**KT101: An Introduction to Knowledge Translation (or How to Become Impactastic)**

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>> JOANN STARKS: Hello and welcome to today’s webcast, brought to you by the Center on Knowledge Translation for Disability and Rehabilitation Research (or KTDRR) at American Institutes for Research. The Center on KTDRR is funded by the National Institute on Disability, Independent Living and Rehabilitation Research (known as NIDILRR) in the U.S. Department of Health and Human Services, Administration for Community Living. I am Joann Starks, with the Austin office of American Institutes for Research (or A-I-R). I also want to thank my colleagues Shoshana Rabinovsky and Donna Mitrani who are helping with the logistics.

Today’s webcast, KT101: An Introduction to Knowledge Translation or How to Become Impactastic, serves as a pre-conference session ahead of next week’s 2018 Online KT Conference. This session will provide an overview of basic information about knowledge translation for participants who are new to the field, and a review for those with more experience. The presentation will focus on practices that help move research to impact.

Now I’d like to introduce our speaker. David Phippsis Executive Director of Research & Innovation Services at York University in Toronto, Canada where he manages all research grants and agreements, including knowledge translation and technology transfer, for York University. He has received numerous honors and awards, including the Queen Elizabeth II Diamond Jubilee Medal for his work in knowledge mobilization, and has been named the most influential knowledge mobilizer in Canada. He is the KT Lead for the [Kids Brain Health Network](http://kidsbrainhealth.ca/) and is Network Director for [Research Impact Canada](http://researchimpact.ca/), a network of 11 Canadian universities.

Let's get started. If you have any questions, please put them in the chat box and we will address them as we can. I will now hand things over to you, David. Thank you.

>> DAVID PHIPPS: Great. Thank you very much for the introductions and invitation to do this. Good morning, good afternoon and good evening wherever you find yourself today. If you find yourself in North America, I hope that you don't have too much Halloween candy hangover from Halloween last night. Thank you also to everyone who completed the information survey that was sent out previously. I wanted to get a sense of who you are and the experience that you have and we were very diverse group. We have some people who have less than one year of experience and some year with more than 20 years of experience in fields related to KT and knowledge translation and research impact. Some of you have had no training. Some of you have taken some courses, some have had informal capacity development. Many of you have engaged in dissemination activities, some have done some stakeholder engagement and collaborative research and fewer have been involved in impact assessment. So -- none of that is surprising to me. Thank you very much, because that provides a little bit of background and also for those who are new, feel free to ask questions. For those who have experience in the field, feel free to share your expertise as well.

I'm going to start off with the acknowledgement that we acknowledge our presence on the traditional territory of many indigenous nations. (inaudible) It is now home to many indigenous people. We acknowledge the current treaty holder as the (inaudible) first nation. This territory is subject to the dish with one spoon covenant, an agreement to peaceably share and care for the Great Lakes region. We do it in Canada as part of our efforts for truth and reconciliation with our indigenous communities and indigenous individuals. So I encourage you wherever you are, if you are in North America or other places that have an indigenous community think about the land you're on and how we relate to those who have come before us and who are still with us today.

So I'm going to talk for about 40 minutes or so about impact, about knowledge translation, and feel free to put some questions into the chat box and if they're urgent, Joann will interrupt me. This is from the University of Saskatchewan. It is a picture of crops, lentils, Peas and useful for crop rotation when Canada had a wheat glut. We collaborated with agriculture Canada and local farmers to develop these crops. This has created a global market of 4.2 billion dollars a year. That's an impact coming out of this research. But what's important in this research that I would like to point out is that he collaborated with agriculture Canada and local farmers and worked with the stakeholders. He didn't just do his excellent research within the university but worked with government and farmer and user stakeholders to be able to develop this. We can't make impact on its own.

Here is a story. My question is this impact? This is a story of a $2 million gift from music education research that came to York University. A few years ago we were contacted by the regent spark school of music. A community-based school of music who contacted us, our knowledge mobilization unit. I'll talk about that in a moment. They called the knowledge mobilization unit because at our university the mobilization unit, one of our purposes is to create connections between researchers and students and non-academic partners and we serve as a place if you've ever wanted the talk to a researcher, give us a call. We try to find the right researchers to demand your needs. Its user pull. So they reached to us and they were looking for a research capacity to help understand their community, understand the role of music in community, and the fellow who is forefront in the picture holding the triangle in Carswell, he got hold of this opportunity. He is a graduate of York. Started up a couple of companies, a long-time donor to York and his wife is very connected to community-based music. There was a $2 million gift that came to the university that shared community based research in music and also we're funding community campus collaboration, all of which have a knowledge mobilization element. So I would say this is an impact as we think about it. It is certainly impact to our bottom line and external research income but certainly knowledge translation. And we hope out of the project that we have funded that some of -- some impact may arise.

So this is the first of the polls. There will be polls throughout this. I invite you to vote on the poll and we can engage with a little dialogue in the chat box and my question is you see there is knowledge mobilization twice. One is supposed to be knowledge translation but I think we've corrected it on the poll. Please open up the first poll and everyone, when the poll is open, yes, knowledge translation is there, thank you for that correction. Please vote to see what terms do you use routinely in your practice. Perfect, thank you. We have a couple votes coming in. We can see that knowledge translation is a dominant. Thank you, Shoshana, if you could close the poll but if possible keep it open so we can see it. Knowledge translation is a dominant term used. Very few in knowledge mobilization. In Canada knowledge mobilization is a term used by our social sciences and humanities research council. A lot of social scientists and humanists use the term knowledge mobilization. Translation is used by Canada health research. Most health scientists are using knowledge translation and then knowledge exchange is a term that in Canada has been used knowledge transfer and exchange by the Canadian health services research foundation, which is now called the Canadian foundation for healthcare improvement. And impact. Some people are using the term impact. Thank you very much for that. I notice nobody uses other and nobody uses extension. I had expected if this was an agricultural audience or especially an audience in African countries the word extension is often used especially in land grant universities founded in the U.S. in the late 1800s that were founded on the principal of extension. It should go to agricultural research and extended into the local farming industry and farming community. Thank you very much, Shoshana. If you could please close those polls.

Thank you for that. My point of this slide is there is lots of terms and I don't care what you use. I've got into some lively discussions with some people who feel it's important to point out the difference between translation and transfer, and I can appreciate those differences. But for my purposes as a practitioner I'm just busy getting the job done. I use mobilization because one of our first funders was the social sciences and humanities research council. As I pointed out just now, mobilization is their word. So we run a knowledge mobilization unit because our first funders were there and we aligned with their work. If we were funded by the Canada Institute of health research I would be running a knowledge translation unit, not a knowledge mobilization unit. My encouragement is to not get hung up into definitional dystopia. Just let's you -- I respect the words you use and let's just move on to doing the good work. I will just take a moment and say the top scholarship. -- engagement is a necessary pre-cursor to impact. Our researchers, especially those in the social sciences and humanities, while they use knowledge mobilization because it's a term of their funder they consider themselves as engaged scholars who are engaged in their research with organizations beyond academy.

I also want to suggest when you do this is more important than what you call it. So in Canada, we talk about integrated knowledge translation as end of grant knowledge translation. Integrated knowledge translation happens throughout the process. It happens as collaborative research and end of grant is the dissemination types of research. What I've written there is dissemination is necessary but not sufficient to inform change. This is work that's come out of -- from the research unit for research utilization at St. Andrews university. We have to get our work out there. We can't inform the decisions if the research only stays within the academy. Sending your information to people is a less efficient way of creating the conditions for impact than if you work with them and engage stakeholders early and often and you work with key partners along the way. So the message here is that we really need to focus on mixed methods. I work in the research office as York University so a big part of our work in supporting impact comes in supporting impact strategies and grant applications. Knowledge mobilization strategies and if you are -- these are knowledge translation strategy -- and -- so we work a lot on grant applications and what I see mostly coming in is dissemination strategies. I see grant applicants focusing on I'm going to finish my research and then I'm going to send it out. Bless their hearts they often say I'll have a website. Period. That's nice. It's necessary but not sufficient. So what we'll be talking about today, and I encourage you to think about your own practice, is how are you disseminating but going beyond dissemination to engage with your stakeholders early and to collaborate with key partners along the way?

Again, feel free if you have questions to type those into the chat box. So our second poll is what KT methods have you used or hope to use. I ask this in the survey sent out previously so I have a sense of what this audience might be looking at. Shoshana, if you could open up this poll and everyone click as many as you want of all of these different types of KT methods. There is a lot of choices so I'm going to give it a little while as people read through the list. Lots of people are using lots of different KT methods. A few votes still coming in. We need a theme song like jeopardy so we know how long we'll have. That's really good. Thank you very much for that. Shoshana, if you could end the poll but keep the results up. We see an awful lot of academic publishing. Dissemination. I really like the workshops is way up there. I'm a big fan of workshops. One thing that I -- I'll talk about it right now. Dissemination is necessary but not sufficient. We know from the Paris framework an older model but PRIHS promoting action, researches in health services. That instructed us if we want our evidence to be used in practice or taken up and used in practice we need to pay attention to three things. The evidence itself. So what is the rigorous, robustness, who is the leader around that evidence? What is the context of the use? Because how you use evidence in an indigenous community is going to be different than how industry uses evidence and then the facilitation is the third element. So how you facilitate in an indigenous community will be different how you do it in an industrial setting. If you have your pens on hand right now, write this down and maybe if someone -- if Joanna or Shoshana are monitoring the chat box type this in. You need to facilitate the uptake of evidence in the context of its use. Facilitate the uptake of evidence in the context of its use. This is important as we get to in a minute. It is not good enough just to disseminate your evidence. You have to go to where it's being used and facilitate the uptake of that evidence. I mean workshops. I've expounded a lot on workshops because I feel they're a very useful mechanism for facilitating research uptake. You go to the industrial setting, the health clinic where the practices will be used, and then give a workshop with those who might be taking up that evidence and using it. And preferably if you are giving a work Shoppe, have it co-hosted by a partner who has been along with you in the research evidence. That's my long rant supporting a workshop. Thank you, Joann for facilitating the uptake of evidence. I like to come to stakeholder engagement. There is 72% who did stakeholder engagement. Absolutely fundamental. I tell the story of the Rick Hanson institute in Canada and if anyone from there is on the line, give a shout-out in the chat box. But Rick Hanson is a man who was living with a spinal cord injury. He was an athlete in a wheelchair. He wheel around the world literally in the latter part -- I'll say the 1980s or 90s and raised awareness for spinal cord injury research. When I started up the institute he talked to stakeholders. He talked to clinicians and scientists who said to him our priorities are biomarkers and Nouri image. Our most important things are erect tile dysfunction and bladder control. If you only talk to the clinicians and scientists you just get one part of the picture. Not that we shouldn't do biomarkers, we should. But we should also looking at erect tile dysfunction and bladder control. You need to talk to your stakeholders not only at the beginning to inform your research but engage them as you go along.

Thank you very much, Shoshana. If you could please close that poll and we will proceed. In the rest of the talk I'll talk about the who, what and how of impact. I talked about the when previously but we'll focus on who, what and how of impactive research. So this is my cat Gogo. I want you to think in your heads aaah. If someone wants that chat that, that would be nice. My cat is having a nap on using evidence. I mentioned this book previously. Thank you, Laura. And this person has retired from running the research unit. The University of St. Andrews in Scotland, they have a research unit that looks at how research evidence is used. Mainly in social services and public policy. And she has recently retired from the research unit for research utilization but her co-author on the book is now running the center. Very active. Has a lot of scholarship in this space and this is the point of my slide is to say there is a lot of evidence about evidence use. The work that I do, the work that you do is based on evidence. There is an evidence base for this. I encourage you to become familiar with that evidence base, especially if you are supporting evidence use. You can be able to talk about frameworks and understand the scholarship that underpins your practice or if you are a scholar you're contributing to this evidence base as practitioners do as well.

One thing I link to is the knowledge mobilization journal club. The links will be on the slides available to you. I take for the last, gosh, five years or something, I've done a monthly mobilization journal club and I take an article I've read, usually peer review. An article that I think is interesting and I reflect upon it from a practitioner's perspective. That's the role I play at the university. I'm an impact practitioner. I wanted to make an -- to try to bridge the gap between what we know in scholarship and what we do in practice. So there is an evidence base to the work that we do.

And I'll just let you pause on this. So for the Canadians in the room. These are different impact frameworks. My comment at the bottom is do we really need another one? Seriously? For the Canadians in the room you'll recognize the top and middle as being the Knowledge to Action cycle. A cycle that has been made quite popular by -- because it was the cycle adopted by the Canadian Institutes of Health Research. On the lower left is the payback model. That is an early model that was modeling a framework for impact and that underpins the one on the top right which is the impact assessment framework for the Alberta Innovates program. I saw someone from Calgary on the line. You are probably quite familiar with this. And the one in the lower right has very recently in August -- this is from a group of Canadian association of health services and policy research, I think it is. They have added some arrows to it to address ongoing stakeholder engagement. The one on the top left I won't talk about. There is a cone of possibilities and acceptable outcome space. Sigh, right? I don't know what that means. Payback model on the lower left, thank you, Joann, knowledge to action, the Alberta knowledge on the top right and the Canadian Association of health services and policy research is the lower right.

So I was invited in 2012 to be part of a committee to advise the social sciences and humanities research council on evaluating canary knowledge mobilization and funding program. Their evaluators. They said how can we make sense of any of these frameworks? If it doesn't start and stop, how do we get a beginning and an end? Could you create a model that we can actually work with? That's where I came up with this. A model that describes campus and community, air quotes community means anyone not on campus. Industry, government, nonprofit, educational institutions, indigenous communities, people with life experience, faith groups. Knowledge mobilization is a function, a set of services, a set of practices that just help bring community and campus together into shared spaces. Some of those shared spaces might be ones of knowledge transfer. I have something and I give it to you. Some of the spaces might be knowledge exchange where I give you something, you give me something but we're really not working together. Some of those spaces might be areas of co-production or collaboration and sometimes when we bring community and campus into the shared spaces impact can arise. So my -- my simple model of knowledge mobilization is that it helps make research useful to society by supporting engaged scholarship from inception to impact. So you'll remember I said earlier when we were looking at methods, the engagement of -- engaged scholarship from inception through impact I feel is a key to maximize the potential to have an impact on this work. This is my straight forward model. What this does is sets up a logic between knowledge mobilization, which is how we want to do something, and the impact that occurs for what we're trying to accomplish. So this means that if for the evaluators on the call, if there are any of you, you will realize that impact is the dependent variable, the thing we measure. Knowledge mobilization becomes or knowledge translation becomes the independent variable. The things that we change. The things that we do to be able to observe an effect on the dependent variable or impact. And so this creates a really two sides of the same coin in that impact planning is the strategy and how we do something and impact assessment understands what we do. And really the two of them go very tightly together, that if we are doing impact planning, we by default must also therefore be doing planning of impact assessment. We have to plan in the indicators in how we'll assess right from the beginning. And so this further allows us to create logic.

If we think of the logic model. I'm hopeful many of you have heard of the logic model. Which really says we do activities and those activities have outputs. And those outputs have outcomes. And those outcomes ultimately have impact. Some logic models use short term and long term outcomes. I use the word impact because it's important to the language of the work that we're doing right now. And so if we layer research language under that logic model, then we do co-produce research. Talk about the dotted line in a minute. Our activity after that research is dissemination. I said dissemination is necessary but not sufficient. So we must disseminate the research. Then somebody takes that research up. They take up the research and evaluate it and say if it's any good they move on and implement that into their policies, practices and services. And it's those policies, practices, and services that have an impact on the lives of end users. So critically important in this model right now is there are two things. One is the moment between dissemination and uptake. There is a moment where the research evidence leaves the researcher and taken up in a practice or policy setting. This is -- I'll come to why that's important. The dotted line is interesting. Many of you might have heard of the issue of attribution. An issue of attribution is how much of the impact that we observe can we attribute to the research evidence that was produced. We know all sorts of other things go in along the way other than the research evidence to be able to create that impact. So many funders are interested in especially donors to international development to say our dollars created had this percentage of effect on that impact. So I was thinking about impact and there is a scholar at the king's college London, Annette Boaz. I'll type in her name if you're interested. And she was at king's college at London. She wrote a report on attribution. I was reading this because in my practice, which as I've mentioned is about knowledge brokering and co-production. I don't see attribution as an issue. When we're talking and impact one of the questions I ask would this have happened if not for the research? They said absolutely not. And so what she wrote was two interesting sentences in her report. That your method of knowledge translation may affect the issue of attribution. For example, she said, in collaboration, you can sometimes have an impact even before you finish the project. You can have an impact on the awareness and the beliefs and the attitudes of the project participants. Not the subjects but the researchers and the collaborators. So you can actually have an impact on raised awareness even before the project is finished. That's the dotted arrow. While the impact might not be the policy impact you're seeking raised awareness is an important impact and necessary precursor for research use. Thank you, Joann Starks.

Remember what I said to you that the evaluators wanted a nice, simple diagram to be able to evaluate and understand knowledge translation and impact and all the other wonder had double headed arrows and circles and it never ended. Well, this is that version. Because I look at this version and what you'll mainly see. The critique is too linear. We know it is not linear, it goes forward and backward and around to unexpected places. I put everything double headed arrows, circled and things that go from back to front and I called it the co-produced pathway to impact that we co-developed with a network in Canada doing research and implementation into bullying prevention. We called this the co-produced pathway to impact. The essential elements of research -- they're the same from the previous slide. What this has done is recognize academic research and co-production partners have opportunities to collaborate all the way along the pathway. So we recognize academic research still operate in their own spaces but a shared space for collaborative research, dissemination to academic and non-academic partners and how it can help up take evidence. Thank you Paris framework and how we can help implement the evidence into -- help our partners implement the policies, research evidence into policies, practices and services. Here is an interesting thing. See the impact line? That comes out of our co-production partner space. This is absolutely important because I say to my researchers, you. I point at them. Don't any impact. Gasp and feelings of mistrust. I say no, you publish your papers and do the important work but you don't make products. Industry does. And you don't develop public policy, government does. And you generally don't deliver service socials, community does. So if you want your research to have an impact on the lives of end users, then you need to be working in collaboration with people who can take up those research results and implement them into policies, practices and services. And wait, you will say, your researchers will say, my research is in the classroom. I'm helping kids. My research is in the clinic, I'm a nursing researcher. I'm helping -- you're having a benefit on your -- on the people, the subjects of your research but they are subjects of your research. If you do a randomized control trial the patients who are benefiting that are a research outcome, not yet an impact. The impact occurs when that randomized control trial is moved into a clinical practice guideline and that becomes part of continuing medical education and it's the change in practice is evaluated and scaled through in Canada through a health network, through a province, and that's the impact. So research that is done in a practical setting like in social work, like in nursing and education, in health clinical practice absolutely you can be having benefit on your patients. But that's not the impact that we're talking about.

The other piece that is here is the bottom line is has been turned into stakeholder engagement. So it's important we often talk about -- bringing -- talking to end users and bringing their perspective upstream into the research so we can do the research like Rick Hanson did. What this diagram says, yes, we need to bring the stakeholders and end users upstream but we also need to bring the researchers downstream. We have a tendency of doing a hand-off at dissemination, walking our hands and saying move on. This diagram encourages us to stay with the evidence and encourage the uptake of evidence and work and help our partners implement that into policies, practices and services and we publish that in the red bar at the bottom. In Canada, in addition to -- there are a number of large-scale networks of research and implementation that have adopted this pathway. And this is an important thing because we don't expect any single research project to go all the way to impact. If it does, it's not in a linear fashion like this. This is a model that is being found of being adopted by systems of research or networks of research. And that's because if you are looking at a portfolio of research you can use this pathway to monitor your project and monitor which ones are moving forward beyond dissemination to uptake to implementation and ultimately to impact. It is not that every research project has to go to impact. In a portfolio things must move. Therefore, in a portfolio approach linear is okay. And that's the paradigm, oh my god, because we've always said linear is wrong. But in this instance -- linear is wrong for any single project but when you are looking at a portfolio of research linear is okay because your portfolio does move. Again, feel free to put any questions into the chat box.

I'm going to show you this example from a network that is a research and developing near -- and this is a story of social ABCs. I'll tell you what that is in a second. One thing we did we talked to our stakeholders and parents of kids. We talked to kids that have grown up that are self-advocates. Educators, clinicians, researchers, policymakers and allied health professionals and identified 44 needs that our stakeholders told us about. We can't do 44 things and 44 things are not within the mandate of kids brain health network. We identified the top six needs that are within the mandate of kids brain health network. The number one need by far is that parents identified they want specialized training for educators. My kid is spending eight hours in an educational setting I need the teacher to understand what autism is or feet all alcohol disorder. They wanted treatment for the child as soon as possible. It's delayed sometimes until 4 to 6 years old and missing a critical time for the opportunity for interventions. Thank you for putting that in.

Among the top six need number nine. More resources and more efficient use of resources. Given that, these needs helped underpin the work of social ABCs, a research program that recognized very early on social and developmental delays. And it created an intervention where in this case early childhood educators. There is an error on the slide. It's mine, not sick kids hospital, it's the rehab hospital that did this work. Researchers, you can see that under the co-produced research. The ministries of community and youth social services. Child and youth services funded the research to scale it to other communities and works with the children to get their attention and reward their attention. This dissemination. The researchers did their peer review publications and presented to conferences and went to places where families were hanging out. What we did as part of the KT core was developed a parent manual. A technical manual for the early childhood educators and helped turn it into a parent manual. Researchers wanted to deploy this in the home as well as the educational setting. Researchers trained the early childhood educators. The early childhood educators took up the research evidence and trained the parents. And so they implemented that not just in community settings but also at home and then child and youth services made it publicly available across Ontario. It is not all across Ontario but in a number of clinics in Ontario right now. And the impact of this, this is a link that we won't play right now but it's to a video. Click on the click, a news story published by global news about kids brain health networks social ABCs and tells the story of a child Alex. He is 6 years old. When he was born he was showing developmental delays early and his doctor said he would be non-verbal his whole life. So he got the social ABCs and now he is chatty. That's one of the things that says Alex is 6 years old and chatty. You hear him chatting away and hear Alex talking with his mother and interacting with his mother in ways he never could do before. And his mother explains that this was like a lifeline. That she threw in and could bring Alex out of his locked-in non-verbal state. And then she has this lovely comment. She said Alex said I love you, mommy, for the first time during this program. So there is an example of impact. Impact Alex is one of many stories like this. I encourage you to link on the link after you get the slides and you will be able to see the story of social ABCs. That illustrates for one story that's gone from stakeholder engaged research all the way through to implementation and impact.

So what have we done with the pathway by York University and kids brain health network and we've taken the pathway and developed tools. It is important as you are thinking about your own practice to be -- so first off, conceptual pathway is nice but just a pathway. How you do a research to impact pathway, I did this using these examples recently for a global health grant program. How you -- your impact pathway and the indicators you use. It's going to be different than how your impact pathway to develop a microarray to detect genetic conditions. It's just a conceptual pathway. The work you need to do and you need to encourage your other impact practitioners to do is to adapt this pathway. Many people in Canada know the knowledge to action framework and there was -- knowledge to action cycle. There was a systematic review of papers that were used in the action cycle as their conceptual framework. Of 146 articles reviewed, only 10 bothered to implement it. They said that's our framework. What they didn't appreciate is when the authors wrote about it in 2006 they said this was never expected that one organization will practice all the elements in the con except actual framework. Only 10 actually implemented the framework and only one used a knowledge broker to try to move between stages of the cycle. So please don't set the co-produced pathway to impact as your impact pathway. It is your conceptual framework. You need to then reduce that pathway to practice and that's where some of these tools come in. We don't have links to them but there are tools available to help you with stakeholder engagement and these aren't all our tools. Some are publicly available to help on the left-hand side with research planning. To help on dissemination and help on events to facilitate uptake and tools to assess the impact. Tools for stakeholder engagement. Don't feel you need to create your own tools. There are lots of tools out there.

So this is another poll. A chance for me to stop talking and drink some water and for you to say what tools do you need? And only choose two, please. Vote for each of you, vote twice. Interesting. By a long shot people really want to have tools for stakeholder engagement. Now, if you voted for stakeholder engagement, I invite you to enter into the chat box what would a tool do? What kind of tool are you looking for that would help you in your stakeholder engagement? Or what is the gap that you have that you feel you need to help? Because this seems to be by far the most tool in demand. Melody is typing. Thank you very much.

While Melody is typing. What is the gap that you have? Melody, clear stakeholder mapping and how stakeholders can connect their work with each other as well. Stakeholder mapping is a pre-cursor to the stakeholder engagement. I think doing both of those will -- is necessary to be able to help you inform the type of research that you do. I'll give a quick opportunity for anyone else. Thank you, Samantha for typing.

We'll see what Samantha has to say. I hope you find these polls and this opportunity to contribute throughout to be an engaging way of doing a webinar. How to authentically engage community members/partners? I love that you use the word authentically. I was giving a keynote last week. Much of the training we do is focused on the academy. Absolutely that training is mostly open to anyone. But how can an educator who is in the classroom every day and after class doing extracurricular activities and goes home and marking in the evening and has to be a mom and elder care, how can she do our training? And part of authenticity is not only balancing power between academic and non-academic partners but one of the way we balance the power is giving training and building capacity of our partners to be able to engage in this research. Linda, better ways to maintain relationships rather than talking. I love that, too. We had the CEO of a large nonprofit organization in our community and he said you should do no drive-by partnering. You don't pop in and you don't pop out. Kirsten said how to effectively engage stakeholders in defining scope and focus of research. Thank you for that. Francesca. Establishing partnerships with different stakeholders. It's understanding who they are, what their needs are and coming together. It's important in the early days of my work, I've been doing this for 1 years -- commercialization longer than that but working in non-commercial research, and that we have to -- sorry, that one thing we have to do, it's not about I have and the academy we have knowledge and you don't, it's about finding complementary resources. And expertise. Not about that I have something you don't. So I work with researchers and partners who can come together on an equal footing.

If we can close that poll and we'll move on. So here is my secret thought about writing a grant application. Whether your impact strategy is health related, it is social sciences. This even works for commercialization. You have to articulate who are your partners, the stakeholders you are engaging. The audiences you send things to and the co-production partners. Everyone is a stakeholder. Your co-production partners are receptors and along with you for the ride. The receptors are the end of grant receptors. Once you've identified your partners and done stakeholder engagement you mutually co-produce the goals of the project. What activities will you do with your partners? You'll do co-produced research. With your receptors you do dissemination to academic and not academic receptors and with those receptors and others you'll do facilitated uptake. Assessment, where to measure and when and access to the data and what is the budget you'll do? I'm going to live this back. Partners, goals, activities, and impact. This lines up with the co-produced pathway to impact. Who are your stakeholders at the bottom. Your 1A. Who are the co-production partners, research partners, who are your dissemination audiences and your uptake workshops? The banner on the left is your goals as you are planning and the spanner on the right is your impact assessment. So the impact -- the classic impact pathway to me is derived -- strategy is derived from the impact pathway. If you have one page for strategy write four paragraphs. You can put other information in the budget. If you are working on a multi-million application and you have four pages you write one page on each of these. And so through doing that we've now over the last 12 years helped bring in $68 million of engaged research funding into York University. Not just because they have an impact strategy but we are able to support it. Kristina has written. Academics and research is a different set of needs to keep their jobs to be considered successful. How to make the academy and funders more flexible to seek common needs and pathways. I would love to spend an hour on that with you, Kristina, anyone who has some suggestions. One of the things that helps me I was thinking how to make the academy and fundraising more flexible, it's about being present in each other's spaces. I was asked last week when I was doing my workshop someone told me who gave me a case what do I think? I'm the wrong person to tell you. What I can say is rather than expecting people to come to you, you need to go to them. You need to be active in the social media channels of your partners. If they're doing conferences you show up at their conferences and just make yourself open to working differently. Okay. So now that's the how. Now we'll move through the what and then the who. So the research framework in the U.K. If we have anyone from Europe or the U.K. you would have heard of the framework. Every university is -- billions of pounds are driven to funding universities based in part on their ability to articulate the impact of their research. And in the 2014 impact assessment there were 150 universities with over 42,000 academic staff who talked about 191,000 research outputs and these are the numbers that kill me. There were 6,975 impact case studies and 3,709 unique pathways to impact. Just think about that. There is almost no two ways to get to impact. And this is why when I said the co-produced pathway -- your impact pathway will be unique as these numbers show. 6,975 impact case studies, 3,709 unique ways to get there. And so every time I start with a faculty member there is no cookie cutter. I use the same tools and we go through the same process to get a very different pathway. Australia, Netherlands, New Zealand and Hong Kong have gone in this direction. In Canada and the U.S. we're creating impact because it's the right thing to do. It's aligned with our mission rather than assessment.

So how do you collect the evidence of impact? This is work that we've done at York University in supporting the Ontario collaborative response to family violence and kids brain health network. We've worked off the research excellence framework and it's not a perfect framework at all. We've made some significant changes to it. I won't go into that here. We've piloted the tools on two cases from kids brain health network and one from the families violence and it's a tool that takes the U.K. impact case study template and we've added questions derived from contribution analysis. So what we've now got is a tool through the questions semi structured survey tools that allows us to consistently collect the evidence of impact by interviewing researchers and non-academic partners. Part of the trouble with a lot of impact assessment, it works at the end of the grant. Your funder asks you to fill out a questionnaire. It works at the end of the grant asking the researcher. Well at the end of the grant the impact hasn't happened and the researcher isn't the one creating the impact. It is important in a unit like mine that after the family violence example with the collaborative we put together in 2012, it was 2017 they told us about the success they had and we used the tool to capture the evidence of that impact. So it's important that we have to -- we can use this tool retrospectively but one thing that I'm thinking about because the questions are logic model questions starting from what were the inputs and the starting conditions. What did you believe when you started this work, what type of training did you need, what were the activities that you did, what changed in your awareness and beliefs based on what you changed, what did you do with that and what was the ultimate impact? We should be able, I think, to be able to maybe use the first two questions this year around the new project. Next year we go back and say last year you said one and two, maybe now we can ask three. Use the tool to monitor not just impact. Not everything gets to impact. But collect the evidence of engagement as well.

So this is work in progress that we are just piloting at this time. It has gone out to the members of the Research Impact Canada network. I talked about how and I've talked about what. So the question comes to be who are the people that does this work? Who are the people that do this work? This is a cute video. The guy on the left is Travis, he is a knowledge broker at gambling research exchange Ontario and made the little video because he stresses out every time he goes to party and somebody says what do you do? He says I'm a knowledge broker. They say what is that? This is a quick video that we won't show right now. Travis walked through all the things he does and talked about his stakeholder engagement and how to identify common goals and bring stakeholders to consensus and work on organizational change. He has to development relationships but also runs events and they're capacity building and he is talking about the courses he runs and the seminars he does and the workshops and also it's about the evidence he says that he has to do environmental scans, quality appraisals and has to adapt the evidence to the local context. And finally he says he does evaluation. Rigorous evaluation looking to sustain long term impact. Just the many things that Travis does in his day. When you see it like that you go oh my god, do I really do all that? Because I often think that what I do isn't rocket science, then it feels a lot like rocket science. Take a look at that video when you're able to download the slides.

So what we did and the link to this article is in the red bar, is we synthesized a KT competency set. We synthesized four frameworks that hadn't yet been published and came to 80 competencies in the categories here. Nothing will surprise you. Change management. Communication. We tried to keep managing legal issues and IP. There is a strong culture of the technology transfer and commercialization in the academy. That's not the work we tend to do but it keeps sneaking in. We couldn't get it out. The last one, understanding, creating and using KT tools. What we did was we went out to practitioners with a survey and said of these 80 competencies do you practice it daily, weekly, monthly, rarely, or never? And based on that, we got these top 10 competencies that research impact practitioners have demonstrated. The one that everyone except one person -- one person said I never practice internal communications. And I only hope that she or he is a single consultant because otherwise she would end up talking to herself. All right. Internal communication. None of this is actually really shocking, I think. Internal communication, maintaining relationships, working in teams, multiple conversations, external communications, listening, organizing, facilitating, partner and relationship management and reporting and present knowledge. So I encourage you to look at these and think about how do you do this work? Because that is the subject of the next poll. So if you could choose three on the next poll, tell me, tell the group what are the top three things -- the skills that you most use? Most use -- the ones you need the most, what are the ones that you need the most, whether you use them or not. Choose three.

I'm sure you're thinking that I do them all and David is making me only choose three. How do I possibly choose these three? Okay, a couple more still coming in. We're getting a little bit more because there are a number.

[The speaker is going down the list]

So it's intriguing. We have a lot of people with a lot of different ones. The working in teams, communities and networks is the highest 60% by far. But let me ask anyone who is looking at these if there is something that is not on this list that is very important for you. Please type that in the chat box now. Something that you do that our survey didn't capture as one of the top 10. Because the way we think -- we were thinking about these top 10. This forms the competency core, a set of 10 core competencies that everyone should need. Out of the remaining 70 of the 80 you can pick and choose those unique to your role. For example, in my role I also oversee the technology transfer and commercialization and entrepreneur entrepreneurship. That's niche. Managing conflict as we work in teams, communities, and networks the highest one on this list being able to manage conflicts as well.

Thank you, Kristina, for that contribution.

And so again with the who, where, where can you get the training? There are a couple of courses in Canada. They have an online course that is recruiting right now for intake. The knowledge translation professional certificate is a five-day in person intensive all day for five days where you bring in your project and end with your impact plan. They take about 15 or 16 people and run it -- it's run two or three times per year. I had the pleasure of teaching in that course and the commercialization angle and then I've included this conference, the online conference that AIR is sponsoring. Thank you very much to AIR for contributing to the capacity building of our practice.

So if you put these three together, the who, the what, and the how, this comes together in a framework that we're calling research impact literacy. The journal article is in the red bar. You can get that if you can access -- sorry not open access. But you'll be able to get it from the evidence and policy from your library. And the who, what and how of impact literacy. These are states of knowing. If you know how to create impact. And if you know what impacts occur on and how to assess those and who the people are and the skills you need to be able to do this work. Put those three together and you're impact literate. Missing any one of them you might have insufficient understanding of endpoints, insufficient understanding of roles and skills to be able to do this work and therefore you'll -- your practice will not be optimized or you might be insufficient understanding of processes. We came to this, my colleague Julie from the University of Lincoln in the U.K. In Canada we see primarily we have researchers who are functioning in the house space. Creating grant applications to support impact. In the U.K. while they do that, they're driven by assessment and the what of impact. And there is a much heavier focus institutionally on collecting the evidence of impact than there is on supporting impact to occur and where there is a deficit in both countries in who, how do we understand the skills?

So my question is how do you go from a bit of impact literacy to a lot of impact literacy. Thank you, we have a hard time saying what is little and what is a lot. For those of you who filled out the survey in advance of this we talk about Jedi to a Jedi master of impact. You need to build capacity. There are some tools that are available. I talked about this one that my colleague Julie and I have published in Emerald publishing. The link is -- this is free to download from the Emerald publishing website that's in the red bar there. They want you to give your address. They want to be able to follow up with people and see how it is being used. The workbook is a planning tool. I sit with researchers and I walk them through all the stages of impact planning so that we understand what the problem is they're working on, we understand the impact that they hope to create. We understand what the indicators are and when they'll get them. Where to get them from and when will they get them? Who are the stakeholders and when do you engage them? The dissemination. I come back saying dissemination is necessary but not sufficient. What are the skills you need to do this work and then who -- what are the challenges and who are the facilitators. Where do you go for help? Having worked through the entire workbook at the end you get something that looks like this canvas. This canvas is where you've done the work of the work, you transferred the information to the canvas. This is not your impact plan but the raw material which can help you develop your impact strategy for your grant application if that's what you are working on. So this is systematic way of walking people through all the elements to think about impact and then building out this canvas at the end and then supporting them as they write their impact strategy. So I am going to end there and to thank you for your attention at this time. We've got a bunch of time left for questions. And I encourage you to type your questions in the comment box and we will address them as they come.

>> JOANN STARKS: Thank you very much, David. That was great. That was really an excellent presentation. I can't believe how much material you covered in less than an hour. That was awesome. And you gave us a lot of resources that we can follow up with as well. So I'm hoping that we'll be getting some more questions from the audience. I do have a couple that came through that we can share. Can you talk a little bit more about the principles of co-production? Maybe what are some of the important pieces and parts of that.

>> DAVID PHIPPS: Right, thank you. I'll go back to what one of the comments said about authentic partnerships. This is not about supply and demand. It is about recognizing that academic and research evidence is only one type of knowledge that goes into creating impact. That we need to be able to hold up the knowledge -- the expertise of experience, the expertise of policy or the expertise of industry on an equal footing with academic expertise. When you combine different ways of knowing and different types of expertise in an authentic fashion that allows you to balance power, traditional on balance power that's where co-production works well. One of the ways that you do this is by -- as I mentioned previously. If you're in an academic center, become active in the non-academic spaces. Follow the Twitter accounts and go on the Facebook pages of people and organizations who you are interested in engaging with. Going to their conferences or meetings and being open and available. And then when you do have an opportunity to engage, that you do it for one of mutual respect. Not that you -- I would say so my researchers, you don't know it all. If you're not -- if my researcher is not interested in understanding and collaborating with people who know just as much but in a different way, then I don't put that person up for a partnership. I only find the researchers who are interested and acknowledge they only have part of the equation.

Two ways I'll talk about that seem to balance in co-production is one about sharing resources. We are really good in the university at holding onto money. And we spend money on things that we want to spend it on. That's often in Canada because unless you construct your budget and co-applicants correctly you are actually not able to send money to a non-academic organization. But if you include your partner not as a partner on the grant forms but as a co-applicant that means you'll have to do their CV for them. As a co-applicant you can send the money. We did this with the united way of York region. We co-authored a grant application. They hired the primary worker off the grant. They were the ones that did the lion's share of the work. A way of sharing resources. The third thing I'll talk about has escaped me right now. I will come back to that when I think of the third thing about sharing resources and sharing power. Those are two ways I would think of being able to start a collaboration, focus on the authenticity of the partnership. The third thing would be knowing what they want and they, the non-academic partner, feels is valuable. All of this I need to underlie that this does not deny the importance of fundamental and basic research. We need to have that foundation in the academy. This type of work of impact should not privilege applied research over basic research in any way. When the research has a life beyond the academy in a way that maybe cosmology or basic math doesn't and when the researcher is pre-disposed to working with a partner and where the partner has the capacity, those three come together as an opportunity for collaboration.

>> JOANN STARKS: Thank you for that response. Following up, we have a question, do you have -- can you identify from strategy to initiate stakeholder engagement? It's a big question, too

>> DAVID PHIPPS: I talked a little bit about this by becoming active in their space. I think the most important characteristic to start stakeholder engagement is authenticity. I mentioned about authentic partnerships but open to what your partners need you to do and what you need to do. It doesn't mean you have to -- if you don't want to work on what they want to work on, then you don't need to start that partnership. It doesn't mean you don't have to change what you do. It means you don't work with that partner. When you found the partner interested in the same things you're interested in, that's where it can go and move forward to explore that partnership. I would say again that being active in their spaces, being open and being authentic to their interests is one strategy. One way that I've done this is by holding a community forum. One thing that we've done is gone to our community partners and say what is important to you? They used mental health. We have deep roots with our local municipality and united way and it was their job to bring some mental health agencies good into the room. We held one presentation by an academic and one by a non-academic. The academics are used to talking. You get them to shut up and listen to the expertise of practice and community and policy. It's the go round the room that's important. Once the presentations have been made people start to chat. My measure of success from a forum like that if there are a couple of people standing in the corner an hour after you shut down the sessions and they're still chatting I say you're having a good conversation, how can I help? It's again a way of being active and open in their spaces and absolutely saying what's important to you but listening what's important to them.

>> JOANN STARKS: Thank you so much. Here is another question. Can you talk a little bit about the difference between the role and the work of a knowledge broker and a professional communicator?

>> DAVID PHIPPS: (Laughter) We wrote a paper on that. If you look up Barwick and Phipps, my last name. Let me type that in. Melanie Barwick and Phipps, and the journal is scholarly research and communications. So if you look us up there, that's our -- I've got that wrong. I'll look it up. But those are three of the four words of the title of the journal. A couple years ago we were holding an event on knowledge brokering and health communicator raised her hand and said you guys, we've been doing this for 30 years, you just call it something different. And Melanie came back and said no, communications is a skill we practice but know we aren't professionals as communicators. The type of material we work on is different and the way we engage stakeholders is different. This ended up having an argument in the room and I thought it would be interested to put it on LinkedIn. We got 44 contributions from 20 contributors. Because it's LinkedIn you could see who someone was. A split between science communicators, health communicators and knowledge mobilizers. We used that stream as the evidence or the data to write a paper that it's unpacking the similarities and differences of communications and knowledge translation. That's the name of the article. And really where we found is it's like a diagram with two circles. There is research-based knowledge mobilization where you are really looking at the research evidence on one hand. And on the far side diametrically opposed is strategic communications. Think of your university's research communications department or your university's communications department that only broadcasts and is interested in brand control. What happens in the middle is sometimes you have an institutional knowledge broker service like mine that is focusing on evidence but we're not in a specific research field. And sometimes you have communicators in a specific research field. I use something like the David Suzuki foundation, a sustainability and climate change. And the communicator in the David Suzuki foundation is very interested in policy change. And so I think there are differences on either side and similarities. Get the article. Scholarly and research communications is the title of the journal.

>> JOANN STARKS: Thank you very much. So are there some pitfalls in uptake of information that may not be what you had planned or hoped for? An idea this is how we think this information will be useful. What if people take it up and use it in a different way? Is that problematic or is that something that you would expect

>> DAVID PHIPPS: So I have had a couple of instances on the -- where we have to help people break up in a healthy fashion. So it's a hard thing because the evidence should be neutral. But as people, we put values on that evidence. And researchers are not value-free. We hope the evidence is value-free but researchers are not value-free nor the people implementing value-free. So I think that we've seen lots of examples of specifically the vaccine research where evidence is taken and used in ways it was never intended to be used by the researchers. I think in that case, you know, I think in that case -- so if we are having authentic partnerships with the people who will be using our research evidence, then you've got trust within that relationship. I would say that one way of minimizing the misuse of research evidence is by doing that in collaboration with authentic partnerships. If you publish a paper and someone takes that up and they're not a partner with you but take it up and do something with it. Your only resource is to engage in the debate and then to say no, that's not what the evidence says. But once your evidence is out there, you can't stop people using it. So I would encourage you to think -- that by doing integrated knowledge translation we have a greater chance the people using the evidence are co-creating it with us and you build a space of trust. Because we've seen how evidence can be -- we've got this with vaccines and climate change, right? And whether the evidence is used or just ignored is another situation where researchers and those who produce evidence can get frustrated because your evidence that you are doing is just ignored. Those end up being part of attribution. A policy decision, research evidence is only one thing that influences a policy decision. The deputy minister of education in the province of Ontario said to me many years ago. David, remember that evidence doesn't vote. And so recognizing the political cycle, the intentions of voters, the flavor of the month or of the party in power will interpret evidence differently. So I think if you are an evidence producer, an academic research, I think what you can do is make sure your evidence is rigorous. That it has been peer reviewed, that it has been partnered appropriately and that you are actively engaging that with people who you trust to be able to do something with your evidence.

>> JOANN STARKS: This question follows right along. Can you talk about some strategies to really know when your information or evidence is ready to share?

>> DAVID PHIPPS: My first answer is, no I don't have any strategies for that. I would say that your evidence -- so two things, is your evidence ready to be shared? I think you have to be confident your evidence is robust. So whatever measure of your evidence, if you're an academic researcher that's usually peer review. That it has met the international standards of peer review and if you are an evidence producer in something like an indigenous community that your peers may not be academic peers but other ways of looking at evidence. You want to make sure your evidence is robust. Secondly, though, I would say that again if you are working in collaboration, your partners will call bullshit on you, can I say that that? I just did it twice. They'll call bullshit on you pretty quickly if they don't think your evidence is ready to be shared. If they don't feel that their needs are being met by the evidence use. So I would say being confident that your evidence is robust. But then also understanding the I'll say market for your evidence. And how that can be -- how that informs what you think of your evidence, the readiness for use.

>> JOANN STARKS: It's really clear these partnerships are super important from the very beginning all the way through the end. This next question is who should be involved in the evaluation of the KT activities and the KT impact? And I guess some thoughts about identifying the important players that will help out in that evaluation process.

>> DAVID PHIPPS: You know, that's a really good point. I'll flip back to our co--- the -- are the slides still up on the screen?

>> DAVID PHIPPS: The question is -- repeat the question, please.

>> JOANN STARKS: Who should be involved in the evaluation of the KT activities and KT impact? How would you identify who the important players might be in participating in the evaluation process?

>> DAVID PHIPPS: I'll use the same answer how do you do stakeholder engagement. Having done mapping and identified the key partners who will be the co-production partners, they are also the people who will be able to help you evaluate. That your evaluation partners should not be different than your co-production partners. And so because critically, as I said, it's the partners who are making the impact. Delivering the receives, developing the policies and producing the product. You need to collect the date why from them, the ones actually doing that work. So by planning that data collection at the front end and engaging the stakeholders at the beginning, you're in a position where you know the partners who will be able to provide you the evidence of the impact because they're the ones who are actually doing it. It comes back to good stakeholder engagement at the front end.

>> JOANN STARKS: Right. I can really see how that is critical throughout the entire process. Another question here. With so much of the KT and mobilization practices and frameworks have been developed in Canada, do you see any problems with trying to adapt or apply these models in other contexts, for example the U.S. and elsewhere?

>> DAVID PHIPPS: It's a good question. A lot of the scholarship has come out of Canada is true. But there is a lot of practice around the world. And in the U.S., especially if you're in a stem discipline but not exclusively there is a group called the national alliance for broader impact. And they are broader impact.net. This is a network that is led by the University of Missouri and they've been focusing up until now on impact -- broader impact in NSF grants but they're looking at impacts beyond the academy and diverse filing beyond science communications as being a primary way of creating impact for stem. Research Impact Canada, the Canadian network is collaborating with them to do some of this exchange and I think we've got -- we're interested in learning from their deep practice base that NABI has. Certainly a lot -- in Canada our impact assessment tool is derived exclusively from the research framework in the U.K. They don't have the same underpinning the ways we adapted it but we couldn't have done our impact work without being inspired and guided by the positive and negatives of the research framework in the U.K. There is a growing international connection around this. If you are in research grant administration or you are in grants, there is a group called -- many countries in the world have a research management society. And they come together in an international organization and I have just been asked to co-chair a committee of impact practitioners that includes Canada, the U.K., Belgium, the U.S., Australia, New Zealand, Ghana, and Japan. And so we're starting -- it is early days, whoever asked the question about can these models be transferred. It is early days to be looking to answer that question. But I absolutely think that the principles of stakeholder engagement transcend countries. Probably more content specific than at the country level. How you build capacity is different in Ghana than it will be in Argentina. We did a paper looking at some of the essential building blocks of research impact supports with comparing practices in Canada, Ghana, Argentina and another place and we found we had five things the same. Trying to remember them. Build capacity, work on peer support, understand the social, cultural, political context of your partners. It is -- those are three of the five. I can't remember the other two. I do think there are things that transcend the trans-border context and these pathways will be able to be applied certainly in developed countries like Canada and the U.S. but we're also seeing some -- lots of efforts in developing countries as well.

>> JOANN STARKS: Thank you very much. Hoping we'll get a couple more questions or maybe some discussion going with the audience. But in the meantime I do want to thank you again for a great presentation. I think you've covered so many things so well that maybe you answered questions that people didn't even know they had so they're not bringing up more questions now. I have a question of my own. I know one of the problems for really identifying impact is the length of time that it takes for research to really be I guess fully vetted, as you were talking about, peer reviewed and then to be able to be shared. And then how long does it take to really be able to measure impact? I'm not sure that there is really a timeline for this or that there even could be a timeline. But I do know that the time from doing research to measuring of impact can be problematic. I don't know if there is any ideas you might have or thoughts about how to speed up this process or is that something that we shouldn't even consider, just it takes the time that it needs?

>> DAVID PHIPPS: I think we can consider speeding it up. I remember seeing a few slides from a presentation at the hospital from sick children and citing the case of scurvy in the 1700s. Many captains of ships knew if you took Citrus fruits on your journey that it prevented scurvy. It took a while. I read the time for health research to be implemented in the health practice today is 17 years. And I think -- I don't know where that comes from. But I believe that knowledge translation is a -- that knowledge translation is a way of speeding up that process. And so I do think we need to not be complacent to say well it's 17 years. I think we can -- that's from traditional research to traditional non-engaged research to uptake and implementation. But if we employ these KT methods which include stakeholder engagement I do believe we can speed up that time frame. It will require some study. That's a research study in itself to look at what is the impact of all of this effort on KT? Has it actually made a difference? I don't know of any articles or research that has asked that question. I would be very interested if anyone in the audience knows of anything that they're able to point to. That's an important question. Is what we do making any difference whatsoever? Because gosh, we do a lot of it.

>> JOANN STARKS: Very true. I hope the audience will pipe up a little bit. We're almost out of time but we have several minutes left and I would like to see if we can get a little more input from the audience before we wrap up. I see we've got a question here about slides. They don't seem to be screen reader accessible. Which they should be. If that's a problem that's something we'll have to follow up on after the fact apparently. So if we don't have any more comments from the audience, do you have anything you would like to wrap up with, David?

>> DAVID PHIPPS: I guess the only thing. I did see a couple of questions of can we contact you? And I'm just going to write in our research Impact Canada website because we have some resources there. That's -- I just put it in the chat box. There are a lot of resources there, there is contact information for folks. And I would say I'm always happy to engage. I think my Twitter handle. There it is on the slide on the screen now. There are ways to get in touch. I'm not the only person who does this in Canada or in the states or the world. So let me know if you are interested and I might be able to find someone closer to home for you to be able to continue these discussions.

>> JOANN STARKS: Okay. That sounds great. Thank you very much. I'll see if I can roll us into the end of our slides here. Let's see, next one. Okay, so this is our final slide giving contact information for the center on KTDRR. We're very happy to share any information that -- questions from people we can send them to you, David, and I know you would be able to get back to them. So I want to thank you again for taking time today to give us this great overview and sharing the framework. It seems like you have covered so many really important aspects there for helping us to move information to have greater impact. I want to thank everyone for participating this afternoon and we hope you'll take a few minutes to give us some feedback about the webcast by filling out the brief evaluation and Shoshana has just posted the link there in the chat box. We'll also be sending out an email with the evaluation link to everyone who has registered. I also want to thank the staff with helped for planning and logistics and NIDLR to offer these webcasts and other events. We want to invite you to register for, if you haven't already, to attend our 2018 online KT conference coming up next week on the afternoons of Monday, Wednesday and Friday, November 5, 7 and 9 in North America where the theme will be engaging ways to engage stakeholders. Please visit our website at WWW.KTDRR.org for more details. And thanks, everyone, good afternoon.

>> DAVID PHIPPS: Thank you.