Case study

LESSONS LEARNT FROM IMPLEMENTING AN ORGANIZATIONAL STRATEGY FOR EVIDENCE-INFORMED DECISION-MAKING

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ABSTRACT

Introduction: Peel Public Health is one of Canada's largest public health departments, with 650 staff serving 1.4 million residents. We describe the components, processes and lessons learnt from an organization-wide initiative being implemented by a local public health department to build capacity for evidence-informed decision-making (EIDM).

Methods: In 2008, the department began a 10-year strategy for EIDM, partly as a way to address the difficult choices that had to be made because of constrained funding. The strategy involved creating an evidence review process, performing extensive workforce development, and providing consistent funding, a supportive infrastructure and highly visible leadership.

Results: Since the initiative launched, assessment and monitoring activities have been conducted to identify the needs of and progress in capacity-building for EIDM and to gauge the use and impact of research in programme decisions. These activities included periodic surveys of senior leaders on the impact of research in their divisions; their participation in research grants as coinvestigators or knowledge users; changes in staff skills to find, appraise and apply research; a case study to assess the penetration of EIDM into the organization; and identifying practice decisions arising from nearly 50 research reviews. The experience demonstrated that an organization can create a culture of and capacity for research use.

Conclusion: Our lessons learnt are that this type of change requires strong and persistent senior leadership, investment in the necessary infrastructure and consistent funding, intensive staff training and mentorship, a long time-line, and an intentional change management strategy. Rewards include the workforce having more confidence to apply research findings to practice decisions, and more deliberate and better decisions being made.

Keywords: ASSESSMENT, EVIDENCE-BASED PRACTICE, KNOWLEDGE MANAGEMENT, PUBLIC HEALTH, STRATEGY

BACKGROUND

In this case study of organizational transformation, we describe how a local public health department in Ontario, Canada, set a 10-year organizational strategy to bring research into everyday public health decisions in a systematic, robust and feasible way. Our intention is to report the ongoing assessment and changes in an organization, not a structured research project.

The story began in 2008 when the medical officer of health/chief executive officer of the department challenged his senior team of divisional leaders and associate medical officers of health to demonstrate that they had found, appraised and applied the best available research to their decisions and then implemented the findings into public health programming. Further, he committed one of two senior physicians to lead and develop the strategy, thus signalling to the entire organization that this was a top priority for all 50 teams within the department.

Peel Public Health is one of 36 local public health departments in Ontario, Canada. It has a broad mandate covering communicable disease control,

environmental health, chronic disease and injury prevention, family health, and health status and surveillance reporting. With a staff of 650, it is the second largest department in the province, serving 1.4 million people. Despite its size, it was consistently the lowest funded health department in the province, largely because funding had not kept pace with rapid local population growth. The lack of funding for delivering all the requirements of its mandate was a key driver for initiating the evidence-informed decision-making (EIDM) strategy. Key choices were going to have to be made. Within the organizational framework, there was a need to stop some well-established practices in order to start programming likely to have a better impact on health.

Canada has a history of supporting decision-makers and practitioners in applying research findings to practice. For example, it initiated a national fellowship programme to train mid-career health professionals, known as the Executive Training in Research Application (EXTRA) programme (1). It also began funding calls with specific criteria for including decision-makers or practitioners as knowledge users, co-primary investigators or coinvestigators (2). The department has participated in both programmes as part of the EIDM strategy.

It soon became clear that undertaking an EIDM strategy required technical support and a new approach to workforce development (3,4). The departmental leadership team chose to develop these in tandem, and used research findings to help build them. An explicit change management theory developed by Kotter and Cohen supported the strategy (4,5). At the five-year mark, the department paused to assess progress and correct course if necessary. We describe the components and processes of the change initiative and how the findings of various assessment and monitoring activities were used to identify lessons learnt.

RESULTS

IS RESEARCH WORKING FOR YOU?

The Canadian Foundation for Healthcare Improvement developed an assessment tool for use by leadership teams to assess their readiness for and level of using research in practice (6). The tool poses key questions on the capacity of the organization to find, appraise, adapt and apply research to practice, which are addressed through a straightforward, facilitated conversation. It has been widely used in Canadian health care organizations.

We used the tool to help identify areas that needed attention, investment and capacity-building and to provide insight into what we should focus on first, what we should start building and who we should involve. It also identified weak links that became a core focus of the initial stages of the strategy. The tool was used three times over the first five years of the initiative with the same leadership group.

The initial assessment with the divisional directors and medical officers in 2008 found that critical barriers to research use were the lack of access to a library system, inconsistent skills among staff to critically appraise and interpret research, and insufficient time for a research review because of the high volume of service delivery.

Assessment in 2010 found that the organization had engaged a consultant librarian to develop a library and had transferred a vacancy to enable a full-time librarian to be hired. Because the department could not afford a journal collection and did not have access to a university library system, it was decided to join a consortium of health sciences libraries.

The lack of staff skills and time to appraise and apply research was addressed in a small way at first. A local university offered a one week course in EIDM with a focus on critical appraisal. Although expensive (Can$2500 per person), the five directors each committed to sending a team of two staff, making a total of 10 courses attended, per year. Each team, consisting of a specialist and a manager, had a particular practice question to answer through an evidence review. Thus, training was immediately followed by an application of the new skills. The training was so popular among staff that by the end of 2010, 38 staff had attended the courses and 8 evidence reviews had been completed.

When the assessment was conducted for a third time in 2013, the department had two full-time librarians, 107 staff had attended critical appraisal training and 37 evidence reviews had been completed. Still lacking,

however, were support and training for front-line staff to use the research findings and reviews.

ACTIVE PARTNERSHIPS WITH ACADEMICS AND OTHER RESEARCHERS

At an early stage in the EIDM strategy, the department realized that active, ongoing partnerships with academics and other researchers could help address complex public health issues. As a service delivery organization, there was neither the funding nor mandate to conduct primary research and few staff had the expertise to do so. Academics could therefore provide the much needed theory, research design and interpretation, and other knowledge and skills needed to support complex interventions. The department chose to engage as actively as possible with the research community: over the first five years, the organization participated in 54 research grants as either coinvestigators or knowledge users.

For example, an advisory council of researchers was created to help develop a strategy for improving health outcomes for children in the first two years of life. Over the first five years of this initiative, a theoretical model was chosen, a Can$100 000 research grant was awarded to conduct a realist synthesis to inform a conceptual framework (7), community needs were assessed, and four key strategy directions were identified and implemented.

The active partnerships with academics and researchers helped move the initiative forward. Partnering on grants and projects created practical opportunities for EIDM and, rather than costing the department money it did not have, added significant value at little to no additional cost.

IMPACT OF A KNOWLEDGE BROKER

One of the research grants we chose to partner on evaluated the impact of a knowledge broker on the development of skills and use of research across the department (8). A knowledge broker worked in the department for 2 days per week for 22 months. She was very knowledgeable about research design and interpretation, and skilled at teaching staff in a supportive, non-threatening way. As evidence reviews were undertaken to answer practice questions, she mentored manager–specialist pairs through the process. Staff skills were evaluated before, during and at the end of the project.

Regarding the specialist–manager pairs, there was a significant increase in EIDM behaviours from baseline to follow up in those staff who had worked intensively with the knowledge broker versus those who attended a large group teaching session or received no intervention. Perhaps more telling was the response of the senior management team: when offered the opportunity to continue with the knowledge broker on a contractual basis after the study's completion, resources were found and eventually a staff vacancy was transferred to make the role permanent. By year five, no one could imagine EIDM without the support of a knowledge broker who bridged the practice and research worlds so effectively.

ORGANIZATIONAL CASE STUDY

A fourth approach to understanding the changes happening as a result of the strategy was an organizational case study conducted by an external researcher. In 2008, and again in 2010, in-depth information was gathered from interviews and focus groups with department staff, as well as from relevant documents (9). In these early years of the initiative, the critical factors and dynamics for building EIDM capacity at an organizational level were identified as:

- clear vision and strong leadership
- workforce and skills development
- ability to access research findings (library services)
- fiscal investments
- acquiring and developing technological resources
- a knowledge management strategy
- effective communication
- a receptive culture
- a focus on change management.

In 2013, the study was repeated. Analysis of the data collected at the midpoint of the 10-year initiative showed that:

- the strategy had focused on supporting high quality evidence reviews
- most investments were directed to a critical mass of 100 staff
- skills and confidence were increasing.

However, more work was still needed to:

- develop skills in particular areas such as synthesis and report writing;

- build capacity and rigour in other domains of decision-making such as data use;

- reduce competing demands on managers and build their capacity to independently lead reviews and change;

- share common research findings across divisions; and

- clarify the roles and expectations of all staff and develop the training, tools, processes and expectations for front-line workers.

IMPACT OF EVIDENCE REVIEWS ON PROGRAMMING

Perhaps the most important change arising from the strategy is how the department altered the way it uses research to inform and influence decisions. In 2008, the department created an evidence review process that aimed to be robust, systematic and transparent, and was always tied to a practice question (3). Evidence reviews are now undertaken by a specialist with the technical skills to review research and a manager who will implement changes arising from the review. Although designed to be a rapid process, it still takes several months. As a result, only questions arising from decisions that teams actually need to make are investigated. At the five-year mark, 49 reviews had been completed that informed decisions to start 17 programmes, stop 6 programmes, change 20 programmes and keep 6 programmes the same.

For example, one evidence review directly informed a decision to stop a provincially mandated programme that was much beloved by departmental staff. It enrolled participants who committed to stop smoking in a contest to win a car. The evidence review demonstrated that in the department's setting this type of contest would motivate one person to quit for every 500 treated (10). Thus, with 1500 signing up a year, only three people could be expected to quit per annual contest. The team concluded the programme was having little impact on the cessation success of 167 000 smokers in the department's jurisdiction. Instead, they elected to use the Can$40,000 direct costs and four months of staff time on different smoking control activities.

A second example involved an evidence review on the impact of mandatory food handler training on critical infractions in restaurant food preparation (11). The

Environmental Health Division offered a voluntary training programme. However, there was pressure from colleagues in other jurisdictions to change the provincial regulation to require mandatory training. The evidence review revealed that while mandatory education improved food handler knowledge, there was no evidence of improved food safety. The action that did reduce critical infractions in the restaurant setting was regular inspection, which was already routine practice. Therefore, no change in practice was warranted.

As part of the transparency effort, all evidence reviews are available on the department's externally facing website (12). These reviews are widely accessed: since 2012, the first 49 reviews have been accessed more than 150 000 times.

ADAPTING THE LESSONS LEARNT TO OTHER JURISDICTIONS

Although we may seem to be stating the obvious, beginning the EIDM strategy with an organizational assessment by the most senior leaders was important for emphasizing the priority of the initiative and accessing their experience and knowledge of the organization. Because the department had no spare resources, using a free, validated assessment tool (6) was both efficient and effective and helped with early change management. This approach is supported by Peirson and colleagues, who reported that clear vision and strong leadership were critical factors for building EIDM capacity at the organizational level (9).

Assigning most of the time of a senior, influential leader to develop and implement the strategy, supported by the medical officer of health, sent a clear message to every director and established their accountability for the results. The early directorial support freed up enough resources and staff time for 10 people to be trained in the first year. These 10 staff members went on to produce evidence reviews, make programme decisions and lead the change within their teams. They were held up as examples in the organization by senior leaders and served as catalysts for change within their divisions (4).

The departmental changes would not have been as successful nor moved along as quickly without the ongoing support of academics and others in the research community. Through actively seeking their assistance with complex decision-making, many new skills were introduced into the teams and ongoing, positive relationships were fostered. The establishment of more than 50 joint research grants indicates the mutual benefits of these relationships.

The department made hard decisions to move vacancies from direct service to infrastructure support positions for two librarians, a manager of education and research, and a knowledge broker. It also invested in a library system to facilitate access to the research literature. These changes would not have been possible without the early and constant support of the senior leaders who had to give up staff to create these new skilled positions. On the other hand, completing nearly 50 reviews has enabled the department to make many better decisions in critical areas where it was forced to choose which programmes to continue and which to let go. The senior leadership have clearly determined that committing to workforce development and support for EIDM was worth the investment. The study by Dobbins et al. confirmed the value of a knowledge broker in helping to develop skills in EIDM processes (8).

The department elected to be as transparent as possible regarding the methods used in the evidence reviews and the decisions taken as a result of them. Although it has been challenged many times, the department found that making the reviews publically available through its website (12) fostered discussions that helped with the decision-making processes and programmes. Every one of the evidence reviews is tied to a decision that a team needed to make. This sanctioned busy teams in setting aside time to complete them. Unlike in other organizations, the department committed to the development of the entire workforce rather than creating a specialized unit. This approach promotes devolved decision-making and accountability for putting evidence into practice, thus contributing to sustainability. Peirson et al. also noted that workforce development was a critical factor in the success for EIDM (9).

The department used a well-established change management strategy from the very beginning (4,5).

The model predicted that at least 100 of the 650 staff would need to be skilled in the new EIDM processes to begin to see cultural change in the organization. Asking an entire workforce of 650 health professionals to work in a new way requiring new skills, to give up much-loved programmes and adopt new ones, and to feel their way into new roles and responsibilities meant considering individual skills and needs. The mantra for the EIDM strategy became: "We have to start from where we are, not from where we wish we were". Setting a 10-year time frame allowed the department to resource the strategy realistically and build sustainability.

Many public health organizations have similar constraints to those our department experienced during 2008: high-volume service demands coupled with tight resources. Diverting from the work at hand to develop the infrastructure and workforce to use research in practice may seem an excessive burden. However, this mid-strategy review found that senior leaders perceive that the investments are already paying dividends: the workforce is growing more confident and there has been a visible impact of the application of research to practice.

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