McMaster University

National Collaborating Centre for Methods and Tools

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Building capacity for evidence-informed public health

Following Up with the Knowledge Brokering Mentoring Participants

External Evaluation Report

Marla Steinberg, PhD CE
marlasteinberg@telus.net

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List of Acronyms

EIDM – evidence-informed decision making

KB – knowledge brokering

NCCMT – National Collaborating Centre for Methods and Tools

External Evaluation Completed by

Marla Steinberg, PhD CE

marlasteinberg@telus.net

Executive Summary

This report documents the impact of the Knowledge Brokering (KB) Mentoring Program on four cohort 1 health units and one cohort 2 health unit. For cohort 1 health units, training was completed about 1.5 years ago. Cohort 2 participants are still engaged in the program, which began in January 2017. Twenty-five employees from five Ontario health units participated in half-hour phone interviews. Interviews were conducted with participants, managers and health unit executives.

The interviews revealed that the KB Mentoring Program was highly successful in increasing capacity for evidence-informed decision making (EIDM) and furthering EIDM practices. Participants reported a range of outcomes including increased confidence, knowledge and skills. The program was seen as instrumental in furthering the EIDM journeys of most of the health units. Because of the program, these five health units are now engaging in a range of evidence-based practices including conducting additional rapid reviews, requiring that evidence be included in developing initiatives, critically appraising evidence and doing more data-driven decision making.

The KB participants have been put to work in their respective health units in a variety of ways, in some cases taking on the evidence reviews for their departments or organizations, and in other cases acting as consultants. The KB Mentoring Program has led to further capacity building within the health units, either through the participants directly supporting the capacity building of other staff or through further engagement with NCCMT tools and resources. Many respondents believe the program created the impetus for change in their organizations or helped move the organization on its EIDM journey in a more consistent and efficient way. High praise was offered for the quality of the training.

Respondents mentioned a number of challenges in furthering their EIDM journeys, including additional supports that will be required. They also offered suggestions for how the KB Mentoring Program can be improved, including supporting organizations to operationalize the KB role.

About the KB Mentoring Program

Launched in 2014, the KB Mentoring Program was developed by the National Collaborating Centre for Methods and Tools (NCCMT) to advance the uptake and use of evidence-informed decision making (EIDM) in Canada within the public health sector. To date, two cohorts have been run. Cohort 1 ran from 2015 to 2016, and cohort 2 began in January 2017 and is still underway.

The program combines in-person and online support to train public health practitioners to develop knowledge and capacity in the theory and practice of EIDM. The training involves an initial EIDM organizational assessment using the Canadian Foundation for Healthcare Improvement's tool, *Is Research Working for You?* Health units then select participants for the training, which consists of 10 in-person training days spread out over three sessions; course

readings; individual and group critical appraisal practice; monthly webinars; and the support of an EIDM mentor. As part of the program, each health unit conducts a rapid review.

The KB Mentoring Program has two objectives:

1. To assess and assist public health units in developing organizational capacity for EIDM, and
2. To build individual capacity of selected staff to function as “internal” knowledge brokers in EIDM practice.

Methodology for Follow-Up Evaluation

NCCMT staff contacted each cohort 1 health unit and asked about their willingness to participate in this follow-up evaluation. Four health units agreed and provided contact information for up to five individuals (participants and managers or executives). One of the cohort 2 units was also contacted and agreed to participate. The health units varied in size and are located throughout the province (north, east, central and west).

Half-hour phone interviews were conducted with 25 people. Seventeen people were participants in the KB Mentoring Program and eight people were managers or executives at the health units. The interview questions are provided in Appendix A and were reviewed and approved by NCCMT. All participants consented to tape recording the interviews and written transcripts were produced. The transcripts were analyzed using a general inductive approach (Thomas, 2006), which involved organizing the data into themes and sub-themes based on each area of inquiry. The remainder of this report presents the findings within each area of inquiry.

The Program Benefits a Range of Public Health Staff

A range of public health staff participated in the program and all reported benefits.

The following list identifies the positions of interview participants:

- Epidemiologist
- Health dietician
- Health hazard specialists
- Health promoter
- Lead for environmental health and infectious diseases
- Lead for staff development
- Librarian
- Program evaluator
- Project manager
- Public health inspector
- Public health nurse
- Rabies coordinator
- Research analyst

The Program is Seen as High Quality

Respondents made favourable comments about all aspects of the program, including the in-person sessions, the mentors, the interactional style, the rapid review, the webinars and interacting with other health units, as shown below.

Aspect of the program	Illustrative Excerpt
In-person days	*I think the training was very well done. It was nice to actually go to Hamilton, to McMaster, to have the days concentrated on the training. I mean, I suppose it was a lot all at once; it was full, but it wasn't overwhelming or jam-packed.*
Mentors	*The mentors that we have at NCCMT have been fantastic. They understand the reality of the environment we work in and can explain stuff and be clear and explicit. We've been able to contact our mentors when there's ever been an issue and sort of been left hanging. They've been very responsive. It's been great, so if that could be reflected to them to sort of keep doing what they're doing in terms of their responsiveness and that their mentorship role has been really, really effective.*
Interactional style	*There's a lot of opportunity for dialogue and asking questions; it was formal but informal in nature.*
Webinars	*…so have the webinars, or just doing the practice. That's the best way to learn, by trying different topics and different tools and doing it independently and coming to this group and talking about it.*
Rapid review	*I would say what I found the most helpful was doing the critical appraisal and doing that on an ongoing basis, within the face-to-face time but outside in our smaller group setting as well. I found that to be probably the most helpful part of it.*
Able to accommodate a variety of experience levels	*I think the training was great. I loved it. I thought it was fantastic. I've talked to other health units and been encouraging them to go, so I'm a big champion of it. I don't know how it could have changed. I thought it was great. I thought it was great how they incorporated every skill level, like we had one person on our team who had zero background in research and she came out of it with skills and more understanding. It was really for all levels and I thought it was fantastic.*
Interacting with other health units	*And you're also in a cohort with other health units and you get to learn other perspectives from people other than your immediate co-workers, which I find very valuable as well.*
Small group work	*I think the combination of hands-on, audiovisual and kind of one-on-one…the instructors kind of split us up into smaller groups—that really helped as well. So a big combination. You can tell that they've taken evidence-informed teaching styles and really implemented that into the program.*

The Program Creates a Range of Benefits

Participants, managers and executives mentioned a range of outcomes that resulted from the program. Table 1 in Appendix 2 outlines all the outcomes mentioned and provides sample quotes. The most frequently mentioned outcomes are listed below.

Impacts on Individuals	Impacts on Organizations	Impacts on NCCMT
• Increased confidence to do EIDM • Increased knowledge and skills, especially about how to critically appraise research evidence and about NCCMT tools and resources	• Creating the impetus for moving forward with EIDM • Enhanced team work • Increased efficiency of EIDM practices • More buy-in or raised the profile of EIDM	• Enhanced relationships with NCCMT

Across these common outcomes, we see impacts on participants (e.g., increased confidence, knowledge and skills), impacts on the organizations (e.g., more efficient processes, more cohesive teams and more support for EIDM) and impacts on NCCMT. While these impacts speak to the success of program objectives, building individual capacity and developing organizational capacity, as will be discussed later, the program seems to have had more success in building individual capacity.

I think the biggest thing is the new lens that I have for appraisal and assessing the quality of research. That for me is definitely something that has been a take-away and something that's new for me. When I go to write something, I'm reading evidence with a new sort of skillset. – KB Participant

A number of examples were offered of specific ways the program has supported evidence-informed practice.

One person talked about transforming her service through the routine collection of data:

I think what it's done is it's increased consistency and, I would say, elevated the importance and understanding for people about the use of evidence and really, what is good evidence, what are we looking at? And also being more critical about it, not just, oh, I found something on Google. – KB Participant

> *I inherited a program that was very much regulated-based—this is what we have to do regardless of whether we have evidence to support it or not, and a lot of what we do is not evidence-supported. I may not always get evidence, but the absence of data is something we also have to accept. I think that's something we have as trained management, is that the absence of data doesn't mean that the program didn't work, it just means that there isn't data to say one way or the other, and that's valid, that's valid information that they didn't appreciate before.*
>
> *Let's pick rabies vaccine locations in our community. So, operationally, we used to only have vaccine located at our central office, and then when a doctor would call and ask for it we would have to deliver it to that doctor's location. Sometimes some of our doctors' offices are two hours away from our central office, and this phone call could happen at two in the morning. So assessing where these calls were coming from and where we were delivering from, we ended up putting vaccine in all of our offices and in three of our*

hospitals. And I'm just evaluating our data now, and based on where we delivered and the time of day, I'm going to be choosing in 2018 to put vaccine in another one of my hospitals, because I have 33 deliveries to one hospital after-hours, which required inspectors to deliver vaccine on weekends or at night time. Whereas we didn't have this information before. We just knew…We didn't even know how much vaccine we were delivering, we really didn't track any of it.

But now I can see exactly where it is, what time of day it's going out, who is using it, who is delivering it, so I can minimize the cost of our staff hours and our time and kilometres, as well as waste of resources. I also don't want to put vaccines in a location where there is not a high demand because if it expires I can't take it back and it's very expensive. So I only want to put it in a place where I know it has sufficient rotation. So there are a couple of different factors and I have that data to really tell me where in the community I need it, and where I don't need it.

At the end of every year I evaluate the practice by looking at the hard numbers. I'm actually doing that right now. I can tell you what works and what didn't work, and then we can think of what needs to change and what do we keep on doing? And I can go to management and say I have proof that what we're doing is working, as opposed to just randomly guessing or doing it because we've always done it.

I'm actually working on a document right now to take all my data and put it in a report form and say this is the data that I've collected for the last three years, and the quality of that has improved every year as well. So the quality of data has improved, and then our practices have changed over the course of the three years, and I'm going to take a draft form of this to management and say, can this be my EIDM present this year, and can I get support for writing it? – KB Participant

Another respondent talked about a full transformation of practice:

I think it has transformed my program completely. Not my department because I don't work with all the other departments, but just having the mindset that I can't just come up with an idea and say, oh, let's just do this on the program and let's put all of our initiatives into communicating with our partners this way. As opposed to now, I'm thinking, well, let's do a quick overview, let's talk to the mental health units, let's see if anyone else has tried this before, let's see if we can get any evidence to support or suggest one way of doing this or another, and then moving forward, going into it saying, having the mindset of: I want to track how this does so that I can assess this and then use that evidence to determine whether I want to continue on with this practice or not. It's just more kind of making every single thing that I do a little mini case study. – KB Participant

A third participant provided an example of being more critical when reviewing literature:

So, recently, I've been taking my team through some literature on e-cigarettes, and the trends and what are some effective strategies to reduce e-cigarette use among youth. We

did a lit review and we came with about 21 articles, and so we used some of those critique tools.

Interviewer: The critical appraisal…

Yeah, yeah.

Interviewer: Okay. And what resulted from doing the critical appraisal?

Just a greater awareness of staff to not just take every paper at face value. Just because it's peer reviewed doesn't…you know…what does it actually mean? – KB Participant

Participants came to the program with a range of previous experience. Some had been doing EIDM in their jobs already, some had been doing aspects of EIDM and others were new to the concepts and practices. While everyone mentioned that they learned about EIDM through the program, those with little prior knowledge and those with extensive prior knowledge found the program was less able to meet their needs. One of the novices, for example, felt that the training was not sufficient to create proficiency:

I feel that it was very brief overview and orientation to these steps, so I in no way felt proficient in any of them so I could say that I now have skills in any of those steps. I am now aware of them and I have appreciation of the complexities of these, but I don't think I am skilled in any of them. – Novice KB Participant

One of the more experienced participants wanted the training to explore certain topics more in-depth:

Yeah, it's hard to say you know, I think that going into it I didn't really have any expectations, I didn't really know what to expect, but I thought that we could have made it a little more intense…I think we were being careful not to overwhelm participants with the demand of work, giving enough time for discussion, but I think it could have been a little more meaty with some of the aspects of going through, with certain aspects of critical appraisal. Not everyone had the same understanding of stats in general and some of the research methodology, so I think that they tried to keep it as high level as possible, not to make it too confusing. Maybe it's just because of my background, but I would have liked to have maybe gone a little more in depth in some of the more finer aspects, more complex aspects of appraising some of the evidence. – KB Participant

A manager suggested that the training should be tailored to people with different levels of prior experience:

If there's any potential to tailor the training to the level at which the individual is entering the program, because, as I said, we had a really wide-ranging six individuals, from one who had a lot of competence already around EIDM to several who had none. And so the several who had none I think felt it was a really steep learning curve, and even when they finished they didn't feel, even at the full mentoring program they didn't feel a lot of confidence, and perhaps still don't. I'm not sure, but I didn't feel a lot of confidence in

being this EIDM consultant for their departments. Whereas the one who already knew a lot, it was still worthwhile, but she probably didn't get nearly as much out of it as she could have if it was sort of like EIDM 2.0. – Manager

Many respondents mentioned impacts at the organizational level, however this was not true of all health units. For example:

We have a large organization. We have 315 employees. So to be completely honest with you, I don't think that it made a huge difference for the organization because four people is not sufficient to make things different at an organizational level. Overall it was valuable for those individuals to be part of the training and they all learned and gained something out of this training opportunity. And there were also four managers, so they were able to use this training for their teams. But outside of that, on a larger scale, the organization needs to train more people to make change at the organizational level. – KB Participant

Even for health units that were able to operationalize the KB role and functions, this did not happen directly after the training was completed; it took time. Most people mentioned that the new foundational standards being brought in Ontario helped move EIDM along.

Health Units are Using KB Participants in a Variety of Ways

The health units chose different ways to operationalize the KB role. The different strategies involve combinations of capacity building for all staff on EIDM (usually by using NCCMT training modules or in-house training), consultation on any of the seven steps, or being responsible for conducting literature searches and reviews.

The KB participants are also being used in a variety of other ways, including the following:

- Acting as champion
- Consulting on new tools like a planning and evaluation framework
- Creating tools/structures
- Creating research summaries
- Developing criteria for when more extensive review is needed
- Facilitating additional KB mentoring cohorts
- Running journal clubs
- Acting as mentor
- Gathering evidence to develop an EIDM strategy or leading the development of an EIDM plan

I've taken on sort of a champion role my position, so yes, I've been able to share any opportunity that I can get. For example, two weeks ago we had a division day where we talked about what we are doing in our programs. I of course talked about evidence-informed decision making and why we're focusing on certain areas and how we've used evidence to guide us there, so any opportunity that I can use to reinforce this idea, I take that opportunity. – KB Participant

As one KB participant mentioned:

Part of my role is not only to support other people in doing it, but also to support the organization in setting

up sort of the structures needed to do it. We have a program planning cycle and it was my role to help design that and implement it and get feedback and then tweak it, so some of the processes and policies for our organization. That was also my role before, so it helped me do that work better. – KB Participant

Not all the health units were able to develop a plan for how they will operationalize the KB role. Three health units mentioned specific plans, frameworks or strategies, while a fourth health unit is planning additional training for all staff.

Health Units Have Created Organizational Supports for Knowledge Brokers or EIDM

While three health units have specifically developed organizational frameworks for EIDM, other organizational supports were also mentioned, including the following:

- Journal clubs
- Funding new positions
- Annual EIDM work plans
- Standing agenda items on team meetings
- Creating new teams or committees
- Protected time for EIDM and training

The Program Has Created a Range of Impacts on Public Health Practice

One of the richest areas of inquiry focused on how participants' practices have changed because of the KB Mentoring Program. The most frequently mentioned impact on public health practice was **being more critical about the evidence**, as illustrated in the following excerpt from a public health practitioner:

Apart from the journal club, I talked about how we're changing our programs or how we're flushing out our program cycle in terms of making better implementation decisions...like even just the other day, I had a staff person share—it was a dietician and dieticians within their community tend to be on top of things in terms of evidence, and so what comes to them is already typically pretty good—anyway, so we had a dietician who read some really interesting single studies and she wanted to share it with her network within the community. We have a group of people who come together to support healthy eating and they do train-the-trainer courses, and so she wanted to share it. Right away I was able to quickly say, "Well let's pause for a minute and appraise this and then if it's any good, summarize the key points that are going to be relevant to those people and then we'll share it." So just the ability to react in the way I did, to recognize that—you know, I wouldn't have done that if I hadn't been part of the KB mentoring. I would have said, "Sure that looks interesting, share it"; so to be able to frame it and contextualize the research studies properly is directly attributable to that, to the mentoring program. – KB Participant

The full range of changes to practice are shown below, along with sample quotes. Most reflect the search and appraise stages of EIDM.

Impact	Illustrative Excerpt
Asking for evidence/questioning evidence	*…and so being involved in sort of advocating that—why do we want to do this, is this the best thing for program planning and then evaluating, you know, on a daily basis why are we doing it this way. So questioning practice, I've been the one sitting at the table who does that.* *…so now I'm saying, "Actually before we talk about that, let's, how about you critically appraise that and then we'll talk about it," or whatever.*
Begin searches with guidelines	*I was not as familiar with the 6S pyramid before we started. So I always tended to start my searches at a systematic review level and I never really spent the time with the guidelines. So that changed.* Interviewer: So now when you go to do a review, do you start with guidelines? *I do. I do. First to see if there is one, yes. I do tend to start with the guidelines.*
Consider local context	*And then the other piece of it that we really take into consideration is the local context of what's going on and what the needs are.*
Critically appraise	*I'm a little slower to jump into different programming. I would say I'm a little more critical. Before, when I would look at research or maybe some best practices or different programs at other health units, I would kind of just go off of, okay, was this evaluated, does it seem like it would be relevant and easily put into place here in [X]. But I really didn't look at what was the research behind it, was it evidence informed. And I would say I'm a little more critical now. I look more at what's behind the scenes to see if it is evidence informed. And I really like the process that NCCMT puts you through in terms of looking at literature and helping you appraise it, because I find that I'm a little more critical before I make decisions and present different models to management here at the health unit.*
Undertake literature searches	*The other thing is I do a lot of my searches myself. With Ontario and the public health system, we have these things called hub libraries. So there are different libraries associated with public health. We're a small health unit where I am and we're affiliated with a larger library through [X] so we can request searches and request them to do the literature searches for us.* Interviewer: Oh, so there's people there that do it? *Yes. So in the past I had done more of that. I'd figure out my question, and they did everything. Now it's much more collaborative. I'm doing my own search terms, like I'm really more involved in the process.* Interviewer: Okay. And do you find you get a better sort of list of articles because of that?

Impact	Illustrative Excerpt
	I think so, because it's a much more collaborative process with the librarian. Interviewer: So in a sense it kind of saves you time because you get stuff that's more relevant to what you're doing? *Yes.*
Practising critical appraisal through the journal club	*We have journal club now that is led by a member of the original cohort. And it's a monthly kind of get-together and staff are welcome to come and discuss articles. That's been one major change.*
Standing agenda item	*We have our standing agenda item on our team meetings and I think it's called Building Research Into Your Practice, so often I will take the lead in presenting something related to the information we learned over the course of that 18 months with the training to my teammates. I often will take a look at some of the videos that NCCMT has on their website and prepare a really sort of basic PowerPoint presentation around that, like watch the videos, provide some examples and the recommendation of my team members around using evidence in their classes. So that's something new that I've been doing.*
Templates/Standardizing processes	*Also we've been creating several templates, so that's become more standardized and rigorous. Because you created these forms and formats and how we want it done and how to do a proper search and how to synthesize the literature.*
Training	*I had new staff that didn't have a lot of experience in understanding the pyramids, the 6S pyramid for example, so I'm now asking staff to do these modules online, so the online learning modules.*
Creating evidence summaries	*What they've been doing is creating these summaries of evidence appraisals, like appraising research evidence.*

What Would Have Happened if Participants Had not Taken the Training

When asked to speculate on what might have happened in their EIDM journeys if participants had not participated in the KB Mentoring Program, participants offered the following scenarios, the majority of which speak to the program having made a difference:

- The EIDM journey would have happened anyway.
- Staff would have left the organization.
- There would be a less critical lens on evidence.
- It would have been more challenging to move forward.
- EIDM would not be done in an organized way.
- Staff would not have capacity to support others in the organization.
- The organization would not have moved forward in EIDM.
- The EIDM journey would have been slower.

Illustrative quotes are provided below.

> Interviewer: Would you be in the same place?
> *I think yes and no. Like yes we would have been just because a lot of staff that do work in the organization because everyone has a postsecondary degree and at some point they've done some sort of like appraisal and learned some sort of skills in terms of being able to appraise articles and look at stats. So yes in that sense. But no in the sense of being able to do it in an organized manner and having people who are already trained, who know what to look for and who know what tools to use to be able to get the results*. – KB Participant

> *To be honest, I think we would have been close to the same place because I think we foster that reaching out. We would have reached out to NCCMT and used their modules and their tools and given staff time to…We've hired this layer of masters of public health–trained staff to really do this evidence-based planning work for us. We were on that path. But I think, like I say, we're just maybe a little further ahead because there are a couple of staff who maybe didn't have the same level of skill set, who are now more comfortable and excited about going through the process and doing the work.* – KB Participant

> *I think we would have eventually gotten there but it would have been much, much slower because we've been fortunate enough to direct those resources to bring them in to do that and we've set aside a budget. I think we would have had to rely on our in-house people. We've got some really strong people but I don't think we would have been able to move it as far, as quickly as we have.* – Manager

> *No, and I don't know where we went with EIDM, because I think that when the KBs report, how to incorporate the KBs and get that work going, we realized and started to see what passion they brought back and where they were trying to effect change. That really helped us to, let's do more of this, let's embed more through the organization, and that's where we went with the five-day EIDM, the change. There was a bit of a change, we were doing EIDM instead of KB, but I think that's where it came from. And now we're in a place where we're doing—everybody's going through [the training], so I think we're really trying to engage the frontline in a different way than we did before.* – Manager

Challenges in EIDM

Participants talked about the challenges to implementing their KB roles and EIDM. The most frequently mentioned challenges included the following:

- Lack of buy-in from others in the organization
- Leadership needing to figure out how to operationalize the KB role
- Not enough time to actually undertake the KB work

One manager's comment about the need to "make it happen" is provided below:

Because there was recognition that [something] was not working here. I'm still getting reports coming forward. We're still having the KBs not being tapped into. We have lots of epidemiologists who are able to do critical appraisals, but people aren't using them, like what's wrong? And then we sort of self-reflected and said, we're the problem, we didn't expect anyone to do it. We sort of thought it was going to happen. And then, you know, to be honest, in some cases it did happen. But there's other areas that, until we put it in place an expectation, it was never going to happen. – Manager

The full set of challenges reported by respondents are outlined below.

Challenge	Illustrative Excerpt
Communicating evidence to stakeholders	*I don't really know what to say to that other than I think at this point for us it's to continue on to…I guess a pressure point sometimes for us is just working in the political environment and how do we get our stakeholders to understand…It's hard sometimes if we're saying we're not going to do this, we're not going to offer this service anymore, or this particular clinical practice, we're going to do this instead. And the evidence would suggest that we could either get better reach, higher impact in the community, what have you. It's hard sometimes to get that point communicated through a political process when they're, at the end of the day, not necessarily in the same place.*
Connecting with mentor	*I have one more point of feedback. It was really hard for us to connect with our mentor because she was busy. And that was just a drawback. We would have appreciated more contact with our mentor.*
Everyone needs the training	*We have a large organization. We have 315 employees. To be completely honest with you, I don't think that it made a huge difference for the organization because four people is not sufficient to make things different at an organizational level. Overall it was valuable for those individuals to be part of the training and they all learned and gained something out of this training opportunity. And there were also four managers so they were able to use this training for their teams. But outside of that, on a larger scale the organization needs to train more people to make change at the organizational level.*
Lack of buy-in	*Well I see the value and it's hard to get others to value if they're not required to and/or if it's not—there's just other supports that could happen. As it stands now moving forward, so by say September, I imagine with the change in our organization, our upper management feeling that there's more value to it, so I have hopes [laughs] for more staff to get that opportunity to see value. There's really not a lot of uptake by people who haven't directly done the NCCMT stuff, so new staff that come on, it's part of our orientation package that they do some of the modules. I do that with the nursing students or nursing staff that are new as well, and then their eyes kind of wow, like they don't really know. [There's] so very much value in NCCMT and those training modules online, but it's just not a mandate that everybody has to do it.*

Challenge	Illustrative Excerpt
Leadership needs to figure out how to use KBs	*I think one downside we were aware of at that time is that we were jumping a bit ahead of ourselves, you know we didn't have a strategy within which to place this training.*
Mandates from ministry or others	*They don't want you to do the full assessment. It's kind of like, "Here's your marching order, this is what you should do." We do lit reviews for some stuff. Some of it we don't have time to do any kind of real lit reviews; some of the stuff is actually—we sort of just have to run with it. You might have six months to do something. And there's lot of things that are not even really necessarily under our control or even council's control. It's something like marijuana that comes up. Suddenly you've got 12 months' time to put something together. So anything like—your whole department is completely moved to something new. There's a lot of people who've worked on marijuana. They're also the same people who are doing opioids, right? And we're a hot-spot, so when stuff like that happens, then those staff people are pulled off and then there's other staff people who are pulled off to help support the backfill of the work that they can't get to do.*
Incomplete rapid review	*…they didn't take the next step of actually thinking about the implications for practice and doing any changes in practice.*
Not enough time	*Upfront we got a certain understanding from NCCMT as to how many hours a week they should set aside for their own training and learning as they went through the program, but those who didn't have any competence to begin with thought that wasn't enough. But that is all that had been committed by their managers, and so there wasn't a willingness or an ability to create more time for them, and so they felt that they were constantly struggling. That might be something for NCCMT and for those who really come in without this baseline knowledge, how much time is truly needed for this individual to gain competence and confidence? There might be a range there, but I think the original outline for us wasn't sufficient for some individuals, and so I think that for us to be sure we make clear to all our own staff training in the future, and perhaps for NCCMT to do the same. Part of that, too, is recognizing it's a long-term learning curve, that we can't predict [you will] come out of the program necessarily feeling that you are ready to be the consultant that we might envision, that we're sending staff to become. I think that's the main piece.*
Not prepared for new role	*I think coming out of it now, that's what it's looking like. I think if I had any clue what I was getting into I probably would not have gotten into that because I don't think I am prepared to be the person that the agency now thinks I am.*
Not relevant to practice	*I am never going to do a Medline search. I am not the librarian. If I need something I just need to say this is what I need, and I'm going to go the librarian and say, here, do this for me and then give me the results…So to try to really make it accessible to our agency, figure out who does that, because I don't want to waste two days of my time learning how to do a Medline search because I don't care. I don't need to know how to do that. But also, in order for me to*

Challenge	Illustrative Excerpt
	learn what I need to learn, I have to read 500 articles. And if it takes away from the learning of concepts when…If I was doing this just within [my area], if I was reading a paper on food, another paper on tobacco and a paper on rabies, like those are all still applicable to my practice, but it seemed like 90 percent of what we talked about, the topic wasn't relevant. I was struggling to focus on the relevance of learning how to read the paper when the topic of the paper wasn't relevant.
Programs have different needs	*The difference between our programs in the health unit, they are severely different. Like a nursing program that is maybe more policy-driven and advocacy-driven is very different than a program that's regulatory-driven, and our programs are very clearly scripted about what we have to do, and how and why. So the application of evidence to our program would be very different than with a program that's just kind of carte blanche, do whatever you want to do to improve breastfeeding in the community. That's a very different scope in application.*
Too much change	*So you feel like it's kind of in a holding pattern because of the merging and because of the new public health standards.*
Unclear expectations	*And then the other one is, sort of, the expectations of the staff in terms of how we were going to learn from the project.*

These challenges are not unique to EIDM; they represent the type of challenges encountered in any organization-wide change initiative and speak to the need for an implementation strategy that is tailored to the needs of different departments and communicated to staff and partners. As previously mentioned, this process did take place in three of the health units, however further follow-up will be required to assess its success in moving EIDM forward.

Suggested Improvements

While virtually all respondents found the training to be very effective and high quality, respondents also offered suggestions for improvement. A variety of ideas were mentioned, as outlined below.

Specific Topics	Communication, Delivery and Logistics	Expand Audiences
• How to synthesize info from all domains • Increased focus on how to define the research question • More focus on other domains (than just research evidence) • More in depth	• Clearer communication on research aspect • Realistic expectations for time commitment needed • Hold the training closer to home • Ensure health unit project management • Provide in-house training	• Awareness-raising for managers • Help organizations operationalize the KB role • Include epidemiologists • Involve the librarians

Specific Topics	Communication, Delivery and Logistics	Expand Audiences
• More training on report writing • Training on endnote done in advance	• More compressed • More interactions with other health units • More practice • Shorter version for everyone • Smaller groups • Tailored to different competency levels	

A number of respondents also spoke of the help required to operationalize the KB role or EIDM practices in their organizations. Suggestions included the following:

- Hold check-ins after the program/refresher
- Engage senior managers
- Increase the visibility of products created through the rapid review
- Link to organizational priorities
- Provide tools to help the organization select the best person for the training

Several people also mentioned that it would have been beneficial for the program to support organization-wide implementation. As this was the second objective of the program, the frequency of these comments suggests that this aspect of the program was less successful than increasing the skills of practitioners, as shown in the quotes below:

> *Given where we are now, it would have been probably beneficial to us if we knew from other organizations, or from NCCMT, or whoever, that if you're going to put this in place here's the structures you need to support it.* – KB Participant

> *There's a lot of confusion…a lot of what I have done and my co-workers have done as well, we really had to rally and remind people that we have this training. It wasn't necessarily, okay, you guys have this training now, we're going to get you to do this, this and this or this is the plan to have it sustainable. It's been us that's been advocating for the sustainability of it. And it would have been good if—and I don't know if NCCMT would be able to come up with something like this—but have a plan for sustainability in terms of making this actually relevant and long term in an organization.* – KB Participant

Further Support for EIDM

Respondents articulated a range of supports that would further their EIDM and EIDM across the organization. The most frequently mentioned supports that would further EIDM were:

- Dedicate resources or experts
- Obtain management support in operationalizing KB roles

- Provide training for more staff

The full list of supports is provided below.

Area of Support	Type of Support
Training	• Check-ins or refresher training • Training for managers and leaders • Training for more staff
Networking	• Collaboration between health units • Learning from other health units
Resources	• Dedicated resources/experts • Funding to hire people • Protected time
Tools	• Organizational framework that includes realistic expectations • Method for grading recommendations • Organizational assessment • Setting expectations for different competency levels • Support from NCCMT in how to use KBs
Practice	• Doing it more often
Supportive environments	• Increased appreciation for the time needed • Management support • Promoting the idea of EIDM • Readiness and commitment • Seeing it as standard practice

Some of these suggestions mirror the recommendations for improving the KB Mentoring Program, while others speak to needing to do more than enhance the skills and abilities of individual KBs. Instead, they refer to the multi-dimensional nature of EIDM capacity building, which could be met by other NCCMT programs, services or tools.

Summary and Conclusions

This report presented the findings of follow-up interviews with KB Mentoring Program participants and health unit managers and executives. The interviews were conducted to determine the impact of the program. It is clear that the program met is first objective of increasing the capacity of public health staff to do EIDM practice. All participants spoke about the program increasing their confidence, knowledge and skills in EIDM. Numerous examples were provided of how practitioners are now using evidence more often and being more critical in reviewing the evidence.

The program has also had ripple effects in most of the health units as the participants act as consultants to other staff. In other cases, the program created the impetus for additional training for other staff. Many respondents believe the KB Mentoring Program encouraged change in

their organizations, or helped move the organization on its EIDM journey in a more consistent and efficient way, given the additional push from the new foundational standards. Overall, the training was seen as very high quality.

Respondents mentioned a number of challenges in furthering their EIDM journeys and additional supports for EIDM that will be required, and offered suggestions for how the KB Mentoring Program can be improved. While some organizations were able to develop organization-wide frameworks for EIDM, this was not true of all health units. This was another area where participants believe NCCMT can do more to support their EIDM work.

References

Thomas, D.R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, *27(2),* 237-246.

Appendix A – Interview Questions

KB Mentoring Program

Preamble: Thank you for agreeing to speak with me today. I would like to talk to you about what has happened around KB or EIDM in your organization since you (or your staff, or manager) took part in the KB Mentoring Program. With your permission, I would like to tape record our conversation, which should last about 30 minutes. Only the transcriptionist and I will listen to the tape and then it will be destroyed. We will produce a written transcript or notes of our conversation. The information you provide will be collated with the responses from others involved in the program and included in one or more evaluation reports. Any excerpts from our conversation that are included in the reports will be presented so that they cannot be traced back to you or your organization.

Are you comfortable with taping our conversation?

1. What is your role in this organization or your job? Are you in the same role as when you took the training?
2. How many other people from your health unit took the training? How many are still with the health unit?
3. What is your connection to the KB Mentoring Program (participant, manager of participant, director of participant, staff of participant)?
4. When did you take the training?
5. What impact has your involvement in the program had on you personally? On your organization? On KB or EIDM?
    a. Probe re: ability to do seven steps
    b. Probe re: any impacts on organizational policy or processes
    c. Probe – can you point to something that is done differently because of the program?
6. What further engagement have you had with NCCMT since the KB Mentoring Program?
    a. To what extent did your involvement in the program foster a change in your engagement with NCCMT? Please explain.
7. What was the value of the program in your organization's EIDM journey? (how KB program made a difference, e.g., provided tools, provided a process, provided an impetus, provided protected time, etc.)
8. Given what has happened since you were engaged in the initiative, do you have any suggestions for what could have been improved in the KB Mentoring Program?
9. What would further support EIDM in your organization?
10. How important has NCCMT's support or resources been in furthering EIDM? What would have happened if they did not exist?

Step 1: Define

Step 2: Search

Step 3: Appraise

Step 4: Synthesize

Step 5: Adapt

Step 6: Implement

Step 7: Evaluate

Appendix B – Table 1 – Impacts of KB Mentoring Program

Knowledge and Skills

Areas	Illustrative Excerpt
All steps	*I've learned a lot more about all the different steps*
Awareness of steps	*So you felt that coming out of the training you really gained respect and appreciation, as you said, for the value of data, how to create data, to identify where the gaps are. In terms of the seven steps of evidence-informed practice, you are aware of them, but by no means would you call yourself proficient in them.*
Value of data	*I gained a respect and appreciation for the value of knowledge and the importance of true scientific data, the importance of applying data to our practice, and recognizing—I think my take on it is different because I learned that the absence of data is valuable information in itself. For me, in my program, my take on methods was the importance of creating data and collecting data to make evidence where there is a gap in current literature, that's kind of like my personal take on…*
Critical appraisal	*Yeah, I think one of the big things was the part about critical appraisal. I think I was familiar with it, but didn't quite know exactly how to use the proper tools, and I think I was [struggling]. At the beginning when I was trying to do it, helping staff do it, but now as we have more conversations, you know webinars, just connecting with the people at NCCMT, knowing that it's still…that there's not always the perfect tool for the type of study it is…so it's just things like, that was a big learning, was about the critical appraisal. And even I think now they are doing our rapid review, right now, and the methods that you should be taking in terms of screening your article that you're picking and having that process identified ahead of time.*
How applies to public health	*Most definitely by being involved in this and how it applies to public health.*
Politics is one influence on decision making	*You notice the evidence-informed decision-making model, I know a lot of—complaining isn't the right word, but a lot of frustration I think that happens here is decisions get made due to the political environment. People feel frustrated by that, but don't recognize that that's just one piece of the puzzle.* *I think it was Donna when she was explaining about the sort of five main levels, right? Research evidence is one of them, so what you want to do is try to maximize the knowledge you have there. Maybe it's a small level in one situation and I'm sure of the level of the other one, and sometimes you can't control that and it's about the balance of all those pieces. I think that too is a big ah-ha moment, recognizing that politically driven stuff isn't terrible. It's a reality. How can we fill up our research bucket as fast as we can? Have that happening so that the decision, whether it is the biggest factor, may or may not be, but I think that was a moment for me as well. I don't think a lot of people recognize that.*
Range of evidence	*It may have worked for me, but the need to consider research as well as community desire and more focussed and political environment and all those different set of bubbles that, you know, NCCMT, because the activity needs to be assessed on an ongoing basis. You can't just think of what*

	you want to do and do it, you have to take a look at the larger picture of what's going on in the communities before you approach it, so it's generally important that…
Refining questions	*Through I think practising and refining questions, you realize it's a lot more complicated than you thought, even after the completion of Masters.*
Use of statistics	*Some of the statistical analysis that we examined through critical appraisal weren't ones that we emphasized much in our research methods courses or even the stats, that's going a ways back now.*
Synthesis	*Bringing that all together and analyzing it.*
Systematic literature search	*Systematic search through the literature.*
Rapid review	*I also learned skills—how to do a rapid review and that process, and we've since done more at our agency.*
Tools and resources	*Knowing what the available tools are and how you work to get used to the tools.*
NCCMT	*I'm signed up to NCCMT's emails now so I do get emails from them. Instead of just automatically deleting them, I actually skim them now, which is good, because I actually just came across a really neat thing that they published, and it was relevant and it's possible to practise and I was like, okay beautiful. So I have an appreciation for what they're doing now and I recognize who they are as an agency.* *So for me, personally, I made NCCMT one of my four homepages.*

Other Impacts

Code	Illustrative Excerpt
Created accountability for moving EIDM into the organization	*I think one of the most important things is really just highlighting the importance of it, and I think it's just accountability. Because they've put a lot of resources into it they are expecting us—which I'm happy about—to come up with something, and so just highlighting the importance of having the accountability to do something over the next few years.*
Created impetus for moving forward	*It continued to kind of further the conversation in our health unit as to okay, now how do we make use of these individuals, what role do they play, and what else do we do around evidence-informed decision making? So it helped us continue our EIDM conversation.* *Because of the training, if the organization felt it was at a place where it could move forward with some organizational-wide work, because people had the skills and the knowledge to be able to do evidence-informed decision making.*
More confidence	*I definitely felt more confident in understanding the uses and different critical appraisal tools.*
Increased effectiveness	*We will be more effective and more efficient at doing it.*

Code	Illustrative Excerpt
Increased efficiency	*It [EIDM] would be more efficient too because we would know to kind of go to look for the most relevant literature first.*
Enhanced relationship with NCCMT	*Then the close relationships that I think we've developed with Maureen and our mentors there. I think down the road, over this next year, I think will be really helpful for us in advancing it forward.*
Enhanced team work	*I think the other thing is, because there's six of us, I think we've really [formed] a good relationship, internally. And I think just overall work satisfaction, so these are some people that I kind of knew them beforehand but not as close as…like we're super-close and we work well together, so it's just that teamwork, cooperation.*
More buy-in	*I feel like there's more buy-in.*
Raised the profile of EIDM	*Because the rest of the organization—I definitely feel it's a priority, the commitment to the program. I definitely think it's really helped bring out a lot more, whereas before I just felt like I was kind of the only person doing it or who really cared about it.*
Hired more staff	*Well, we hired more research analysts. When we started the program I was the only one.*
More rigorous	*Just making it more rigorous and standardized.*
Structured learning plan	*Previously we probably didn't have—we have a very structured learning plan and organizational learning plan now, as opposed to just one-off individual learning that was happening, or teams might have been identifying some need. But we're really in a place now where we have—this is our structured learning plan that impacts everybody in the organization. People can still do individual things, but this is where we want to get our organization to a different place.*