Community-Based Participatory Research (CBPR) with Indigenous Communities: Producing Respectful and Reciprocal Research

Article *in* Journal of Empirical Research on Human Research Ethics · April 2013

DOI: 10.1525/jer.2013.8.2.129 · Source: PubMed

CITATIONS
147

READS
1,070

3 authors:

Joshua K Tobias
Sunnybrook Health Sciences Centre
5 PUBLICATIONS **312** CITATIONS
SEE PROFILE

Chantelle A M Richmond
The University of Western Ontario
36 PUBLICATIONS **1,855** CITATIONS
SEE PROFILE

Isaac Luginaah
The University of Western Ontario
358 PUBLICATIONS **7,720** CITATIONS
SEE PROFILE

Community-Based Participatory Research (CBPR) with Indigenous Communities: Producing Respectful and Reciprocal Research

Joshua K. Tobias,
Chantelle A. M. Richmond, and
Isaac Luginaah
The University of Western Ontario (Canada)

ABSTRACT: The health disparities between Indigenous and non-Indigenous peoples in Canada continue to grow despite an expanding body of research that attempts to address these inequalities, including increased attention from the field of health geography. Here, we draw upon a case study of our own community-based approach to health research with Anishinabe communities in northern Ontario as a means of advocating the growth of such participatory approaches. Using our own case as an example, we demonstrate how a collaborative approach to respectful and reciprocal research can be achieved, including some of the challenges we faced in adopting this approach.

KEY WORDS: Indigenous, health, geography, community-based research, Anishinabe, Canada, reciprocity

Received: January 26, 2013; revised: March 10, 2013

There are significant health disparities between the Indigenous and non-Indigenous populations in Canada (Adelson, 2005; Waldram, 2006). We use the term "Indigenous" in reference to the original inhabitants of Canada and other colonized places. In Canada this term includes the three Aboriginal groups recognized in the Constitution Act of Canada (1982): First Nations, Inuit, and Métis. Both terms, First Nations and Aboriginal, are limiting in that they are imposed terms that fail to distinguish among the large cultural diversity of the peoples that the terms encompass (Ashcroft, Griffiths, & Tiffin, 2007). Inquiry into the nature of this health gap has resulted in a varied body of research spanning several academic disciplines. Within the social and health sciences, the study of Indigenous peoples' health and well-being has presented academic researchers with opportunities to engage in a variety of specialized approaches to research. In our own discipline of health geography, the role of place—and the physical environment in particular—remains the central focus of the field. Connection to the land, including how it shapes the well-being of Indigenous populations, remains a central focus of our efforts (Luginaah, 2009; Richmond & Ross, 2009).

Despite the growing attention that Indigenous health receives from academia, health disparities persist, and in some cases they are increasing. Rates of cancer, which have typically been lower among Indigenous populations, have recently been shown to be converging with those found in the general population (Marrett & Chaudhry, 2003). In 2004, the rate of tuberculosis (TB) in the First Nations populations was 5.5 times higher than that of the non-Indigenous population in Canada (Health Canada, 2009), and the higher prevalence of diabetes among First Nations peoples (3.6 and 5.3 times higher for men and women, respectively) is presumed to result from reduced access to traditional foods and lands (Balko et al., 2011; Young et al., 2000). This persistence in health inequality suggests the need for Aboriginal health research to move beyond statistical profiling of poor health and toward methodological approaches that enable communities to co-create research that responds to their own concerns and ambitions (Canadian Institutes of Health Research, 2007). Of course, such a redirecting of the framing of Indigenous health issues requires researchers to acknowledge the multiplicity of factors determining Aboriginal health (King, Smith, & Gracey, 2009). This approach necessitates community partnership throughout project planning, implementation, data collection, analysis, and dissemination (Stephens et al., 2006). As a means of guiding Indigenous health researchers through the inherent challenges and limitations of a community-based approach, and to delimit unethical research practices, a number of ethical guidelines have been created (see Castleden, Sloan Morgan, & Neimanis, 2012). It is in this spirit that the Indigenous Peoples Specialty Group of the Association of American Geographers (IPSG-AAG) has produced a document putting forward

Journal of Empirical Research on Human Research Ethics, Vol. 8, No. 2, pp. 129–140, print issn 1556-2646, online issn 1556-2654.
DOI: 10.1525/jer.2013.8.2.129

a number of key questions meant to assist both researchers and communities throughout the research process (IPSG-AAG, 2010).

This paper is a response to calls for researchers to embrace the true spirit of community-based participatory research (CBPR) frameworks in their research with Indigenous communities (Coombes, 2012). We provide an example of, and reflection on, our experience of conducting CBPR with two First Nations communities in northern Ontario, Canada. The IPSG-AAG posits that building and working within ethical research partnerships with Indigenous nations presents an opportunity for geographers to move beyond past injustices (Louis & Grossman, 2009). In answering the call for building ethical research partnerships with Indigenous communities (Ball & Janyst, 2008), two concepts have been defined as imperative: relational accountability and mindful reciprocity. Relational accountability acknowledges the importance of relationships, as they exist through all aspects of the research, requiring that special attention be paid to these relationships throughout the entire process (Kovach, 2009; Wilson, 2008). Mindful reciprocity challenges researchers to participate in thoughtful and compassionate relationships with community collaborators (Pearson & Paige, 2012). Calls for attention to these two concepts are meant to leverage power imbalances that may exist during and beyond the data collection stages of the research, and emphasize the importance of building and maintaining relationships.

The purpose of this paper is to provide an example that other researchers, including health geographers, can use in their community-based health research. We begin with a brief description of our ongoing research. We then progress to describe some examples of health research gone wrong, meaning studies that have exploited Indigenous communities. We will then provide a brief overview of CBPR and its relevance to Indigenous research, including an introduction of the IPSG-AAG position on best practices for geographic research with Indigenous communities. Drawing on our example of the geographies of Indigenous health, we will reflect on the IPSG-AAG (2010) document, including discussion on how our research was influenced by each of these suggestions.

Collaborative Health Research with Anishinabe Communities on the North Shore

There is growing concern surrounding increasing environmental dispossession and its impacts on the health of Anishinabe communities on the North Shore of Lake Superior (Davidson-Hunt, 2003). *Environmental dispossession* refers to both direct and indirect "processes through which Aboriginal peoples' access to the resources of their traditional environments is reduced" (Richmond & Ross, 2009, p. 403). Our continuing research explores perceptions of the health effects of environmental dispossession held by two Anishinabe communities: Batchewana First Nation of Ojibways and the Ojibways of the Pic River First Nation. Environmental dispossession on the North Shore occurs directly through increased mining, forestry, and hydroelectrical development. It is also occurring indirectly through the lasting impacts of residential schools. This assimilationist policy removed Indigenous children from their families, forcing them to attend government-funded institutions. The physical and mental impacts of residential school continue to manifest themselves among survivors and their families (Kirmayer, Simpson, & Cargo, 2003).

A key result of environmental dispossession is a drastic decrease in the opportunity for intergenerational exchange of Indigenous knowledge. "Indigenous knowledge" refers to the knowledge of local Indigenous people concerning the everyday realities of living in a nourishing relationship with their traditional lands and ecosystems (Ermine et al., 2005; Cajete, 2000). This includes cultural traditions, values, and belief systems that have both sustained and allowed Indigenous peoples to flourish in some of Canada's harshest environments over many generations. Transmission of such knowledge typically occurs *on the land* between community Elders and youth.

Currently, both federal and provincial governments are supporting increased mining exploration in the area, while local land claims continue to remain unsettled and highly disputed. Given the strong links between the health of Indigenous communities and the land, future resource development can be viewed as threatening community health. However, there exists very little research exploring the cultural dimensions linking health and the environment within the First Nations context (Richmond & Ross, 2008; Davidson-Hunt, 2003). Therefore, there exists a need for deeper understanding of the cultural, political, economic, and social dimensions of the links between the physical environment and health. Our research takes direction from the collaborating communities in attempting to address this gap in knowledge. Overall, we are seeking to document how the preservation of Indigenous knowledge can be used to protect traditional environments and improve community health. By preserving Indigenous knowledge, we hope that our research will contribute to the

development of strategies that collaborating communities can use to address health and environmental concerns.

In addressing concerns over decreased transfer of Indigenous knowledge, our project also includes local youth from each of the participating communities. A total of five youth (20–25 yrs.) from both communities were hired to assist in conducting interviews with local Elders. Assistants were recruited through each community's summer employment opportunities, with members of the local advisory committee (LAC) in each community contributing to the selection process. Our research assistants were brought to The University of Western Ontario (London, Ontario) for an intense five-day training period, during which time in-depth interviewing techniques were extensively discussed and practiced. Youths expressed keen interest in the project, asking a number of questions and providing a great deal of insight about their own perceptions of the health and environmental struggles in their communities.

Our research team is composed of collaborators, youth, and Elders from both communities, and scholars and trainees from two Ontario universities. Our research team has several years' experience working with First Nations communities, and is led by an Anishinabe who is an academic member of one of the research communities.

The Legacy of Health Research: Without Respect or Benefit

In her seminal book on Indigenous research, Linda Tuhiwai Smith (1999) begins by stating that research itself is often perceived as a dirty word within many Indigenous communities. She expands upon this claim by explaining how scholars have too often treated Indigenous peoples as natural objects of research. This dehumanization of Indigenous populations is characterized by a total lack of accountability and reciprocity, and typically involves *parachute research*, i.e., "parachuting" in, grabbing data, and immediately leaving (Menzies, 2004).

There are numerous examples of such research. In 1990, researchers at Arizona State University collected more than 200 blood samples from members of the Havasupai Indian Tribe under an agreement that the samples were to be used within the context of diabetes research. However, researchers were subsequently found to have used the samples in several other studies without consultation (Mello & Wolf, 2010). This resulted in tribal members filing a fifty-million-dollar lawsuit against the university (Andrews, 2005). The Human Genome Development Project (HGDP) provides another example. Researchers have taken blood samples from isolated Indigenous communities throughout the world, claiming that these were being used to provide pathology tests that would yield immediate clinical value. The samples were subsequently provided to the HGDP and analyzed in DNA research without having first obtained consent (Dodson & Williamson, 1999; Mooney, 1994). A recent study by Delistraty, Verst, and Rochette (2010) has also been criticized for its failure to obtain full community consent (Makhijani, Alvarez, & Callahan, 2010). In a response published in *Environmental Research,* Harris and Jim (2010) discuss their concern over the violation of research ethics, publication, discrimination, the imposition of judgments, and the lack of collaboration and consultation.

While such studies may often provide critical baseline data, they often do little to improve the health and social realities of participating Indigenous population. The epidemiological narrative, largely void of Indigenous voice, paints a picture of Indigenous communities as sick and unable to self-govern. This perpetuates a perception of the need for continuous care (O'Neil et al., 1998; Meadows, 2003). Simultaneously, such research draws attention away from the fundamental and contextually specific causes of these health issues.

Our own discipline of geography has a longstanding relationship with Indigenous peoples. We openly recognize that much of the discipline's early history is rooted in a legacy of injustice, including exploitation of Indigenous peoples' lands and knowledge (Smith, 1999). Geographers' early engagement with Indigenous peoples in Canada was founded within the context of the imperialist objective of settlement. In early research, Indigenous inhabitants were portrayed as nothing more than features of the untamed landscape. Such dehumanization was supported by the doctrines of discovery and *terra nullius,* which created an image of newly discovered lands as empty of any civilization and thus allowed colonizers to disregard existing Indigenous communities (Shaw, 2006; Leeuw, Cameron, & Greenwood, 2012). And while the contemporary field of geography is being enlightened to now recognize the errors of past research, there is evidence the legacy persists today.

For example, Louis and Grossman (2009) recently criticized a study funded by the Foreign Military Studies Office (FMSO) in the United States to document Indigenous land tenure and land reforms. Previous FMSO publications had cited decolonization movements by

Indigenous peoples in places such as Mexico as a threat to the national security of the United States. The FMSO-funded study not only failed to disclose their funding source, but they also failed to receive informed consent from the participating communities.

Community-Based Participatory Research: A Philosophical Stance

Despite a wide diversity in application, CBPR initiatives with Indigenous communities should ideally pursue a set of common objectives: to equalize power differences within the research process; to build trust between the researchers and the community; and to foster a sense of ownership tied to generating momentum toward social change (Castleden, Garvin, & Huu-ay-aht First Nation, 2008). These objectives are based on the principles that true partnership entails co-learning and that findings should benefit all partners (Israel et al., 2005). Accurately engaging these principles requires the inclusion of, and engaged participation by, community members throughout the research process (Fisher & Ball, 2003).

There are several challenges researchers must meet when engaging in CBPR. Of key concern is the need to define both *who constitutes community* and *what is meant by participation* (Minkler, 2005; Wallerstein & Duran, 2003, 2006). Within the context of Indigenous health research, the collaborating community is often defined at the level of the participating First Nation band(s). In Canada, a "band" refers to the collective of recognized members of a First Nation who have had lands set apart for their use by the Crown or are declared to be a band within the Indian Act. Individual bands have their own governing councils, typically consisting of a chief and councillors (Indian and Northern Affairs Canada, 2002). However, it is important to recognize that conceptualizing community in this way can be problematic. No community is homogenous and community leaders may not represent the range of interests of a whole community (Wallerstein & Duran, 2006).

Defining the degree to which collaborators will participate in the research represents another significant challenge. Defining participation at the onset of a research initiative is a means of avoiding potential difficulties, because the extent to which members of an identified community are expected to participate by the researcher may be very different than the expectation of participants. While researchers may hold ideals of complete community participation, control over all aspects of the research is rarely completely in community hands. Furthermore, the community may not always desire complete control.

Defining these concepts take time. CBPR research processes are typically slower and more drawn out than noncollaborative approaches (Menzies, 2004). The length of time required to develop trusting relationships with communities, as well as to design and conduct the research, often limits the number of researchers able to adopt this approach. Williams, Labonte, and O'Brien (2003) state that the development phase of their research took nearly two years, while Gibbon (2002) explained how she spent ten years to complete the research phase of her doctorate.

At the community level, the amount of time necessary for the development of successful CBPR may create frustration among individuals who seek immediate solutions to their problems. Furthermore, research with vulnerable populations may suffer from attrition, as the demands of daily life may outweigh desire to participate. In their study of diabetes among the James Bay Cree, Boston et al. (1997) discuss the challenge of recruitment to their research by community health representatives, whose occupational demands requiring the rescheduling of research components and extension of the research project.

In its application to the body of research on Indigenous health, the goal of CBPR is to combine knowledge and action for social change and improved quality of life (Wallerstein & Duran, 2003). By creating a space within which Indigenous methodologies and ways of knowing can be practiced, the dominant methodology of epidemiology is challenged (Smith, 1999). For instance, Parlee, Berkes, and Gwich'in (2005) demonstrate the positive health impact of berry harvesting on Gwich'in women. The strength of the study lies in its use of narrative to emphasize positive health behaviors, and its incorporation of Gwich'in knowledge about intrinsic links between land and community health.

A Way Forward for the Geographies of Indigenous Health

Indigenous research is inherently geographical. Indigenous peoples have customarily defined themselves through longstanding connections to the land in which they live (Battiste & Henderson, 2000), including concepts of health and healing (Ermine et al., 2005; Parlee et al., 2005). For instance, in some First Nations communities in Canada the teachings of the Medicine Wheel are used to illustrate the interconnectedness of the individual to their broader social and physical environments (Isaak & Marchessault, 2008). In the context of the Haudenosaunee, the Thanksgiving Address defines

their worldview, teaching how humans are interconnected with creation (Haudenosaunee Environmental Task Force, 1992). One of the messages within the Thanksgiving Address is that when the land is sick, the people become sick. Sickness in the environment must be addressed before sickness in the community can be healed.

A growing body of geographic literature examines the relationship between the environment and the health of Indigenous peoples. Wilson (2003) demonstrates how culture links health and land (as more than just a physical space) within the First Nations context, arguing that the land impacts health on a daily basis and not just within the context of isolated events. Smith, Luginaah, and Lockridge (2010) build on Wilson's (2003) work to examine how the everyday connections to the land act to foster community cohesion in the face of processes of environmental dispossession. Richmond and Ross (2009) discuss the determinants of First Nations and Inuit health in Canada, concluding with a challenge for Indigenous health researchers to produce progressively engaged and place-specific studies with a deeper understanding of ways that unique historical and contemporary processes (i.e., environmental dispossession) interact to shape health in local places.

Hackett (2004, 2005) developed a historical timeline of Indigenous health, examining the impact of smallpox (Hackett, 2004) and tuberculosis (Daschuk & Hackett, 2006). These studies advocate that the inclusion of Indigenous peoples in the creation of narratives around health and health disparities will yield increased understanding of historical health status, comprehension of current health concerns, and insight into the nature of the diseases in question. Peters' (2001) research similarly presents an overview of the characteristics of Canada's urban Indigenous population. She argues that health researchers must do more than provide descriptions of characteristics and population distribution in their research.

Canadian geographers engaging in CBPR with Indigenous communities have sought to produce rigorous research while simultaneously focusing upon community goals. In collaboration with Arctic communities, Furgal and Seguin's (2006) work documents how observed environmental changes are impacting community health, notably food security and nutrition. This research enabled potential pathways through which communities could begin to proactively adapt to the health issues associated with climate change (Furgal, Martin, & Gosselin, 2002). Pearce et al. (2009) similarly advocate for the active involvement of community members and stakeholders in the study of climate change research in the Arctic, and a series of related studies have examined the geographies of sea ice freeze and thaw in Nunavut (Laidler, Dialla, & Joamie, 2008; Laidler & Elee, 2008). These studies present detailed community understandings of the changing patterns of sea ice conditions, the goal being to preserve local knowledge and increase hunter safety. Castleden, Garvin, and Huu-ay-aht First Nation (2009) explore a community worldview applied to forestry management within the context of ongoing treaty negotiations. The CBPR approach taken within these studies is posited to have fostered an increased sense of community ownership of the research, resulting in continued community engagement with the research.

Collectively, these studies engaged communities in research using a variety of methods. Despite the adopted research method(s), the essential message is that the benefits of CBPR approaches extend well beyond CBPR's ability to enrich data collection and analysis. In a discipline where the role of place in shaping health remains the key focus, CBPR approaches provide pathways for health geographers to engage with deeper understandings of this relationship. This specifically includes the very different meanings that land (place) holds among various communities. Even more importantly, through their ability to enable increased community empowerment and trust, these approaches are a means towards the progression of the discipline away from its colonial heritage.

Internalizing Ethical Collaboration: The IPSG-AAG Key Questions

The Indigenous Peoples Specialty Group of the Association of American Geographers (IPSG-AAG) is a community of geographers engaging in research and education with Indigenous peoples of the world. As a specialty group of the AAG—whose annual meetings draw thousands of geographers from across the planet—the IPSG is central to the progression of Indigenous geography. In doing so, the IPSG strives to encourage the empowerment of Indigenous peoples through research, including the building of relationships based upon mutual trust between Indigenous peoples and academic researchers.

In 2010, the co-chairs of the IPSG-AAG put forward a series of key questions meant to assist geographers in developing CBPR collaborations with Indigenous communities. These questions are categorized into six key areas (Table 1). In the next section of this paper, we apply this document to our current research, reflecting upon the challenges and opportunities it presents.

TABLE 1. Key Questions About Research with Indigenous Communities (IPSG-AAG, 2010).

Research Area	IPSG Suggestions
Project Formulation	• *How much time has been invested in building relationships?* • *What role does the community have in shaping the research framework?*
Identities of Researchers	• *How are power differences within the research being addressed?* • *Have the researchers been provided with training and guidance in working with Indigenous communities?*
Partnerships	• *Has the project set up a research advisory group?* • *How will skills/knowledge be transferred to the community that will enable future community control of research projects?*
Benefits	• *How is traditional knowledge included in the project/shared with the public?* • *How will community partners be acknowledged for their contributions?* • *How and where will the research be published? What plan for reviewing publications will be put in place?*
Findings	• *Will Indigenous partners have the opportunity to review findings?* • *How are the voices of Indigenous peoples represented?*
Deepening Relationships	• *Are researchers prepared to discuss deeper personal motivations for the research?* • *What long-term relationship is being built with the community?*

Project Formulation

Typically, researchers have arrived in a community and proceeded to present an established research agenda complete with a list of what is required from the community. Although this may include some form of community participation, this is not in the spirit of CBPR. Instead, this approach tends to regress towards the parachute style of research so widely criticized (Menzies, 2004). In developing true CBPR initiatives, researchers can begin by presenting their skills and interests to a potential collaborating community. In this way, communities can contribute equally to shaping both the purpose of the research and the methods that will be used. Formulating the project is a negotiation built on trust, honesty, humility, and mutual reciprocity (IPSG-AAG, 2010). Developing a collaborative project emphasizes building research relationships through continuous communication and adaptability (Bartlett et al., 2007).

As noted above, the leader of our academic team is an Anishinabe scholar who holds membership in one of the communities. She has strong social and family ties to the North Shore as this is where she lived until she left the North for post-secondary studies. The development of this research project therefore built upon a very strong base of relationships with community members—those founded in a shared relational history—which has been essential to all stages of our project, most particularly in its early development.

Our research project formally began in July 2008 with a number of community meetings engaging local residents, band employees, elected officials, and Elders seeking to elicit local perceptions on key environmental and health issues among Anishinabe communities on the North Shore of Lake Superior. This resulted in various subsequent discussions with youth and Elders through meetings and focus group sessions that enabled a better understanding of local health and environmental concerns. Participants discussed concerns surrounding the links between increasing rates of social and chronic health problems and decreased access/control over their local environments. For example, individuals from Pic River described how a burst tailings line at an upstream mine resulted in the contamination of their groundwater supply. Among participants from Batchewana, concern was raised about the steel industry, and the introduction of wind energy to the area. Concern was also expressed surrounding increasing community problems in relation to diabetes, mental health, and loss of spirituality and culture, as well as a number of social issues including addiction.

Identities of the Researchers

The IPSG-AAG (2010) asks researchers to think critically about their position in relation to the collaborating communities. Significant power differences can exist between researchers and community members, and researchers must address them for collaboration to occur. The position of power that Western knowledge has been accorded has allowed researchers to exploit Indigenous ways of knowing. Viewing themselves as superior, Western scientists seldom felt the need to rationalize their work to the Indigenous community.

In the case of our study, we worked to balance power differences in a few different ways. First of all, two researchers lived in close proximity to both study communities during the primary data collection phase. Doing so introduced flexibility into the research

process, as we were better able to accommodate when, where, and for how long interviews would occur, time being an extremely important consideration when working with Elders. Living in proximity to the collaborating communities also facilitated relational accountability and mutual reciprocity, as it meant that we had ongoing interaction with research participants and collaborators outside of the formal research. Most important, however, was that our research took an approach that was laden with cultural humility, meaning that we were very conscious of our own positions of power and made deliberate attempts to equalize power with our research participants and collaborators by making it known to all involved—including participants, collaborators, and research assistants—that we each had our own roles to play in this project, and that the strength and success of the final outcome would be a result of this combined knowledge. In order to maintain respectful and dynamic partnerships with all involved in the research, we were committed to a process of self-evaluation and self-critique (Minkler, 2005; Wallerstein & Duran, 2003).

Another means through which we engaged in reciprocity and attempted to balance power relations was the hiring and training of local research assistants. This presented a familiar face to potential participants during the recruitment phase, which occurred up to one week prior to the start of our data collection, and which involved visits with each potential interviewee. During these visits, the potential interviewee was introduced to the researchers, the project was thoroughly explained, and any questions the Elder had were answered. These visits lasted up to 45 minutes, and a formal interview date and time was scheduled once the Elder was completely at ease with the research. In order to do things in the appropriate way, we also offered tobacco to participants, as a way of showing respect for the knowledge that they were going to share with us. The actual interviews happened anywhere between one and eight weeks after the initial visit. Interviews lasted between 45 minutes and two hours. Prior to formally beginning the interview, Elders were introduced to the remaining members of the research team and presented with tobacco ties. The purpose of the project was reiterated and the rights of the participants were explained to them, with audio or video recording of the interviews beginning once consent was given verbally.

Partnerships

Researchers need to build relationships with communities at the outset of any project. Successful partnerships are key to the development of research that will be mutually beneficial. Realistically, it is impossible for every individual in a community to become research partners. As such, CBPR often includes the formulation of local advisory committees (LACs) that represent the greater community's research interests and needs. LACs represent their community's strategic involvement in research through provision of guidance to researchers, suggestion of recruitment strategies, and provision of insight about the appropriateness of research methods. LACs promote rigor in the research process (Castleden et al., 2008, 2009), as they work to ensure that research is relevant, applicable, and transferable, such as by informing researchers about times when it would not be appropriate to do research (e.g., when there has been a death in the community). Not only does this local insight add to the rigor of the research process, it also increases the efficiency of time and resource use.

One of the first items for discussion in our study was the establishment of an LAC in both Pic River and Batchewana. Our two LACs were composed of various community members, including Band Officials, local youth, community health workers, and at least one Elder. These individuals contributed their knowledge and local expertise in a number of ways, as alluded to above. A mock interview was also conducted with an LAC member. This provided an alternative view of the interview questions as well as allowed the research assistants to gain further interviewing experience prior to commencing participant recruitment. Subsequently, the research assistants were asked to identify which Elders in their community they believed should be approached for interviews.

Benefits

The research partners should share benefits resulting from the research. This is meant to include acknowledgment of the contributions made to the research, as well as a fair return on any royalties obtained from patents and acknowledgment of their contributions in any publications. Academic researchers should avoid creating the perception that the knowledge is their sole possession. They should also strive to not parade the knowledge that has been shared with them by Indigenous peoples. Clear conversations about how traditional knowledge is to be used must occur during the formulation of the project. Communities should have a voice when it comes to the publication of research derived from the project.

As academic researchers we face the need to publish our research findings in order to advance within our

own careers. This presents a unique set of practical and ethical challenges/opportunities to those of us engaged in CBPR with Indigenous communities. Castleden, Sloan Morgan, and Neimanis (2010) found a lack of consensus around collaborative publication among researchers engaged in CBPR. Including communities or community representatives as collaborators in publication is often advocated. Doing so has numerous advantages. These include ensuring the findings are coherent with the community research needs, as well as increasing community research capacity. Collaborative publication also acts to increase the validity of Indigenous knowledge within academia. However, collaborative publication raises questions surrounding who is recognized and how. Can one representative be said to speak for the entire community? Conversely, can we ensure that the whole community is in agreement if the community itself is cited as an author? This process slows down the speed at which academic researchers can publish their findings, especially in instances where communities have limited time/capacity to review potential publications. Finally, in some cases collaborative publication may result in community members being unwilling to agree on a specific publication. In this instance, the answer to the ethical question of whether to continue publishing without consent is: No.

Findings

The IPSG-AAG advocates framing research findings as an ongoing process. In doing so, the findings are viewed as a means to achieving a goal rather than simply as an end in themselves. It is also important to ensure that data be represented in a manner that is accessible to the collaborating community and that sources, sacred places, and sacred knowledge are protected. Key questions in this area challenge researchers to reflect upon how the viewpoints of Indigenous participants are represented and legitimized. Researchers are also challenged to think about how individual confidentiality is respected, as well as how the project will protect research materials and findings. Finally, this section also asks researchers to ensure that communities have been able to review research findings in an appropriate form and to consent to their use.

Our ongoing research seeks to address the key issues raised in this section by adopting an iterative approach to data analysis as well as by creating transferable research findings. Our data collection did not end when we finished interviewing community Elders. Nor are we solely responsible for data analysis. At the end of the initial data collection phase, both academic researchers and youth research assistants worked together in developing a theoretical framework within which the data were to be analyzed. This presented a challenge to the research, as youth had limited experience with conducting qualitative data analysis. This challenge was successfully overcome throughout a two-day workshop on analytical framework development. With all members of the research team contributing to the process, we were able to develop an analytical framework that we believed maintained the centrality of community research needs while also meeting academic requirements.

Our research maintained engagement with the participating communities through informal discussion with Elders during data analysis, and through two Elders gatherings. These gatherings took place once initial thematic analysis had been completed. Key themes emerging from the data were discussed during a brief presentation, with individual quotes used to demonstrate each theme. Subsequently, a series of focus group sessions were held with the participants. These focus groups were held to discuss the appropriateness of the findings as well as to achieve consensus about areas of immediate future action. Areas of disagreement were discussed in detail, with all individual opinions being heard and respected. In reviewing the findings this way, our data have been interpreted into tangible strategies for improving community health by those who participated in the research, as well as by those who stand to be most affected by the identified challenges. However, a key challenge we faced in this stage of the research is that not all individuals may agree on a specific action. For instance, natural resource development is simultaneously viewed as both a threat to community health and an opportunity to improve health through the economic opportunities it presents.

Deepening Relationships

The final series of requirements posed by the IPSG-AAG charge researchers to reflect upon their ongoing relationships with Indigenous peoples. Researchers should seek to form lasting bonds with communities, instead of viewing partnerships as existing only within the context of a research project. Furthermore, the IPSG-AAG advocates following traditional protocols, such as gifting. Questions in this section ask researchers to be able to openly discuss their personal motivations for engaging with the community. They challenge researchers to make themselves available to the community after the research project is finished, encouraging future advocacy. They encourage researchers to

assist in developing community research protocols where none may exist.

Conclusion: Building Respectful and Reciprocal Indigenous Health Research

Indigenous health research has too often failed to meet the needs of the communities contributing to the production of knowledge. Consequently, the health gap between Indigenous and non-Indigenous people in Canada continues to persist. If we are to address this issue, we must increase our efforts to move beyond producing research *on* Indigenous communities and toward conducting collaborative research *with* and *for* them (Koster, Baccar, & Lemelin, 2012). Decreasing the persistent health disparities between Indigenous and non-Indigenous populations in Canada can only be achieved with the voices of communities whose lives are affected. These communities must become equal partners in understanding and developing action on the health and social problems with which they are the experts. Doing so requires academic researchers to engage with the available ethical research guidelines, embracing the notions of reciprocity and relational accountability. While there is an increasing emergence of ethical research guidelines produced both by national agencies and by Indigenous research communities, there remain limited applications of such guidelines.

Our case study demonstrates the effectiveness of critical engagement with one of these guidelines produced by the Indigenous Peoples Specialty Group of the Association of American Geographers. In engaging with several of the key questions posed by the group, we were able to make attempts at meeting community needs throughout all stages of the research process (relational accountability).

We demonstrated the importance of using CBPR approaches in conducting research with Indigenous communities. The findings show how this methodology can be used to preserve and transfer Indigenous knowledge to new generations. Preserving and protecting this knowledge is integral to guiding the development of strategies toward improving and maintaining community health and well-being.

Our work seeks to develop practical strategies that each of the participating communities can apply toward mitigating their health and environmental concerns. In documenting the knowledge of local Elders, we are preserving critical knowledge linking Anishinabe people and their lands. With increasing rates of environmental dispossession and the passing of Elders, preserving traditional knowledge about the land and its significance is critically important. Documenting this knowledge also serves as a form of political support for communities as they continue in their efforts toward self-determination and land claims processes.

Perhaps the strongest rationale for applying CBPR is the capacity of the approach to engage communities in the research questions that matter to them. In doing so, CBPR approaches enable communities to address their pressing health concerns as well as to take an active role in shaping the solutions they want to see.

Acknowledgment

We are very grateful for the opportunity to collaborate with both the Ojibways of the Pic River First Nation and the Batchewana First Nation of Ojibways. This research would not have been possible without the continuing efforts of the participating Elders, youth, and advisory committee members. *Chi Miigwech*! Joshua Tobias acknowledges the support of the Ontario Graduate Scholarship; Chantelle Richmond acknowledges the support of a CIHR New Investigator Award and a CIHR Operating Grant; and Isaac Luginaah acknowledges the support of a Tier 2 CRC in Health Geography.

Author Note

Address correspondence to: Joshua K. Tobias, Department of Geography, Indigenous Health Lab, Room #3107 Social Science Centre, The University of Western Ontario, 1151 Richmond Street, London, Ontario N6A 5C2, Canada. Phone: 519-661-2111, ext. 89310; E-MAIL: jtobias@uwo.ca.

Authors' Biographical Sketches

Joshua Tobias is a PhD candidate in the Department of Geography at The University of Western Ontario. His research interests are in community-based participatory research methods and Indigenous health. His dissertation research forms part of the broader research project discussed in this paper.

Chantelle Richmond is a First Nations scholar and Assistant Professor in the Department of Geography, with cross-appointments in the First Nations Studies Program and the Department of Family Medicine at The University of Western Ontario. She is a CIHR New Investigator, and her research examines the social and environmental determinants of Indigenous peoples' health, with a focus on community-based research

approaches. She is the primary investigator on the research described in this paper.

Isaac Luginaah is Associate Professor and Canada Research Chair (Health Geography) in the Department of Geography at The University of Western Ontario. His research interests include environment and health, population health, and GIS applications in health. He is a co-investigator on this research project.

References

Adelson, N. (2005). The embodiment of inequity: Health disparities in Aboriginal Canada. *Canadian Journal of Public Health*, *96*(Suppl. 2), S45–S61.

Andrews, L. (2005). Havasupai Tribe sues genetics researchers. *Privacy Journal*, *31*(6), 5–6.

Ashcroft, B., Griffiths, G., & Tiffin, H. (2007). *Post-colonial studies: The key concepts*, 2nd ed. New York: Routledge.

Balko, S. U., Crowshoe, L., Hemmelgarn, B. R., Johnson, J. A., King, M., Oster, R. T. et al. (2011). Recent epidemiologic trends of diabetes mellitus among status Aboriginal adults. *Canadian Medical Association Journal*, *183*(12), E803–E808.

Ball, J., & Janyst, P. (2008). Enacting research ethics in partnership with indigenous communities in Canada: "Do it in a good way." *Journal of Empirical Research on Human Research Ethics*, *3*(2), 33–51.

Bartlett, J., Iwasaki, Y., Gottlieb, B., Hall, D., & Mannell, R. (2007). Framework for Aboriginal-guided decolonizing research involving Métis and First Nations persons with diabetes. *Social Science and Medicine*, *65*(11), 2371–2382.

Battiste, M., & Henderson, J. (2000). *Protecting Indigenous knowledge and heritage: A global challenge*. Saskatoon: Purich Publishing.

Boston, P., Jordan, S., MacNamara, E., Kozolanka, K., Bobbish-Rondeau, E. et al. (1997). Using participaory action research to understand the meanings Aboriginal Canadians attribute to the rising incidence of diabetes. *Chronic Diseases in Canada*, *18*(1), 5–12.

Cajete, G. (2000). *Native science: Natural laws of interdependence.* Santa Fe, NM: Clear Light Publishers.

Canadian Institutes of Health Research. (2007). *CIHR guidelines for health research involving Aboriginal people*. Ottawa: Canadian Institutes of Health Research.

Castleden, H., Garvin, T., & Huu-ay-aht First Nation. (2008). Modifying Photovoice for community-based participatory Indigenous research. *Social Science and Medicine*, *66*(6), 1393–1405.

Castleden, H., Garvin, T., & Huu-ay-aht First Nation. (2009). "Hishuk Tsawak" (Everything is one/connected): A Huu-ay-aht worldview for seeing forestry in British Columbia, Canada. *Society and Natural Resources*, *22*(9), 789–804.

Castleden, H., Sloan Morgan, V., & Lamb, C. (2012). "I spent the first year drinking tea": Exploring Canadian university researchers' perspectives on community-based participatory research involving Indigenous peoples. *Canadian Geographer*, *56*(2), 160–179.

Castleden, H., Sloan Morgan, V., & Neimanis, A. (2010). Researchers' perspectives on collective/community co-authorship in community-based participatory Indigenous research. *Journal of Empirical Research on Human Research Ethics*, *5*(4), 23–32.

CIHR, NSERC, and SSHRC (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada). (2010). *Tri-Council policy statement: Ethical conduct for research involving humans*, 2nd ed. Ottawa: CIHR.

Coombes, B. (2012). Collaboration: Inter-subjectivity or radical pedagogy? *Canadian Geographer*, *56*(2), 290–291.

Daschuk, J., & Hackett, P. (2006). Treaties and tuberculosis: First Nations people in the late 19th century Western Canada, a political and economic transformation. *Canadian Bulletin of Medical History*, *23*(2), 307–330.

Davidson-Hunt, J. (2003). Indigenous lands management, cultural landscapes and Anishinaabe people of Shoal Lake, Northwestern Ontario, Canada. *Environments*, *31*(1), 21–42.

Delistraty, D., Verst, S. V., & Rochette, E. A. (2010). Radiological risk from consuming fish and wildlife to Native Americans on the Hanford Site (USA). *Environmental Research*, *110*(2), 169–177.

Dodson, M., & Williamson, R. (1999). Indigenous peoples and the morality of the Human Genome Diversity Project. *Journal of Medical Ethics*, *25*(2), 204.

Ermine, W., Nilson, R., Sauchyn, D, Sauve, E., & Smith, R. (2005). Isi Askiwan—The state of the land: Summary of the Prince Albert Grand Council Elders' forum on climate change. *Journal of Aboriginal Health*, *2*(1), 62–72.

Fisher, P. A., & Ball, T. J. (2003). Tribal participatory research: Mechanisms of a collaborative model. *American Journal of Community Psychology*, *32*(3), 207–216.

Furgal, C., Martin, D., & Gosselin, P. (2002). Climate change and health in Nunavik and Labrador: Lessons from Inuit knowledge. In I. Krupnik & D. Jolly (Eds.), *The earth is faster now: Indigenous observations of Arctic environmental change* (pp. 266–300). Washington, DC: Arctic Research Consortium of the United States, Arctic Studies Center, Smithsonian Institute.

Furgal, C., & Seguin, J. (2006). Climate change, health and community adaptive capacity: Lessons from the Canadian

North. *Environmental Health Perspectives*, *114*(12), 1964–1970.

Gibbon, M. (2002). Doing a doctorate using a participatory action research framework in the context of community health. *Qualitative Health Research*, *12*(4), 546–558.

Hackett, P. (2004). Averting disaster: The Hudson's Bay Company and smallpox in Western Canada during the late eighteenth and early nineteenth centuries. *Bulletin of the History of Medicine*, *78*(3), 575–609.

Hackett, P. (2005). From past to present: Understanding First Nations health patterns in a historical context. *Canadian Journal of Public Health*, *96*(Supp. l1), S17–S21.

Harris, S., & Jim, R. (2010). A response to Delistraty et al. (2010) "Radiological risk from consuming fish and wildlife to Native Americans on the Hanford Site (USA)." *Environmental Research*, *110*(8), 808–809.

Haudenosaunee Environmental Task Force. (1992). *Words that come before all else: Environmental philosophies of the Haudenosaunee*. New York: Native North American Traveling College.

Health Canada. (2009). A statistical profile on the health of First Nations in Canada: Self-rated health and selected conditions, 2002–2005. Ottawa: Health Canada.

Indian and Northern Affairs Canada. (2002). *Words first: An evolving terminology relating to Aboriginal peoples in Canada*. Available online at www.publications.gc.ca/collections/Collection/R2-236-2002E.pdf.

IPSG-AAG. (2010). AAG Indigenous Peoples Specialty Group's declaration of key questions about research ethics with Indigenous communities (pp. 1–12). Available online at http://www.indigenousgeography.net/IPSG/pdf/IPSGResearchEthicsFinal.pdf.

Isaak, C., & Marchessault, G. (2008). Meaning of health: The perspectives of Aboriginal adults and youth in a northern Manitoba First Nations community. *Canadian Journal of Diabetes*, *32*(2), 114–122.

Israel, B., Eng, E., Schulz, A., & Parker, E. (2005). *Methods in community-based participatory research for health*. San Francisco: Jossey-Bass.

King, M., Smith, A., & Gracey, M. (2009). Indigenous health part 2: The underlying causes of the health gap. *Lancet*, *374*(9683), 76–85.

Kirmayer, L., Simpson, C., & Cargo, M. (2003). Healing traditions: Culture, community and mental health promotion with Canadian Aboriginal peoples. *Australasian Psychiatry*, *11*(Suppl. 1), S15–S23.

Koster, R., Baccar, K., & Lemelin, R. (2012). Moving from research ON, to research WITH and FOR Indigenous communities: A critical reflection on community-based participatory research. *Canadian Geographer*, *56*(2), 195–210.

Kovach, M. (2009). *Indigenous methodologies: Characteristics, conversations, and contexts*. Toronto: University of Toronto Press.

Laidler, G., Dialla, A., & Joamie, E. (2008). Human geographies of sea ice: Freeze/thaw processes around Pangnirtung, Nunavut, Canada. *Polar Record, 44*(4), 335–361.

Laidler, G., & Elee, P. (2008). Human geographies of sea ice: Freeze/thaw processes around Cape Dorset, Nunavut, Canada. *Polar Record*, *44*(228), 51–76.

Leeuw, S., Cameron, E. S., & Greenwood, M. L. (2012). Participatory and community-based research, Indigenous geographies, and the spaces of friendship: A critical engagement. *Canadian Geographer*, *56*(2), 180–194.

Louis, R., & Grossman, Z. (2009). Discussion paper on research and Indigenous peoples. Retrieved from http://www.indigenousgeography.net/ipsg.shtm.

Luginaah, I. (2009). Health geography in Canada: Where are we headed? *Canadian Geographer*, *53*(1), 91–99.

Makhijani, A., Alvarez, R., & Callahan, K. (2010). A response to "Radiological risk from consuming fish and wildlife to Native Americans on the Hanford Site (USA)." *Environmental Research*, *110*(8), 811–814.

Marrett, L. D., & Chaudhry, M. (2003). Cancer incidence and mortality in Ontario First Nations, 1968–1991 (Canada). *Cancer Causes and Control*, *14*(3), 259–268.

Meadows, L., Lagendyk, L., Thurston, W., & Eisener, A. (2003). Balancing culture, ethics, and methods in qualitative health research with Aboriginal peoples. *International Journal of Qualitative Methods*, *2*(4), 1–14.

Mello, M. M., & Wolf, L. E. (2010). The Havasupai Indian Tribe case: Lessons for research involving stored biologic samples. *New England Journal of Medicine*, *363*(3), 204–207.

Menzies, C. R. (2004). Putting words into action: Negotiating collaborative research in Gitxaala. *Canadian Journal of Native Education*, *28*(1/2), 15–32.

Minkler, M. (2005). Community-based research partnerships: Challenges and opportunities. *Journal of Urban Health*, *82*(2, Suppl. 2), ii3–ii12.

Mooney, P. (1994). The gene piracy. *Frontline*, July 29, pp. 91–94.

O'Neil, J., Reading, J., & Leader, A. (1998). Changing the relations of surveillance: The development of a discourse of resistance in Aboriginal epidemiology. *Human Organization*, *57*, 230–237.

Parlee, B., Berkes, F., & Gwich'in, T. I. (2005). Health of the land, health of the people: A case study on Gwich'in berry harvesting in northern Canada. *EcoHealth*, *2*(2), 127–137.

Pearce, T. D., Ford, J. D., Laidler, G. J., Smit, B., Duerden, F., Allarut, M. et al. (2009). Community collaboration and climate change research in the Canadian Arctic. *Polar Research*, *28*(1), 10–27.

Pearson, A. L., & Paige, S. B. (2012). Experiences and ethics of mindful reciprocity while conducting research in sub-Saharan Africa. *African Geographical Review*, *31*(1), 72–75.

Peters, E. (2001). Geographies of Aboriginal people in Canada. *Canadian Geographer*, *45*(1), 138–144.

Richmond, C. A. M., & Ross, N. A. (2009). The determinants of First Nation and Inuit health: A critical population health approach. *Health and Place*, *15*(2), 403–411.

Shaw, W., Herman, R. D. K., & Dobbs, G. (2006). Encountering indigeneity: Re-imagining and decolonizing geography. *Geografiska Annaler: Series B, Human Geography*, *88*(3), 267–276.

Smith, K., Luginaah, I., & Lockridge, A. (2010). "Contaminated" therapeutic landscape: The case of the Aamjiwnaang First Nation in Ontario, Canada. *Geography Research Forum*, *30*, 83–102.

Smith, L. T. (1999). *Decolonizing methodologies: Research and Indigenous peoples*. New York: Zed Books.

Stephens, C., Porter, J., Nettleton, C., & Willis, R. (2006). Disappearing, displaced, and undervalued: A call to action for Indigenous health worldwide. *Lancet*, *367*(9527), 2019–2028.

Waldram, J. B. (2006). *Aboriginal health in Canada: Historical, cultural, and epidemiological perspectives*, 2nd ed. Toronto: University of Toronto Press.

Wallerstein, N., & Duran, B. (2003). *Community based participatory research for health*. San Francisco: Jossey-Bass.

Wallerstein, N., & Duran, B. (2006). Using community-based participatory research to address health disparities. *Health Promotion Practice*, *7*(3), 312–323.

Williams, L., Labonte, R., & O'Brien, M. (2003). Empowering social action through narratives of identity and culture. *Health Promotion International*, *18*(1), 33–40.

Wilson, K. (2003). Therapeutic landscapes and First Nations peoples: An exploration of culture, health and place. *Health and Place*, *9*(2), 83–93.

Wilson, S. (2008). *Research is ceremony: Indigenous research methods.* Halifax: Fernwood Publishing.

Young, T. K., Reading, J., Elias, B., & O'Neil, J. D. (2000). Type 2 diabetes mellitus in Canada's First Nations: Status of an epidemic in progress. *Canadian Medical Association Journal*, *163*(5), 561–566.