affected by the flood. It felt like everyone knew what they were talking about. Everybody was in the same [situation].*”

---

“There were times we were starting to feel down, so we would encourage to pick ourselves up to do something”

## CRITICAL INSIGHTS FOR PUBLIC HEALTH

At the time of the interviews with Siksika evacuees, almost six years after the Bow River flood, community members were still moving back into their homes and struggling with physical and emotional consequences of the disaster. The evacuees’ experiences and reflections on their recovery over these years provide many insights, not only into the adverse effects natural disasters can have on First Nations peoples and communities, but also into some promising ways public health, in conjunction with First Nations communities, can help to buffer the negative consequences of evacuation and long-term displacement for First Nations populations.

### Factors in the Physical Environment that Impact Health

Factors in the physical environment that impact health are key priorities for long-term evacuees that require increased public health attention, particularly as they relate to all aspects of well-being. The contexts necessary to health encompass the environmental health and safety of housing and the surrounding environment, including the land, waters and natural resources, as well as the traditional livelihoods and lifestyles of First Nations peoples and communities. Siksika evacuees expressed grave concerns about the safety, suitability, security and stability of their temporary placements while evacuated. They talked about the toxic environments in which they were placed and the negative effects of their precarious accommodations on their physical, social, emotional, mental and spiritual well-being. Evacuees saw that these environments contributed to many of the problems they experienced while displaced, including increased alcohol consumption, vandalism, violence, child apprehension, broken family and community structures, and disruption to cultural practices. Even after returning to their home communities, evacuees received no assurances that their land and waters were free from contaminants and that they were safe to resume traditional harvesting and other cultural land-based activities. Public health could play an important role in working with First Nations peoples and communities to restore environmental conditions, as well as conduct appropriate testing to ensure and demonstrate that the living environments of First Nations populations are safe and habitable.



Source: iStock

## Partnership and Coordinated Emergency Management through Reconciliation

Public health can help to mitigate the long-term effects of evacuation and displacement by working in partnership with First Nations peoples and communities to support emergency planning. Effective partnerships can begin with a mutual exchange of knowledge. Through community engagement, public health can develop improved awareness and understanding of the history, cultural beliefs and practices, and significance of social structures for the community, which are important influences on how First Nations peoples experience evacuation and emergency responses. Using this knowledge base as a starting point, public health could work jointly with First Nations peoples and communities to develop community-based emergency management protocols and practice guidelines that clearly specify the roles, responsibilities and required processes for each of the various partner organizations involved in the different stages and phases of emergency operations. Stronger partnerships and better coordination can improve the timeliness and efficiency of an emergency response, the reach of and access to services, and the overall effectiveness of emergency operations.

While Siksika evacuees had plenty of assistance from organizations and volunteer groups in all areas of evacuation and emergency response, Band staff experienced a great deal of confusion with formal processes for coordinating and administering emergency support services. They also recognized that they lacked adequate training and experience in dealing with traumatized evacuees, which affected staff turnover, service continuity, and the ability to establish trusting relationships with evacuees. In the absence of a formal emergency plan, evacuees perceived a lack of information and confusion about where to find emergency protocols, an inequitable distribution of resources, and problems with accessing emergency support services. As such, the development of emergency management practice guidelines would provide an opportunity for public health and partner departments to streamline administrative processes and establish an interagency network to advance information and resource sharing, map and enhance access to available resources, and reduce any duplication of services.

## Culturally Safe and Appropriate Approaches to Effective Evacuation Management

The experiences shared by evacuees illustrate the advantages of the Siksika Nation taking ownership and control of their own emergency management, particularly their ability to remain flexible enough to respond to existing and emergent needs of the community and its members. First Nations communities know their families, the needs of their families, and the types of resources that are needed to respond effectively and appropriately to their needs. They know about community members in higher need circumstances and about the social networks that must be maintained to ensure the continued health and safety of families. Opportunities that arose from local emergency management by Siksika Nation can provide insights for strengthening public health policies and practices to ensure First Nations peoples are fully supported in their long-term recovery from evacuation and displacement, especially in relation to the adverse effects on their mental health and well-being.

Evacuees talked about how their unaddressed needs created additional harms, which resulted in their declining physical health, prolonged grief, and other mental health conditions. Still, in spite of their ongoing challenges, evacuees acknowledged the proactive and creative ways emergency support teams adapted their approaches to service delivery in order to enhance the reach and effectiveness of emergency supports for Siksika evacuees. Some of the supports and practices that were implemented included daily debriefings among emergency support teams, community gatherings and cultural activities for displaced evacuees, an emergency food bank, targeted initiatives like healing circles and arts activities for children and youth, active offers to receive services in the Blackfoot language, outreach initiatives such as door-to-door canvassing and community presentations to promote available resources, and home visiting initiatives aimed at better meeting the needs of Elders and other evacuees. Initiatives like these can help to foster trusting relationships with evacuees. These are opportunities for public health to adopt some culturally safe and appropriate approaches to effectively manage the evacuation and remediate displacement of First Nations populations.



Source: iStock

## ADDED INSIGHTS AND MORE TO LEARN

The experiences of several individuals, a single First Nations community, and one disaster cannot be generalized to build conclusions about First Nations' experiences of long-term evacuation. Rather, each First Nation and context builds added insights and shows what can be learned from the lived experiences of an evacuation, and through reflection on different sources of knowledge.

This case study set out to explore the effects of evacuation and prolonged displacement on the health and well-being of Blackfoot people of the Siksika Nation, a community that suffered significant harm from the Bow River Basin flood of 2013. Their perspectives affirm and build on insights shared by evacuees affected by the Ashcroft Indian Band's experience of the Elephant Hill wildfire, which can be found in: *Case Study 1. Out of the Ashes: Ashcroft Indian Band and the Elephant Hill Wildfire*.<sup>14</sup>

Reflecting on the experiences shared by evacuees in the two communities has led to several critical insights on the potential health effects and social impacts of disaster and evacuation, factors that influence and mitigate harms, and opportunities for public health to support improved recovery of First Nations peoples and communities affected by natural disasters and displacement. A third companion document draws on findings from the community-based research, the research literature, and consultations with public health decision-makers to further explore the potential role that public health may play in this work.<sup>15</sup>

---

### ABOUT THE LONG-TERM EVACUEES PROJECT

The National Collaborating Centres for Public Health (NCCPH) led a project to explore knowledge gaps and inform priorities for public health responses to long-term evacuations due to natural disasters. This included identifying issues related to the impact of natural disasters on First Nations communities, which are often hardest hit by such events. As well, the project sought to establish evidence needs and identify public health roles and emergency management practices that can improve recovery for communities and individuals affected by natural disasters, long-term evacuation and extended displacement. As a reflection of the growing public health significance of natural disasters and the complexities of recovery, all NCCs supported the project, each contributing distinct expertise on the topic area.

The Long-term Evacuees Project exploration of communities' experiences was led by Dr. Lilia Yumagulova, a Bashkir woman from the Ural Mountains, Darlene Yellow Old Woman-Munro, a member of the Siksika First Nation, and Dr. Emily Dicken, a researcher-practitioner of Cree descent. The research team formed strong relationships with the people and leaders of Ashcroft Indian Band and the Siksika First Nation. Through dialogue, researchers and community members established mutual trust and created space for participants to be central to the development of knowledge. From their work together comes a series of knowledge products for public health professionals, which include:

- [\*Case Study 1: Out of the Ashes: Ashcroft Indian Band and the Elephant Hill Wildfire.\*](#)
- [\*Case Study 2: From the Floodwaters: Siksika Nation and the Bow River Flood.\*](#)
- [\*Health and Social Impacts of Long-term Evacuation Due to Natural Disasters in First Nations Communities: A Summary of Lessons for Public Health.\*](#)

## REFERENCES

1. Christianson A. Social science research on Indigenous wildfire management in the 21st century and future research needs. *Int J Wildland Fire*. 2015; 24(2): 190-200. Available from: <https://doi.org/10.1071/WF13048>.
2. Deschambault M. Success stories: emergency management and First Nations partnership. *HazNet*. 2019; 12(1): 24-26. Available from: <http://haznet.ca/wp-content/uploads/2019/05/HazNet-Spring-2019-print-version.pdf>.
3. Intergovernmental Panel on Climate Change. Summary for policymakers. In: Field CB, Barros VR, Dokken DJ, Mach KJ, Mastrandrea MD, et al. editors. *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press; 2014. p. 1-32. Available from: [https://www.researchgate.net/publication/272150376\\_Climate\\_change\\_2014\\_impacts\\_adaptation\\_and\\_vulnerability\\_-\\_IPCC\\_WGII\\_AR5\\_summary\\_for\\_policymakers](https://www.researchgate.net/publication/272150376_Climate_change_2014_impacts_adaptation_and_vulnerability_-_IPCC_WGII_AR5_summary_for_policymakers).
4. Centre for Indigenous Environmental Resources. *Climate change and First Nations south of 60: impacts, adaptation, and priorities* [Internet]. Winnipeg, MB: Centre for Indigenous Environmental Resources; 2008 May. 42 p. Available from: <http://www.yourcier.org/climate-change-and-first-nations-south-of-60-impacts-adaptation-and-priorities-2007.html>.
5. Standing Committee on Indigenous and Northern Affairs. *From the ashes: reimagining fire safety and emergency management in Indigenous communities*. Report of the Standing Committee, 42nd Parl, 1st Sess. Ottawa, ON: Parliament, House of Commons; 2018 Jun. (Chair: MaryAnn Mihychuk). Available from: <https://www.ourcommons.ca/Content/Committee/421/INAN/Reports/RP9990811/inanrp15/inanrp15-e.pdf>.
6. Pearce L, Murphy B, Chrétien A. *From displacement to hope: a guide for displaced Indigenous communities and host communities*. *Contemporary Studies*. 2017 Mar; 10. Available from: [https://scholars.wlu.ca/brantford\\_ct/10](https://scholars.wlu.ca/brantford_ct/10).
7. Scharbach J. *The sociocultural implications of emergency evacuation among members of the Hatchet Lake First Nation* [Thesis]. Saskatoon, SK: University of Saskatchewan; 2014. 101p. Available from: <https://harvest.usask.ca/handle/10388/ETD-2014-01-1401>.
8. Poole M. "Like residential schools all over again": experiences of emergency evacuation from the Assin'skowitziwak (Rocky Cree) community of Pelican Narrows [Thesis]. Saskatoon, SK: University of Saskatchewan; 2019. 109p. Available from: <https://harvest.usask.ca/bitstream/handle/10388/12267/POOLE-THESIS-2019.pdf?sequence=1>.
9. Patrick R. Social and cultural impacts of the 2013 Bow River flood at Siksika Nation, Alberta, Canada. *Indig Policy J*. 2017; 28(3). Available from: <http://www.indigenouspolicy.org/index.php/ipj/article/view/521/504>.
10. Indigenous and Northern Affairs Canada – First Nation detail – Siksika Nation [Internet]. Ottawa: Government of Canada; 2020. Available from: [https://fnppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNMain.aspx?BAND\\_NUMBER=430&lang=eng](https://fnppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNMain.aspx?BAND_NUMBER=430&lang=eng).
11. Siksika Nation. About Siksika Nation. 2020. Available from: <http://siksikanation.com/wp/about>.
12. Yumagulova L, Yellow Old Woman-Munro D, Dicken E. Honouring the voices of long-term evacuees following natural disasters in Ashcroft Indian Band and Siksika Nation. National Collaborating Centres for Public Health. 2020 May. Unpublished.
13. Yumagulova L., Phibbs S, Kenney CM, Yellow Old Woman-Munro D, Cardinal Christianson A, McGee TK, Whitehair R. The role of disaster volunteering in Indigenous communities. *Environ. Hazards*. 2019 Aug. Available from: DOI: 10.1080/17477891.2019.1657791.
14. National Collaborating Centres for Public Health. *Out of the ashes: Ashcroft Indian Band and the Elephant Hill Wildfire - Insights for public health responses to long-term evacuation (Case Study #1)*. National Collaborating Centres for Public Health. 2021. Available from [www.nccid.ca/long-term-evacuees-casestudy1](http://www.nccid.ca/long-term-evacuees-casestudy1)
15. National Collaborating Centres for Public Health. *Health and social impacts of long-term evacuation due to natural disasters in First Nations communities: a summary of lessons for public health*. National Collaborating Centres for Public Health; 2021. Available from [www.nccid.ca/long-term-evacuees-lessons](http://www.nccid.ca/long-term-evacuees-lessons).

## ACKNOWLEDGEMENTS

The NCCs for Public Health would like to thank members of the Siksika Nation, including Band administrators, who generously shared their knowledge and experiences of evacuation and recovery in interviews and discussion groups. Their contributions have made this resource for public health possible. As well, sincere thanks go to Lilia Yumagulova, Darlene Yellow Old Woman-Munro, and Emily Dicken, whose research formed the basis for the knowledge products. Their expertise in Indigenous-centred research practices and efforts made to appropriately engage First Nations communities were essential to the project. Additional thanks go to Lisa Murdock for further analysis and developing the document series, and to Harpa Isfeld-Kiely for content editing; their work brought the series of knowledge products to completion.

## THE NATIONAL COLLABORATING CENTRES FOR PUBLIC HEALTH

Established in 2005 and funded through the Public Health Agency of Canada, the six National Collaborating Centres (NCCs) for Public Health work together to promote the use of scientific research and other knowledge to strengthen public health practices, programs and policies in Canada. A unique knowledge hub, the NCCs identify knowledge gaps, foster networks and provide the public health system with an array of evidence-based resources, multi-media products, and knowledge translation services. Learn more about the NCCs at [www.nccph.ca](http://www.nccph.ca).

Production of this document has been made possible through a financial contribution from the Public Health Agency of Canada through funding for the National Collaborating Centres for Public Health. The views expressed herein do not necessarily represent the views of the Public Health Agency of Canada.

ISBN: 978-1-989241-59-2

Information contained in this document may be cited provided that the source is acknowledged.

La version française de ce document est disponible au *Au-delà des inondations : La Première Nation des Siksika et le débordement de la rivière Bow - Considérations pour la réponse de la santé publique aux évacuations à long terme*.

Suggested citation: National Collaborating Centres for Public Health. *From the floodwaters: Siksika Nation and the Bow River Flood - Insights for a public health response to long-term evacuation (Case study #2)*. National Collaborating Centres for Public Health. 2021. Available from [www.nccid.ca/long-term-evacuees-casestudy2](http://www.nccid.ca/long-term-evacuees-casestudy2).