# Perspectives of an Interdisciplinary Research Team to Engage Practice: Lessons from a Knowledge Exchange Trainee Experience

## Points de vue d'une équipe multidisciplinaire de recherche sur la participation à la pratique : leçons tirées de l'expérience d'un stagiaire en échange de connaissances

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## Abstract

End-of-life (EOL) care is an area of health services that will ultimately affect us all. To share the knowledge emerging from EOL research and to address inequities in the quality of EOL care in Nova Scotia, a knowledge exchange (KE) trainee was hired to translate research and surveillance into a Surveillance Report. The purpose of this paper is to reflect upon this initiative and share the research team's perspectives on their KE experiences. We describe four key competencies of the KE trainee selected, and discuss lessons learned from this KE trainee experience, to expand our understanding of KE.

## Résumé

Le soins en fin de vie est un aspect des services de santé qui nous affectera tous un jour. Afin de partager les connaissances issues d'une recherche sur les soins en fin de vie et pour pallier aux inégalités dans la qualité des soins en fin de vie en Nouvelle-Écosse, un stagiaire en échange de connaissances a été embauché pour transposer la recherche dans un rapport de surveillance. L'objectif de cet article est de réfléchir sur cette initiative et de partager les points de vue de l'équipe de recherche sur leur expérience en échange de connaissances. Nous décrivons quatre compétences principales du stagiaire et nous discutons des leçons tirées de son expérience, afin de diffuser notre compréhension sur l'échange de connaissances.

Members of the Network for End-of-Life Studies (NELS) at Dalhousie University in Halifax, Nova Scotia, received an Interdisciplinary Capacity Enhancement (ICE) grant from the Canadian Institutes of Health Research to establish ongoing surveillance and monitoring of end-of-life (EOL) care, with a systematic focus on vulnerable populations (Johnston et al. 2006).

EOL care is an area of health services that will ultimately affect us all. A 1995 Senate report (Special Senate Committee 1995) stated that EOL care is "characterized by uneven access to services, and disruptive, ineffective care leading to substandard outcomes." A 10-year follow-up found little change in care provision (Carstairs 2005). In Nova Scotia, only 21% are completely satisfied with EOL services (Cancer Care Nova Scotia 2003). That the number of persons dying of terminal chronic disease will

increase steeply (Saint-Jacques et al. 2002) makes these reports more unsettling.

To share the knowledge emerging from Nova Scotia–based EOL research and to address inequities in the quality of EOL care in the province, NELS recruited a knowledge exchange (KE) trainee [SM] to translate research and surveillance knowledge emerging from the NELS/ICE team into a Surveillance Report. Given their limited understanding of and experiences with KE, NELS/ICE researchers decided to employ a dedicated individual to develop the report in cooperation with NELS members and other stakeholders in the EOL care community. The purpose of this paper is to reflect upon this initiative and share the research team's perspectives on their efforts (e.g., hiring a KE trainee) towards making research findings more relevant to decision- and policy makers in Nova Scotia.

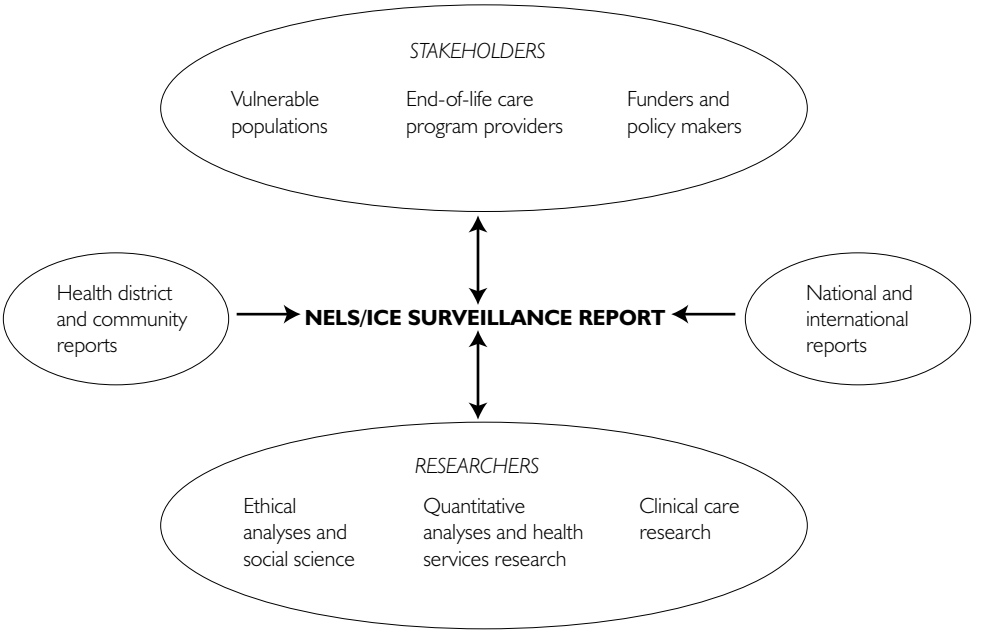
## The KE Initiative

Employing individuals in dedicated KE roles (knowledge brokers are one example) may be one way to help researchers and decision-makers communicate their needs and abilities, and advocate for the use of evidence in healthcare (CHSRF 2003; Thompson et al. 2006; Dobbins et al. 2009; Ward et al. 2009). Havelock and colleagues (1971; Havelock 1986) introduced the concept of such "linkers" as individuals who connect the knowledge producers and users by transferring knowledge and communicating users' needs and feedback. The primary role of this KE trainee was to draft the first Surveillance Report by seeking out, acquiring, evaluating and synthesizing the most current available research and other data generated by NELS/ICE team members. The report was meant to translate evidence to inform policy and decision-making and, as such, the trainee was expected to engage stakeholders meaningfully in its development process to ensure an accurate, locally relevant and useful end product. Therefore, to acquire data and contextual information and to share knowledge, the role involved working with NELS/ICE team members; managers of palliative care programs and the provincial cancer agency responsible for advising on cancer care services; policy makers in government (e.g., Department of Health, Health Canada and Vital Statistics); and staff of other agencies/organizations involved in EOL research and care delivery. The KE trainee was expected to evaluate the information received to document an overview of research and surveillance progress and needs, and help identify recommendations for further research development in the Nova Scotia context. Figure 1 presents the research team's vision for the Surveillance Report in relation to its contributors and audiences.

The KE trainee was hired for a four-month period from mid-April to mid-August 2007. Although she had a master's degree in health services administration, she had little previous experience in EOL care or KE theory and practice. While the Surveillance Report is ultimately intended for external audiences, gathering and

evaluating evidence – and placing that evidence in the local context – required the KE trainee to maintain ongoing communication within the NELS/ICE team, particularly the principal investigators [GJ, FB], to ensure that the report was an accurate and comprehensive representation of current knowledge and practices. She also connected with others, primarily via e-mail, to verify data and specific details. The report development process was largely iterative and involved cycles of comment, feedback and revision within the NELS/ICE team.

**FIGURE 1.** The NELS/ICE Surveillance Report in relation to its contributors and audiences




Source: Adapted from *End of Life Care in Nova Scotia: Surveillance Report* (Network for End of Life Studies 2008).

In addition, there were two formal in-person rounds of consultation to collect feedback from NELS/ICE team members and others associated with EOL care and planning for the province (e.g., policy makers, clinicians, program planners and data managers). An initial consultation meeting was held to gain participants' ideas and visions for the report, an understanding of the data elements or indicators that they desired and the directions they felt the team should take. This meeting set the framework for the report. A similar feedback meeting was later convened to discuss an early draft of the report. Subsequently, as the report progressed in development, drafts were sent to specific reviewers (including clinicians, program managers and policy makers) for their feedback and perspectives.

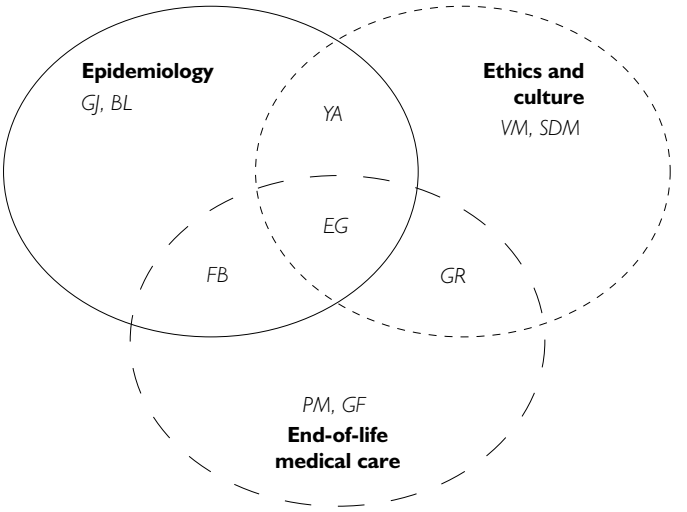
To maximize a report's usability, a number of factors should be considered. First, authors need to maximize the user-friendliness and relevancy of their messages (Feldman et al. 2001). Reports should be presented in such a way that the information is easily understood without losing its essence. Accordingly, the KE trainee was responsible for incorporating a succinct, attractive and easy-to-read layout and design. As well, data had to be transferred in an easily accessible and "digestible" format and translated into the local context in order to ensure its relevancy to those individuals actually in a position to effect change (Feldman et al. 2001).

A second factor that must be considered is that decision-makers are more likely to use research findings when they are involved early in the KE process (Beyer and Trice 1982). The two formal rounds of consultation and feedback were early in the report process and included decision-makers from various programs and organizations. Additionally, throughout the planning, gathering and drafting stages of the report, the KE trainee worked with managers of provincial palliative care programs and services, as well as staff at local and provincial agencies involved in care delivery for persons nearing EOL. Such involvement promotes awareness of research findings, encourages buy-in to the need for this type of information and supports a collaborative working environment. Additionally, for some people, participation in the planning and feedback stages may promote feelings of ownership over the report, thereby increasing the likelihood they will attend to and use the information upon its release/dissemination (Wathen et al. 2008).

A third factor that increased the complexity of this particular task was the focus on "interdisciplinary research." The NELS/ICE researchers are grounded in three distinctly different disciplines (Figure 2). The KE trainee's supervisor [GJ] has prior experience in "town–gown" partnership formation (Johnston et al. 1998) and interprofessional education development (Johnston and Banks 2000; Johnston et al. 2003). The report's intent was to facilitate research synthesis and generate evidence that permits informed dialogue on appropriate changes/actions that decision- and policy makers may consider to improve care, rather than explicitly improve care. That is, research and surveillance are viewed as intermediary steps towards improving services. Along the continuum of use, the report was meant to increase "enlightening" use of evidence by providing a deeper understanding of the complexity of the problems and the consequences of action, and facilitating the establishment of realistic and achievable goals and benchmarks (Innvaer et al. 2002). An understanding of these three factors was integral to drafting a usable Surveillance Report.

The KE trainee tracked her tasks on a daily basis to determine the primary functions of this KE role. Additionally, she recorded her thoughts and viewpoints on particular tasks to gather contextual data on her work and on KE approaches in the local context. This documentation allowed us to delineate more clearly the core competencies of the KE trainee, reflect upon practices and rethink and improve ongoing KE activities.

**FIGURE 2.** Interdisciplinary context of key NELS/ICE research investigators




## Results of the KE Experience

The first Surveillance Report (Network for End of Life Studies 2008) is a synthesis of the most current available data in Nova Scotia surrounding EOL care research and surveillance, with particular emphasis on vulnerable populations. (This report can be downloaded from http://www.nels.dal.ca.) The report identifies issues that require cross-sector dialogue, highlights key findings at a level that is comprehensible to most audiences and presents an overview of a vulnerable population's historical barriers in access to care.

The majority of the KE trainee's time was spent on three broad categories: researching and writing (63%), connecting with people via e-mail and meetings (19%) and directly organizing and responding to feedback (9%). In connecting with people, e-mail use accounted for 63% of this time, and primarily related to the subject matter of the report. The daily journal indicated that the KE trainee was surprised and sometimes frustrated by the amount of time spent using e-mail.

One of the KE trainee's functions was to organize the feedback collected via the two rounds of consultation and respond accordingly (e.g., perform further research, communicate issues to NELS/ICE team members, integrate suggestions into the report, etc). Regarding this, perhaps the most startling feature was the volume of suggestions, comments and critique. While some comments pertained to grammatical and style issues, the vast majority addressed issues the team had not previously considered. Consequently, the KE trainee had to add additional sections ("How is this report different?"), clarify some major issues (e.g., race, ethnicity, language and culture), reframe the layout to feature particular content (e.g., recommendations), omit portions considered irrelevant for decision- and policy makers and extensively revise sections. Overall,

the team regarded the quality of the feedback as exceptional and highly valuable to the report's development, but this added to the KE trainee's workload.

One issue that repeatedly arose during the consultation and feedback processes was how to deal with differing perspectives, for example, defining and naming ethnic origin. Some team members felt that certain terms were unacceptable (e.g., minority, Aboriginal), while others argued the words were standard terminology. The KE trainee worked with the principal investigators either to find a "middle ground" or to state the concern explicitly in the report ("Aboriginal" was kept, with a caveat noting that this was a Statistics Canada term; a better and widely accepted term did not exist).

Prior to recruiting the trainee, the supervisor identified four main competencies (combination of skills, abilities and knowledge [Welton 2007]) required to perform the KE activities related to this role. These attributes were strengths of the KE trainee recruited. While these competencies are necessary, the supervisor later realized that each one contains a "flip side" that is also requisite, and that ideally can be mastered through team KE development processes (Table 1). For example, while the KE role required the ability to work independently and with minimal direction, it also required that the trainee continually operate as a team player, interacting on an interpersonal level and readily adapting to emerging ideas and pursuits. A person skilled in KE should have the ability and comfort level to simultaneously operate from both dimensions of the identified competencies.

## Lessons Learned

### KE trainee perspective

Perhaps the most important lesson learned is that the KE process is not simply the synthesis, dissemination and application of research findings to enhance usability for end users; rather, KE is a complicated, ongoing and highly repetitious process that requires the active participation of both researchers and end users. Reflection on this KE trainee process will contribute to the development of future KE activities.

While not surprising, a second but related lesson is that the iterative nature of the KE process makes it labour intensive. Anyone undertaking a project of this type must be aware of the enormous amount of time and patience required to work successfully and properly with a team of individuals with different backgrounds and priorities, and with limited time to contribute to the process. This view was echoed by the KE trainee's supervisor, who reported that she underestimated the extent of the work and time required to create the report, in the approach described, both in terms of planning/writing and resolving interpersonal conflicts among those drafting the report. While the KE trainee was successful in drafting a complete report within the four months, another year of editing and proofreading was required before all stakeholder issues were fully resolved and the 86-page report was released. Concurrent with this editing,

the NELS/ICE team contracted out a "Listening to Stakeholders" consultative process and report, further enhancing the KE process.

Accordingly, there is a definite need within research teams and organizations to recognize the significance of dedicating resources to KE positions. As KE activities grow in importance, it is difficult for researchers and decision-makers to devote the time and energy required to learn the nuances of effective and efficient KE. A designated and dedicated KE specialist can spend time to connect with interested individuals from a variety of professional backgrounds, cultivate useful and trusting working relationships and use those connections to transfer relevant knowledge across disciplines. If this person begins as a trainee, KE expertise needs to be readily available.

**TABLE 1.** Competencies required for success in knowledge exchange (KE) activities

| KE dimensions | Identification of need | Required KE competencies |
|---|---|---|
| Focused vs. "Big Picture" | **Recognized initially** | • Focused and organized to produce attractive product within set time; developed a clear, concise and simple finished product |
| | **Learned through process** | • Values and has a desire to understand context; incorporates an understanding of the context and interrelationships within work environment and products |
| Independent vs. Team Player | **Recognized initially** | • Self-directed; worked well on own with minimal direction to achieve predefined goal of preparing draft report in set time period |
| | **Learned through process** | • Interacts with team and others on an interpersonal level<br>• Accepts direction from team leader and adapts to emerging team vision; invites critique of work; revises efficiently in response to critique<br>• Shares ownership of work; readily provides documentation and drafts of work to team members |
| Flow vs. Precision | **Recognized initially** | • Wrote in an easy-to-read style that was logical and clear |
| | **Learned through process** | • Checks accuracy of details; pays attention to precision in terminology and subtleties of language |
| "High Tech" vs. "Low Tech" | **Recognized initially** | • Skilled in computer technologies including Internet and database searches, PowerPoint slide production and advanced word-processing features (e.g., table of contents, footnotes, track changes, headers/footers, etc.) |
| | **Learned through process** | • Uses "lower tech" processes and trains others to use "high tech"; values non-technological rigour and wisdom |

## Supervisor perspective

Despite being experienced researchers in epidemiological, health services and clinical studies, NELS/ICE team members had limited experience with supporting and car-

rying out KE activities. Accordingly, one of the main lessons was the need for applied generic KE tools and supports, and established research team writing processes and methods, especially if a trainee rather than an experienced KE specialist is recruited. This need is critical given the embryonic stage of KE development. Generic KE tools and supports include KE job descriptions and hiring tips; descriptions of KE responsibilities and expectations; "to do" checklists (CHSRF 2006) and timelines; self/team evaluation and reflection tools (CHSRF n.d.); and expertise/mentors. While the sharing of tools such as job and role (responsibility and expectation) descriptions for KE personnel may appear straightforward, these tools were not available at the research team's institutions during the hiring process, yet would have assisted a research team with limited KE experience.

The NELS/ICE team has committed to developing capacity and building infrastructure. However, a tension exists between selecting trainees who will develop skills through involvement in the KE and research team processes (requiring additional time and effort) versus hiring experienced individuals (requiring additional funds). This tension is a reality in the current health research environment and will remain as the KE field evolves because skilled KE personnel are in short supply. While it is vital to increase capacity, researchers will have to consider the advantages and disadvantages of training their own KE personnel versus maximizing project efficiency by contracting or directly hiring KE experts.

Finally, a report in itself is inadequate at translating findings in a meaningful way for most people. The research team has become keenly aware of the message of Lavis and colleagues (2003) that interactive engagement may be most effective at transferring research knowledge. Accordingly, it is vital that researchers meet with decision-makers one-on-one or in small groups, discover their interests and begin to understand how to build bridges between their needs and interests and what the research team has learned and has the capacity to provide. In the end, developing relationships by working with people over time, and in mutually beneficial ways, is key to effective KE. One tool that has proven valuable for the NELS/ICE team is regular work-in-progress sessions, which allow the researchers to maintain engagement with stakeholders while concurrently providing stakeholders the opportunity to learn about EOL research and contribute their tacit knowledge and experience during the research development and analysis phases.

## Summary

A goal of the NELS/ICE research team is to build a surveillance system with KE processes to enable development of policies and interventions for comprehensive community-based care. Though there was no formal evaluation to explore the extent to which decision-makers actually used or referred to the report in their subsequent

work, the addition of a dedicated KE trainee facilitated the selection of knowledge and its adaptation to the local context, and actively supported relationship-building between researchers and end users. Given the lessons learned, as the NELS/ICE team progresses with its research and surveillance agendas, researchers will be encouraged to meet directly with stakeholders to cultivate these relationships and undertake KE responsibilities (e.g., act as their own "linkers") rather than employing an outside individual, unfamiliar with the research team, to adopt the KE role. As researchers develop their KE skills, their credibility may make them ideal choices as "linkers" between their work and the decision-making communities (Lavis et al. 2003). Certainly, this reflection on incorporating a KE trainee has provided insight for further development of our KE activities. We hope our experiences will be useful for other research teams embarking on integrated and expanded KE endeavours.

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