Towards a Theory of Change for Community-based Research Projects

Rich Janzen, Joanna Ochocka, Alethea Stobbe

Abstract The purpose of this article is to present a preliminary theory of change for community-based research projects. The theory of change emerged from a Canadian Summit titled, “Pursuing Excellence in Collaborative Community-Campus Research.” The article begins by providing a rationale for why a theory of change could be helpful to advance the agenda of community-based research (i.e., concept clarification, guide to action, and quality assessment). Next we describe how our preliminary theory of change was developed, before outlining the theory of change under the headings of activities, intended outcomes, and sample indicators. We conclude by discussing what is needed in order to deepen our understanding of the theory of change for community-based research projects.

Keywords Community-based research, research quality, program theory of change

Members of the planning committee were in a debriefing session immediately following a National Summit held in Waterloo, Ontario. This Summit was titled, “Pursuing Excellence in Collaborative Community-Campus Research” and was funded by the Social Sciences and Humanities Research Council of Canada (SSHRC). It brought together 60 leading practitioners of community-based research from across Canada, including leaders in communities, government, and universities, to advance the growing movement of community-based research leading to social innovation (see CCBR 2014). The Summit used facilitated discussions to create a working environment where consensus was built among these participants about preliminary indicators of excellence in community-based research.

Immediately following the Summit, as planners assessed the Summit sessions, one member suggested that a next step could be to build a “theory of change” for community-based research projects. In the field of program evaluation, a theory of change, at a minimum, links various activities of a given intervention with its intended outcomes (Chen, 2005; Funnell and Rogers, 2011). The planning group member argued that such a theory of change would provide a broader context for the preliminary indicators of excellence developed at the conference and hence also more clarity in assessing the quality of community-based research projects and proposals.

This article is written in response to that challenge. Its purpose is to present a preliminary
theory of change for community-based research projects. In other words, we are suggesting what could be considered a common theory of change for any research project that claims to be community-based. While we acknowledge that each community-based research project is unique, we equally recognize that there are common elements that cut across projects, common elements that make research distinctively “community-based.” We begin our title with “towards a theory of change” in recognition that what we are offering is simply an attempt to take the conversation to a new level. In the collaborative spirit of community-based research, we fully expect that the conversation will continue and will inform our own reflective practices (Janzen et al., 2012).

We begin by discussing why a theory of change could be helpful in advancing the agenda of community-based research. Next we describe the method by which our preliminary theory of change was developed, before outlining the theory of change under the headings of activities, intended outcomes, and sample indicators. We conclude by discussing implications for practice, specifically focusing on what is needed in order to deepen our understanding of the theory of change for community-based research projects.

Why a Theory of Change Could Be Helpful
A program theory of change (or program theory) is an explicit model of how any social intervention contributes to a chain of intended outcomes (Funnell and Rogers, 2011). It describes how the various sets of activity components carried out by a particular group or organization should lead to observable change. These changes (often called “outcomes” or “impacts”) can be shorter or longer in timeframe, and can occur within an individual person, a group of people, or the surrounding environment. While theories of change can be expressed in writing, they are often summarized graphically by a program logic model or other tabular depictions (Mayne, 2001; McLaughlin and Jordan, 2010).

For the purpose of this article, three features of theories of change are worth noting. First, a theory of change is context-specific; it is primarily concerned with describing a particular intervention and less concerned with its generalizability to other settings (Janzen et al., 2012). It may draw on theory from external research, but it does so in the service of clarifying the intervention’s own theory (Janzen et al., 2015; Rogers, 2007). Second, a theory of change is aspirational: it describes what is anticipated rather than what actually happened. Theories of change therefore lend themselves to evaluation in which the anticipated outcomes are assessed in light of the actual results (Valters, 2014). Finally, recent evaluation literature increasingly understands the developmental nature of theories of change (Patton, 2011). In other words, an intervention’s theory of change is not necessarily unified or stable, but deepens and evolves over time in response to complex and fluid environments that do not lend themselves to simple cause and effect understanding (Baum, 2001; Janzen and Wiebe, 2010; Lafferty and Mahoney, 2003). This point stresses the need for reflective practice that is prepared for the unexpected, as practitioners collectively reflect on what they have done (practice) and what they have learned about what was effective (theory), all for the sake of adapting their future practice and deepening the theory of change (Natasi and Hitchcock, 2009).
Our main intent in writing this article is to develop a better understanding of the shared, yet often implicit, theory of change underlying community-based research projects. In other words, it is the community-based research project itself that is being described via the theory of change. Such a stance reinforces the view of community-based research as social intervention; it is not only the findings of research that can inform social innovation and change but also its process (Kemmis and McTaggart, 2005). We attempt to make the theory of change explicit, in hope that this will be helpful in furthering the global community-based research agenda. This hope is rooted in three main convictions that are consistent with the three frequently stated functions of theories of change in the evaluation literature.

**Concept clarification**
A theory of change could help build consensus on the components and outcomes of community-based research. Theories of change have become commonplace, with many funders and organizations around the world requiring a description of program theory during the proposal development stage of a new intervention (Rogers, 2007; Valters, 2014). Such descriptions increase the likelihood that people are in agreement, with a shared understanding of the proposed program and its distinctiveness. Similarly, an articulated theory of change could further clarify the distinctiveness of community-based research. This need was evident during the Summit during which participants shared a wide variety of experiences and understandings about what constituted the heart of community-based research.

**Guide to action**
A theory of change could help provide a comprehensive road map for the implementation of community-based research. Over the past two decades, theories of change have come to be seen as useful tools for program planning and management across many sectors of society (Rogers, 2007; Valters, 2014). Evaluation theorists such as Chen (2005) have promoted the notion that program theory should give insight not only into intended change, but also into the model of action, that is, how the program should best be implemented (see also Mackenzie and Blamey, 2005). The challenge is to develop a theory of change that is flexible enough to adapt to each unique research project, while also providing the implementation commonalities to aid with research planning and management across projects (see Janzen et al., 2007 for an example of a common theory of change across interventions).

**Quality assessment**
A theory of change could also be useful in evaluating community-based research projects. Basing the assessment of a program’s quality on its theory of change has become a dominant approach within the evaluation field (Funnell and Rogers, 2011). Its usefulness has legitimized evaluation as a social science by strengthening the validity of evaluations when random assignment is impossible, through the assessment of causal attributions within the expected chain of outcomes (Weiss, 1997) or by assessing the contribution that a program makes to observed results (Mayne, 2001). While general principles for community-based research...
abound and often converge (e.g., Israel et al., 2003), there is much less agreement on exactly how to assess the value of community-based research projects (Wiebe and Taylor, 2014). A generic theory of change for community-based research projects could provide the needed framework on which standards of excellence are based. Agreement on such assessment standards would be useful for enhancing rigour in community-based research, meeting peer-review requirements for publications and grants, encouraging faculty and student engagement, enhancing funding success, strengthening the evidence-base to inform policy and programs, supporting system/network resource capacity, building the capacity of community partners, and countering criticisms of “soft” research and its implications for career advancement (Wiebe and Taylor, 2014).

**How This Initial Theory of Change Was Developed**

Drawing on Israel, Schulz, Parker and Becker (1998) and on our own collective practice at the Centre for Community Based Research (400 projects over 34 years), we identify three hallmarks and three functions of community-based research (Ochocka and Janzen, 2014; see also Strand et al., 2003 for comparable descriptors). These hallmarks and functions represent the bedrock of the proposed theory of change and were the conceptual frame for the National Summit. They also incorporate perspectives from diverse world regions across the global north, global south, and Indigenous communities (Ochocka and Janzen, 2014).

These are the three hallmarks of community-based research: 1) community-determined, 2) equitable participation, and 3) action and change. Community-determined means that the research process promotes voice and self-determination among community members and that the research is relevant and significant to communities (Wilson, 2008; Smith, 2012). Equitable participation means that community members and researchers share equally the control of the research agenda through active and reciprocal involvement in the research design, implementation, and dissemination (Hall, 1975; Nelson et al., 1998; Ochocka et al., 2010). Action and change emphasizes successive reflective action cycles (Lewin, 1948; 1951) enabling both the process and results of the research to be useful to community members in making positive social innovation and change (Ochocka, 2007; Ochocka and Janzen, 2014).

These are the three main functions of community-based research: 1) knowledge production, 2) knowledge mobilization and 3) community mobilization. As with all research, community-based research extends knowledge through disciplinary/interdisciplinary inquiry or systematic investigations. Within community-based research, knowledge is co-produced, as both community members and researchers are engaged in designing and conducting research for knowledge generation (Brunet et al., 2014; Hall, 2011; Stoecker and Tryon, 2009). Yet community-based research also functions to activate knowledge for use within society. Research findings are disseminated in ways that mobilize various audiences to transform society within their respective spheres of influence (Hall, 2011; Hall and Tandon, 2015). Finally, community-based research is a relational exercise in that it enables diverse stakeholders to work in new ways together (community mobilization). That is to say, research functions to initiate and enhance social movements that lead to innovative solutions which require cross-stakeholder
perspectives and involvement (Ochocka and Janzen, 2007).

The intention of this article is to synthesize these hallmarks and functions and push them one step further in order to bring more conceptual clarity. Community-based research seems to be emerging as a consensus term (among many candidate terms) that is increasingly used in Canada and internationally (Travers et al., 2008; Etmanski et al., 2014). In the same spirit, a theory of change for community-based research projects will need to be developed collaboratively with input from diverse community and campus researchers who conduct community-based research across world regions. To this end, we invite others to evaluate, critique and add to the initial theory of change we present here.

What Is the Initial Theory of Change?

As we propose this initial theory of change, it is important to note that what elements constitute a theory of change is not standardized. However, our theory of change focuses on two common elements found in most theories of change: activities and outcomes that we review in this typical order (McLaughlin and Jordan, 2010). We also suggest sample indicators that could help assess the extent to which intended outcomes have been reached. Focusing on these core elements seems appropriate when designing a generic theory of change for community-based research projects. It allows additional elements to be incorporated when tailoring a theory of change to a particular community-based research project. For example, each community-based research project will have its own set of inputs (resources and service capacities generated by the project) and its own set of outputs (immediate products resulting from the project's activities) that could be uniquely identified and tracked. (See Funnell and Rogers (2011) for a description of additional elements of theories of change.) While the theory of change we propose is rooted in academic literature, we also feature positive examples of our own work as illustration.

Activities

Activities refer to the set of actions that a particular intervention intends to carry out (Nastasi and Hitchcock, 2009). The actions are to be implemented because it is believed that taken together they will lead to some kind of concrete change (i.e., outcomes) in the world. These actions are typically organized in groups of activities called “main components.”

Our proposed theory of change for community-based research includes four main components (see Figure 1), which describe a process of conducting research involving a high degree of collaboration among stakeholders and researchers with constant feedback loops. The four components are (1) laying the foundation, (2) planning the research, (3) gathering information and analysing it, and (4) acting on findings. These components can be adapted to address a range of research topics (e.g., social, environmental, health, etc.), from diverse disciplinary and inter-disciplinary perspectives, and through projects ranging in size and complexity (from small, short-term, and single method projects to longitudinal, multi-phase, and multi-site projects) (e.g., Stoecker, 2005; Westhues et al., 2008).

The main components are envisioned as four non-linear and repeated phases which are
ever attuned and adaptive to an emerging context and ongoing learning (Janzen et al., 2012; Ochocka and Janzen, 2014; Taylor and Botschner, 1998). The arrows in Figure 1 highlight that community-based research, as a distinct approach to research, views theory and practice as interconnected through a process known as the reflective action cycle. The cycle generally includes some combination of planning, action, and reflection in successive spirals over time (Lewin, 1948; Stringer, 2007; Wallerstein and Duran, 2003). In other words, community-based research projects can alter the implementation of activities mid-stream (hence the arrow looping back from the third component to the second). Projects can also build on each other; when one cycle of research is completed, research partners can lay the foundation for subsequent projects that build on the learnings of the previous project. In our work, we have found that multi-cycle research is not uncommon, with successive and inter-related research projects often combining to support the advancement of a broader societal movement over time (Janzen et al., 2015; Ochocka and Janzen, 2014). These components include a number of steps that need not be implemented in a linear fashion. These steps can happen rapidly and singularly, or can happen iteratively and over a longer period of time.

Here is an example. Between 2002-2011 CCBR led a series of four successive research projects designed to address immigrant underemployment in Waterloo Region. At the end of each project the next set of actions was determined collectively by those involved in the previous. The first project involved consciousness-raising action research followed by a formal needs and resource assessment that culminated in an Immigrant Skills Summit. The third project assessed the feasibility of establishing a Waterloo Region Immigrant Employment Network (WRIEN), with the final project conducting a three year developmental evaluation of this innovative comprehensive community initiative. Participation grew over time with a total 350 people actively engaged. (See CCBR 2017; Ochocka and Janzen 2014).

*Figure 1: The Four Activity Components of a Community-Based Research Project*

Adapted from CCBR 1998; 2004.
project assessed the feasibility of establishing a Waterloo Region Immigrant Employment Network (WRIEN), with the final project conducting a three year developmental evaluation of this innovative comprehensive community initiative. Participation grew over time with a total 350 people actively engaged. (See CCBR, 2017; Ochocka and Janzen, 2014).

Steps include traditional elements typically found in all research inquiry; most notably the activities found in the second (planning) and third (information gathering/analysis) main components. These components include activities that are concerned with study design (i.e., determining main research questions, developing methods for collecting information, developing an analysis plan), and study implementation (gathering information, analyzing and interpreting data). It is worth noting (as others have) that community-based research is not a novel research method, but rather an alternative approach to conducting research (Hall, 2011; Minker and Wallerstein, 2003). Community-based research projects are therefore free to draw on the full range of available research methods (whether qualitative, quantitative or mixed-method) best matching their specific purpose and resources, and that are implemented in adherence to corresponding standards of quality (e.g., Bryman et al., 2012; Denzin and Lincoln, 2005; Teddlie and Tashakkori, 2003; Tracy, 2010).

Activities also include two other main components less emphasized in research approaches that are not community-based. The first component (laying the foundation) encourages those involved in the research project to pay attention to research process upfront. Activities in this component include steps taken to ensure that there is meaningful involvement of people who have a stake in the research topic (Nelson et al., 1998; Ochocka et al., 2010). At a minimum, this includes organizing a cross-stakeholder steering group (the “guiders”) that will provide guidance for each step of the research prior to implementation by the research team (the “doers”). But there are other stakeholder roles that could be negotiated, including the hiring, training, and supporting of “community researchers,” those whose lives are centrally effected by the research topic (Ochocka et al., 2002). Laying the foundation also ensures that efforts are made to identify the assumptions that research partners have about research (e.g., exploring differing epistemological perspectives or discussing the value of a community-based research approach), highlighting the context of the situation (e.g., clarifying external factors impinging on the phenomenon of interest, identifying resources in support of and forces in opposition to the research, clarifying the research audience, clarifying the intervention’s theory of change), and reaching cross-stakeholder agreement on the overarching purpose of the research (see Ochocka et al., 2010).

The fourth main activity component (acting on findings) stresses activities that move research findings into active service of society (Graham and Tetroe, 2009; Phipps, 2011; Stoecker, 2005). While an action-orientation is evident across all four main activity components, it is within this fourth component that the practical utility of research is emphasized; where knowledge and people are mobilized in such a way that research results instigate observable societal change. Findings can be shared in ways that best resonate with diverse stakeholder audiences—audiences who have the capacity and motivation to apply research findings in their respective spheres of influence. Increasingly multi-faceted and creative mediums are being
used (Ochocka and Janzen, 2007; Nelson et al., 2005) by partners who have pre-determined procedures that encourage equitable involvement in knowledge mobilization (Jacobson et al., 2007). In addition, research partners themselves may design their own strategies to act on findings, rather than relying on the actions of others. For example, in evaluative research, research partners may co-develop recommendations in which they share implementation responsibilities (Janzen et al., 2012). Alternatively, research partners may plan and implement demonstration projects of new innovative practice based on their research findings (Nelson et al., 2014).

For example, the *Taking Culture Seriously in Community Mental Health* research study (2005-2010) developed an theoretical framework for improving mental health services for cultural communities. This framework was the basis for developing innovative demonstration project ideas intended to address many of the challenges and issues identified by participating communities and practitioners. In total, twelve culturally effective demonstration projects proposals were developed with six successful in securing external funding (Ochocka et al. 2010).

Finally, it is worth noting that in Figure 1 the four main activity components do not only include technical tasks of implementing a research project, but also relational aspects of collaborative research. Implementers of community-based research are therefore not only technicians of rigorous research methodology, but also facilitators mobilizing people with different (sometimes conflicting) perspectives and interests to work together (Lord and Church, 1998). This relational aspect emerges from the belief that a collaborative process of inquiry is as important as the findings of the research (Reason, 2006). As we will further expand in the outcome section below, community-based research not only produces a vision for future collective action (Kemmis and McTaggart, 2005), but also builds a sense of community that inspires people to work together toward a common goal (Stringer, 2007).

### Outcomes

Outcomes refer to the changes that are anticipated to occur when the activities are implemented as expected (Taylor and Botschner, 1998; Valters, 2014). Outcomes are typically written so that they begin with a word denoting change (e.g., increased, decreased, more, less, enhanced, fewer, etc.). Outcomes can be shorter- or longer-term and can refer to change in individual people, groups of people, or the surrounding environments.

The anticipated outcomes of a typical community-based research project are outlined in Figure 2. The outcomes are grouped into three main categories: 1) research process, 2) research rigour, and 3) research impact. The ordering of these three outcome categories re-emphasizes the belief that both the design quality (rigour) and research utility (impact) of community-based research is dependent on how well the research is implemented (process). We unpack each of these three outcome categories below.

Outcomes related to research process stress that research partners should be striving to improve how they carry out a given research project. These outcomes are based on the premise that community-based research is “research with people not on people” (Nelson et al., 1998),
and therefore aspires to adhere to principles which facilitate a good process for all involved in the research (Eckerle-Curwood et al., 2011). For example, values such as empowerment, supportive relationships, social justice, ongoing reciprocal education, and respect for diversity have been put forward to guide the collaborative process (Nelson et al., 2010; Ochocka et al., 2002; Ochocka et al., 2010). Others have suggested partnership principles that should be followed in order to maximize effectiveness and equity in the research process (e.g., CCPH, 2012). If followed, these values and principles position the project to realize two main sets of outcomes (greater relevance of research to communities and more meaningful participation of stakeholders), which themselves are preconditions in maximizing the likelihood of achieving the sets of outcomes that follow.

The first process outcome, greater relevance of research to communities, suggests that if the entry stage of research (i.e., clarifying why and how the research is to be conducted) is done well, community members are more likely to see the practical significance of the research to their own well-being. Research is relevant when community needs and resources drive the formulation of research questions, when the research process builds respect for the contextual understanding and the ways of knowing that people agree are valuable to them (Janzen and Wiebe, 2011; Jewkes and Murcott, 1998), and when community members, especially those most affected by the issue under study, gain voice, choice and empowerment through the research process (Ochocka and Janzen, 2014). These outcomes correspond with the hallmark described above that emphasizes the community-determined nature of community-based research.

The second process outcome is more meaningful participation of stakeholders. This outcome suggests the importance of involving different groups of people, especially those whose lives are centrally affected by the research topic (Ochocka et al., 2002), but also other affected community members, groups and institutions (to which researchers may belong). An increase in meaningful participation is marked by reciprocity, which comes when researchers and other community members share leadership in guiding and carrying out the research agenda, including research design, implementation and dissemination (Nelson et al., 1998; Hall, 1975). For example, CCBR managed a seven-year (1998-2005) evaluation of mental health consumer-run organizations in Ontario. Mental health consumers/survivors had control of the research agenda through proposal development, participation and chairing the study steering committee, and in conducting research. Fifteen consumers/survivors were hired, trained and supported as co-researchers. Others were active in knowledge mobilization, including producing a DVD, co-presenting and co-authoring evaluation results, and sharing results via a provincial tour (see Nelson et al., 2005).

When a research project deepens meaningful participation, it will value community expertise, drawing on the experience of community members. It involves ongoing engagement through democratic research partnerships, a shared governance model, and collaborative decision-making processes (Hall, 2011; Wiebe and Taylor, 2014). Often ongoing training, mentoring, and support are necessary to facilitate greater involvement of researchers and community partners in the various research activities (Ochocka et al., 2010). This outcome corresponds
with the equitable participation hallmark of community-based research described above.

Outcomes related to research rigour speak to research design as the practical scaffolding needed to conduct research of quality. The outcomes related to research rigour include more meaningful and useful data and interpretations. These outcomes are concerned with improving research quality in both the appropriateness of data gathering methodology (i.e., the suitability of the mix of methods) and in the appropriateness of data analysis techniques in achieving the stated research purpose (Wiebe and Taylor, 2014). Research rigour emphasizes practical procedures that help to reinforce the principles of community-based research (Coady Institute, 2013), including ensuring ethical soundness that consider risks and benefits at the community, as well as the individual level (CREO, 2017). Taken together, these procedures contribute to a strengthening of the reliability, validity and/or trustworthiness of research findings, which itself leads to greater research utility and impact. Thus, in 2012-2013 CCBR led an evaluation of a faith-based not-for-profit organization called City Kidz which works with children in low income neighbourhoods of Hamilton, Ontario. Program stakeholders jointly developed a mixed-methods evaluation design that triangulated data from multiple stakeholder perspectives (via focus group and individual interviews, surveys, program tracking logs, and case studies). Research rigour was further pursued in designing a survey tool for children that included both inductive and deductive measures tailored to the program’s theory of change. This tool was then tested for internal reliability, validity (face, discriminant, and convergent) and internal structure (via exploratory and confirmatory factor analysis) and subsequently revised (Janzen et al. 2015). Research rigour corresponds to the knowledge production function of community-based research described above.

Outcomes related to research impact address the utilization-focus of community-based research. Research is more impactful when research partners share their newly co-produced knowledge in an ongoing way, using creative formats that clearly communicate findings to targeted stakeholder audiences (Nelson et al., 2005), and when they intentionally act together to build and implement research recommendations (Janzen et al., 2010). The theory is that community-based research is more likely to innovatively address pressing societal issues to the extent that both knowledge and people are mobilized for societal change. Greater mobilization, for example, enhances community capacity-building, increases the attraction of additional resources, and improves pragmatic policy development internal and external to the community.

The first impact outcome, greater mobilization of knowledge, is anticipated if the research is conducted rigorously and with good process. Knowledge mobilization refers to the activities which assist in the realization of the value of research findings for active use within society (Levesque, 2008) and corresponds to the knowledge mobilization function of community-based research described above. Following Phipps (2011), knowledge mobilization includes the number, quality and creativity of products developed and disseminated by researchers (producer push), and requested by end users (user pull), as well as the number, quality and creativity of events where researchers exchange research findings with community members, policy-makers and others (knowledge exchange). For example, The Justice and Faith project
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(2013-2015) incorporated a sustained knowledge mobilization agenda throughout its two-year time frame. Research partners (Institute for Christian Studies, Christian Reformed Church [CRC], and CCBR) aimed to mobilize members of the CRC to embrace social justice. Partners shared draft findings from the project’s multiple methods as they emerged via blogs, brief summaries (to an advisory committee of denominational leaders and activists), conference presentations and academic articles. Partners also commissioned live theatre to present and discuss study findings at a series of forums across the country. A DVD of the theatre was produced and posted online (see ICS 2017).

The second main outcome related to research impact is the greater mobilization of people in order to work together to address the societal issue under study. In other words, more than the mobilization of ideas, community-based research also impacts relationships. It is anticipated that when people jointly produce and share knowledge, they are more likely to use that knowledge to guide their short- and long-term collective action (Kemmis and McTaggart, 2005). This is made possible through a relevant, participatory and rigorous research process that addresses potential value dilemmas among stakeholders (Nelson et al., 2008) and that builds agreement on common goals despite potentially different perspectives and interests (Janzen et al., 2012). More specifically, co-produced knowledge that is shared widely within and outside the research partnership can engage people in the interpretation of findings (Denis et al., 2003; Golden-Biddle et al., 2003; Jansson et al., 2009) and can lead to new ways of working together around a common concern (Ochocka and Janzen, 2007; Ochocka et al., 2010) and to new products and practice that facilitate social innovation (Ochocka and Janzen, 2014). This outcome corresponds to the community mobilization function of community-based research described above. The following case illustrates this point. A homeless shelter in the Peel Region of Ontario recently noticed a disturbing trend. People with developmental disabilities were coming through their door and they were not equipped to support them. At the same time, the province’s own Ombudsman complained about adults with a developmental disability ending up in shelters in the absence of alternative residential placements and recommended research to further understand the scope of this issue. In response, local leaders in Peel’s developmental disability, shelter and family support sectors have partnered with CCBR to develop and test an innovative and integrated system of support. Informed by needs assessment and developmental evaluation, community partners are learning how best to work together to support this vulnerable population. (Ombudsman’s Report 2016; Province of Ontario 2017).

Finally, it is expected that if the above outcomes are achieved, they will lead to the long-term outcome of more societal issues being innovatively addressed through research. This system-level orientation of community-based research recognizes that transformative societal change will be more likely as scholars and community partners together develop a comprehensive understanding of a particular societal problem and begin to design comprehensive actions. Research partnerships involving both community members and academics therefore have the potential to address the root causes of a wide range of pressing societal issues by engaging decision-makers at multiple levels (Hankivsky, 2012). It is here that community-based research intersects with the growing discourse of “social innovation” which stresses the novel application
of ideas to the betterment of society. The following case illustrates the point. In 2003-2004 CCBR, in partnership with the Policy Roundtable Mobilizing Professions and Trades (PROMPT), conducted a study to address barriers that internationally educated professionals (IEPs) face when trying to access their regulated profession in Ontario. Many of the study recommendations were adopted into provincial legislation that included the establishment of Canada’s first Fairness Commission designed to monitor progress within each of the province’s regulated professional bodies. The study helped to redefine the 200+ year tradition of professional regulation in Canada. As a result, regulating “in the public interest” would no longer focus only on ensuring public safety, but must now also strive to ensure fair access to professions for all qualified candidates (Janzen et al. 2004).

The ideas generated by community-based research may not be necessarily new, but are applied in new ways or in new areas whether through large-scale disruptive system-change efforts or incrementally via gradually adaptive change at the local level (Policy Horizons Canada, 2010). The connection of social innovation to community-based research is that the activity of research can be seen as one driver of innovative societal change. This outcome corresponds with the action-oriented hallmark of community-based research described above.

Figure 2: Anticipated Outcomes of a Community-Based Research Project

Sample Indicators
In this section we propose examples of indicators by which the activities and outcomes within the theory of change for community-based research projects can be assessed. Indicators are signs—actual things that you can see or hear—that provide evidence that something has been achieved. Indicators help to explore mediating factors and their presence helps to strengthen the casual links in the implementation theory (Rogers, 2007). Indicators can be either quantitative or qualitative and must be 1) relevant (e.g., resonating with community values and interests), appropriate (e.g., easily understood), measurable (e.g., calculated or interpreted over time), reportable (e.g., based on available data), comparable (e.g., used in multiple cases), and verifiable (e.g., confirmed by others) (Taylor and Botschner, 1998; Holden, 2013; The Fraser Basin Council, 2011). The table below unpacks the five anticipated outcomes into categories of evidence, and then further into corresponding sample indicators.
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<tr>
<th>RESEARCH PROCESS</th>
<th>GREATER RELEVANCE TO COMMUNITIES</th>
<th>MORE MEANINGFUL PARTICIPATION</th>
<th>EVIDENCE THAT COMMUNITY MEMBERS ARE ENGAGED IN THE RESEARCH</th>
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<td>EVIDENCE THAT RESEARCH IS ALIGNED WITH COMMUNITY NORMS</td>
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<td>Clear list of the groups of people who have a stake in the issue</td>
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<td>Reports of agreement on the identification of central stakeholders</td>
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<td>Presence of clearly defined structure and responsibilities for the research team and partners</td>
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<td>Presence of a cross-stakeholder group (e.g., steering committee) guiding the research process</td>
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<td>Presence of mechanisms to ensure meetings are accessible and that all members have an equal voice</td>
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<td>Presence of cross-stakeholder representation on the research team/ partnership</td>
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<td>Presence of principles of working together (or a memorandum of understanding)</td>
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<td>Reports that research partners have agreed on the benefits and risks of a CBR project</td>
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<td>Reports that research questions are rooted in the community’s needs, capacities, and history</td>
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<td>Reports that research project draws on previous learnings (both positive and negative)</td>
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<td>Reports that this project is seen to have the potential to lead to other CBR projects or community interventions</td>
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<td>Reports of research being respectful and responsive to community changes</td>
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<td>Clear agreement on research purpose across stakeholders</td>
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<td>Reports that the research topic is supported by the community</td>
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<td>Reports that the understanding of the community context is rooted in historical and social descriptions</td>
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<td>Reports that the research project builds on community capacity and resources</td>
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<td>Reports of research honouring community traditions and ways of knowing</td>
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<td>Number and reported quality of community-defined gatekeepers’ involvement</td>
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<td>Reports of appropriate and relevant language being used</td>
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<td>Reports that the vision for research is aligned with community values and direction</td>
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<td>Reports of researchers taking the time to co-determine ways of being together with other community members</td>
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<td>Reports of agreement among stakeholders of the value of CBR approach relative to traditional research approaches</td>
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<td>Reports of research partners naming and resolving differences in opinions about how research is understood across stakeholders</td>
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<td>Number and reported quality of stakeholder perspectives involved on research team in shaping the research agenda from proposal, design, data gathering, analysis, and dissemination</td>
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<td>Reports that research team members were strategically chosen in light of the research purpose</td>
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<td>Reports that research team members feel that they benefit commensurately to their involvement</td>
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<td>Reports that resources are shared fairly between research team members</td>
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<td>Presence of ongoing project evaluation to encourage collaborative reflexivity</td>
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<td>Percentage of research team members staying with the project to completion</td>
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<td>Number of years and reported quality of past collaboration among research team members</td>
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<td>Number and reported quality of stakeholder perspectives active in contributing to the research process, from proposal, design, data gathering, analysis, and dissemination</td>
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<td>Reports of community expertise being valued</td>
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<td>Reports of community members taking ownership and responsibility for research processes</td>
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<td>Percentage of community members staying with the project to completion</td>
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<td>Amount and reported fairness of grant money allocated to community partners</td>
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<td>Number of new researchers (including students and community members) hired to assist with research project</td>
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<td>Reported quality of new researchers (including community members and students) contribution to the research process from proposal, design, data gathering, analysis, and dissemination</td>
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<td>Amount and reported fairness of grant money allocated to new community-based researchers</td>
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RESEARCH RIGOUR
MORE MEANINGFUL, AND USEFUL DATA AND INTERPRETATIONS

<table>
<thead>
<tr>
<th>EVIDENCE OF RIGOROUS METHODOLOGY</th>
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<tbody>
<tr>
<td>Reports that each method is appropriate to the research purpose statement</td>
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<td>Reports that methods combined align with research purpose in sequential design</td>
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<tr>
<td>Reports that research tools align with research purpose</td>
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<td>Reports of research tool quality</td>
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<td>Number and reported comprehensiveness of method triangulation</td>
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<td>Reports that research tools were pilot tested with stakeholders</td>
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<tr>
<td>Presence of CBR ethics review to minimize risks and maximize benefits at individual and collective levels</td>
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<tr>
<td>Number and reported comprehensiveness of stakeholder perspectives included as research participants</td>
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<tr>
<td>Reports that accepted procedures for quantitative and qualitative data gathering were followed</td>
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<tr>
<td>Reports that accepted procedures for sampling of research participants were followed</td>
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<tr>
<td>Reports that accepted procedures for participant recruitment were followed</td>
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EVIDENCE OF RIGOROUS ANALYSIS

- Number and reported comprehensiveness of stakeholder perspectives involved in analysis
- Reports of analysis being consistent with main research questions and agreed upon analytical framework
- Reports of following quantitative and qualitative standards of quality (reliability/validity, trustworthiness) in data analysis
- Number and reported quality of stakeholder perspectives in verifying research findings

RESEARCH IMPACT

MORE MEANINGFUL, AND USEFUL DATA AND INTERPRETATIONS

<table>
<thead>
<tr>
<th>EVIDENCE OF PRODUCER PULL</th>
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<tr>
<td>Number and reported quality of knowledge mobilization products disseminated</td>
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<tr>
<td>Number and reported quality of community members contributing to the development and dissemination of knowledge mobilization products to various audiences</td>
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<td>Number and reported quality of visual and oral dissemination strategies</td>
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<td>Number and reported quality of community information sessions held</td>
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<tr>
<td>EVIDENCE OF USER PULL</td>
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<tr>
<td>Number of requests for knowledge mobilization products</td>
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<td>Number and reported quality of new connections brokered</td>
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<td>Reports of research being useful for multiple stakeholder groups</td>
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<tr>
<td>Number of new stakeholders showing interest in the research results</td>
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</table>

EVIDENCE OF KNOWLEDGE EXCHANGE

- Number and reported quality of community forums or other knowledge exchange events held
- Reports of research products informing policy development
- Reports of research products supporting new funding applications

EVIDENCE OF SHORT-TERM MOBILIZATION

- Reports of stakeholders implementing recommended action
- Reports of stakeholders having built CBR capacity and wanting to learn more about CBR
- Reports of stakeholders reconciling value dilemmas and agreeing to common goals despite different perspectives and interests
- Reports of stakeholders valuing and owning the knowledge coming out of the project

EVIDENCE OF LONG-TERM MOBILIZATION

- Number of community members acknowledging CBR as an important tool for change
- Reports of increased community capacity to enact change(s)
- Reports of decreased time-lag between research dissemination and policy changes
- Reports of CBR influencing local activities and policy
- Reports of CBR influencing regional (e.g., provincial or state) activities and policy
- Reports of CBR influencing national and policy
- Reports of CBR influencing international activities and policy

The indicators shown above are intended to be common across community-based research projects. They are offered as sample indicators, not intending to be exhaustive. In addition to the common indicators above, each community-based research project would have its own unique set of indicators related to the specific societal issue(s) the project intends to address (as aligned with the project’s purpose statement). This means that each community-based research project would have further indicators that are topic and context-relevant, corresponding to the long-term outcome of more societal issues being innovatively addressed through research. Taken as a whole, a community-based research theory of change implies that these longer-term societal issues being innovatively addressed through research.
outcomes are more likely to be achieved if the short- and mid-term outcomes (related to research process, rigour and the mobilization of knowledge and people) are achieved.

Conclusion
After decades of practice, community-based research is becoming mainstream in many institutions of higher education and community organizations in Canada (Taylor and Ochocka, in press) and around the world (Hall et al., 2015). This rise of community-based research has been attributed to the growing numbers of individual researchers who are inclined to engage communities in their personal research, the heightened awareness by universities (and other civic institutions) that they should contribute to building sustainable communities, and the increased funding available for community-based research (Graham, 2014). An early example of the latter is the Community University Research Alliance (CURA) granting program launched by SSHRC in 1998 (see Levesque, 2008). This program signaled a broader movement toward community-based research models of engagement that promote community-campus collaborations, a sentiment that was captured in SSHRC’s subsequent strategic policy documents. As an illustration, below is an excerpt from a SSHRC policy document. Notice how the brief passage emphasizes the need for researchers to combine knowledge production (1st line) with knowledge mobilization (2nd line) and community mobilization (3rd line):

The role of researchers is not only to develop knowledge…They must become far more proficient at moving the knowledge from research to action, and in the process, at linking up with a broad range of stakeholder partners across the country. (SSHRC, 2004, p. 3)

Beyond funders, the movement toward research that engages communities is being championed in other quarters of society as well. Consider a more recent quotation from University Affairs, a magazine which bills itself as the authoritative voice of higher education in Canada:

Too often, important knowledge remains hidden in academia…Solving the complex social, environmental and economic problems we face will require collaborative efforts that are radically inclusive of diverse perspectives and skills. Such collaborations become possible when faculty, staff, and students come to realize that people in community settings have knowledge, experience, and talents that complement their own. (Fryer, 2012 p. 46, emphasis added)

From our perspective, statements like these are welcome and inspirational. Yet despite the noble aspirations they embody, agreed-upon standards of excellence for carrying out the type of research they call for are notably absent. While there is growing agreement on the benefit of community-based research to society, there is much less agreement on what community-based research actually is and how to do it well (Taylor and Ochocka in press). It is to help rectify this point that we offer our theory of change for community-based research projects.

As previously stated, the theory of change that we outline in this article is a work in progress. It is offered with the hope that it will take the conversation of what is distinctively
“community-based” about research to a new level. As with all program theories of change, the one we propose here will need to be assessed and deepened through reflective practice. For example, empirical evaluations of specific community-based research projects which use this proposed theory of change as an analytical framework would help to test and refine the activity-to-outcome validity assumptions and to expand the list of indicators.

As we move forward, collaboratively building a robust theory of change for community-based research across research projects would bring greater shared clarity to what is meant by community-based research. It would also provide a helpful roadmap when community members and researchers collaborate to implement their community-based research projects. However, we believe that the greatest value of a more fulsome theory of change may be in providing a common framework when assessing the quality of community-based research projects. Such assessment could be very useful for both researchers as well as for funders of community-based research who wish to ensure high quality and impactful research. And it could be useful for the practitioners and end-users of community-based research who wish to push themselves to higher quality and more relevant research. We invite others (from around the world) to contribute their insights and help us shape this theory of change.

About the Authors

Rich Janzen (PhD) (corresponding author) is co-director of the Centre for Community Based Research and adjunct assistant professor at Renison University College at the University of Waterloo. He has completed over 120 community-based research and knowledge mobilization projects. Rich has an academic background in community psychology and religious studies. Email: rich@communitybasedresearch.ca

Joanna Ochocka (PhD) is co-director of the Centre for Community Based Research and adjunct associate professor at Renison University College at the University of Waterloo. She was principle investigator for the SSHRC-funded National Summit titled Pursuing Excellence in Collaborative Community-Campus Research. Joanna is vice-chair of Community Based Research Canada.

Alethea Stobbe (MSW) is a researcher at the Centre for Community Based Research. She has worked on a number of research and evaluation projects related to health and wellness as well as food insecurity.
References


