

Exploring Partnership Functioning Within a Community-Based Participatory Intervention to Improve Disaster Resilience

Elizabeth Gagnon, Tracey O'Sullivan, Daniel E. Lane,
and Nicole Paré

Abstract

Disasters happen worldwide, and it is necessary to engage emergency management agencies, health and social services, and community-based organizations in collaborative management activities to enhance community resilience. Community-based participatory research (CBPR) has been widely accepted in public health research as an approach to develop partnerships between academic researchers and community stakeholders and to promote innovative solutions to complex social issues. Little is known, however, about how CBPR partnerships function and contribute to successful outcomes. In this article, the authors present a case study of a CBPR partnership formed with the community of Québec City, Canada, under the Enhancing Resilience and Capacity for Health (EnRiCH) Project, to improve emergency preparedness and adaptive capacity among high-risk populations. This qualitative study presents participants' perspectives on how the partnership functioned and the outcomes of this collaboration. Findings are discussed in relation to contextual and group dynamics, as well as system and capacity outcomes.

Introduction

Recent Canadian disasters, such as the Alberta floods and the Lac-Mégantic, Quebec, train derailment and explosions, as well as Typhoon Haiyan in the Philippines, have shown the potential to widen health disparities in populations by creating a substantial gap in the ability of people to prepare for, respond to, and recover from adversity (*Kailes & Enders, 2007*). The term high-risk populations refers to people who could be at greater risk of experiencing the negative impacts of natural disasters and chemical, biological, radiological, nuclear, and explosive (CBRNE) events, due to functional limitations influencing their ability to cope (*Enarson & Walsh, 2007; O'Sullivan & Bourgoin, 2010*). Examples of high-risk groups include individuals affected by acute or chronic physical or mental disabilities, visible minorities, pregnant women, children, elderly people, the homeless, the economically disadvan-

taged, immigrants, refugees, tourists, and those with lower literacy levels or lacking fluency in the local language (Enarson & Walsh, 2007; Kailes & Enders, 2007). These population groups present a diversity of needs, which may include support for core functions such as communication, transportation, functional independence, medical requirements, and supervision (Kailes & Enders, 2007). Careful consideration of these needs is central to creating an all-inclusive approach to emergency management in order to promote disaster resilience (Kailes & Enders, 2007; O'Sullivan, Toal-Sullivan, Charles, Corneil, & Bourgoin, 2013).

Hurricane Katrina, which hit New Orleans in August 2005, is one salient reminder of how natural disasters can significantly impact high-risk populations. Zakour (2015) points out that “over 23% of the population of New Orleans affected by Katrina were individuals with a disability” (p. 2) and that a disproportionate number of fatalities attributed to the hurricane were among the elderly and individuals with a preexisting disability, such as mobility impairment. These groups were found to have limited access to information, emergency warnings, and adequate shelter (Zakour, 2015). The unique sensory, perceptual, cognitive, and physical challenges facing people with disabilities significantly affect their ability to receive, assimilate, and act on life-saving information. Using the 2004 South Asian tsunami as an example, Sullivan and Häkkinen (2011) expand the concept of high-risk populations by including tourists who, while transiting a foreign country, can find themselves situationally impaired due to linguistic and cultural barriers. These examples illustrate the importance of developing preparedness and warning systems for populations with special needs. Sullivan and Häkkinen anticipate that by bringing greater attention to the requirements of high-risk groups, disaster preparedness in the population at large could be improved.

In the United States, the Federal Emergency Management Agency (FEMA) proposes that risk can be mitigated by adopting a “whole-community approach” that engages and empowers all segments of society in order to enhance resilience and adaptive capacity for health (2011). Under this whole-community approach, emergency management does not fall solely within the competence of national governments, but is the shared responsibility of all levels of government, nongovernmental organizations, the private sector, individuals, families, and communities (FEMA, 2011). Similarly, community-based participatory research (CBPR) embodies a partnership approach to research that seeks to engage a wide variety of stakeholders when addressing complex health and social issues,

and to draw upon a range of knowledge and expertise for innovative solutions (Israel, Schulz, Parker, & Becker, 1998). The key value underpinning a partnership approach, as advocated by FEMA and CBPR initiatives, is collaboration. Collaboration creates potential for synergies and innovation, as it enables partners to pool their knowledge, skills, and resources and use them in new ways (Jones & Barry, 2011). It is widely accepted that collaboration enables more effective accomplishment of collective goals than is possible for any single individual, organization, or sector (Corwin, Corbin, & Mittelmark, 2012; Gray, Mayan, & Lo, 2009).

CBPR involves close collaboration between academic and community members to develop and implement culturally centered public health interventions (Sandoval et al., 2012). The CBPR approach has found application in a number of research initiatives aiming more specifically at building disaster resilience. The Communities Advancing Resilience Toolkit (CART) intervention (Pfefferbaum et al., 2013) is one good example. CART is a theory-based, evidence-informed intervention that consists of a strategic and highly collaborative planning process for building community resilience to disasters and other adversities. CART provides assessment tools to examine information about community assets and challenges in the context of disaster management, but its application can expand to other concerns such as community violence, suicide, epidemic, or recession. Although the specific adversity that concerns the community can vary, CART efforts share key elements that describe and affect resilience: connection and caring, resources, and transformative potential. These elements interact with each other in a process of skill and relationship building that can create the potential for profound community change.

Many studies have demonstrated great promise in the CBPR approach; however, there is a need for more in-depth understanding of the processes describing potential pathways to outcomes of CBPR interventions and partnerships (Sandoval et al., 2012; Wallerstein et al., 2008). Wallerstein et al. provide a conceptual logic model to map CBPR partnership processes around four interrelated dimensions: (1) context, (2) group dynamics, (3) the intervention and/or research design, and (4) outcomes. This model is based on an extensive literature review summarizing the state of knowledge about CBPR characteristics; it was developed in consultation with a national advisory committee of CBPR experts, community members, and researchers.

The model suggests that the *context* that frames any CBPR partnerships encompasses the following subcomponents: socio-

economic, environmental, and cultural factors; national and local policies and trends; historical contexts of collaboration; the community's capacity for research and creating change; the university's capacity for research; and the perceived seriousness of the health issue at stake. These components combine to provide the specific background, including contextual facilitators and barriers, within which CBPR work operates. *Group dynamics* represent the second overarching dimension of the model and refer to how CBPR practice occurs at the individual, structural, and relational levels. Dynamics at work at the individual level include, inter alia, the varying levels of motivation or readiness to change among partnership members. *Structural dynamics* refers to aspects such as the nature, diversity, and composition of the partnership group, as well as the agreements and resources used to govern and manage the collaborative work over time. At the core of interactive and interpersonal processes are relational dynamics, which contribute to shaping the identity of the partnership and the roles of its community and university members.

Contextual and group dynamics factors lead to the intervention, which is the third dimension of Wallerstein et al.'s (2008) logic model and the major independent variable leading to CBPR outcomes. CBPR interventions are most often initiated by university members, but their implementation requires ongoing consultation and collaboration with the community to ensure that local needs are met and resources are being used in a culturally sensitive way. CBPR interventions represent opportunities for knowledge exchange and translation related to the issue at stake, strengthening the connection between the university and the community, and fostering collective change. The fourth and last dimension of the logic model is CBPR *outcomes*, which are further divided into intermediate and long-term outcomes. Examples of intermediate outcomes include new or renewed institutional policies and practices in both the university and community contexts, resulting from shared learning and the integration of diverse knowledge. Intermediate outcomes may also take the form of more equitable relationships. In the long run, these changes may contribute to improved health outcomes and a reduction in health inequalities.

The Enhancing Resilience and Capacity for Health (EnRiCH) Project is a research initiative led by researchers at the University of Ottawa that focuses on increasing community resilience and adaptive capacity among high-risk populations (O'Sullivan, Corneil, Kuziemsky, Lemyre, & McCrann, 2013). It was launched as a CBPR project in 2009 with an advisory panel of 18 governmental, non-

governmental, community association, and academic members from across Canada. Between 2010 and 2013, the EnRiCH Project introduced an asset-mapping intervention in five Canadian communities to explore community supports and new partnerships that could contribute to strengthening emergency preparedness and resilience of high-risk populations. Over the course of the project, the advisory panel expanded to include over 40 Canadian and international partners who were committed to working in partnership to establish emergency preparedness processes that are inclusive of persons with functional limitations.

The current research was undertaken as part of the EnRiCH Project and involved a case study highlighting the experience of participants who took part in the asset-mapping intervention in the geographical community of Québec City. The purpose of this article is to explore participants' perceptions of how the university–community partnership functioned during the intervention and the processes that participants used to manage issues related to multisectoral collaboration. The CBPR logic model by Wallerstein et al. (2008) provides a framework to discuss the processes most salient in the EnRiCH–Québec City partnership.

Method

The following section discusses methodological aspects of the study: research design, the EnRiCH–Québec City partnership, the EnRiCH intervention protocol, data sources, study sample, and data analysis.

Research Design

The EnRiCH asset-mapping intervention in Québec City was conducted between 2011 and 2013. A qualitative case study approach was used to explore and describe the perceived functioning of the partnership and the processes that were used to ensure inclusion of a broad range of expertise to support the collaborative work. The research incorporated a longitudinal design featuring three waves of data collection to assist in understanding the process dynamics of collaboration and the intermediate change outcomes for the partnership.

The EnRiCH–Québec City Partnership

Throughout 2010 and prior to the asset-mapping intervention, the EnRiCH research team developed entry into the Québec City community by consulting key members of the disability and emer-

gency management networks, as well as other public and private stakeholders, to assess the relevance of implementing this type of intervention. 211 Québec Regions was a key community partner that helped the EnRiCH research team promote the implementation of the intervention through the active recruitment of community stakeholders.

211 Québec Regions is the first French-language 211 service in North America and provides information and referral to a full range of community, social, and government services to connect people with the resources and support they need (*211 Québec Regions, 2013*). Prior to EnRiCH, 211 was actively seeking out opportunities for collaboration with the Municipality of Québec City with regard to emergency preparedness issues. As in other urban centers, emergency preparedness entities in Québec City have struggled to link high-risk population groups and community associations with disaster management expertise as a way to develop a more integrative approach to assist people with functional limitations before, during, and after disasters. 211 therefore perceived the EnRiCH Project as an opportunity to reach out and connect to key stakeholders within the community, and thereby to improve high-risk populations' preparedness for disasters. The Municipality of Québec City also showed early interest in and commitment to the EnRiCH Project and rapidly seized the opportunity to lead the intervention in Québec City along with 211.

Following a year of consultation and planning, the asset-mapping intervention was designed and launched in the community of Québec City through a university–community partnership, here referred to as the EnRiCH–Québec City partnership. The partnership included representation from municipal and regional emergency management, public health, tri-services (i.e., fire, police, and paramedic), academia, and associations advocating or providing direct care for people living with functional limitations. Throughout the intervention, the role of the EnRiCH research team was to encourage the community to take ownership of the project and develop its own capacity to advance the issue of emergency preparedness and high-risk populations. Trust and open communication between the research team and the community were key for fostering engagement and developing a vision of how the project could collectively evolve to respond to the local context. The methodological framework and technical support for the asset-mapping intervention provided by the EnRiCH research team empowered the community members with the tools, skills, and confidence to adapt the project to their specific needs.

The EnRiCH Intervention Protocol

Participants were recruited upon approval from the University of Ottawa Research Ethics Board using purposeful and snowball sampling, as outlined by Creswell (2007). Each participant signed a consent form before taking part in any of the data collection.

Table 1 presents an overview of the EnRiCH intervention protocol in Québec City, including information about the research intervention events, dates, locations, numbers of participants, and data collection design. The intervention consisted of two distinct components. The first component was an asset/need assessment to determine the strengths, weaknesses, opportunities, and threats (SWOT) of each target community for addressing the issue of emergency preparedness in high-risk populations. It was conducted in the form of a focus group session, using the Structured Interview Matrix (SIM) as a facilitation technique to promote inclusive and equal participation (O'Sullivan, Corneil, Kuziemy, & Toal-Sullivan, 2014).

The second component of the intervention (see Table 1) was the collaborative asset-mapping exercise, which included three phases: (1) an orientation session as a focus group, (2) a 10-week online collaborative asset-mapping task, and (3) a tabletop exercise as a focus group. During the orientation session, participants were introduced to the CHAMPSS Functional Capabilities Framework (O'Sullivan et al., 2013) and instructed in the use of Google Docs as an online collaborative tool to enable the execution of the asset-mapping task. Following the first focus group session, participants worked through remote online collaboration during the 10 subsequent weeks to populate an asset-mapping spreadsheet and determine how the asset database would be used to promote resilience and preparedness in their community. The final phase consisted of a tabletop exercise focus group during which participants were asked to work through a locally relevant disaster scenario to assess and improve the community's capacity to meet the needs of high-risk populations during disasters (O'Sullivan et al., 2013).

At the request of the Québec City participants, it was decided to extend the EnRiCH intervention to include a follow-up phase in order to assess the impact of the partnership work and discuss the sustainability of the collaboration. This involved hosting another focus group session to conduct a cost-benefit analysis to determine whether the benefits of engaging in multisectoral collaboration for emergency preparedness outweigh the costs of time and energy that such involvement may require from participants.

Table 1. Overview of the EnRiCH Intervention Protocol in Québec City

Intervention Events	Event Description	Number of Participants
Component 1: Asset/Need Assessment		
Asset/Need Assessment Session Date: March 30, 2011 Location: Hôtel Pur, Québec City	<ul style="list-style-type: none"> Full-day facilitated focus group session using the Structured Interview Matrix (SIM) (O'Sullivan et al., 2014) Asset/need assessment focused on emergency preparedness and the protection of high-risk populations in this community 	<i>n</i> = 25
Telephone Interview 1 November 2011 - January 2012		<i>n</i> = 26
Component 2: Collaborative Asset-Mapping		
Phase 1: Orientation Session Date: March 1, 2012 Location: Hôtel Delta, Québec City	<ul style="list-style-type: none"> Full-day facilitated focus group session Presentation of the CHAMPSS Functional Capabilities Framework (O'Sullivan, Toal-Sullivan, Charles, Corneil, & Bourgoin, 2013) Training on the use of the online collaborative asset-mapping tool (Google Docs) 	<i>n</i> = 22
Telephone Interview 2 March - April 2012		<i>n</i> = 18
Phase 2: Asset-Mapping Task Date: March - May 2012 Location: Online collaboration	<ul style="list-style-type: none"> 10-week asynchronous process to develop the asset database remotely through Google Docs Identify and learn about assets (organizations, programs, services) in the community 	N/A
Telephone Interview 3 May 2012		<i>n</i> = 14

Phase 3: Tabletop Exercise Session Date: May 25, 2012 Location Hôtel Delta, Québec City	<ul style="list-style-type: none"> • Half-day (4.5 hr) facilitated focus group session • Tabletop exercise using a train derailment scenario to test knowledge of emergency planning protocols, risks, hazards, and community assets 	<i>n</i> = 23
Telephone Interview 4 June 2012		<i>n</i> = 13
Phase 4: Follow-up Session Date: November 22, 2012 Location: Hôtel Delta, Québec City	<ul style="list-style-type: none"> • Half-day (4.5 hr) facilitated focus group session • Assessment of the EnRiCH intervention through a cost-benefit analysis 	<i>n</i> = 19
Telephone Interview 5 November 2012 - January 2013		<i>n</i> = 16

As indicated in Table 1, five telephone interviews were conducted over the course of the EnRiCH intervention; each focus group was followed by an interview to track participants' perceptions of how the collaboration was being developed and organized among partners.

Data Sources

In this study, we used data gathered from the fourth and fifth set of telephone interviews and the follow-up focus group session. We chose these data sources to reflect as closely as possible the level of development achieved by the EnRiCH-Québec City partnership and to report on core partnership functioning processes and intermediate change outcomes arising from the intervention period.

The investigators of the EnRiCH Project developed a semistructured interview guide that was used to conduct all telephone interviews during the intervention. Some questions followed a ranked 5-point Likert scale (with 5 being the highest), and others were open-ended. Additional probes were incorporated throughout the process to capture emerging dynamics of partnership functioning. Each telephone interview was 30-45 minutes in duration and was audio-recorded with the participant's permission. Sample questions from the interview guide included "Please rate your sense of belonging to this EnRiCH collaborative group in your community using the 1 to 5 rating scale"; "Please describe how this collabora-

tive group has structured itself”; and “In the past month, have there been any major changes in the direction this collaborative group is going?” The first author and an EnRiCH research assistant conducted all of the interviews in French.

The follow-up focus group session was conducted in the form of a cost–benefit analysis. Data were collected using two audio recorders at each discussion table. The time spent on site by the first author permitted nonparticipant observations of real-time events, fostered the development of trusting relationships with the participants, and provided a greater sense of the dynamics qualifying the partnership. Sample questions from the cost–benefit analysis included “What benefits, if any, did you get from your involvement with EnRiCH?” and “What are the costs of getting involved in a project like EnRiCH?” The focus group was conducted in French by an EnRiCH research associate.

Study Sample

The sample for this study represented the group of participants who attended the follow-up session and those who completed the fourth or the fifth interview (or both). A total of 23 participants were purposefully selected. The sample resulted in a mix of returning participants who had been involved in previous phases of the intervention and new recruits who were identified by the participants as potential contributors having expertise related to the issues being discussed. The new recruits were mostly participants’ work colleagues who had been informed about the EnRiCH Project via word of mouth. Table 2 displays participant demographics, including the types and roles of the participating organizations.

Table 2. Participant Demographics

Organization Type	Organization Name
Independent (<i>n</i> = 1)	<ul style="list-style-type: none"> • Information and Referral Services (211 Québec Regions)
Governmental (<i>n</i> = 13)	<ul style="list-style-type: none"> • Ville de Québec • Agence de la santé et des services sociaux de la Capitale Nationale • Fire department • Office du tourisme de Québec • Service de police de Québec • Ministère de Sécurité Publique du Québec • Ministère des Transports du Québec

Parapublic (n = 1)	<ul style="list-style-type: none"> • Université de Laval
NGO (n = 8)	<ul style="list-style-type: none"> • Regroupement des personnes handicapées de la région 03 (Capitale-Nationale) • Regroupement des personnes handicapées visuelles • Mouvement Personne D'Abord du Québec Métropolitain • Société Canadienne du Cancer • Centre d'Action Bénévole de Québec • Croix-Rouge Canadienne, Division du Québec • Service d'entraide communautaire Rayon de Soleil • Centre communautaire l'amitié
Total = 23	

Data Analysis

Interview and focus group data were divided into two levels of analysis. The first level of analysis was the data from the fourth and fifth set of interviews. Following transcription and accuracy checks, the transcripts were coded by the first author using directed content analysis to create a coding grid incorporating both deductive and inductive codes (Hsieh & Shannon, 2005). An initial examination of the transcripts allowed highlighting of all text referring to dynamics of partnership functioning and their influence on the outcomes of the EnRiCH intervention. The highlighted passages were then coded using a provisional list of deductive codes based on findings from the literature on CBPR and partnership functioning. An inductive coding process was also used to identify emergent themes and develop higher-level pattern codes suggesting thematic relationships between chunks of data (Miles & Huberman, 1994). The second level of analysis was on the data from the follow-up focus group session, supplemented by nonparticipant observations. Coding was performed using the grid developed from the interview transcripts, and additional nodes were added as needed. Preliminary themes were identified and then discussed and revised until consensus was reached.

Data analysis for this study had two primary objectives. The first was to explore the participants' perceptions on how the university–community partnership functioned and what outcomes it had. The second was to provide a secondary analysis and conceptual

model of the dynamics of collaboration influencing the creation of synergy within the EnRiCH–Québec City partnership. The latter topic will be reported in a subsequent article.

Findings

The findings of this study are presented under the rubrics of five core themes reflecting processes and intermediate change outcomes of the EnRiCH intervention that the participants perceived as key determinants of the ability of the partnership to work toward its purpose.

Theme I: Emergency Preparedness Resonated With Local Concerns and Values

Participants attached considerable importance to the issue of emergency preparedness because of its wide-ranging implications for public safety and health. Many surrounding areas of Québec City have faced a growing number and complexity of disasters in recent years, and participants' knowledge of the consequences contributed to a heightened sense of urgency in getting the community ready to respond to the unexpected impacts of threats. As described by one governmental participant:

In recent years, we've grappled with many catastrophes. We thought we were immune to that sort of thing. So, what happened in the Richelieu region [the floods] was a sort of call to arms. We were confronted with something that never occurred before. All we had before were snowstorms!

Moreover, some participants remarked that the EnRiCH intervention was taking place at a time of growing political attention to public security in Québec City. As indicated by another governmental participant, the culture of public security seemed to be present more than ever before:

But the culture of public security and the issue public security are ever present now, and that wasn't the case before. The [Québec] Ministry of Health formally announced in May that public security was an important matter and that it intended to draft a ministerial plan to deal with it. It's a first, you know, and it makes the whole concern with public security all the more

legitimate—and it sends a clear message that every institution and organization has to be “prepared.”

Authorities’ support for the overall goal of enhancing public safety and security in Québec City was perceived as giving credibility and legitimacy to the EnRiCH community-research initiative. This support also elicited strong and sustained participation from public authorities throughout the intervention, increasing the perception that the issue was worth addressing. As stated by one of the governmental participants, the public authorities’ commitment was a good indication of the interest and readiness to sustain the collaborative efforts surrounding the issue:

What’s more, the people who run Québec City, well, they are at the table. So, if they are involved, it gives the project a whole lot of credibility.... And, you know, these folks, well, they don’t have a lot of time to waste, so if they are investing their time in this, it means they have an interest in seeing the whole thing continue.

Theme 2: The Collaborative Structure Emerged in Response to Contextual Challenges

The collaboration revealed differences in power between public organizations and community-based NGOs. The differences were attributed to a long history of competition for scarce resources between NGOs, making them often reliant on project funds from the government. Because of this history, a governmental participant attributed some members’ collaboration with governmental organizations as part of the EnRiCH Project to self-interest and the desire to receive greater attention from stakeholders that finance their work.

It’s as if there’s a battle for grants, and I detect that in my work. Like, they [the community organizations] are out more to prove something. Sure, they are all willing, but I get the impression that because I’m from the City, they are sending a lot of messages. Anyway, there are conflicts, but conflicts we realize that were already around—we could sense them, but they are nothing new.

The current context of scarce resources in the nonprofit sector also influenced NGOs' level of commitment in the collaborative process. There was an observation among participants that the involvement of this sector was decreasing gradually over the course of the EnRiCH intervention. As mentioned below by an independent participant, despite the significant benefits that NGOs could gain from pooling efforts with other community stakeholders, economic circumstances remain a serious barrier to their capacity, particularly in terms of time, to do so:

It's always the same thing. Community organizations get by with a minimum of resources, so they work at their maximum potential. Every time we try to involve them in something, they just can't muster the time, even if it would pay off for them! It's a huge problem: lack of time, lack of availability. We're always up against that!

To partially address this issue, participants adopted a formal collaborative structure to further delineate the division of responsibilities between public organizations and NGOs and to establish clear expectations for how and when each sector should be involved in the collaborative process without creating undue burden. This structure consisted of three subcommittees, each focused on a subset of objectives for the accomplishment of the partnership's purpose. Partners were appointed to the subcommittee where their expertise could be utilized to maximum advantage and in a timely manner.

In the view of the participants, the role of NGOs was mainly defined under the auspices of support to public health and security officials, through the provision of information about high-risk groups and of expertise on how to tailor contingency plans to meet the needs of this target population. Institutional partners, for their part, provided the partnership with an understanding of the public security and public health infrastructures in Québec City and the support needed for strategic collaborative planning in the field of emergency management. The partnership's structuring process was perceived as an important means for seeking input and engagement from all sectors involved in the collaboration, and for establishing clearer expectations for NGO involvement, given the constraints imposed by resource limitations. As noted by a governmental participant:

I think that once they [the community organizations] are engaged, they'll stick it out. They just need to know exactly what to do. Like: "Here's what we expect from you. It doesn't involve a lot of time." That's because we know they are extremely busy, and that approach helps us see the "added value" of it all. On the other hand, we can't serve everything up on a silver platter... we do want them to help us, too.

Theme 3: Leadership Opened Access to Community Expertise and Increased Motivation

Participants commonly identified two major organizational entities that were standing out visibly as influential actors in the collaborative process: Québec City's Bureau de la sécurité civile, and 211 Québec Regions. These partners were assigned a lead role given their organizational reputation with respect to emergency preparedness in high-risk populations and their individual and organizational capacity to set up a long-term collaboration.

Given the gatekeeper role that 211 provides, its involvement in the EnRiCH intervention was perceived as a catalyst to the collaborative work. In fact, 211 provided the partnership with a critical entry point to a wealth of local resources and knowledge and served as a vehicle for leveraging the involvement of the nonprofit sector and high-risk population groups toward the improvement of emergency preparedness. This has allowed the collaborative work to gain in scope and viability, as mentioned in the exchange between governmental and NGO participants that follows:

"We have a huge advantage with 211. For us, without 211, the EnRiCH Project..."

"Wouldn't be that important?"

"Not in a million years!"

"211 would be in the making..."

"Exactly! It gives you instant access to 1,500 organizations!"

"Yes, it's an incredible database."

"Mind-boggling."

Having Québec City's Bureau de la sécurité civile exercise leadership, along with 211, helped raise a strong and collective sense of legitimacy with respect to the collaborative work. The Bureau

de la sécurité civile was described as providing the functional operational leadership of the partnership, ensuring that things got done in an effective and efficient manner. Participants generally described this organization in its leadership role in terms of individual attributes that inspired and empowered collective action. Terms such as *passion* and *enthusiasm* were used repeatedly, and these characteristics were perceived as motivating forces to ensure sustained participation, especially from organizations not typically concerned with emergency management activities as mentioned by this NGO participant.

To be honest, it's refreshing, very refreshing, because you're dealing with people who like their job. I have to admit that public security, that whole subject, well, it's not a big thing in my life; but just seeing someone who's interested in it, well, it's a motivation of sorts, I think.

Theme 4: Collaboration Revealed Synergies for the Improvement of Emergency Preparedness

The collaboration that took place within the EnRiCH intervention in Québec City yielded a number of significant advancements toward the ultimate goal of enhancing adaptive capacity for disasters in high-risk populations. One of the most prominent outcomes was the merging of the EnRiCH Project and “le projet K,” a local initiative overseen by the City of Québec to build the population's capacity to manage crisis situations. One component of le projet K specifically targeted high-risk populations, which consequently gave rise to the idea of combining both initiatives to build on the current context and redefine priorities to make the needs of high-risk populations a major focus in emergency management activities, as one governmental participant highlighted in the follow-up session:

So you'll understand that when we saw the two [initiatives], we said to ourselves that we'd head in the same direction, meaning we'll be focusing on the resilience of high-risk populations.

As a result of this merger, the EnRiCH–Québec City partnership became known as the “K-EnRiCH table” to mark the beginning of a new and integrated collaboration between researchers, city authorities, 211, social services, and community groups to

improve emergency preparedness among high-risk populations in Québec City. A 3-year action plan was developed and discussed among participants during the follow-up session to provide strategic direction and impetus for the partnership beyond the duration of the EnRiCH intervention. The work plan targeted specific objectives, such as

- assisting NGOs in building their own business continuity of operations plan,
- mapping areas of vulnerability and services according to the CHAMPSS Functional Capability Framework (O'Sullivan *et al.*, 2013) to adequately reach out and support high-risk population groups at all phases of a disaster,
- managing spontaneous volunteers in a state of emergency, and
- establishing intersectoral coordination mechanisms between different sectors of expertise.

Theme 5: The EnRiCH Project Served as a Catalyst for Multisectoral Collaboration

Participants concluded that the collaborative experience was greatly facilitated by the presence of the University of Ottawa research body. Analogies were widely used among participants to describe the role of EnRiCH in convening multistakeholder processes and bringing about changes at the individual, organizational, and community levels. According to one governmental participant, EnRiCH acted as a unifying element in a complex web of institutional and community services concerned about high-risk populations but working in an uncoordinated manner:

Before EnRiCH, we had a hodgepodge of organizations, either community-based or more formal or institutional, like the City itself—and all were concerned about our high-risk populations. There was good faith all around, but it was disjointed, uncoordinated—every initiative was in a sort of silo. In my mind, the added value of EnRiCH was really how it brought us together. That changes everything.

As a result of its convening power, some participants compared EnRiCH to a short-circuit line that allowed them to bypass admin-

istrative hierarchies and establish links with institutional stakeholders that were otherwise difficult to reach. EnRiCH provided them with an opportunity for direct and unmediated dialogue transcending the usual, and often limiting, institutional structures. An NGO participant shared,

The process allowed us to bypass all the hoops the City would have us jump through to get things done. In other words, we could speak directly with key players instead of having to go through a disability-management office. That would be nonsense. Security experts have to speak directly to the people affected, not to intermediaries.

In the experience of one independent participant, the privileged access to institutional partners gave a new impulse to involvement in emergency activities because it enhanced the visibility of expertise and showed willingness to push forward the issue of disaster preparedness among high-risk groups:

What you folks have given me is a way to meet these people [institutional partners] face to face and so get them to know me. Now I can say I'm part of the response effort and I'll be involved more and more in that effort if some sort of incident hits our region. And not just for high-risk populations... I mean for any type of unusual event that might happen here. For the responders, calling on me to help with all sorts of public communication tasks will become a reflex.

The EnRiCH Project was also referred to as a translation platform that facilitated the communication between very diverse partners involved in the collaboration. In fact, there was a perception that EnRiCH enabled the partnership to place itself in a mode of collaboration and understanding, regardless of the clash of professional languages used across sectors, as described here by an NGO participant:

It's like a translation tool. We don't speak the same languages, so we need a translation mechanism, and EnRiCH is exactly that. What I mean is that, for all of us, it provided a way to understand each other and create ties with each other.... It put us in a cooperative frame of mind because its ability to "translate" allowed us to communicate.

As the following quote from a parapublic participant's follow-up session suggests, the attention and interest that the issue of emergency preparedness in high-risk populations aroused within the EnRiCH-Québec City partnership has induced some institutions to realign their work agenda with this emerging collective priority:

Emergency measures are my responsibility, too, but my priorities need realignment. You see, tending to high-risk populations wasn't necessarily a priority for me this year—but now that the opportunity is there, I'm jumping on it!"

Finally, EnRiCH was perceived as providing a launch platform for renewed and sustained collaboration beyond the involvement of the University of Ottawa research team. By the end of the EnRiCH intervention, it became possible to identify which partner had been involved in the project since the start and, consequently, manifested real interest in long-term collaboration on emergency preparedness among high-risk groups. One governmental participant said:

That meeting was really the missing piece to the puzzle, you know, that defining EnRiCH get-together that concluded with "Now, we're starting our engines!" We know who's involved and who wants to get involved. The folks who are here really want to be here. They haven't had their arms twisted or anything like that.

Discussion

In this study, we tracked the development and functioning of a university–community partnership to enhance resilience and preparedness for disasters among high-risk populations. The themes that emerged from this study showed contextual dynamics related to the concepts of perceived seriousness of the issue and community readiness, as outlined in the CBPR logic model (*Wallerstein et al., 2008*). Participants were generally informed and concerned about the potential implications of disasters for the community of Québec City, which helped influence participants' responsiveness and acceptance of the need to engage in collaboration around the issue of emergency preparedness among high-risk populations. The presence of city authorities and the current political attention to public security in Québec City also appeared to fuel the participants' perception of its importance and create a sense

of urgency and readiness to act. This aligns with key principles of change management and the eight-step process outlined by Kotter and Rathgeber (2006), which states that the first and crucial step toward successfully leading change is to develop a motivating sense of urgency among stakeholders. Participants' support for the implementation of the EnRiCH intervention can also be viewed in light of Andrews, Newman, Meadows, Cox, and Bunting's (2012) CBPR partnership readiness model, which stipulates that shared values and effective leadership are key dimensions of a community's capacity to mobilize and take action.

The long history of competition for funding in the nonprofit sector also influenced the dynamics of relationships among participants and the way the partnership work was structured. This contextual theme was also found by Henderson, Kendall, Forday, and Cowan (2013), who observed that NGO traditional reliance on government funding was posing a threat to the maintenance of "equitable and collegial relationships" (p. 387) between NGOs involved in a multisectoral partnership. Although the relationships between the partners in Québec City remained respectful, the scarcity of resources in the nonprofit sector limited the capacity of some participants to sustain their engagement in the collaborative work. The gradual decrease in the participation rate of NGOs throughout the intervention received special attention from partnership leaders and provided motivation for setting out a structure to govern the partnership in a manner consistent with participants' capacity for collaboration and the objectives of the partnership. This included a reflection on each organization's role within the partnership and the necessity of focusing on meaningful contributions and complementary strengths to minimize the cost of time and other organizational resources invested in collaboration. This finding is consistent with research indicating that sustained involvement does not necessarily imply that each sector of expertise needs to exert an equal influence on the collaborative work. More essential is concern about how well roles are brought in line with particular interests and skills of partners (Bond & Keys, 1993; Lasker, Weiss, & Miller, 2001).

This study touches on the group dynamics dimension of the CBPR logic model and specifically on the relational dynamics associated with leadership and stewardship (Wallerstein et al., 2008). Leadership in the Québec City partnership was described as coming from highly motivated and dedicated individuals whose roles in the community provided linkages to engage the nonprofit sector in partnering with public bodies and strategic planning expertise

to assume responsibility for coordinating the partnership's work. Together, 211 services and Québec City's Bureau de la sécurité civile developed a leadership style that enabled them to work across organizational boundaries and seek input and engagement from diverse stakeholders, including those not typically involved in emergency preparedness activities. This finding is consistent with the notion of *boundary spanners*, people who show understanding and appreciation of interdependencies and create bridges between various groups (Jones & Barry, 2011; Wallerstein et al., 2008). Boundary spanners often find themselves in leadership positions because of their ability to foster a culture of trust and acceptance for stakeholders to engage in positive interactions (Lasker & Weiss, 2003).

The EnRiCH research body was recognized by participants as a crucial intermediary and facilitator of dialogue between different groups and as a catalyst for institutional change with respect to emergency preparedness. This underscores the unique position and capacity of universities to convene multistakeholder meetings and open up neutral spaces for collaborative learning. Wenger-Trayner (2012) used the term *conveners* for people or organizations that seize opportunities to create new learning spaces and partnerships across traditional boundaries in order to transform existing practices. This function also echoes Bergdall's (2003) notion of a *community outsider*, which helps community systems find solutions and drive their own development. Bergdall described how effective community outsiders "hold up a mirror" (p. 3) to enable the community to look realistically at itself and develop interventions adapted to the local context. The mere fact that the outsider comes from a different place and has no stake in the issue produces a different response in the community that can be a catalyst for change. The literature on conveners and community outsiders provides an interesting research avenue to further examine researcher capacity in CBPR, which remains an underexplored area in Wallerstein et al.'s (2008) CBPR logic model. The findings of this study contribute to improving knowledge on the university's role and capacity to bring together and engage community members in a process of collaborative inquiry.

The findings of this study also highlight the important advances that have taken place throughout the EnRiCH intervention, which align with the system and capacity outcomes dimension of the CBPR logic model (Wallerstein et al., 2008). A significant step forward was the merging of the EnRiCH Project and Québec City's "Projet K," whereby key partners (i.e., city authorities and 211) entered into formal agreements to create an integrated plan-

ning table that involved NGOs as active partners in emergency preparedness and response (Gagnon, Paré, Vanasse, O'Sullivan, & Corneil, 2014). Nicknamed "K-EnRiCH," the merged entity symbolized the community's commitment to implementing lessons learned from the CBPR intervention and consolidating the relationships between research and community partners. Some participants set new working priorities and mandates in order to capitalize on the momentum created over the EnRiCH intervention. Follow-up conversations with 211 and Québec City's Bureau de la sécurité civile leaders allowed for regular updates on the progress and results achieved by the community beyond the termination of the research funding. The EnRiCH intervention achieved progress in three spheres of action intended to promote an inclusive approach to emergency preparedness in Québec City:

1. Prepare the community sector. To assist NGOs in getting their organization and clientele prepared for crisis situations, a workshop was developed and pilot-tested in May 2014 with a core group of 10 organizations, half of which included members who participated in the EnRiCH intervention. The workshop was piloted for content, logistics, accessibility of the venue, and presenters. Following the trial, the workshop was offered to over 30 NGOs who were provided with a guide for developing a business continuity plan adapted specifically to the reality of the community sector. All participating NGOs were invited to fill out a datasheet appended to the guide, which allowed 211 to populate its database with information about the organization and/or the program, the location, the clientele served, and the accessibility of the site for persons with disabilities and reduced mobility. This database enhances 211 and Québec City members' knowledge of community resources and services, and thus increases capacity to coordinate efforts in the event of emergencies.

2. Reaching out to high-risk people. Through the relationships established during the EnRiCH intervention, Québec City's Bureau de la sécurité civile leader was invited to visit a community agency advocating for the rights and interests of people living with intellectual disabilities, to distribute and educate the clientele on the 72-hour emergency preparedness guide adapted to the needs of high-risk populations. This created an opportunity to obtain feedback from the grassroots level on how to better adapt and communicate emergency preparedness tools for people with special intellectual needs.

3. Prepare all citizens. The promotional tool "Faire face" (*Ville de Québec, 2015*) is an awareness-raising campaign introduced in

2013 by Québec City's Bureau de la sécurité civile to over 300 municipal managers, professionals, and federal employees who could be asked to intervene in a state of emergency. Participants involved in the launching of this campaign and subsequent information sessions learned how to develop a family emergency supply kit and action plan in the event of a disaster, among other things.

These achievements are summarized in Table 3, which is adapted from a presentation given by 211 and the Municipality of Québec City in May 2015 at a meeting of the EnRiCH Collaboration held in Ottawa.

Table 3. Summary of Progress Achieved by K-EnRiCH

Sphere of Action	Activities
1. Prepare the community sector	<ul style="list-style-type: none"> • Delivery of a pilot workshop on business continuity planning targeting the nonprofit sector • Delivery of the workshop to over 30 community-based organizations • Design of a guide for developing a business continuity plan adapted to the nonprofit sector • Creation of a database managed by 211 for NGOs to populate with information about their client group's needs
2. Reaching out to high-risk people	<ul style="list-style-type: none"> • On-site visit conducted by a member of the Municipality of Québec City to meet with people living with intellectual disabilities and obtain their input on how to communicate more effectively and adapt emergency preparedness tools (e.g., 72-hour emergency preparedness guide)
3. Prepare all citizens	<ul style="list-style-type: none"> • Development of a promotional tool ("Faire face") to enhance emergency preparedness at the household, organizational, and community levels

The above examples help to better understand and describe the pathways through which components of collaboration—such as context, leadership style, partnership structure, and intervention—interact to produce context-based local outcomes. In the Québec City partnership case study, the collaborative pathway can be summarized as follows: The EnRiCH Project came at a time when many isolated initiatives were taking place in Québec City in response to a general concern and to the high priority attached

by governmental agencies to the need for enhanced public safety and security (Theme 1). The EnRiCH Project component interacted with local concerns and values to create a timely opportunity for merging existing initiatives (i.e., K-EnRiCH) and strengthening relationships between critical partners (i.e., 211 and City of Québec) through the establishment of formal agreements and action plans to advance emergency preparedness among high-risk populations (Theme 4). In addition to interacting with the local context, the EnRiCH Project was embraced by two community leaders who had a long-term vision of how the Québec City community could benefit from mobilizing diverse stakeholders to discuss the issue of emergency preparedness among high-risk populations (Theme 3). Their respective roles in the community, and particularly their social capital, provided linkages to engage the community sector in the project along with public officials. The progressive withdrawal of community stakeholders throughout the collaboration raised particular concern on the part of Québec City's Bureau de la sécurité civile leader of the partnership, whose passion for and commitment to the collaborative work have triggered an important reflection on how to meaningfully engage community stakeholders in long-term collaboration without draining their resources in time, staff, and money. The idea of structuring the partnership's work around subcommittees emerged as a way to tap into community stakeholders' expertise while respecting their capacity to invest energy in collaboration (Theme 2). The whole collaborative process was facilitated by the convening power and neutral position of the university body, which contributed to the unique gathering of multisectoral stakeholders and the development of local-based solutions (Theme 5).

Limitations of the Study

Two important limitations of this study should be considered. First, the findings of this study are specific to the case of the EnRiCH-Québec City partnership, which limits the generalizability of the findings to other settings. In this study, we tried to improve the generalizability of research findings by providing thick descriptions of the EnRiCH intervention within which the Québec City partnership was established. Second, the study sample ($N = 23$) was purposefully selected to include the group of participants involved in the last data collection phases of the EnRiCH intervention: the follow-up focus group session, and the fourth and fifth round of telephone interviews. Using this selection, we hoped to draw an up-to-date portrait of the dynamics of collaboration

shaping the EnRiCH–Québec City partnership. This study sample provided a mix of returning participants from previous phases of the EnRiCH intervention and new recruits who were identified as potential contributors to the partnership's work. Consequently, the regular attendees were more likely than new members to offer detailed descriptions of the processes and impact of collaboration within the partnership. The findings may therefore have been weighted toward the experiences of participants with greater knowledge about the partnership's work.

Conclusion

This article has described the functioning of a university–community partnership in Québec City that was involved in an asset-mapping intervention to improve emergency preparedness and resilience among high-risk populations. The article addresses the lack of empirical evidence about collaborative processes that enable CBPR partnerships to experience high-level functioning. The CBPR logic model by Wallerstein et al. (2008) was used as a framework to track the development of the EnRiCH–Québec City partnership from processes to outcomes. This model was useful in identifying and expanding on the key dimensions involved in community–university partnerships. The findings of this study particularly contributed to developing new knowledge on the university's role in initiating collaboration and supporting community development. A unifying element, a short-circuit line, a knowledge translation vehicle, and a platform to launch action are all analogies used by the participants to describe the facilitation roles of the EnRiCH research body throughout the collaborative process. More research on the catalytic functions of researchers in CBPR collaboration could help better determine the extent to which this dimension influences the ability of CBPR research projects to successfully affect outcomes.

The findings of this study also underscore the need for CBPR partnerships to embrace the local context, which shapes both challenges and opportunities for collaboration, by establishing strategic processes for leveraging complementary strengths and dealing with the constraints of time and resources. Findings also suggest that convening and boundary-spanning skills are key vectors of intersectorality that stimulate synergy and innovation between various stakeholders. These lessons can be applied to other community contexts beyond emergency preparedness.

Acknowledgment

This study was funded by the Centre for Security Sciences, Defence Research and Development Canada.

References

- 211 Québec Regions. (2013). What is 211? Retrieved from <http://www.211quebecregions.ca/en/211.php>
- Andrews, J. O., Newman, S. D., Meadows, O., Cox, M. J., & Bunting, S. (2012). Partnership readiness for community-based participatory research. *Health Education Research, 27*(4), 555-571.
- Bergdall, T. (2003). *Reflections on the catalytic role of an outsider in "asset based community development"* (ABCD). Unpublished manuscript. Asset-Based Community Development Institute, School of Education and Social Policy, Northwestern University, Evanston, IL. Retrieved from <http://www.abcdinstitute.org/docs/ABCD-outside-catalyst.pdf>
- Bond, M. A., & Keys, C. B. (1993). Empowerment, diversity, and collaboration: Promoting synergy on community boards. *American Journal of Community Psychology, 21*(1), 37-57.
- Corwin, L., Corbin, J. H., & Mittelmark, M. B. (2012). Producing synergy in collaborations: A successful hospital innovation. *The Innovation Journal: The Public Sector Innovation Journal, 17*(1), Article 5. Retrieved from http://www.innovation.cc/scholarly-style/lise_corwin_v17i1a5.pdf
- Creswell, John W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Enarson, E., & Walsh, S. (2007). *Integrating emergency management and high-risk populations: Survey report and action recommendations*. Ottawa, Canada: Canadian Red Cross. Retrieved from http://www.redcross.ca/cmslib/general/dm_high_risk_populations.pdf
- Federal Emergency Management Agency. (2011). *A whole community approach to emergency management: Principles, themes, and pathways for action*. (FDOC 104-008-1). Retrieved from http://www.fema.gov/media-library-data/20130726-1813-25045-3330/whole_community_dec2011__2_.pdf
- Gagnon, E., Paré, N., Vanasse, C., O'Sullivan, T., & Corneil, W. (2014). Promoting inclusive engagement and community disaster resilience in Québec City. In *Using science for disaster risk reduction: A case study series published by the United Nations Office for Disaster Risk Reduction (UNISDR) Scientific and Technical Advisory Group*. Retrieved from <http://www.preventionweb.net/english/professional/networks/public/stag/>
- Gray, E., Mayan, M., & Lo, S. (2009). What makes a partnership successful? Lessons to be learnt from the Families First Edmonton partnership. *Currents: Scholarship in the Human Services, 8*(2), 1-19.
- Henderson, S., Kendall, E., Forday, P., & Cowan, D. (2013). Partnership functioning: A case in point between government, nongovernment, and a university in Australia. *Progress in Community Health Partnerships: Research, Education, and Action, 7*(4), 385-393.

- Hsieh, H., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288.
- Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health, 19*, 173-202.
- Jones, J., & Barry, M. M. (2011). Exploring the relationship between synergy and partnership functioning factors in health promotion partnerships. *Health Promotion International, 26*(4), 408-420.
- Kailes, J. I., & Enders, A. (2007). Moving beyond "special needs": A function-based framework for emergency management and planning. *Journal of Disability Policy Studies, 17*(4), 230-237.
- Kotter, J. P., & Rathgeber, H. (2006). *Our iceberg is melting: Changing and succeeding under any conditions*. New York, NY: St. Martin's Press.
- Lasker, R. D., & Weiss, E. S. (2003). Creating partnership synergy: The critical role of community stakeholders. *Journal of Health and Human Services Administration, 26*(1-2), 119-139.
- Lasker, R. D., Weiss, E. S., & Miller, R. (2001). Partnership synergy: A practical framework for studying and strengthening the collaborative advantage. *Milbank Quarterly, 79*(2), 179-205.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage.
- O'Sullivan, T., & Bourgoin, M. (2010). *Vulnerability in influenza pandemic: Looking beyond medical risk*. Retrieved from http://cdn.metricmarketing.ca/www.icid.com/files/Marg_Pop_Influenza/Lit_Review_-_Vulnerability_in_Pandemic_EN.pdf
- O'Sullivan, T. L., Corneil, W., Kuziemy, C., Lemyre, L., & McCrann, L. (2013). *The EnRiCH Community Intervention: Collaborative asset-mapping to enhance resilience for high-risk populations*. Retrieved from <http://enrichproject.ca/publications-and-resources.html>
- O'Sullivan, T. L., Corneil, W., Kuziemy, C. E., & Toal-Sullivan, D. (2014). Use of the Structured Interview Matrix to enhance community resilience through collaboration and inclusive engagement. *Systems Research and Behavioral Science, 32*(6), 616-628.
- O'Sullivan, T., Toal-Sullivan, D., Charles, K., Corneil, W., & Bourgoin, M. (2013). *Community resilience through a functional capabilities lens: The CHAMPSS framework*. Retrieved from <http://enrichproject.ca/publications-and-resources.html>
- Pfefferbaum, R. L., Pfefferbaum, B., Van Horn, R. L., Klomp, R. W., Norris, F. H., & Reissman, D. B. (2013). The Communities Advancing Resilience Toolkit (CART): An intervention to build community resilience to disasters. *Journal of Public Health Management Practice, 19*(3), 250-258.
- Sandoval, J. A., Lucero, J., Oetzel, J., Avila, M., Belone, L., Mau, M.,... Wallerstein, N. (2012). Process and outcome constructs for evaluating community-based participatory research projects: A matrix of existing measures. *Health Education Research, 27*(4), 680-690.
- Sullivan, H. T., & Häkkinen, M. T. (2011). Preparedness and warning systems for populations with special needs: Ensuring everyone gets the message (and knows what to do). *Geotechnical and Geological Engineering, 29*(3), 225-236.

- Ville de Québec. (2015). *Prêt à Faire face*. Retrieved from http://www.ville.quebec.qc.ca/citoyens/securite_civile/index.aspx
- Wallerstein, N., Oetzel, J., Duran, B., Tafoya, G., Belone, L., & Rae, R. (2008). What predicts outcomes in CBPR? In M. Minkler & N. Wallerstein (Eds.), *Community-based participatory research for health: From process to outcomes*. Retrieved from http://www.academia.edu/2507838/WHAT_PREDICTS_OUTCOMES_IN_CBPR
- Wenger-Trayner, E. (2012). Developing complex capabilities: The case of disaster risk reduction. In J. P. Sarmiento P. (Ed.), *Communities of practice and disaster risk reduction* (Natural Hazards Informer No. 5, pp. 59-67). Retrieved from <http://www.colorado.edu/hazards/publications/informer/infrmr5/informer5.pdf>
- Zakour, M. J. (2015). Effects of support on evacuation preparedness of persons with disabilities. *Journal of Social Work in Disability & Rehabilitation*, 14(1), 1-22.

About the Authors

Elizabeth Gagnon is a research assistant at the Montfort Hospital Research Institute in Ottawa, Canada. Her research interests include community-based participatory research design, asset-based community development, and dynamics of collaboration in university–community partnerships. She received a master of sciences in health systems from the Telfer School of Management, University of Ottawa, Canada.

Tracey O’Sullivan is an associate professor in the Interdisciplinary School of Health Sciences, Faculty of Health Sciences, at the University of Ottawa. Her research program focuses on promotion of health and resilience in conditions of high personal, occupational, and community stress, using an asset-oriented approach. She obtained her Ph.D. in exercise sciences from Queen’s University, Canada.

Daniel E. Lane is a professor at the Telfer School of Management, University of Ottawa. He concentrates his research interests on decision-making processes, simulation modeling, and control of dynamic systems, especially in the area of natural resource management and the management of Canada’s coastal zone, including fisheries, aquaculture, and oceans policy analysis. He obtained his Ph.D. from the University of British Columbia, Canada.

Nicole Paré is a civil security advisor at the City of Québec. She works to promote citizen engagement and accountability toward public safety. Nicole obtained her B.Sc. in geography from the University of Sherbrooke, Canada.