Running Head: OPTIMIZING CLINICAL ENVIRONMENTS FOR KNOWLEDGE TRANSLATION

Optimizing clinical environments for knowledge translation: Strategies for nursing leaders

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Abstract

Using findings from a recent study that argued that a context of uncertainty in the work environment hindered nurses' research utilization, we suggest strategies for nurse managers and leaders to reduce uncertainty, thereby optimizing clinical environments for knowledge translation. Two significant sources of uncertainty were the complexity of teamwork and variability in management. To reduce the uncertainty arising from teamwork, we propose 1) clarifying nurses' scope of practice, 2) increased sharing of knowledge through the use of journal clubs and enhanced computer access and 3) the creation of safe venues for multidisciplinary dialogue. To reduce the uncertainty from variability in management, we propose 1) developing consistent policies within the management team, 2) clearly communicating those policies to nurses and 3) providing explicit rationales for treatment changes. Small, incremental steps can be taken to realize substantive changes in clinical environments to optimize nursing work environments for knowledge translation.

MESH keywords: knowledge translation, work environment, research utilization, nurse leaders.

Optimizing Clinical Environments for Knowledge Translation: Strategies for Nursing Leaders

Although most practitioners agree that nursing practice should reflect the latest research, it has not been easy to put research into practice. Reluctance to use research has largely been attributed to individual determinants such as the practitioners' inability to understand research (a lack of research skills and inadequate educational preparation), the age of the practitioners or their attitude toward research. However, recent research (Estabrooks, 2003; Estabrooks, Floyd, Scott-Findlay, O'Leary & Gushta, 2003; Wensing, Wollersheim & Grol, 2006) suggests that since the majority of health care professionals work within very complex organizational structures, a more fruitful approach would be to consider elements of the local context or work environment.

Previous Research

We begin by briefly summarizing the findings from a study that explored the influence of context on research use behavior (Scott, Estabrooks, Allen & Pollock, accepted). These findings augment existing research on the role of context in influencing moving knowledge into action (Dopson & Fitzgerald, 2005) by suggesting that uncertainty is a significant dimension of the context not previously identified. We argued that decreasing uncertainty may be a necessary precursor to increasing knowledge translation in the clinical practice arena.

Previously, we argued that the context of uncertainty shaped research utilization behaviors of nurses and thus knowledge translation. Although the context of uncertainty affected all aspects of the unit, it had particular impact on the nature and structure of nurses' work. Nurses perceived the behavior expected of them was determined *arbitrarily*

by physicians and managers in charge, and consequently, they had little confidence in their own judgment. What might be considered appropriate one day, might be punished the next. This affected their willingness to try new things, including using research in their practice. Nurses tended to stay within a safe zone where they resorted to doing what they were told, focused on routine and deferred to the authority of others. The uncertainty caused nurses to lack confidence in their own decision-making; thus, they abdicated decision-making to others. Our findings, although they were specific to the nursing unit studied, have potentially important implications for nursing leaders and managers who wish to optimize clinical environments to foster knowledge translation in other types of nursing units.

We identified four sources of uncertainty: (a) patient acuity, (b) work predictability, (c) complexity of teamwork, and (d) variability in management. The first two of these sources of uncertainty were inherent to the patient population and setting and were not amenable to change. However, the other two sources of uncertainty (complexity of teamwork and variability in management) do represent modifiable conditions and open up the possibility of innovative strategies to decrease and manage uncertainty. We propose small-scale strategies that nursing leaders and managers can adopt to optimize clinical environments for knowledge translation. In figure 1, we show the four sources of uncertainty and illustrate how these sources can be understood as a gradient from high to low uncertainty. The two sources of uncertainty in dark shading are more amenable to change or intervention.

In nursing, interventions to improve research use and knowledge translation have focused primarily on individual practitioners by giving them education, such as the skills

to read and critique research (Gould & Chamberlain, 1997; Tranmer, Lochaus-Gerlach, & Lam, 2002). Audit and feedback (Hulscher, Van Drenth, Mokkink, Van Der Wouden, & Grol, 1997) has been another common strategy focused on the individual practitioner. More recently, nursing scholars have started to consider organizational strategies such as the introduction of multidisciplinary teams (Dufault, Bielecki, Collins & Willey, 1995) and case discussions (Davies, 2002). Outside of nursing, strategies to increase research use have included audit and feedback (Balas, Boren, Brown, Ewigman, Mitchell, & Perkoff, 1996), educational sessions (Davis, O'Brien, Freemantle, Wolf, Mazmanian, & Taylor-Vaisey, 1999; O'Brien, Oxman, Davis, Haynes, Freemantle, & Harvey, 1997), outreach visits (Davis, Thomson, Oxman, & Haynes, 1997; Oxman, Thomson, Davis, & Haynes, 1995; O'Brien et al.), the use of opinion leaders (Davis et al., 1997; Oxman et al.; O'Brien et al.) and reminders (Austin, Balas, Mitchell, & Ewigman, 1994; Shea, DuMouchel, & Bahamonde, 1996). Our findings indicate that strategies aimed at managing and/or decreasing uncertainty may facilitate efforts to enhance knowledge translation by increasing practitioners' receptivity to change. In fact, decreasing uncertainty in the work setting to some not yet defined threshold may be a useful precursor to any knowledge translation interventions. The inability to explain the uneven uptake of research in practice may be due *in part* to the fundamental role of uncertainty in the work setting thus adding weight to Dopson's (2007) assertion that context is an active component – not a backdrop – of the knowledge translation process. Furthermore, the recent findings by Cummings and colleagues (2007) and Estabrooks and colleagues (2007) reaffirm the need to study contextual knowledge translation factors. Their work

pointed to higher rates of research utilization when nurses reported culture, leadership and evaluation in their work environments or context to be 'high.'

Complexity of teamwork

In the unit studied, nurses worked on a daily basis with a significant number of health care professionals from diverse disciplinary backgrounds. Such complex teamwork can cause uncertainty as it can blur professional boundaries as well as demand interdependence among professionals who hold different values and responsibilities. Due to shared responsibility, it was often challenging for nurses to control their patients' care, yet they were often held responsible when things went wrong. Because of the uncertainty generated in this high-pressure environment, nurses tended to rely on the structure and routine of their work to avoid blame. In such an environment, nurses are unwilling to attempt to base their practice on research.

The complexity of teamwork cannot be overcome and attempting to reduce uncertainty by *improving* teamwork may be a more realistic objective. Investigators have reported that nurses perceive a clear relationship between mandated teamwork and deteriorating work conditions (Rafferty & Aiken, 2001). Other research, however, highlights the potential benefits of teamwork, benefits such as reduced staff turnover, higher quality care, better patient outcomes and improved financial outcomes (Carter & West, 1999; Firth-Cozens, 1998). How can these findings be reconciled? The key here is that *mandated* teamwork is seen to be related to poor working conditions. If teamwork structures are imposed without giving due attention to promoting collaboration among team members, the result will be heightened uncertainty and dissatisfaction. Interventions designed to promote collaboration among team members, particularly between nurses and

physicians, such as integration through education, multidisciplinary communication, multidisciplinary documentation tools, multidisciplinary outcome teams and quality improvement initiatives, (Dechairo-Marino, Jordan-Marsh, Traiger & Saulo, 2001; Zwarenstein & Bryant, 2000) may facilitate teamwork.

We propose three strategies that nursing managers and leaders could implement to decrease some of the uncertainty caused by complex teamwork. Because teamwork demands interdependence among professionals, it can result in the blurring of professional boundaries resulting in team members questioning who is doing what. The first strategy is designed to address this issue. Specifically, in the unit studied, teamwork resulted in uncertainty about nurses' scope of practice. Physicians wrote orders for activities that were clearly within nursing's scope of practice (e.g., bathing, turning and positioning, skin care) and this practice left nurses feeling an overwhelming sense of uncertainty as to what they could or could not do autonomously. This ambiguity could be overcome by the nursing management group working together to change nurses' expectations for physician orders for activities clearly within the scope of nurses' practice. The management group would need to come to consensus on which areas require physician orders and which areas do not. Then, unit managers and charge nurses could follow up with both nurses and physicians when physician orders were requested for activities within nurses' scope of practice. With constant reminders, a clearer sense of nurses' scope of practice should develop.

Complex environments with interdisciplinary teams can often lead to team members becoming sensitive to boundaries. In the unit studied, over-sensitivity to boundaries was manifested in knowledge being hoarded. In particular, specialized

knowledge was shared only with select members of the nursing staff, despite the obvious relevance of the knowledge to all nurses' professional responsibilities. The second strategy, therefore, would be to increase access to specialized knowledge. Knowledge sharing among nurses needs to be a core goal for nurse leaders; however, as health care has become increasingly sophisticated and specialized, knowledge has often been compartmentalized (Gunderman & Chan, 2003). As Gunderman and Chan (2003) suggest, moving to models that resemble communities where knowledge is freely shared, rather than silos where knowledge is stored and not made accessible to all, yields advantages. A short-term strategy to enhance teamwork would be to democratize access to specialized knowledge through nursing journal clubs. The importance of special forums, such as discipline-specific journal clubs, for accessing and sharing knowledge amongst health care professionals has been emphasized in previous work by Golden-Biddle, Reay, Petz, Witt, Casebeer and Pablo (2003) and Dopson and Fitzgerald (2005). Nursing managers and leaders can be instrumental in the development of such journal clubs. In order for discipline-specific journal clubs to be effective, nursing leaders and managers need to create the 'space' for these forums by establishing regular times for meetings and by ensuring that additional human resources are in place to ensure that nurses can attend. In journal clubs, specialized knowledge can be freely shared and can ultimately lead to increased certainty about patient care treatments, patient responses to illness and new developments in the field. Although the free sharing of knowledge may appear to undermine authority in highly chaotic and controlled environments, in fact, the opposite is more likely. A lack of knowledge sharing may lead to decreased commitment to the work environment (Gunderman et al.) and increased uncertainty.

Another strategy to increase access to knowledge would be to increase access to computer terminals. Computer systems are often the primary medium for getting information to heath care professionals; however, in many cases, computers are located in areas that are inaccessible to nurses who are working. Specifically, for nurses working in acute care and critical care environments, computer access must be at the bedside. Access to subscription-only research databases must be provided as well, if nurses are to have quick, easy access to credible information. In many health care environments, rapid change has made information accessible through electronic means, yet ensuring that nurses have access to the equipment and the skills needed to obtain this information has been slower to come. In some cases, it may be more feasible to offer different distribution channels for the sharing of relevant information for practice. Given the current barriers to nurses in obtaining information electronically (e.g., lack of access, inadequate computer skills), perhaps a short term option would be to offer information in hard copy format until better access is achieved and all nurses have the opportunity to enhance their computer skills.

A third strategy to decrease the complexity of teamwork is to create safe venues for multidisciplinary dialogue. Traditionally, the only multidisciplinary forums are patient care rounds; however, only patient-specific information is shared in these forums and not health services delivery information. The creation of Communities of Practice (Lave & Wenger, 1991; Wenger, 1998) may be a solution. A Community of Practice refers to the process of social learning that occurs when people who have a common interest in a problem or subject collaborate over an extended period to share ideas, find solutions and build innovations. The benefits of Communities of Practice, in terms of

sharing experiential knowledge, stimulating change, and team building, are well documented. Communities of Practice emphasize the social nature of learning where learning occurs in the context of lived experience. A Community of Practice may take a variety of forms, from a journal club or an informal gathering of team members during breaks to a computer based discussion group. The latter would offer the benefit of allowing participation by members without the requirement that they be in the same place at the same time. These strategies to improve teamwork in the clinical environment are summarized and illustrated in Figure 1.

Variability in management

In the setting studied, much of the uncertainty was created by variation in the behavioral expectations for nurses by the unit managers and unit physicians. Nurses were unable to anticipate the outcome of a situation because of the day-to-day variation in management and in physician decisions and expectations. Strategies to increase consistency include the allocation of specific times for increased communication between members of the management and physician groups and the creation of "spaces" for intra- and inter-disciplinary dialogue. These strategies have the potential to result in more consistency within and between the nurse manager and physician teams, thereby decreasing the uncertainty nurses reported.

In the unit studied, nurses reported differences in expectations and responses depending on the manager and physician. At first, nurses adapted their practices to changing manager and physician expectations; after time, nurses gave up and resorted to an attitude of "just tell me what to do". We suggest that middle managers need to develop consistent policies within the unit. If they were to regularly review system data (e.g.,

incident report forms, staff absence forms, and patient assignment sheets) and then follow up with senior management in more formal meetings, more consistent policies could be developed. Unit based nursing managers would also benefit from discussing issues with colleagues from other clinical areas and units in the organization. This would improve consistency and provide the added benefit of enhancing routine communication between nursing managers. Regular meetings of the unit nursing management, that is, unit managers and the charge nurses providing 24-hour coverage, would increase consistency within the management group. In these meetings, the nursing leader or patient care manager would work with the charge nurses and unit managers to examine their decision-making. Through ongoing discussions and critical examination of individual differences, inconsistencies would become more apparent and nursing managers could work together to develop more uniformity as a group.

Second, regular sharing of management decisions with nursing staff would lead to a more consistent understanding of unit priorities, policies, and vision. For instance, a one page weekly newsletter reporting on unit issues and local unit nursing management decisions could enhance consistency. As well as informing the nurses at the bedside of management decisions, weekly newsletters would help to enhance management consistency. If computer access is available to nurses, such a newsletter could be made available by computer. Clear, consistent information about unit changes and expectations for all staff would be well received. Staff nurses currently report that expectations change depending on which manager is in charge and the particular shift they are working (e.g., day or night shift).

For visual reference, Figure 1 shows some steps that nursing leaders could use to decrease uncertainty resulting from variability in management. These strategies include: (a) the nursing management group working to improve its consistency in decision-making and behavioral expectations and (b) increasing communication between local nursing management and nurses.

Variation in treatment regimens within the physician group holds potential benefit for patient health outcomes. However, physicians must take the time to explain the rationale for changes to patient care to the other members of the treatment teams. Without explanation of the rationale for changes, nurses are often left feeling confused, uninformed and ill-prepared to explain to the patient's family members the reasons for patient care changes. The lack of communication may result in nurses perceiving that patient care changes unnecessarily or arbitrarily and consequently results in an attitude of "tell me what to do and I will do it." Without understanding the rationale for change, they will believe that they have no option but to do what they are told, rather than actively participating in patient care as a member of the care team.

Conclusion

Building upon earlier empirical work that explored how local level context shapes the research use behaviors of acute care nurses, we proposed strategies for nurse managers to reduce uncertainty in the work environment. We proposed that a precondition for knowledge translation was decreasing uncertainty as it significantly shaped nurses' knowledge translation behaviors. Decreasing uncertainty may be a necessary precursor to effective knowledge translation interventions. Nurse leaders and

managers are responsible for fostering effective clinical practice environments. These strategies focus on two major sources of uncertainty, the complexity of teamwork and variability in management. Strategies that could be used to decrease uncertainty arising from the complexity of teamwork include devising clear policies for nurses' scope of practice, reducing the hoarding of specialized knowledge through journal clubs and increased access to research-based information, and creating safe venues for multidisciplinary dialogue. Uncertainty created by variability in management could be addressed by the creation of nursing management forums to reduce inconsistencies within the management group, better communication of policies through a short newsletter and explanation of the rationale for changes in patient care regimens. Small, incremental steps can be taken by nursing leaders to realize substantive changes in their clinical environments to optimize nursing work environments for knowledge translation.

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