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The Co-produced Pathway to Impact Describes Knowledge Mobilization Processes

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Abstract

Knowledge mobilization supports research collaborations between university and community partners which can maximize the impacts of research beyond the academy; however, models of knowledge mobilization are complex and create challenges for monitoring research impacts. This inability to sufficiently evaluate is particularly problematic for large collaborative research networks involving multiple partners and research institutions. The Co-produced Pathway to Impact simplifies many of the complex models of knowledge mobilization. It is a logic model based framework for mapping the progress of research ⟶ dissemination ⟶ uptake ⟶ implementation ⟶ impact. This framework is illustrated using collaborative research projects from Promoting Relationships and Eliminating Violence Network (PREVNet), a pan-Canadian community-university network engaging in knowledge mobilization to promote healthy relationships among children and youth and prevent bullying. The Co-produced Pathway to Impact illustrates that research impact occurs when university researchers collaborate with non-academic partners who produce the products, policies, and services that have impacts on the lives of end beneficiaries. Research impact is therefore measured at the level of non-academic partners and identified by surveying research partners to create narrative case studies of research impact.

Knowledge mobilization helps make academic research accessible to non-academic audiences and supports collaborations between academic researchers and non-academic partners such as community-based organizations. Knowledge mobilization is a process that supports action oriented research and finds novel approaches to persistent social, economic and environmental challenges. Knowledge mobilization has elements of: 1) university "push" of research beyond the academy; (2) community "pull" of research from the academy; 3 "knowledge exchange" between community and the academy; but extends those to include 4) the co-production of research that has academic merit and also has relevance for community action (Phipps & Shapson, 2009). Knowledge mobilization can thus support community engaged scholarship and community-based research as well as service-learning when the learning opportunity is meeting the needs of a community derived research question. There has been increasing attention paid to knowledge mobilization and related activities as the academic research community seeks to articulate and maximize the various impacts of university research beyond the academy (Donovan, 2011; Grant, 2015).

Despite this increasing attention to articulating the impacts of research there is little evidence that research is creating extra academic impacts (Bhattacharyya & Zwarenstein, 2009). Sandra Nutley and colleagues point out that "a central irony is the only limited extent to which evidence advocates can themselves draw on a robust evidence base to support their convictions that greater evidence use will ultimately be beneficial to public services" (Nutley, Walter, Davies, 2007, p. 271). Although it is feasible to measure the impact of a single knowledge mobilization intervention by testing indicators pre- and post-intervention, it is challenging to evaluate a complex system of knowledge mobilization where there may be multiple research collaborators practicing a diversity of knowledge mobilization methods with diverse end users.

In a recent review of leading models for knowledge mobilization such as the circular Knowledge to Action Cycle (Graham, Logan, Harrison, Straus, Tetroe, Caswell, & Robinson, 2006) and the models of Bennet and Bennet (2008), Phipps, Jensen and Myers (2012) concluded that many models of knowledge mobilization are highly complex. This conclusion is not surprising because knowledge mobilization is a complex process described by Bennet and Bennet (2008) as collaborative entanglement: "Collaborative entanglement means to purposely and consistently develop and support approaches and processes that combine the sources of knowledge and the beneficiaries of that

knowledge to interactively move toward a common direction such as meeting an identified community need" (p. 48).

Knowledge Mobilization Pathway to Impact

In an effort to simplify a system of knowledge mobilization that reflects movement toward a common direction of impacts we turned to a logic model (Frechtling, 2007) where activities produce outputs that in turn produce outcomes that then produce impacts (Figure 1a). By mapping such a logic model onto knowledge mobilization processes, it is possible to draw a sequence of stages that lead from research to impacts (Figure 1b). In addition, it allows for the development of metrics at each stage of the logic model.

Dissemination. Knowledge mobilization supports dissemination beyond traditional academic publishing and conference presentations. This dissemination can include publishing activities such as press releases, clear language research summaries, as well as more iterative tools such as social media. It also involves active, in person methods such as research events where researchers engage actively with organizations seeking to engage with research and research expertise (Phipps, 2011). The goal of dissemination is to move research out of the academic setting and into practice and policy settings where it can progress towards impact.

Uptake. Once an organization has received research information from a dissemination activity it takes that research into the organization with a goal of determining whether the research is useful for informing decisions about policy, professional practice, and/or social services. Uptake can include presentations at staff meetings (that may or may not include the original researcher), internal evaluation, as well as comparisons to the literature and existing practice.

Implementation. Once the research has been taken up and passed through internal assessment, the organization may choose to use the research when developing new or improved products, policies, and services. Implementation in the knowledge mobilization context is an activity internal to the non-academic partner that uses research evidence to inform organizational decisions.

Impact. Impact is the effect the research-informed products, policies, and services have on end users as measured by the non-academic organization. It is measured not only in metrics of utilization but also by changes in the lives of citizens, the health of the environment, or animal welfare, depending on the ultimate end user the organization is seeking to address.

This model as illustrated in Figure 1b creates a pathway to impact that enables the monitoring of progress. By understanding the goals of each stage of the pathway to impact, it is possible to assess the benefits accruing along the pathway; however, the linearity of this model may be a limitation. Linear models of research use have long been abandoned in favour of more iterative models of research use that show sustained engagement between researchers and non-academic partner organizations (Nutley, Walter, & Davies, 2007; Greenhalgh & Wieringa, 2011). Linear models create risks that research evidence merely "transferred" to end user organizations may be misinterpreted or misused. Linear models create challenges of attribution which is the extent to which impacts can be attributed to the use of specific research outputs (Boaz, Fitzpatrick, & Shaw, 2008). By requiring a moment of transfer from the academic to the non-academic setting, linear models also reinforce academic and non-academic silos.

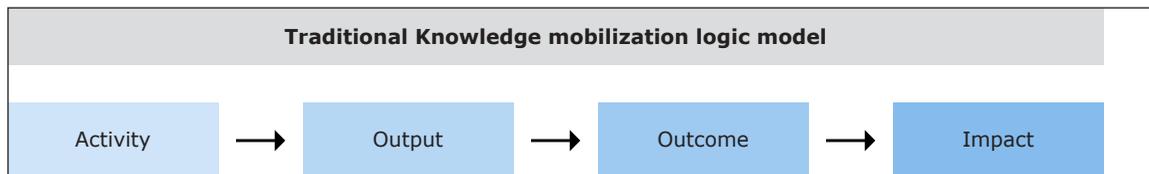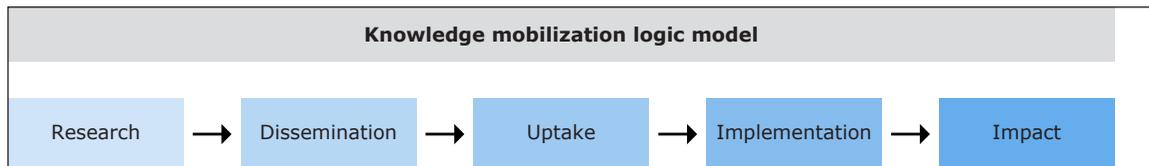**Figure 1a.** Traditional Knowledge Mobilization Logic Model

Figure 1b. Knowledge and Mobilization Logic Model

Knowledge Mobilization Co-produced Pathway to Impact

Academic research networks are expected to collaborate with non-academic partner organizations to make new discoveries and transform those discoveries into impacts. This requires a more iterative version of the pathway to impact than is shown in Figure 1b because this process requires collaboration and co-production at each stage of the pathway. A circular or iterative logic model has previously been recommended for evaluating knowledge translation (Davison, 2009) such as the Knowledge to Action Cycle (Graham et al., 2006) and a cyclical model proposed for education research (Amo, 2007). The iterative aspects of circular and cyclical models can be embedded into the knowledge mobilization logic model of Figure 1b to produce a Co-produced Pathway to Impact, as illustrated in Figure 2. The Co-produced Pathway to Impact maintains collaboration throughout the process and creates an iterative relationship between the non-academic partners and academic researchers, while maintaining an overall progression from research development to ultimate impact. As illustrated in Figure 2 there are domains where academic research and policy/practice activities remain distinct; however, the central overlapping space is a shared space of collaboration where co-production occurs at each stage of the pathway.

Co-production occurs at each stage of the pathway and accelerates the impact of research. For example, co-production at the research stage ensures partners' readiness to take up findings because of their input on the nature of the research questions, methods, and interpretations. Co-production in the research stage enhances partners' motivation and engagement with research content—the new knowledge will be relevant to them. At the dissemination stage, the research findings are tailored to meet the partners' needs from knowledge mobilization products. These products are produced in an accessible format for the partners. Different partners can then tailor the same research findings into their own relevant and actionable knowledge mobilization products that further heighten network engagement and increases dissemination. Partners enhance dissemination through their organizational channels with a breadth and depth that researchers cannot achieve. The ongoing mutual and reciprocal support and collaboration between the researchers and partners in the uptake and implementation stages enables organizational transformation in response to the new research

findings. Traditionally, as research moves to impact, there is a decrease in engagement across the four stages of the pathway and engagement of the academic partner is lowest in the ultimate impact stage. Unlike the traditional process of research dissemination with research "handed" to partners, our framework supports an ongoing relationship through the knowledge mobilization processes. As illustrated in Figure 2 each stage of the pathway confers benefits for both researchers and partners, leading to new research questions, knowledge, and potential knowledge mobilization products.

This Co-produced Pathway to Impact is illustrated with examples from PREVNet (www.prevnet.ca). PREVNet is a multi-disciplinary and multi-sectorial network founded in 2006 on the premise that to prevent bullying strategies are required in every setting where Canadian children and youth live, learn, work, and play. PREVNet includes 121 researchers from 21 disciplines (e.g., psychology, education, social work, law, business, criminology, policy, psychiatry, nursing) collaborating with 63 national public and community sector organizations.

PREVNet addresses the increasingly recognized and urgent need to provide all adults responsible for socializing children and youth with knowledge and tools to choose, implement, evaluate, and sustain effective bullying and violence prevention initiatives. Although many bullying prevention programs are available, they often lack empirical evaluation, and have the potential to be ineffective or, in some cases, harmful (Dodge, Dishion, & Langsford, 2006; Farrington & Ttofi, 2011). Programs based on science with evidence of effectiveness are not well disseminated, particularly to isolated and vulnerable communities; moreover educators are most likely to choose programs and resources on the basis of word-of-mouth, rather than evidence (Cunningham, Vaillancourt, Rimas, Deal, Cunningham, Short, & Chen 2009). PREVNet promotes engaged scholarship by collaborating with its member organizations to develop evidence-based initiatives that rest on four pillars: education/training, assessment/evaluation, prevention/intervention, and policy/advocacy (Pepler & Craig, 2011). PREVNet has a focus on participation by non-academic partners and a target of action oriented impacts which are hallmarks of authentic community engagement (Stoecker, 2009).

PREVNet's research, training and knowledge mobilization projects are at various stages of development from research to impact. The projects

Figure 2. Co-produced Pathway to Impact
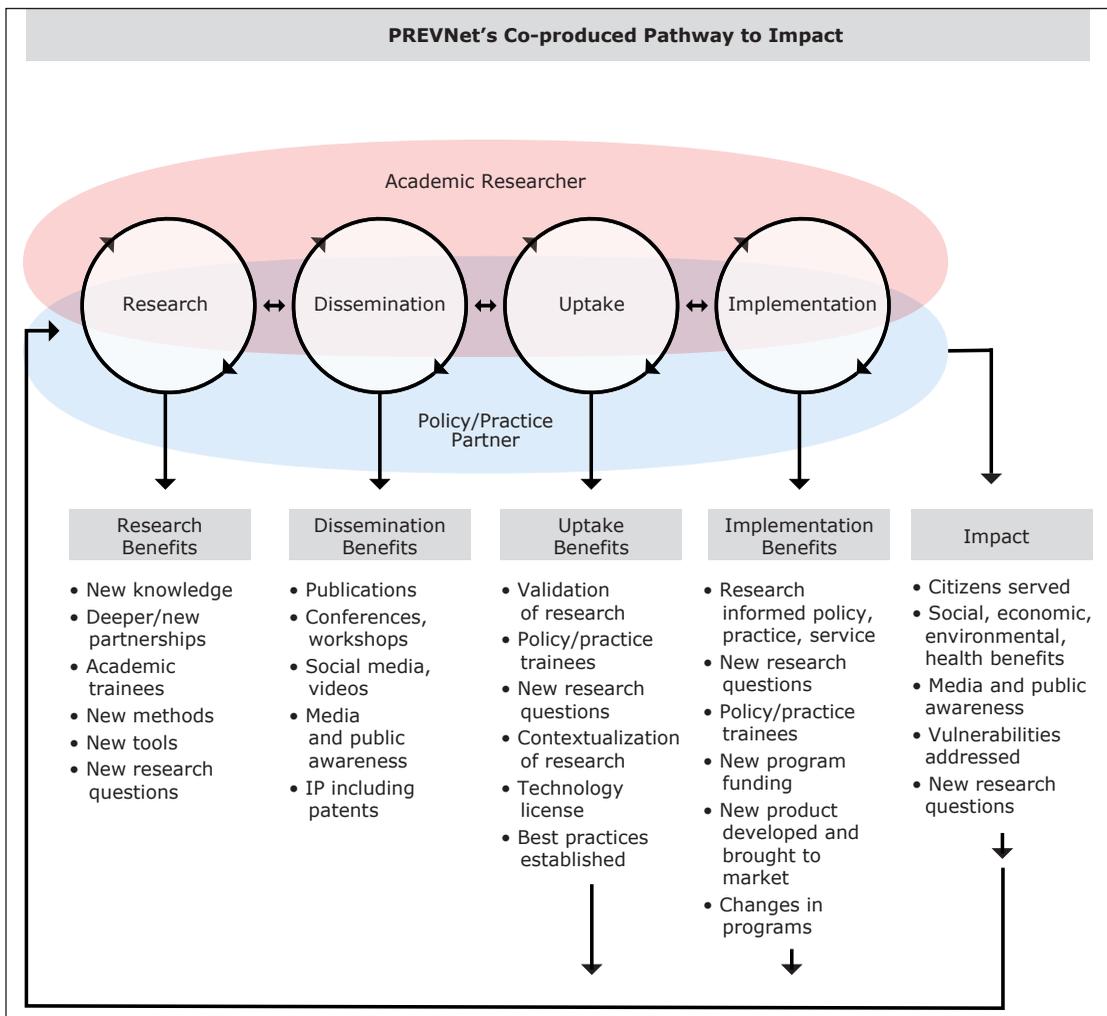
below are presented as a snapshot in time to illustrate the different stages of the Co-produced Pathway to Impact. Each of the projects is a collaboration between academic and non-academic partners. The ongoing, sustained collaboration of each project described below creates the critical feedback loops illustrated at each stage of the pathway (Figure 2). In this manner the academic and non-academic partners not only contribute their complementary expertise to the project, but the collaboration enables critical reflection on the creation of new knowledge and its application to the prevention of bullying.

An example of partner-led co-produced research. The Quazar Positive Behaviour Recognition Program: Wynford Motivation Works is collaborating with PREVNet and the Toronto District School Board's Build Character Build Success initiative to produce animated videos and lesson plans to build elementary students' motivation to behave in ways that exemplify each of this initiative's 10

positive character traits shown to be important for healthy relationships: respect, responsibility, empathy, kindness and caring, teamwork, fairness, honesty, co-operation, integrity, and perseverance.

PREVNet academic researchers and Wynford entered into an intense collaborative co-production process for program development and evaluation research. The first draft of program content was collectively reviewed and subsequently revised and enhanced to reflect current scientific evidence about character development and violence prevention. A manual for school implementation was produced to ensure program fidelity. Now named the Quazar Positive Behaviour Recognition Program, it is ready for dissemination to end users, with an ongoing evaluation component. There is a website that introduces and enables schools to register for the program. It is currently launched and being evaluated in four Toronto and five Kingston Ontario elementary schools.

Research benefits. New knowledge about

the positive characteristics important for healthy relationships; new collaborative activities between researchers and partners, such as the Toronto District School Board; engaged graduate student experiences.

An example of dissemination—Public Health Agency of Canada (PHAC) Canadian Best Practices Portal (CBPP). CBPP is an authoritative repository for annotated and evidence-based health promotion practices. PREVNet researchers and graduate students have collaborated with PHAC since 2009 to create and populate the Violence Prevention Stream for the CBPP as a tool for disseminating evidence-based violence prevention practices, tools, and interventions. Each year, violence prevention programs developed in Canada and internationally are reviewed by PREVNet academic researchers and PHAC and those meeting the stringent inclusion criteria are included on the portal. The Violence Prevention Stream currently hosts 80 programs on the site, and there are 3,000 unique visitors annually.

After conducting six focus groups with educators and community organizations to explore the usability of the portal, feedback has resulted in improvements to the site. PREVNet and PHAC have developed a Needs Assessment Toolkit, to enable stakeholders to select programs that will be effective, relevant and appropriate for their specific populations and local needs, further enhancing the utility of the CBPP as a dissemination tool. PREVNet researchers have actively promoted the CBPP violence prevention portal through public presentations and professional conferences.

Dissemination benefits. These provide improved functionality using the Needs Assessment Toolkit; web based and social media promotion; improved accessibility of the 80 evidence-based programs, as well as four academic presentations at conferences; and increased decision maker awareness regarding the importance of evidence-based violence and bullying prevention programs.

An example of Uptake—Family Channel StandUP! Campaign. Family Channel is a commercial-free network offering family television entertainment in 5.8 million homes across Canada. Its target audience is children aged 9–12. Family Channel has been involved in Bullying Awareness Week every November for the past for 11 years, and approached PREVNet to be its official research partner in 2006. In 2012, a comprehensive Bullying Awareness Teacher's Guide for Grades 4–6 was written by a team of graduate students from across Canada under the leadership of a PREVNet

researcher. The 80-page guide brought together current evidence-based information about bullying, cyberbullying, bullying and LGBTQ students, bullying and students with exceptionalities, building a respectful classroom climate, and a plan for lead-up activities before and daily activities during Bullying Awareness Week. After reviewing and evaluating this resource and the accompanying tip sheets and associated activities, Family Channel contributed professional graphics and design. The 2012 Teacher's Guide was downloaded 2,250 times. In February 2012, Dr. Wendy Josephson, professor, Department of Psychology, University of Winnipeg, and three students held a series of focus groups with 41 elementary and high school teachers from Winnipeg and the surrounding area to review the 2012 Teacher's Guide. Based on this input, the 2013 guide was revised and refined.

Uptake benefits. Family Channel validated the academic research in a real world setting; graduate students gained skills working with non-academic audiences (Family Channel and teachers); user audience input was used to refine the resource; resource made available to end users.

An example of implementation—Girls United Training, Girl Guides of Canada (GGC). Beginning in 2006, consultations with GGC leadership revealed that the training provided to Girl Guide Leaders, known as "Guiders," did not specifically address bullying and relational aggression, nor was bullying addressed in the GGC Code of Conduct even though Girl Guide leadership identified bullying and relational aggression as needing to be addressed. A working group with leading researchers on girls' aggression was convened, and then a PREVNet researcher and graduate student worked with senior GGC training developers to co-create the Girls United Training Module for adult leaders and Girls United Badge for Girl Guides. The initial iteration of the training was presented to the PREVNet Social Aggression Working Group, attended by leading Canadian researchers working in the field of social aggression and by staff from several youth-serving community organizations. A training module was developed based on the feedback from the working group. GGC training developers simplified the language, sharpened the messaging, and supplied graphic design. Between 2006 and 2008, PREVNet delivered the training to over 75 Senior Trainers (who in turn trained other local trainers, who then trained Guiders) in British Colombia, Nova Scotia, and Ontario. PREVNet collected participant evaluations of these training sessions (N = 129)

and found high levels of satisfaction, with a mean rating of 4.7 on a 5-point scale assessing perceptions of value and relevance, understanding of topic, and increased confidence about addressing social aggression among girls. Similar ratings were found by PREVNet from 27 participants who took the training from a Senior Girl Guide Trainer (mean = 4.6), providing evidence that the "Train the Trainer" model was effective (Daniels & Quigley, 2009).

From 2007 until August 2013, 1,445 Guiders completed on line training. Between October 2007 and August 2013, 18,873 Girl Guides achieved the Girls United Badge, indicating they had fulfilled the required activities designed to develop their understanding of healthy relationships with their peers. This example illustrates how co-produced evidence informed training (the Girls United Training Module for adult leaders, and Girls United Badge for Girl Guides) was disseminated to the PREVNet Social Aggression Working Group, was taken up by GGC training developers and implemented in a national train-the-trainer campaign.

Uptake benefits. These included a research informed training program; graduate student experience working in a practice setting; expansion of program to an online version; and Girl Guides developing an enhanced understanding of healthy relationships

An example of impact—the Healthy Relationship Training Module (HRTM). The HRTM was developed through a Community of Practice that included PREVNet academic researchers, students and three youth-serving non-profit organizations: Big Brothers Big Sisters Canada, Canadian Red Cross, and Scouts Canada. By sharing resources and exchanging knowledge, the goal was to enhance each organization's capacity to foster respectful, safe, caring, and inclusive environments for children and youth.

Adult leaders play a critical role socializing children and youth: they serve as role models, mentors, guides, supports, and teachers. To be effective in their work with children and youth, they need explicit training about how healthy development depends on healthy relationships, and how to identify and address bullying and other unhealthy relationship dynamics. There was an assumption that professionals and volunteers who work with children and youth have the knowledge, confidence, and skills they need to create healthy social climates and prevent bullying, yet explicit, comprehensive, and evidence-based training was missing. Working collaboratively, the

Community of Practice co-created the HRTM to address the gap in relationship training.

The module consists of a comprehensive Facilitator's Guide, a slide presentation deck, and a Participant's Handbook. Following a multi-step process in which PREVNet and Community of Practice members move from visioning to design to evaluation and training, the HRTM was co-created in stages, with a graduate student preparing a first draft that was extensively presented and critiqued through multiple Community of Practice meetings. Based on participant feedback and questionnaire results, an extensive revision of the HRTM Facilitator Guide was completed.

Within the three partner organizations, the HRTM was integrated into existing training resources and procedures. Pre- and post-training pilot data were collected using the "Knowledge Confidence Skills: Healthy Relationship Questionnaire," with a pilot data set of 505 participants from the partners. Analysis of these data revealed significant increases in participants' confidence and commitment to fostering healthy relationships.

The following comments from partner organization leaders speak to the rapid uptake and implementation of HRTM that occurred by the end of 2012:

> …if you look at knowledge mobilization, that knowledge that was presented, all the research and best practices made its way down to the field, which I think was a huge benefit. Across Canada, we incorporated portions of the Healthy Relationships training into all our prevention education materials. For example, in our training for teachers in bullying prevention we have integrated a module on healthy relationships. These teachers train Youth Facilitators and share information on healthy relationships. Our Youth facilitators deliver workshops to younger students and talk about healthy schools and healthy relationships. We have 3,500 Youth facilitators across Canada and reached over 260,000 youth with information on bullying prevention and healthy relationships last year. We also recently updated our Be Safe! Program for children ages 5 to 9 (formerly known as c.a.r.e.). Our 8th edition contains a section on healthy relationships. We hope to reach over 30,000 children, parents and teachers with the new kit over

the next year. — *Lisa Evanoff, National Training Manager Canadian Red Cross*

This year we have the potential of reaching more than twenty-four thousand youth, right from Vancouver Island to Newfoundland. So that's a goodly number of youth and as far as adults, potentially more than twenty-seven thousand volunteer leaders. If you include all of our paid staff as well as our volunteers, we're looking at over one hundred and two thousand individuals. — *DeEtte Bryce, past Training Representative for Fraser Valley Council, B.C. Scouts Canada*

The impact has been very exciting given our magnitude across the country – we work in every province and now have some relationships and programs in each of the territories as well. We're able to bring these new resources to children and youth, parents/guardians, volunteers/mentors, service delivery staff, and executive staff and boards across the country. In 2012 Big Brothers Big Sisters agencies across Canada served over 40,000 children and youth—every child and youth, along with their volunteer mentors and parents/guardians, benefits from the Healthy Relationship training. *Susan Climie, director of training, Big Brothers Big Sisters of Canada,*

Impact benefits. Gaps in training identified and addressed; training developed and provided to make safer spaces for children and youth across Canada. Training contributes to economic and social benefits.

These examples illustrate how sustained engagement between academic researchers, students, and non-academic partners enables: the co-production of research (Wynford); the dissemination of research (PHAC); the uptake of research evidence into non-academic programs (Family Channel); the implementation of research evidence into products and services (Girl Guides); and, the eventual impact of evidence informed training on the lives of end beneficiaries (HRTM). The use of the Co-produced Pathway to Impact has a number of implications for the practice of knowledge mobilization as described below.

Discussion

Reflecting on the PREVNet experiences of collaborations between academic researchers and students with non-academic partners including (but not limited to) Wynford, Toronto District School Board, PHAC, Family Channel, Girl Guides, Red Cross, Scouts Canada and Big Brothers Big Sisters we have not only developed and implemented the Co-produced Pathway to Impact but can draw conclusions on its utility as a framework describing knowledge mobilization processes.

It is clear from the HRTM collaboration that impact is measured at the level of the non-academic partner. Academic impacts arise from research and dissemination, but impacts on the lives of end beneficiaries are mediated through the products, policies and services of non-academic partner organizations. The HRTM was a training program co-produced with academic researchers but delivered nationally though Community of Practice partners such as Red Cross, Scouts Canada, and Big Brothers Big Sisters. That impact is a function of non-academic partners has also been demonstrated by Sarah Morton, who has shown the critical role of research users in mediating impacts of research beyond the academy (Morton, 2014).

As illustrated by the HRTM example, in a co-production process, research can skip dissemination and uptake and move directly to implementation, which then has an impact. There was no need for dissemination and uptake because the end users of the HRTM were involved in its creation. This outcome is unique to co-production where the process of undertaking the research can have an impact (i.e., influence decision making) even before the research has been disseminated. Co-production can therefore help to address issues of attribution (Boaz, Fitzpatrick & Shaw, 2008).

When these impacts are measured by partners evaluating the effects of their efforts on their stakeholders and end beneficiaries, the stories of impacts can be told through narratives and case studies. Structured impact case studies were the unit of assessment for the UK Research Excellence Framework (REF; www.ref.ac.uk) and research on the REF confirmed this method as the best method for articulating impacts of research beyond the academy (Grant, 2015).

Because the pathway from research to impact may be measured over years, researchers and academic institutions need to remain in contact with non-academic partners to be able to capture the narrative case studies of impact. Without this

active follow up or continual engagement with partner organizations, academic researchers may have little appreciation of the impacts of their research. This has been confirmed by an evaluation of knowledge mobilization programs by the Social Sciences and Humanities Research Council of Canada (SSHRC, 2013).

If funders, such as SSHRC, want to generate impacts from their investments in research, then they need to fund uptake and implementation activities within partner organizations. These activities can be supported by funding graduate student internships and post-doctoral fellowships in partner organizations to support uptake and implementation. This strategy will provide the non-academic organization with ready access to academic research expertise and will provide the student/fellow with experience in non-academic professional environments.

Finally, knowledge mobilization is often described using the metaphor of "bridging the gap" between the silos of research and policy/practice; however, this metaphor maintains the academic and non-academic silos. In co-production there is no gap to bridge. Academic researchers and non-academic partners come together in a shared space of collaboration (see Figure 2). They maintain their own independent spaces but research, dissemination, uptake, and implementation occur in a collaborative environment. In contrast impact beyond the academy is expressed in the non-academic environment only.

Future Work/Issues Arising

This theoretical framework is a snapshot in time of a number of research collaborations at various stages along the Co-produced Pathway to Impact. Some of the observations are retrospective and are not intended to make predictions of future benefits arising from the research. To establish how the Co-produced Pathway to Impact works for a single collaborative research project, one would follow a co-produced research project such as the Quazar Positive Behaviour Recognition Program as it progresses through dissemination to uptake to implementation and eventually to impact. However, a number of potential challenges arise. It may take years for impact to be realized. Many research projects will not proceed all the way to impact, as other factors such as availability of resources and competing products may prevent good research from proceeding to impact. Therefore, the question arises about the unit of measurement and evaluation: should the Co-produced Pathway to

Impact be applied at the project, program/unit, institutional or network level?

Additionally, the linearity of the logic model underpinning the Co-produced Pathway to Impact may not be an issue. A number of linear logic model based frameworks describing the flow of research to impact have been described by Alberta Innovates Health Solutions (Graham, Chorzempa, Valentine, & Magnan, 2012), and by the Commonwealth Scientific and Research Organisation in Australia (Morgan, 2014) and is linearly referred to as research uptake, use and impact at the Centre for Research on Families and Relationships, University of Edinburgh (Morton, 2014). What is interesting about this convergent thinking is that knowledge mobilization professionals seem to be getting comfortable with the linearity of these pathways. Linear models for a single knowledge mobilization project have been abandoned in favour of iterative models such as the Knowledge to Action Cycle (Graham et al., 2006). When working in a system of knowledge mobilization, however, a portfolio of projects, such as described for PREVNet, does move towards impact. And this movement is linear from research to impact. Different projects at different stages in the in the linear Co-Produced Pathway to Impact create the opportunity to further examine projects and develop indicators describing each to the stage of the pathway.

Conclusions

The Co-produced Pathway to Impact requires that researchers and research partners engage in ongoing collaboration throughout the process from research to impact. PREVNet's deep and sustained collaborations may not be feasible or desirable for some community organizations or university researchers; however, in collaborative networks that have a mandate to not only create new knowledge but also to translate that knowledge into improved economic, social, health, cultural or environmental impacts the Co-produced Pathway to Impact creates a framework that describes the progress of collaborative research as it develops from research into new products, policies and services. It also illustrates that getting to impact is a shared enterprise and activities in both academic and non-academic partner sites need to be eligible expenses in research funding programs. A number of recommendations arise for those wishing to use the Co-produced Pathway to Impact to describe knowledge mobilization processes.

For academic researchers: Since impacts of

research beyond the academy are mediated by non-academic partners it is important to stay in touch with non-academic partners who may be using academic or co-produced research to inform new products, policies, and services. Only by working with partners to tell those stories will academic researchers be able to articulate the impacts of research.

For non-academic partners: The role of the non-academic partner in community-campus collaborations is more than a co-creator of research knowledge or passive recipient of academic research. It is the community partner, not the academic researcher, who will implement research evidence into products, policies and services to benefit stakeholders. The Co-produced Pathway to Impact highlights the critical role of non-academic partners in mediating research impact.

For research institutions: Public policy drivers such as the UK's Research Excellence Framework (REF) are driving UK academic institutions to articulate the impacts of university research beyond the academy (Grant, 2015). It can take many years for research to be taken up by partners and implemented into the products, policies and services that will then have an impact on end beneficiaries. Without an institutional office like a Knowledge Mobilization Unit (Phipps & Shapson, 2009), research institutions have little ability to identify these impacts. Sustainable research networks such as PREVNet maintain relationships with non-academic partners and over time collaborate with them to articulate the benefits of research projects at each stage of the Co-produced Pathway to Impact.

References

Amo, C. (2007). Conceptualizing research impact: the case of education research. *Canadian Journal of Program Evaluation, 22*(1), 75–98.

Boaz, A., Fitzpatrick, S., and Shaw, B. (2008) *Assessing the impact of research on policy: A review of the literature for a project on bridging research and policy through outcome evaluation*. Retrieved from http://www.psi.org.uk/pdf/2008/bridging-project_report_with_appendices.pdf

Bennet, A. & Bennet, D. (2008). *Knowledge mobilization in the social sciences and humanities: moving from research to action*. Frost, West Virginia, USA: MQI Press.

Bhattacharyya, O., & Zwarenstein, M. 2009. Methodologies to evaluate effectiveness of knowledge translation interventions. In S. Strauss, J. Tetroe, and I. Graham (Eds.), K*nowledge translation*

in health care: Moving from evidence to practice (pp. 249–260). Oxford, UK: Blackwell Publishing 2009.

Cunningham, C.E., Vaillancourt, T., Rimas, H., Deal, K., Cunningham, L., Short, K., & Chen, Y. (2009). Modeling the bullying prevention program preferences of educators: A discrete choice conjoint experiment. *Journal of Abnormal Child Psychology, 37*(7), 929–943.

Daniels, T., & Quigley, D. (2009). Girls united: Creating a nationwide intervention program to address the use of social aggression within girls' groups. In W. Craig, D. Pepler, & J. Cummings (Eds.) *Rise up for respectful relationships: Prevent bullying* (pp. 145–168.) PREVNet Series, Volume 2. Kingston, Canada: PREVNet Inc.

Davison, C.M. (2009). Knowledge translation: implications for evaluation. *New Direction for Evaluation, 2009*(124), 75–87.

Dodge, K.A., Dishion, T.J., & Langsford, J.E. (2006). Deviant peer influences in intervention and public policy for youth. *Social Policy Report, 20*(1), 3–19.

Donovan, C. (2011) State of the art in assessing research impact: introduction to a special issue. Research Evaluation, 20(3), 175-179.

Farrington, D., & Ttofi, M. (2011). Bullying as a predictor of offending, violence and later life outcomes. *Criminal Behavior and Mental Health, 31*, 90–98.

Frechtling, J.A. (2007). *Logic modeling methods in program evaluation*. San Francisco, CA: Jossey-Bass.

Graham, I.D., Logan, J., Harrison, M.B., Straus, S.E., Tetroe, J., Caswell, W., & Robinson, N. (2006). Lost in knowledge translation: time for a map?. *Journal of Continuing Education in the Health Professions, 26*(1), 13–24.

Graham, K.E.R., Chorzempa, H.L., Valentine, P.A., & Magnan, J. (2012). Evaluating health research impact: Development and implementation of the Alberta Innovates – Health Solutions impact framework. *Research Evaluation*, 1–14. doi: 10.1093/reseval/rvs027.

Grant, J. (2015) The nature, scale and beneficiaries of research impact: An initial analysis of Research Excellence Framework (REF) 2014 impact case studies. Higher Education Funding Council of England. http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/Independentresearch/2015/Analysis,of,REF,impact/Analysis_of_REF_impact.pdf Accessed June 20, 2015.

Greenhalgh, T., and Wieringa, S. (2011). Is it time to drop the 'knowledge translation' metaphor? A critical literature review. *Journal of the*

Royal Society of Medicine, 104(12), 501–509.

Morgan, B. (2014) Income for outcome: Australia and New Zealand are experimenting with ways of assessing the impact of publicly funded research. *Nature, 511*, S72–S75. Retrieved from: http://www.nature.com/nature/journal/v511/n7510_supp/pdf/511S72a.pdf.

Morton, S. (2014) Creating research impact: The roles of research users in interactive research mobilisation. *Evidence & Policy: A Journal of Research, Debate and Practice*, *11*(1), 35–55. Retrieved from http://dx.doi.org/10.1332/174426514X13976529631798.

Nutley, S., Walter, I., & Davies, H. (2007). *Using evidence: How research can inform public services.* Bristol, UK: The Policy Press.

Pepler, D., & Craig, W. (2011). Promoting relationships and eliminating violence in Canada. *International Journal of Behavioral Development. 35*(5), 389–397.

Phipps, D., & Shapson, S. (2009). Knowledge mobilisation builds local research collaborations for social innovation. *Evidence & Policy, 5*(3), 211–27.

Phipps, D. (2011). A report detailing the development of a university-based knowledge mobilization unit that enhances research outreach and engagement. *Scholarly and Research Communication, 2*(2), 1–13.

Phipps, D.J., Jensen, K.E., & Myers, J.G. (2012). Applying social sciences research for public benefit using knowledge mobilization and social media. In Asunción López-Varela (Ed.), *Theoretical and methodological approaches to social sciences and knowledge management.* Rijeka, Croatia: InTech.

SSHRC. (2013). Evaluation of SSHRC's knowledge mobilization funding opportunities. Retrieved from www.sshrc-crsh.gc.ca/about-au_sujet/publications/KMb_evaluation_2013_e.pdf.

Stoecker, R. (2009). Are we talking the walk of community-based research? *Action Research, 7*(4), 385–404.

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