Translating Research

Knowledge Translation in Palliative Care: Can Theory Help?

Lesley F. Degner

> In 1747, Lind, a Scottish Naval Surgeon, conducted the first practical medical research to find a cure. He recommended lemons, oranges, and their juice. Yet he was unable to penetrate the Admiralty high-mindedness, or to persuade them to enforce the fruits' universal application. Only in 1795, when court physician Gilbert Blane championed Lind's work were the Sea Lords persuaded to act. But by then, James Lind had been dead for a year and thousands had needlessly perished. (Harvie, 2002)

Few of us who are career researchers would want to suffer the fate of poor Dr. Lind. His attempts to establish definitive evidence about a cure for scurvy were relatively simple compared to what he went through trying to get that knowledge put into practice. Remember, this was the man who had to invent the randomized controlled trial in order to generate the evidence! Reading the short but detailed account of his experiment, one is impressed by the economy of his efforts (sample size equalled 12 sailors) to produce definitive evidence within a 6-day period. Such dramatic results today would certainly warrant publication in a very high-impact journal, no doubt on the "fast track" to ensure immediate dissemination. Surely Dr. Lind would have fared better in today's world, with such a strong focus on knowledge translation to improve health outcomes. Or would he have? Historical examples of attempts at knowledge translation provide cautionary notes for today's researchers and decision-makers who are promulgating new concepts and methods to move research results into practice more quickly for the benefit of the public.

Uptake of Practice Guidelines

Today, perhaps, Dr. Lind would have received funding to convene a conference of naval surgeons to consider his findings, and he might have been successful in having practice guidelines based on the findings disseminated throughout the fleet. However, the results of Grimshaw et al.'s

recent systematic review of the effectiveness and efficiency of guideline dissemination (Grimshaw et al., 2004) leads one to question whether such a process would have resolved the scurvy problem in the navy. This extensive review included 235 studies that had evaluated single interventions of reminders (38 comparisons), dissemination of educational materials (18 comparisons), and audit and feedback (12 comparisons), as well as 23 multifaceted interventions entailing educational outreach. The authors conclude that the overall quality of the studies was poor and that the majority of studies observed modest to moderate improvements in care. Specifically:

> The median absolute improvement in performance across interventions was 14.1% in 14 cluster randomized trials of reminders, 8.1% in four cluster randomized comparisons of dissemination of educational materials, 7.0% in five cluster randomized comparisons of audit and feedback and 6.0% in 13 cluster randomized comparisons of multi-faceted interventions involving educational outreach. (p. x)

Grimshaw et al. conclude that the lack of a coherent theoretical basis for understanding professional and organizational behavioural change limits our ability to formulate hypotheses about which interventions are likely to be effective under different circumstances. They recommend testing educational, behavioural, social, and organizational theories to determine their applicability to the behaviour of health-care professionals and organizations. But how would one go about selecting these theories for testing? The systematic review leaves this question unanswered, as indeed it must. Although cluster randomized trials can produce a very high level of evidence, as Grimshaw et al. point out, it is not useful to proceed with such trials unless the theoretical underpinnings of the intervention are well thought out. I am grateful to Dr. Grimshaw for publishing this advice, as it is exactly what we are doing in the project described below.

The Health Sciences Centre Project

A process of theory selection took place over a period of 3 years (2001–04) at the Health Sciences Centre in Winnipeg, Manitoba, Canada, as a prelude to conducting a cluster randomized trial of an organizational intervention to help frontline nurses use evidence in their daily practice. The impetus for this research was the report of the Evidence-Based Ward Project (Newman & Papadopoulos, 2000). In that study, action research was used to explore ways in which the culture of nursing practice on a busy acute-care ward in England could be developed to make knowledge translation (KT) part of the "normal" approach to practice. A surprising finding was that the average sickness rate for all the

participating nurses on the unit was significantly lower (an average of 10 days per month, CI 5.3–14.3) during the study than during an equivalent period the previous year. The report stimulated the question of whether a KT intervention could achieve similar reductions in absenteeism in Canada. Given that professional nurses have the highest rates for absenteeism of any occupation in Canada (Lowe, 2002), equivalent to 10,800 full-time positions per annum, the results of the HSC research program could be of relevance throughout the Canadian health-care system.

Theory was actually the last thing on our minds at the outset, but as the idea for the intervention took shape — after participant observation on nursing units, repeated interactions with senior management, and strategic observation at meetings of key players in the nursing hierarchy — it became clear that any organizational intervention that was tested would need to have a strong theoretical basis or it would not be replicable in other institutions. The relatively high cost of the intervention proposed — at the Centre for Clinical Nursing Scholarship, where nurses would spend 3 to 4 paid hours per month gathering and processing evidence with respect to one key outcome they wanted to improve on their nursing unit — was also a strong impetus for the building of a sound theoretical base. If the proposed intervention was relatively inexpensive and did not produce the desired outcomes, little would have been lost.

Selection of the theories was a dynamic process entailing considerable interaction between the author and her decision-maker partner in practice, the Chief Nursing Officer, Ms. Helga Bryant, with input from the two co-investigators for the project, Dr. Carole Estabrooks of the University of Alberta and Dr. Heather Laschinger of the University of Western Ontario. Through an iterative process, the theoretical perspectives that seemed best suited to this project were eventually selected. It quickly became apparent that the theories had to function at different levels, from the level of the individual nurse up to the organizational level (as subsequently recommended by Dr. Grimshaw) and had to "make sense" in the world of the Chief Nursing Officer as well as that of the Directors of Patient Services. Because many of the patient outcomes that frontline nurses can be expected to focus on will be of a supportive or palliative nature, we shall now briefly describe the theories, as they may be useful for those initiating KT projects in palliative care settings. Nurses in acute-care hospitals still provide the vast majority of care for dying patients in Canada, and they need knowledge that will enable them to create a "haven for safe passage," as described by Thompson, McClement, and Daeninck (in press).

Theory 1: Social Network Theory

As Elizabeth West and her colleagues at the Royal College of Nursing Institute note in their seminal 1999 article, interest in the social networks of clinicians has been revived through the recognition of their importance for the dissemination of information to clinicians as well as for processes that could have a constructive influence on clinician behaviour (West, Barron, Dowsett, & Newton, 1999). We might conceive of nurses working on a given unit as interacting primarily with their co-workers, who are engaged in caring for the same group of patients, on the same shift, on the same unit. By means of random rewiring of the interactions of nurses through involvement in a KT initiative, they would now be interacting with different nurses, potentially increasing the density of their social network. West et al. argue that a dense social network has advantages for KT: "The multiplicity of ties gives members the opportunity to persuade, cajole, and monitor the performance of others" (p. 635). This type of network is more reflective of those currently existing in clinical medicine than those in nursing. As West et al. note: "In a medical network, ties are so dense that even if the respondent were removed, information would still flow relatively well because so many alternative channels to communication exist" (p. 643).

At the same time, the existing hierarchical nature of nursing brings with it some distinct advantages:

> Cascading information from the top down may work for the nursing profession, especially if your first point of contact is a director of nursing. They have access to information and their networks are far-reaching. Certain behaviors which are acceptable in a hierarchy, such as orders, would not be acceptable in the more egalitarian structure of medical communities. (West et al., 1999, p. 644)

This observation illustrates the importance of key decision-makers, such as the Chief Nursing Officer, to any KT project aimed at nurses. It also provides insight into why KT strategies that make assumptions based on the social networks of physicians may not be effective in a nursing context. An organizational intervention that could increase the density of the social networks of nurses, while at the same time harnessing the nursing hierarchy to provide for cascades of evidence to inform practice, may have the greatest probability of success given this theoretical perspective.

Theory 2: Royal College of Nursing Institute Framework, "Getting Evidence into Practice"

In 1998 Kitson and her colleagues at the Royal College of Nursing Institute published a conceptual framework representing the interplay of

many factors that influence the uptake of evidence into practice. They posit that KT can be described as a function of the relationship between *evidence* (research, clinical experience, and patient preferences), *context* (culture, leadership, and measurement), and *facilitation* (characteristics, role, and style), with these three elements having a dynamic, simultaneous relationship (Kitson, Harvey, & McCormack, 1998). They suggest that the most successful implementation occurs when evidence is robust, the context is receptive to change, and the change process is appropriately facilitated. In 2002 the RCN Institute group published two seminal papers elaborating, through two detailed concept analyses, the concepts of *context* and *facilitation*.

Context (McCormack, Kitson, Rycroft-Malone, Titchen, & Seers, 2002) is characterized as having three themes: culture, leadership, and measurement or evaluation. Culture is defined as "the way things are done around here" and includes "the forces at work which give the physical environment feel." The authors argue that the culture of a practice context must be understood if meaningful and lasting change is to be achieved. They also provide figures defining the elements of both "strong" and "weak" context and culture that could explain why KT strategies are effective in one context within an organization but not in another. Similarly, they analyze strong and weak leadership and situations that characterize strong and weak evaluation. This concept analysis provides useful tools for both researchers and decision-makers and suggests that case studies of nursing programs using these dimensions of context could elucidate both the KT-promoting and KT-impeding factors that would have to be addressed as part of any organizational intervention.

Facilitation (Harvey et al., 2002) refers to the process of enabling (making easier) the implementation of evidence into practice. The concept analysis of facilitation led to a broad distinction between "doing for others" and "enabling others." The authors distinguish between the role of facilitators and the skills and attributes of facilitators on a dimension with the polar extremes of "doing for others" and "enabling others." They argue that in the context of KT the "enabling" may have a greater impact because practitioners need time to think about, translate, and particularize research findings. The authors' summary of the characteristics of facilitation provides very specific guidance for structuring a KT intervention such that it could be replicated in multiple settings.

Theory 3: Contextualized Feedback Intervention Theory

Bickman and colleagues have developed a theory to study the uptake of empirically supported treatments in the field of mental health. Contextualized Feedback Intervention Theory (CFIT) (Riemer, Rosof-Williams, & Bickman, 2005) harnesses the power of systematic external

feedback to change clinician behaviour. It was developed through a synthesis of several research literatures, including dissonance, attribution, and self-regulation theories. Briefly, CFIT postulates that self-persuasion is much more powerful than motivational strategies based on external pressure, which tend to have short-lived effects and run the risk of generating resentment and resistance. It assumes that members of the target group are committed to a higher common goal (for example, to improve management of pain and other symptoms). If clinicians become committed to a goal, they are more likely to persist in pursuing it. They may or may not pay attention to any feedback they receive on their progress in achieving that goal, depending on several factors. First, the source of the feedback must be trustworthy and the method of data collection must be both reliable and valid. Second, if clinicians are held accountable for attending to the feedback, they are more likely to do so, but this could also create resentment. Third, individuals have different levels of "feedback propensity"; those with what Riemer et al. call a high level of internal feedback propensity prefer self-generated feedback and are unlikely to respond to external feedback. Riemer et al. describe a series of steps that facilitate the process of feedback intervention, so that it is provided in a way that is acceptable and relevant to clinicians in their real-world practice and that avoids the possible decrements in feelings of self-efficacy that can occur when feedback is negative.

Theory 4: Kanter's Theory of Organizational Empowerment

Kanter (1993) posits that employees are empowered by work environments that provide access to information, resources, support, and the opportunity to learn and develop, and that support flexibility in job activities and strong interpersonal relationships across functional groups. Work-empowerment structures engender feelings of personal psychological empowerment — that is, role self-efficacy, job meaningfulness, and autonomy — and thus have an impact on organizational decisions. In such a work environment, employees are encouraged to make decisions based on their expertise and judgement and therefore work more efficiently and effectively; they are more committed to the organization, have more trust in management, are more accountable for their work, and are less likely to experience job strain. As noted by Laschinger, Finegan, Shamian, and Wilk (2001), there is considerable support for Kanter's theory in nursing, with several studies having linked Kanter's concept of empowerment to organizational outcomes such as job autonomy, perceived control over nursing practice, job satisfaction, and lower levels of job burnout. Laschinger et al. point to the links between empowerment, autonomy, and job satisfaction, noting that one of the reasons why nurses leave the field is working conditions that limit their

autonomy and their control over their practice. Kanter's theory was selected because of its fit with the proposed organizational intervention and because it provided the conceptual underpinnings for the nursing worklife measures to be used as endpoints in the HSC project. The recent results of Laschinger and Finegan (2005) further demonstrate the relevance of this theory for any intervention aimed at empowering nurses in their workplace.

Challenges for the Future

As many of us know from experience, it is all very well to start out with some theories, but will they still be relevant when it comes time to write up your results? As our esteemed peer reviewers at the Canadian Institutes for Health Research insightfully noted, we have failed to indicate how each of these theories relates to the others, a problem we hope to resolve over time as our project unfolds. If others studying KT in nursing were also to use these theories, it would be interesting to examine their usefulness in KT interventions with different groups of nurses in different parts of the country and given different endpoints for different types of interventions. Although our project is focused on an organization-wide intervention, the CFIT theory could, for example, prove useful in studying smaller groups of nurses within a specific program or unit such as a palliative care unit. In studies with smaller groups of nurses, it is difficult to imagine that the work of the RCN Institute and West's observations on social networks would not be relevant. If the combined work of many researchers and decision-makers were theoretically driven, it would certainly help to optimize interventions to promote KT in nursing, for the benefit of many specialty fields in our discipline.

And what of Dr. Lind? He, like many of us, came face to face with the reality that when new knowledge collides with pre-existing beliefs, the latter usually win. This is as much the case in nursing as it is in other disciplines, as Estabrooks (1999) found. In her structural equation modelling of predictors of knowledge utilization by nurses, "belief suspension" was one of only 3 out of 26 concepts that predicted knowledge utilization. Our challenge in nursing is to find ways to help practitioners suspend their beliefs and entertain the possibility that new evidence might actually improve patient outcomes.

Gabbay and le May (2004) describe a new perspective on knowledge uptake as a result of an ethnographic study with nurses and physicians in two general practices in England: "Clinicians rarely accessed and used specific evidence from research or other sources directly, but relied on 'mindlines' — collectively reinforced, internalized, tacit guidelines"

(p. 1015). Such mindlines were vividly exemplified when one of our students ingenuously stated, after completing a systematic review for our Evidence-Based Nursing Practice course, "But I don't believe it [the evidence]!" Yes, new evidence based on statistical differences is "pallid" to practitioners and much less compelling than the evidence of their own eyes. So we need to attend to historical examples to constantly remind ourselves that what is obviously effective to us today may go the route of bleeding or indeed the radical mastectomy of not so long ago. Perhaps such historical examples need to be made more vivid to practitioners, to help them suspend their pre-existing beliefs and embrace new knowledge for the benefit of the public — so that people do not necessarily have to suffer and perish, as did those sailors with the deadly scurvy.

References

Estabrooks, C. A. (1999). Modeling the individual determinants of research utilization. *Western Journal of Nursing Research, 21,* 758–772.

Gabbay, J., & le May, A. (2004). Evidence based guidelines or collectively constructed "mindlines"? Ethnographic study of knowledge management in primary care. *British Medical Journal, 329*(7473), 1013–1017.

Grimshaw, J. M., Thomas, R. E., MacLennan, G., Fraser, C., Ramsay, C. R. Vale, L., et al. (2004). Effectiveness and efficiency of guideline dissemination and implementation strategies. *Health Technology Assessment, 8*(6), 1–72.

Harvey, G., Loftus-Hills, A., Rycroft-Malone, J., Titchen, A., Kitson, A., McCormack, B., et al. (2002). Getting evidence into practice: The role and function of facilitation. *Journal of Advanced Nursing, 37*(6), 577–588.

Harvie, D. I. (2002). *Limeys: The true story of one man's war against ignorance, the establishment and the deadly scurvy.* Stroud, Gloucestershire: Sutton.

Kanter, R. M. (1993). *Men and women of the corporation,* 2nd ed. New York: Basic Books.

Kitson, A., Harvey, G., & McCormack, B. (1998). Approaches to implementing research in practice. *Quality in Health Care, 7,* 149–159.

Laschinger, H. K. S., & Finegan, J. (2005). Using empowerment to build trust and respect in the workplace: A strategy for addressing the nursing shortage. *Nursing Economics, 23*(1), 6–13.

Laschinger, H. K. S., Finegan, J., Shamian, J., & Wilk, P. (2001). Impact of structural and psychological empowerment on job strain in nursing work settings. *Journal of Nursing Administration, 31*(5), 260–272.

Lowe, G. S. (2002). *Quality of worklife indicators for nurses in Canada.* Workshop report submitted to the Canadian Council on Health Services Accreditation. Ottawa: Canadian Nurses Association.

McCormack, B., Kitson, A., Rycroft-Malone, J., Titchen, A., & Seers, K. (2002). Getting evidence into practice: The meaning of "context." *Journal of Advanced Nursing, 38*(1), 94–104.

Newman, M., & Papadopoulos, I. (2000). Developing organizational systems and culture to support evidence-based practice: The experience of the Evidence-Based Ward Project. *Evidence-Based Nursing, 3,* 103–105.

Riemer, M. S., Rosof-Williams, J., & Bickman, L. (2005). Theories related to changing clinician practice. *Child and Adolescent Psychiatric Clinics of North America, 14,* 241–254. Available online: www.cfit-solutions.org

Thompson, G. N., McClement, S. E., & Daeninck, P. (in press). "Creating a haven for safe passage": An emerging model for end-of-life care. *Journal of Advanced Nursing.*

West, E., Barron, D. N., Dowsett, J., & Newton, J. N. (1999). Hierarchies and cliques in the social networks of health care professionals: Implications for the design of dissemination strategies. *Social Science in Medicine, 48,* 633–646.

Author's Note

_____

Lesley F. Degner, RN, PhD, is Professor, Faculty of Nursing, University of Manitoba, and Consultant in Evidence-Based Practice, Health Sciences Centre, Winnipeg, Manitoba, Canada.