An Exploration of the Role of Influentials in Increasing the Uptake of Evidence-Based Practice in Nursing

by

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A thesis submitted in conformity with the requirements for the degree of Master of Science

Institute of Health Policy, Management and Evaluation
University of Toronto

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Abstract

Objective: The purpose of this study was to explore the role of persons who influence the uptake of evidence-based practice in nursing.

Methods: This was a two-phase study. First, a scoping review of the literature was undertaken on influential persons (influentials) in nursing. Second, semi-structured interviews with front-line nurses were conducted using grounded theory.

Results: Eleven studies were included in the scoping review and 18 nurses from hospitals in Ontario were interviewed. The results from the initial conceptual framework, scoping review and interviews were triangulated to form a theoretical model. This study found that influentials are credible individuals who use social, educational and leadership characteristics and strategies to change behaviors, attitudes and increase job satisfaction. Other factors of importance are supportive organizational leadership and awareness of barriers.

Conclusions: Credible influentials appear to be a promising strategy to influence the uptake of evidence-based practice in nursing.
Dedicated to my grandfather, Dude.

I went for it.
Acknowledgements

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I am also very grateful to my local liaisons that assisted me in recruiting front-line nurses for the interviews. Without their assistance, this project would not have been possible. In addition, I would like to thank the 18 front-line nurses who took time out of their always busy schedules to provide me with rich meaningful data that could only have been achieved by their participation in this project.

I would also like to thank my friends and colleagues for their continued support. I would not have made it through the past three years without their encouragement and providing me with much needed distractions.

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List of Common Abbreviations

APN- Advanced Practice Nurse

CPG- Clinical practice guideline

DI- Diffusion of Innovation

EBP- Evidence-based practice

FLN- Frontline registered nurse

PARIHS- Promoting Action on Research Implementation in Health Services

RCT- Randomized controlled trial

RNAO- Registered Nurses’ Association of Ontario

SIT- Social Influence Theory
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CHAPTER 1. BACKGROUND

The aim of this chapter is to provide background information and rationale for studying the role of persons who influence the uptake of evidence-based practice in nursing. This study defines a person or persons in an influential role (henceforth influential) as an individual or group of people who influence nurses’ use or knowledge of evidence in nursing practice. This chapter first describes the rationale for the use of evidence-based practice in nursing, followed by an exploration of its current use. The barriers and facilitators to the use of evidence-based practice in nursing are discussed, as are strategies to increase its use. Lastly, the rationale for influentials as a strategy to increase the use of evidence-based practice in nursing is explored.

Evidence-based practice in nursing

EBP evolved from research utilization and evidence-based medicine (EBM). EBM has been defined as the “conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients that requires the integration of individual clinical expertise with the best available external clinical evidence from systematic research” 1. Research utilization is specific to the field of nursing and is defined as “the use of research findings in any and all aspects of one’s work as a registered nurse” 2. EBP combines the concepts from both EBM and research utilization to use the best available evidence which may also include professional expertise and patient input to improve patient care 3.

Evidence-based practice (EBP) is often described both as a practice (i.e. using evidence in practice) and a process (i.e. how to search for, assess, and implement evidence into practice). For the purpose of this study, EBP will refer to “practice based on the best available evidence devised from high quality research, in combination with professional expertise as well as patient input” 3. The ‘evidence’ in EBP may originate from different sources (e.g. primary research studies, clinical practice guidelines, textbooks) and research designs (e.g. non-observational studies, qualitative studies) as long as those sources are subjected to testing and are deemed credible 4 5. In this study, the terms research, evidence and EBP will be used interchangeably to describe the use of high quality findings from research when making clinical decisions about the care of individual patients.
There is a strong rationale for the use of EBP as it has been shown to improve patient care, increase efficiency and decrease health care costs\textsuperscript{6-8}. For example, surgical site infections (SSIs) account for one-quarter of all healthcare associated infections and is a significant healthcare burden in terms of cost and resources \textsuperscript{9}. As part of the healthcare team in the OR, nurses have the ability to play an important role in minimizing the frequency of SSIs by adhering to clinical practice guidelines (CPGs) \textsuperscript{10}. One example of this is the World Health Organisation’s (WHO) Safe Surgery Saves Lives Campaign which consisted of a 19-item surgical safety checklist that includes SSI prevention recommendations \textsuperscript{11}. Eight hospitals participated in the implementation of the checklist and enrolled 3733 patients undergoing non-cardiac surgery prior to implementation and 3955 patients after implementation. The authors found that application of this checklist reduced SSIs from 6.2\% to 3.4\% (p<0.001).

EBP has also been reported to save healthcare dollars by eliminating ineffective and outdated care and procedures as well as increasing efficiency \textsuperscript{2,12-14}. For example, a CPG was developed and implemented by a team of nurses in a large academic center in the US to decrease central line-associated blood stream infection in neonates with central lines (umbilical or percutaneous) \textsuperscript{15}. The CPG recommendations included standardized infection control practices including hand hygiene gloving practices, recommendations for skin preparation, and dressing changes. This study found that implementation of the CPG resulted in a 92\% reduction in central line-associated blood stream infection which led to 84 fewer hospital days and an estimated cost savings of $348,000.

Due to the many known benefits of EBP, governmental bodies, professional organizations, and nursing schools’ have placed importance on the use of evidence to standardize and streamline care to provide the highest quality and most cost effective care \textsuperscript{6,8,16}. According to the International Council of Nurses, nurses are professionally obliged to provide care based upon evidence \textsuperscript{7,16,17}. One example of this is the Registered Nurses’ Association of Ontario (RNAO) Nursing Best Practice Guidelines project which was developed to assist with and support the use of evidence by developing and disseminating CPGs to nurses in Ontario \textsuperscript{18,19}. Furthermore, nursing schools have added courses to their curriculum on research skills and EBP \textsuperscript{14}. 
Current use of evidence-based practice in nursing

Despite the known benefits of EBP, the reported use of evidence in nursing practice is variable. A survey of 936 nurses from 25 hospitals was conducted in general medical and surgical wards in Scotland to assess nurses’ use of 14 general research-based practices such as skin preparation, wound care, and postoperative pain assessment. The response rate was 73%. The nurses reported variable use of different practices with up to 78% of nurses reporting that they never do a specified practice and up to 35% were not aware of the evidence for a specific practice.

Other studies have also reported that not using an EBP is often associated with lack of awareness. For example, a self-administered questionnaire of intensive care unit (ICU) nurses was conducted to assess nurses’ knowledge and perceptions of pain assessment and management practices in Canada. The survey was sent to 3443 ICU nurses, and 804 ICU nurses returned the questionnaire (24% response rate). The authors found that only 29% of ICU nurses were aware of CPGs for pain assessment and management and that routine use of the associated tool was linked with awareness of published guidelines (OR 2.5; 95% CI, 1.7–3.7).

To address nurses’ lack of awareness, different strategies have been implemented; however they are not always effective. A study was conducted to determine whether a national effort to increase evidence-based oral care practices change nurses practices for ventilated patients. Surveys of ICU nurses were conducted before the national efforts in 2004–2005 (n = 218) and after in 2012 (n = 233). The national efforts included in-service presentations, publication of an evidence-based protocol in a national nursing journal, publication of initial survey findings in an international nursing journal, and reports to the local press. The authors asked questions on the use of 14 evidence-based practices for oral care including oral assessment and proper cleaning practices and developed an EBP score based on the number of items that were correctly answered. The results showed a significant increase in the overall use of evidence-based recommendations based on a 0 to 10 ranking system (mean (M)=7.6, standard deviation (SD)=2.5 vs. M=8.3, SD=2.4, p=.002). However this was based on a significant increase in only five of the 14 interventions and six interventions showed a decrease in use. Overall, the authors found that a national effort led to an increased use of some, but not all, evidence-based oral care practices suggesting there may be room for further improvement.
In sum, these studies suggest that front-line nurse’s (FLNs) reported use of EBP is variable due to many factors including lack of awareness and that opportunities for improvement exist. To address this, many studies have been conducted to assess the barriers and facilitators that impact nurses’ use of evidence in order to develop effective strategies to increase its use.

**Factors impacting nurses use of evidence**

The most commonly reported barriers to EBP in nursing occur at the organizational level. Nurses frequently report that many organizations do not provide the time or resources needed for nurses to access new research. Additionally, nurses report that their organizations often do not support their desires to implement new evidence. This issue is compounded by nurses' perceptions that they do not have enough authority to change practice.

With regards to individual level barriers, most nurses report lack of awareness as a key barrier to the use of new evidence. This lack of awareness is often due to nurses’ difficulty locating and accessing new evidence, not being made aware of new evidence and not having access to knowledgeable colleagues or a mentor with whom to discuss evidence. Additionally, some nurses acknowledge that they themselves or their colleagues were resistant to changing practice, regardless of the evidence.

There is a smaller body of literature on facilitators to nurses’ use of EBP. Abrahamson et al. surveyed 575 nurses working at 134 hospitals in the US to determine nurses perceived barriers and facilitators to CPGs and found that facilitative organizations encourage open communication across the department as well as throughout the organization. Additionally, organizations that support EBP address nurses concerns with time, staffing and workload issues that inhibit their use of evidence. Melnyk et al. surveyed 160 nurses who attended an EBP conference to determine barriers and facilitators to use of EBP and found a significant positive association between the extent to which nurses had a mentor and based their practices on evidence. In this study, mentors were identified as nursing faculty, national nursing leaders or speakers, nursing administrators, advance practice nurses (APNs) and physician colleagues. In a survey conducted by the same authors in 2002, mentorship was also cited as a key facilitator as nurses with mentors reported higher levels of research use. Another facilitator to increasing the use of evidence in nursing is understanding and utilizing nurses preferred sources of obtaining or
learning about new information. An integrative review of 32 studies exploring nurses’ preferred information sources found that nurses most often turn to other nurses or their peers when they need advice on direct patient care 27. In sum, the current literature suggests that a colleague or mentor may facilitate nurses’ use of EBP and mitigate the known barriers such as being unaware of new evidence and not having the time or resources to search for and apply evidence in practice.

**Strategies to increase the use of evidence**

The effectiveness of strategies to increase healthcare professionals uptake of EBP has been studied in the medical and nursing literature 28-29. In 2004, Grimshaw et al. conducted a systematic review of the effectiveness of dissemination and implementation strategies to increase healthcare professionals use of CPGs 30. This review included 235 studies and reported small to moderate effects for common interventions such as reminders (median effect +14.1%, range –1.0 to +34.0%), audit and feedback (median effect +7.0%, range +1.3 to +16.0%), and educational outreach activities (median effect +6.0%, range –4 to +17.4%) 30. Since this review, several Cochrane reviews have been undertaken to better understand which strategies may be most useful and again, these reviews also suggest a small to moderate effect in changing healthcare professionals’ practice, with opinion leaders having the largest median effect. A summary of the findings from the Cochrane reviews on implementation strategies are presented in Table 1.

**Table 1. Effectiveness of strategies to increase healthcare professionals’ use of evidence**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Author, year</th>
<th>Included studies</th>
<th>Effect*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit and feedback</td>
<td>Ivers et al., 2012 31</td>
<td>140 RCTs</td>
<td>4.3% (0.5 to 16%)</td>
</tr>
<tr>
<td>Computer generated reminders</td>
<td>Arditi et al., 2012 32</td>
<td>32 RCTs</td>
<td>7.0% (3.9 to 16.4%)</td>
</tr>
<tr>
<td>Continuing educational meetings and workshops</td>
<td>Forsetlund et al., 2009 33</td>
<td>81 RCTs</td>
<td>6.0% (+1.8 to 15.3%)</td>
</tr>
<tr>
<td>Educational outreach visits</td>
<td>O’Brien et al., 2007 34</td>
<td>65 RCTs</td>
<td>6.0% (+3.6 to 16.0%)</td>
</tr>
<tr>
<td>Opinion Leaders</td>
<td>Flodgren et al., 2011 35</td>
<td>18 RCTs</td>
<td>12.0% (+6.0 to 14.5%)</td>
</tr>
<tr>
<td>Printed educational meetings</td>
<td>Giguere et al., 2012 36</td>
<td>14 RCTs and 31 non-RCTs</td>
<td>2.0% (0 to 11%)</td>
</tr>
</tbody>
</table>

*reported as median absolute improvement (inter-quartile range)

There have been fewer studies conducted on the effectiveness of strategies to increase the use of evidence in nursing specifically. Two literature reviews have been published, however the
heterogeneity of the studies precluded the combination of results and the methodological quality of the included studies was poor, and thus, the results should be interpreted with caution. Based on the strategies reported in the reviews, it appears that nurses’ participation in a research course or workshop, use of multimodal strategies, and use of an opinion leader may be useful strategies in investigating the uptake of evidence.

Participation in research courses

Studies that assessed the impact of nurse’s participation in a research course compared to nurses who did not participate found that nurses who participated reported higher use of evidence after the workshops. For example, one study was conducted to assess whether involvement in a multidisciplinary committee and participation in a 28-week research course led to an increase use of evidence in nursing practice. The study surveyed nurses’ current practices relating to pain management using chart audits, research utilization competency, and attitude towards the EBP. The authors found that 67% of nurses in the experimental group reported a positive change in their attitude towards the practice compared to 0% in the control group (p< 0.05). As well, 25% of nurses in the experimental group reportedly changed their practice compared to 0% in the control group (p >0.05). Overall, the authors found that participation in the workshop changed the practice and attitudes of nurses who participated, however had no impact on their colleagues. Similar findings were found in the other two studies in the reviews that looked at the effect of nurses’ participation in research courses.

Multimodal strategies

Herman et al. conducted an RCT to compare three approaches for improving compliance with influenza and pneumococcal vaccination of elderly patients. All three provider groups received guidelines, educational materials and lectures. The control group received no further intervention. The second group (patient education group) offered education to patients at each clinic visit and the third group (prevention group) used a flow sheet, offered patient education and had redefined staff tasks. The study included 1202 patients who were seen at three ambulatory clinics in 1989 and 1990. Influenza vaccinations were offered significantly more to patients in the prevention group (68.3%) as compared to the patient education group (50.4%) or the control group (47.6%) (p=0.006). Similarly, pneumococcal vaccinations were offered more
frequently to patients in the prevention group (28.3%) as compared to the patient education group (6.5%) and the control group (5.4%) (p=0.001). Overall, the authors found that the group that included the most strategies (prevention group) had the best results 41.

Opinion leaders

There is mixed support for the use of influentials as an implementation strategy. Seto et al conducted an RCT to evaluate the effectiveness of an opinion leader as part of an educational program to increase the adherence to a guideline for urinary catheters 42. This study evaluated three different strategies: 1) education, in-services and opinion leader tutorials (n=26), 2) opinion leader tutorials alone (n=26), and 3) lectures alone (n=25). To assess the effect of these interventions, surveys were distributed to assess compliance with the EBP with randomly selected nurses before and after the interventions as well as direct observation of nurses before and after the interventions. The authors found that the change in practice scores were comparable for groups 1 (M=5.63) and group 2 (M=4.96) with both groups being significantly higher than group 3 (M=3.29) (p<0.05). On direct observation, compliant practices were seen in 50% of nurses in group 1 (n=120), 35% in group 2 (n=116), and 38% in group 3 (n=210). The percent of nurses who followed the guideline recommendations was significantly higher in group 1 than group 2 ($X^2=5.2$, p<0.05) and group 3 ($X^2=4.4$, p<0.05). These findings suggest that the best results are achieved through use of an opinion leader and educational lectures. It was, however, not possible to determine whether the increased use of research was due to the educational meetings or opinion leader or a combination of the two. More recently, a cluster randomized controlled trial was conducted in 67 nursing wards in three hospital in the Netherlands to test whether a team and leader-director strategy is more effective than a multimodal strategy without teams and leaders in increasing adherence to hand hygiene guidelines 43. The control arms strategy included education, reminders, and feedback (n=37). The experimental arm received all of the control elements plus interventions based on social influence and leadership, comprised of team and leader-directed activities (n=30). Nurses’ compliance with hand hygiene guidelines was monitored for 6 months before and for 6 months directly after the interventions were implemented. In addition, the participating nursing units also underwent direct observation. Overall, data were obtained on 10,785 opportunities for hand hygiene by 2733 nurses with between 3523 and 3722 opportunities at each time period by 886 and 933 nurses. In the control arm, compliance improved from 22% to 47% in the immediate
post-intervention period and increased slightly to 48% 6 months later. In the experimental group, compliance increased from 20% to 53% in the immediate post-implementation and remained at 53% at 6 months. Random regression analysis showed an odds ratio of 1.64 (95% CI 1.33-2.02; p<0.001) in favor of the team and leaders-directed strategy. Thus, the authors found that the addition of social and leadership strategies led to a statistically significant improvement in compliance with a hand hygiene CPG. In addition to trials, commentaries and editorials in journals such as Evidence-Based Practice have published calls to action to use influentials to increase the use of evidence in nursing which indicates that influentials are perceived to be a useful strategy 44 45.

Conversely, a randomized controlled trial conducted in 1996 found that the use of an influential did not increase nurses’ adoption of EBP aimed to lower the rates of epidurals for women in labor. The study involved 3 tertiary care centers and 17 community hospitals in Ontario, with 10 hospitals randomly assigned as the control and 10 as the experimental group. The experimental group had trained influentials educate and assist the staff on the EBP and the control group did not receive an influentials assistance. The authors found that epidural rates were consistently higher in the control group (p>.001) and thus concluded that the influentials were not effective in changing practice. The authors, however, suggested that there may have been confounding factors such as patient preferences, social norms and physician’s preferences that may have affected the rate of epidural use. As well, the low compliance rates may have been due to the type, quality and agreement with the EBP itself. Thus, while this study found that influentials were not effective in changing nurses practice, the authors call for further research to be conducted 46.

As noted above, there is support for the use of influentials to increase the use of evidence outside of nursing as is illustrated in the Cochrane Review on the effectiveness of opinion leaders 35. The review included 18 RCTs with 15 studies (18 comparisons) contributing to the calculations of the median adjusted risk differences (RD) and inter-quartile ranges (IQR) for the main comparisons. The effects of interventions varied across the 63 outcomes from 15% decrease in compliance to 72% increase in compliance with the desired practice. The median adjusted RD for opinion leaders compared to no intervention was 9% (IQR -15% to 38%), opinion leaders alone compared to a single intervention was 14% (IQR 12% to 17%), opinion leaders with one or more additional intervention(s) compared to the one or more additional intervention was 10% (IQR -
8% to 25%), and opinion leaders as part of multiple interventions compared to no intervention was 10% (IQR -4% to 72%). Across all 18 studies, the median adjusted RD was a 12% (IQR 6% to 14.5%) absolute increase in compliance in the intervention group. These results are based on heterogeneous studies differing in terms of type of intervention, setting, and outcomes measured. In most of the studies the role of the opinion leader was not clearly described, and it is therefore not possible to say what the best way is to optimize the effectiveness of opinion leaders. However, the studies found that opinion leaders alone or in combination with other interventions may successfully promote evidence-based practice and lead to an increase in compliance with EBPs. In sum, there is some evidence in the literature that supports the use of an influential in advancing the use of evidence in both nursing and medicine; however more studies are required to better understand the role of influence and their effectiveness on the uptake of evidence into nursing practice.

**Study objectives**

The purpose of this study is to explore the role of an influential in increasing the uptake of evidence-based practice in nursing. The specific research questions for the study are:

a) What are the contextual factors that enable an influential to successfully influence the uptake of EBP?

b) What are the key personal and professional attributes of a successful influential?

c) What mechanisms of influence are utilized by the influential to successfully influence the uptake of EBP?

d) What impact may the influential have on front-line nurses’ uptake of EBP?

The justification for studying influentials in the context of nursing is multifaceted. The use of evidence to guide clinical nursing practice is advocated widely; however it is not optimally utilized. Based on the documented barriers and facilitators to the use of evidence in nursing, influentials appear to be a promising strategy to increase the use of EBP. Influentials may alleviate organizational level barriers and address nurses’ lack of time and ability to search for and apply new evidence. Furthermore, studies have supported the use of an influential as an effective strategy to increase nurse’s use of evidence. Thus, this study aims to explore the role of influentials in increasing the use of evidence-based practice in nursing.
CHAPTER 2. CONCEPTUAL FRAMEWORK

The purpose of this chapter is to describe the development of a conceptual framework. The conceptual framework was developed to guide the collection and analysis of data, as well as provide an outline for the presentation of findings from the study. The conceptual framework was constructed from known theories, frameworks and models that aim to explain the role played by influentials in nursing.

Development of a conceptual framework

A conceptual framework is most often depicted as a visual or narrative explanation of the key concepts and factors under review and the relationships between them\(^{47-49}\). For the purpose of this study, a conceptual framework was developed to act as an overarching structure to guide all aspects of this study. The content for the initial framework was based on theories, frameworks and models that describe the role of an influential in influencing the uptake of evidence in nursing practice. Theories were located by a) reading empirical studies of influentials to locate the theories used, discussed or developed in the study, b) reviewing nursing textbooks that described implementing evidence\(^{49,50}\), and c) discussions with the thesis committee and content experts. Once a comprehensive list of theories was compiled, each theory was retrieved and reviewed. The theories and their key concepts were discussed with the thesis committee and assessed for relevance based on the key concepts related to the objectives of this study: a) contextual factors; b) characteristics of an influential; c) mechanisms of influence used to implement evidence; and d) potential impact.

Eight theories, frameworks, or models appeared to be relevant to the study of influentials in nursing. The Iowa Model of Research Use in Practice\(^{51}\) and Stetler Model\(^{52}\) provided guidance on the practical application of EBP in clinical practice for nurses wanting to develop an EBP. However, these models did not provide insight into how to implement the EBP nor did they describe the role of an influential person in implementing the EBP and thus were not included in the development of the framework. The Theory of Planned Behavior\(^{53}\) and Social Learning Theory\(^{54}\) are used to explore and explain why and how nurses may or may not adopt new evidence into practice. However, these theories look at the intention, attitude and behaviors of the adopters rather than the implementers and were not included. The Ottawa Model of Research
Use is a planned action model aimed to assist policymakers wanting to increase the use of evidence in practice. This model includes contextual factors, implementation strategies that may be used and expected impact however, it does not pertain to influentials in nursing and was also excluded. Thus, the three remaining theories, Social Influence Theory (SIT), Promoting Action on Research Implementation in Health Services (PARIHS), and Rogers Diffusion of Innovation (DI) were selected to guide the development of the conceptual framework. These theories were selected as they describe and explain the key elements related to the role of influentials as is described in more detail in the next section.

**Social Influence Theory (SIT)**

SIT, as described by Mittman et al., suggests that in a moderately sized group of health care professionals, such as a nursing unit, that one person can effectively and successfully change the social norms (behavior) of the group. Mittman et al. propose that individuals’ decisions, actions and behaviors are guided by the habits, customs, assumptions, beliefs, and values held by peers, prevailing practices and social norms that are upheld within the group. In SIT, the influential may use behavioral modeling or information to change the group’s behavior. SIT has been widely cited in the nursing and implementation science literature as the theoretical basis for the use of an influential as an implementation strategy, however this theory has not been tested nor validated. Elements from SIT were thought to be important to the exploration of influentials as the theory clearly outlines important traits that the influential should possess as well as suggests activities, such as role-modeling, that may be undertaken by the influential to influence change.

**Promoting Action on Research Implementation in Health Services (PARIHS)**

The PARIHS framework, as described by Rycroft-Malone et al., put forward that the successful implementation of evidence into practice is reliant on three key elements: the nature of evidence being implemented, the quality of the context, and appropriate approaches to facilitation. Facilitation is described broadly as activities that aim to help others and may include leading the change, or providing advice and support, or more actively by encouraging the group to develop their own network and assess their achievements. The PARIHS framework has been used and validated in studies of implementation in nursing and was selected to inform the conceptual
framework as it provides insight into the attributes and activities undertaken by an influential. The PARIHS framework provides insight into related factors that may impact the influentials ability to influence, such as contextual factors.

Diffusion of Innovation (DI)

Rogers’ Diffusion of Innovation (DI) theory is based on the belief that diffusion of innovations as “the process in which an innovation is communicated through certain channels over time among members of a social system”. \(^{62}\). DI is a multifaceted, complex theory that is based on four key elements: a) the innovation, b) communication channels, 3) time and 4) social system. DI has been used to guide the study of diffusion in many disciplines from healthcare to business as was illustrated in a systematic review by Greenhalgh et al. that included close to 500 studies across five disciplines \(^ {63}\). DI was thought to be important to the study of influentials as the theory describes contextual and social factors that may impact the uptake of evidence. As well, DI suggests that influentials play an important role in the diffusion of information by being part of a multi-layered team as either an opinion leader or champion of change. In DI, the opinion leader acts as a driver of change from a higher level than the target group and employs change agents to impact change within the target group.

Preliminary elements of the conceptual framework

The preliminary framework was developed based on the objectives of this study and information from the relevant theories of influentials in nursing. Based on the objectives of the study, the main categories of interest were context, characteristics of the influential, mechanisms of influence and impact. These categories were populated by comparing and contrasting the similarities and differences of the concepts described in each theory.

Context

Each of the three theories describes contextual factors relating to influentials in nursing. Three sub-elements emerged as relevant: setting, culture, and organizational leadership.
Setting

SIT suggests that different social influence strategies are more effective depending on the type of setting and that the use of an influential is most effective in a moderately sized group of healthcare professionals (e.g. nursing units) as compared to a larger, non-connected group. SIT proposed that in a moderately-sized group of healthcare professionals, such as a nursing unit, that one person can effectively and successfully change the social norms (behavior) of the group 56.

Culture

PARIHS and DI suggest that organizational culture and leadership are important sub-elements of context. Culture is described as the prevailing practices upheld by the organization and its members 60 61. DI expands this definition and suggests that organizational context is a social system that consists of interrelated units that aim to accomplish a common goal. Within this social system are norms which are defined as the established patterns of behavior 62. Both PARIHS and DI suggest that organizational norms are set by the organizational leadership.

Organizational leadership

Successful organizational leadership is defined as organizational leaders who promote effective teamwork and inclusive decision-making processes 60 61. DI further illustrates the importance of supportive organizational leadership as the decision to adopt a new practice occurs at the organizational level. Thus, the structure of the social system, including its leadership, can facilitate or impede the diffusion and adoption of EBP 62. PARIHS suggests that organizational leaders are effective agents of change because they have an enabling and empowering approach to teaching and managing members of their organization 60 61.

Application to framework

For the purpose of this framework, context has three subthemes: setting, culture and organizational leadership. Setting is the environment where the change is taking place which is the nursing units within a hospital. Within this setting, however, differences such as academic or community hospitals, urban or rural, different specialties within the hospital may exist and will be explored in this study. The culture of the organization also appeared to be important to the
study, with the norms and culture being set at the organizational level. Organizational leadership was also seen as important and is defined as members of the organization who are hierarchically higher in position than the influential and the target group of nurses. Successful organizational leadership is thought to exhibit supportive and enabling behaviors and provide necessary resources to effectively implement the EBP. Lastly, while PARIHS suggested that the evidence being implemented may play an important role in the uptake of a new EBP it was excluded from this framework. Evidence was thought to be beyond the scope of the study as this study was focusing on the role of the influential in influencing change, rather than leading to uptake. Additionally, while there is a large body of literature on the importance of the type and quality of evidence, this study defined EBP broadly and included additional factors such as patient preferences and nurses’ experiences. Therefore, the type and quality of evidence was not included as an element in this framework.

Characteristics

Each theory provided insight into the characteristics of the influential. The characteristics described related the influential’s personal attributes, professional attributes and skills.

*Personal attributes*

In SIT, an influential is a highly respected individual or group of individuals ⁵⁶. DI builds upon this definition and describes an influential as an informal leader who is more exposed to external communication and more innovative than the people who they influence ⁶². The influential’s leadership role is not a function of their formal position or status in the system; rather their position is earned and maintained by their technical competence, social accessibility and conformity to the systems norms ⁶².

*Professional attributes*

With regards to the professional attributes of the influential, two recurrent themes emerged: influential’s position within the organization and influential’s relationship to the target group. With regards to position within the organization, SIT and DI propose that the influential is internal to the organization where they exert their influence ⁵⁶,⁶²; whereas PARIHS proposes that the influential may be either internal or external to the organization ⁶⁰,⁶¹. Both PARIHS and DI
propose that the influential may be similar to the group (i.e. have a nursing background) or not whereas DI furthers this argument by suggesting that the influential must be both similar and different to the target group in terms of status and familiarity however the influential must not be too different as they may lose credibility if they deviate too far from the target group. SIT believes that influentials are familiar and often members of the group where they exert their influence.

Skills

PARIHS notes that the influential requires specific skills to competently fulfil their role. However, the type of skills will differ depending on their role or purpose. For example, the influential may benefit from having communication or marketing skills depending on the type of mechanisms they choose to utilize.

Application to framework

The influentials appear to have characteristics that relate to their personal and professional attributes as well as skills. Influentials are most commonly described as respected, informal leaders. Professionally, there is conflicting information as to the influentials position within the organization and similarities with FLNs. As well, there was limited information on the skills of the influential. These themes and their relationships will be further explored in this study.

Mechanisms of influence

Each theory describes at least one mechanism of influence used by the influential to influence the use of evidence in practice. A mechanism of influence is the way(s) in which an influential influences change. Each mechanisms of influence that was described in one or more of the theories are described below.

Education transfer

SIT and DI propose that the transfer of information about the EBP to the target group is a key mechanism of influence. SIT refers to this process as ‘education transfer’. The information transferred to the group is based on factual, objective information from a reputable source.
Of note is while the objective of education transfer is to provide information and education about the EBP to the target group, the way in which information is provided and how it is delivered are a result of the influentials subjective evaluation of the EBP. The process in which new information is transferred and its use encouraged is through face-to-face exchange of information.

**Facilitation**

Facilitation as a mechanism of influence was introduced by the PARIHS framework. PARIHS defines facilitation as “a technique by which one person makes things easier for others”. Facilitation is achieved by an influential assisting members of the target group understand what behaviour they need to change and how and why they need to change it in order to apply the evidence in practice. The influential facilitates the process of implementing change by providing assistance with a specific task or providing the overall leadership of the implementation project. It is believed that facilitative activities may include assisting with administrative tasks such as changing orders or developing care pathways or may include liaising with members outside of the unit to assist with implementation.

**Social influence**

SIT and DI propose that influentials primary mechanism of influence is social influence. Social influence is the process by which “the behavior of one person has the effect or intention of changing how another person (or group) behaves, feels, or thinks about something”. SIT and DI suggest that most clinical practice behaviors are rooted in social norms and that clinical behaviors are altered at a group level. Social influence is achieved by the influential convincing the target audience that nonconforming practices are outdated, inappropriate, not supported by research and no longer accepted by colleagues and peers. An important feature of their influence is to demonstrate that the desired practices are accepted by peers in similar practice settings with constraints and objectives similar to those of the target individual.

Within social influence, the influential may change group norms through normative influence or informational social influence. Normative influence is the transmission of implicit or explicit rules or statements concerning the legitimacy of and/or acceptability of behavior within the group. Normative influence occurs by the influential identifying and evaluating inappropriate
practices and encouraging use of the EBP to improve quality of care. This type of communication is referred to as peer pressure. On the other hand, informational social influence occurs when individuals model their behavior after influential members of the group to resolve uncertainty due to lack of knowledge and relates to behavioral cues rather than objective factual information. Regardless of whether the social influence is normative or informational, the influence is achieved by the influential acting as a social model whose behavior is imitated by members of the target group.

Application to framework

The mechanisms of influence that emerged from the theories are social influence, education transfer and facilitation. While these three mechanisms are presented separately, it is currently unknown how or whether they relate to each other or overlap. These theoretical concepts, the strategies used to achieve them and their relationships will be further explored in this study.

Impact

The primary impact of the influential in all theories is an increased use of evidence by FLNs which translates into a change in behavior. In addition to change in behavior, SIT proposes that changing the level of knowledge of the group is important; however it is secondary to change in behavior. PARIHS describes the intended impact as successful implementation, however, does not clearly define what is meant by successful implementation and was therefore interpreted to mean a change in behavior. Lastly, DI discusses the notion of consequences as opposed to impact. DI suggests that the consequences, or impact, of adoption may be desirable or undesirable, direct or indirect, and anticipated or unanticipated.

Application to framework

Based on this information, these theories suggest that behavior change is the primary impact of the influentials influence on FLNs. However, other impacts such as an increase in knowledge and other consequences such as desirable/undesirable, direct/indirect and anticipated/unanticipated impacts will be further explored in this study.
Summary

In sum, the preliminary framework was developed to present a theoretical understanding of the known elements and concepts in the study of influentials in influencing the uptake of evidence in nursing (Figure 1). While the theories provided insight into some of the main elements and concepts that may be of interest, they did not provide insight into the relationship between them. Thus, in this framework, the context, characteristics and mechanisms boxes were illustrated through open boxes that were connected with double sided arrows to illustrate the unknown relationship. Additionally, the relationship between context, characteristics and mechanisms on impact was also unknown and was illustrated by all three leading to impacts. This framework was used to guide collection of data for the scoping review and interviews, data analysis including triangulation and presentation of results.

Figure 1. Preliminary framework of the role of influentials in nursing

CHAPTER 3. SCOPING REVIEW OF THE LITERATURE

This chapter presents the methods and results of a scoping review of the literature on influentials in nursing. The aim of this review was to map out empirical studies of influentials and their role in influencing the use of evidence in nursing. The results of the review were used to expand the framework and guide the development of the interview guide.

Methods

A scoping review was performed to map the key concepts underpinning this study, as well as the sources of information and type of evidence available. This review followed the methodological framework described by Arskey and O’Malley.

Search strategy

The search strategy included three stages: identifying the research question, identifying relevant studies, and selecting relevant studies.

Identifying the research question

The purpose of this study was to explore the role of an influential in influencing the use of evidence in nursing practice. The specific research questions for the review are the same as those of the overall study:

a) What are the contextual factors that enable an influential to successfully influence the uptake of EBP?

b) What are the key personal and professional attributes of a successful influential?

c) What mechanisms of influence are utilized by the influential to successfully influence the uptake of EBP?

d) What impact may the influential have on front-line nurses’ uptake of EBP?

Identifying relevant studies

The development of the search strategy was iterative and involved identifying the optimal combination of keywords and Medical Subject Headings (MeSH) relevant to research about
influentials and the use of evidence in nursing. Different combinations of MeSH headings and keywords were used to describe an influential, evidence-based practice and nursing were employed until the optimal combination was reached. The three major concepts (influential, evidence-based practice and nursing) were searched using the ‘and’ function while the combination of key words and MeSH headings for each major concept were joined using the ‘or’ function within each category. The final search terms for each major concept are presented in Table 2.

**Table 2. Search terms for the scoping review**

<table>
<thead>
<tr>
<th>Major Concept</th>
<th>Key words/MeSH headings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influential AND</td>
<td>Champion “or” Change agent “or” Consultant “or” Coordinator “or” Facilitator “or”</td>
</tr>
<tr>
<td></td>
<td>Leader(ship) “or” Manager “or” Mentor “or” Opinion Leader</td>
</tr>
<tr>
<td>Evidence-Based Practice AND</td>
<td>Clinical Pathway “or” Critical Protocol “or” Diffusion of innovation “or” Evidence-</td>
</tr>
<tr>
<td></td>
<td>based nursing “or” Guideline adherence “or” Information dissemination “or”</td>
</tr>
<tr>
<td></td>
<td>Interprofessional relations “or” Practice guidelines “or” Quality indicators</td>
</tr>
<tr>
<td>Nursing</td>
<td>Advanced Practice Nurse “or” Clinical Nurse Specialist “or” Education, nursing,</td>
</tr>
<tr>
<td></td>
<td>continuing “or” Nurse administrators “or” Nurse clinicians “or” Nurse Manager “or”</td>
</tr>
<tr>
<td></td>
<td>Nurse practitioners “or” Nurse’s role “or” Nursing research</td>
</tr>
</tbody>
</table>

The process of selecting the appropriate search terms was an iterative process. The primary reviewer (EP) and a member of the thesis committee independently reviewed the first 25 abstracts of each search outcome to assess whether the search strategy was producing relevant articles. The primary reviewer and members of the thesis committee met to discuss the findings and further revise the search strategy as necessary. This process was repeated four times until the final search strategy was deemed appropriate and all-inclusive. During this process, the thesis committee developed the inclusion and exclusion criteria and the primary reviewer noted the journals where the relevant articles were published for a subsequent hand search. The final search of the literature was conducted using two electronic databases: OVID Medline and CINAHL. The search strategies can be found in Appendix A. In addition to these databases, the tables of contents for Evidence Based Nursing, Journal of Advanced Nursing, and Worldviews on Evidence Based Nursing were examined from 1993, or the year of inception until September 2012. Reference lists of articles were also examined.
Study selection

The inclusion and exclusion criteria were developed both a priori and ad hoc based on increased familiarity with the literature. The inclusion and exclusion criteria are shown in Table 3. Studies were included if they described, compared, or evaluated the implementation of any EBP in nursing using an influential. In addition to these criteria, further limits were placed on the search. Studies were included if they were published in the English language in 1993 or later until September 2013. The cut-off date was selected as evidence-based practice was included as a MeSH term in Medline in 1993 and a twenty year time span was thought to be inclusive. Lastly, the included studies were limited to original empirical studies.

Table 3. Inclusion and exclusion criteria for the scoping review

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
<th>Exclusion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describes, compares, or evaluates the implementation of evidence or use of evidence by nurses in a hospital setting</td>
<td>Not relevant to frontline nurses working in a hospital setting, or where relevant data cannot be distinguished from other data</td>
</tr>
<tr>
<td>Explores the use of an individual or team of individuals, who influences nurses’ use or knowledge of evidence</td>
<td>Relates to nursing students, recent graduates, midwives, school nurses or preceptorship</td>
</tr>
<tr>
<td>Explores, describes, compares, develops, implements or evaluates the characteristics, duties, roles, responsibilities, activities, effectiveness or impact of an influential</td>
<td>Does not describe implementation or use of evidence by nurses</td>
</tr>
<tr>
<td></td>
<td>Does not describe, explore or evaluate the use of an influential</td>
</tr>
<tr>
<td>Publication type is one of the following:</td>
<td>Publication type is one of the following:</td>
</tr>
<tr>
<td>Case study</td>
<td>Anecdotal/Opinion/Editorial</td>
</tr>
<tr>
<td>Interviews or focus groups</td>
<td>Concept analysis</td>
</tr>
<tr>
<td>Observational/cohort study (including before/after)</td>
<td>Gray literature</td>
</tr>
<tr>
<td>Randomized controlled trial, controlled clinical trial</td>
<td>Program evaluation (without empirical information)</td>
</tr>
<tr>
<td>Review (systematic review, meta-analysis, meta-narrative, realist)</td>
<td></td>
</tr>
<tr>
<td>Survey/Questionnaire</td>
<td></td>
</tr>
</tbody>
</table>

The primary reviewer and a member of the thesis committee reviewed all titles and abstracts against the inclusion and exclusion criteria. To assist with this process, a screening tool was developed based on these criteria (Appendix B) and the thesis committee met in person and discussed whether studies should be included or excluded based on the tool. There was general agreement amongst the reviewers about which studies should be retrieved in full-text format. Where a disagreement arose or if the committee members were unsure, the study was retrieved in full-text to ensure that all potentially relevant articles were included. Once full-text articles were
retrieved, the same iterative process of determining eligibility using the screening tool and meetings with the thesis committee was undertaken. Consensus was reached with the thesis committee on the studies to be included in this review.

**Data extraction**

Once the articles were selected, data from each study was extracted into a data form. The data form was developed by the thesis committee based on key concepts presented in the framework and the study’s objectives. The data form was tested through the independent extraction of data by two members of the thesis committee from two eligible studies. The reviewers compared results and modified the data form to more easily capture relevant details over the course of three iterative sessions. Data were collected on study characteristics, perceived barriers to change, characteristics of the influential, mechanisms of influence, and impact. The data form can be found in Appendix C.

Data was extracted in a narrative, free text format which allowed for inclusive and comprehensive collection of data that ensured the data remained contextualized. Quantitative and qualitative data were extracted and analyzed as was descriptive and statistical information. The data form was created in Microsoft Excel to allow to analysis in later stages.

**Collating, summarizing, and reporting results**

Data were collected, organized, collated and summarized according to the key concepts of the research questions: context, characteristics of the influential, mechanisms of influence, and impact.

**Results of the review**

All abstracts were imported into RefWorks. After duplicates were removed, 365 studies were reviewed for inclusion. In total, 96 articles were reviewed in full and 11 of the studies met the inclusion criteria and were included in the review. The search results are shown in Figure 2. As noted in the PRISMA diagram, the majority of studies were excluded due to publication type and relevance. The reference lists of all articles that were screened in full text were reviewed and three additional articles were found that met the inclusion criteria.
Figure 2. PRISMA diagram

Records identified through database searching
- Medline (n = 239)
- CINAHL (n = 91)

Additional records identified through other sources
- Journal of Advanced Nursing (n = 40)
- Evidence-Based Nursing (n = 8)
- World-Views on Evidence-Based Nursing (n = 11)

Records after duplicates removed
- Medline (n = 239)
- CINAHL (n = 75)
- Journal of Advanced Nursing (n = 37)
- Evidence-Based Nursing (n = 8)
- World-Views on Evidence-Based Nursing (n = 6)

Records screened (n = 365)

Records excluded
1 (n = 11)
2 (n = 7)
3 (n = 141)
4 (n = 12)
5 (n = 95)
6 (n = 3)

Full-text articles assessed for eligibility (n = 96)

Full-text articles excluded
1 (n = 3)
2 (n = 0)
3 (n = 19)
4 (n = 10)
5 (n = 47)
6 (n = 1)
7 (n = 8)

Total articles included in synthesis (n = 11)

Legend of Exclusion
1 Not relevant to nursing, or where nursing data cannot be distinguished from other disciplines
2 Relates to nursing students, recent graduates, midwives, school nurses or the context of preceptorship
3 Does not relate to implementation of EBP for nurses in a hospital
4 Does not include an influential
5 Publication type is one of the following: Anecdotal/Opinion/Editorial, Gray literature, Concept analysis, Program
6 Duplicate
7 Journal unavailable
Study characteristics

A summary of the characteristics of the included studies is shown in Table 4. The majority of the included studies were qualitative 65-72, with two studies assessing a change in behavior with a before-after study design 73 74. Of the qualitative studies, eight studies interviewed influentials to understand how they perceived their role in EBP and what factors they thought enabled the use of evidence by front-line nurses (FLNs) 65-71 75. In these studies, five influentials were Advance Practice Nurses (APNs) 66-69 75, one study compared the role of a senior nurse and group of nurses to a manager 70, and in the other two, the influentials were managers 65 71. Five of the qualitative studies gathered data from the influentials as well as FLNs, administrators and other stakeholders 66 68 69 71 75. Lastly, both before-after studies evaluated the use of an influential in increasing compliance with the use of evidence in nursing practice 73 74.

With respect to country of origin, over half of the studies were based in the UK 65 67 70-72 75, four studies were conducted in Canada 66 68 69 73 and one study was conducted in the US 74. Three studies reported findings from the RNAO’s Best Practice Guideline initiative 66 68 69, and two of these studies had the same authors 68 69. This is important to note as the EBP and implementation strategies were the same across these three papers. Similarly, two studies from the UK were conducted by the same group of authors on the same topic however, the authors do not acknowledge how these papers are connected 67 75. Lastly, the majority of articles were published in the past 10 years which indicates that the study of influentials has been of recent interest. As noted in Table 4, most of the studies did not provide information on the EBP being implemented with three studies using RNAO CPGs and three providing detailed information on the CPG. For example, the EBPs included guidelines on pain management, sepsis screening, and any number of RNAO CPGs which included topics such as client centered care, crisis intervention, healthy adolescent development, pain assessment, supporting and strengthening families, therapeutic relationships, risk assessment and prevention of pressure ulcers, prevention of falls and fall injuries, and prevention of constipation in older adults 66 68-70 73 74.
Table 4. Summary table of included studies

<table>
<thead>
<tr>
<th>Author, year</th>
<th>Country</th>
<th>Objectives related to this study</th>
<th>Study design, interviewees (where applicable) and N</th>
<th>Professional role of the influential</th>
<th>Type of EBP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caine et al., 1997</td>
<td>UK</td>
<td>To explore nurse managers role in facilitating EBP</td>
<td>Interviews with 10 nurse managers from two trusts</td>
<td>Nurse manager</td>
<td>Not specified</td>
</tr>
<tr>
<td>Cosens et al., 2000</td>
<td>UK</td>
<td>To validate an instrument to identify opinion leaders in nursing wards</td>
<td>Survey of 57 FLNs in one hospital in the UK (61% response rate)</td>
<td>N/A</td>
<td>Not specified</td>
</tr>
<tr>
<td>Rycroft-Malone., et al., 2004</td>
<td>UK</td>
<td>To explore factors that are important to the implementation of EBP in nursing</td>
<td>Two focus groups with APNs (n=7 and n=5) and 17 interviews with managers, APNs, FLNs and other stakeholders from two sites</td>
<td>Senior nurse/FLN</td>
<td>Haemofiltration and pain management</td>
</tr>
<tr>
<td>Gifford et al., 2006</td>
<td>CA</td>
<td>To investigate leadership factors that contribute to sustaining the use of EBP</td>
<td>Interviews with 32 FLNs, APNs and administrators from 9 hospitals in Ontario (91% response rate)</td>
<td>APN</td>
<td>RNAO*</td>
</tr>
<tr>
<td>Ellis et al., 2007</td>
<td>CA</td>
<td>To evaluate the implementation of a pain CPG in a pediatric hospital using local champions (nurses) and a pain committee</td>
<td>Pre-test (n=120), post-test (n=120) survey; and pre-intervention (n=75) and post intervention (n=44) chart audit from five units; and one focus groups (n unknown)</td>
<td>APN</td>
<td>Pain management</td>
</tr>
<tr>
<td>Ploeg et al., 2007</td>
<td>CA</td>
<td>To explore factors influencing implementation of EBP</td>
<td>Interviews with 59 administrators, 58 staff, 8 project leads</td>
<td>APN</td>
<td>RNAO*</td>
</tr>
<tr>
<td>Campbell et al., 2008</td>
<td>US</td>
<td>To evaluate the impact of nurse champions in implementing a CPG in the ICU</td>
<td>Pre-test (n=60), post-test (n=60) chart audit from one ICU unit in one hospital</td>
<td>FLNs</td>
<td>Sepsis screening</td>
</tr>
<tr>
<td>Ploeg et al., 2010</td>
<td>CA</td>
<td>To explore how nurse champions implement CPGs</td>
<td>Interviews with 23 champions; and survey of champions (n=191) and administrators(n=41)</td>
<td>APN</td>
<td>RNAO*</td>
</tr>
<tr>
<td>Gerrish et al., 2011</td>
<td>UK</td>
<td>To identify factors influencing APNs contribution to promoting EBP</td>
<td>Survey of 855 APNs</td>
<td>APN</td>
<td>Not specified</td>
</tr>
<tr>
<td>Gerrish et al., 2011</td>
<td>UK</td>
<td>To identify approaches used by APNs to promote EBP</td>
<td>Case study including interviews and direct observation of 23 APNs</td>
<td>APN</td>
<td>Not specified</td>
</tr>
<tr>
<td>Wilkinson et al., 2011</td>
<td>UK</td>
<td>To explore and explain the EBP implementation role of nurse managers</td>
<td>Four case studies including 10 administrators, 16 managers, 24 APNs or specialty nurses</td>
<td>Nurse manager</td>
<td>Not specified</td>
</tr>
</tbody>
</table>

*RNAO guidelines included at least one of the following topics: client centered care, crisis intervention, healthy adolescent development, pain assessment, supporting and strengthening families, therapeutic relationships, risk assessment and prevention of pressure ulcers, prevention of falls and fall injuries in older adults, promoting continence using prompted voiding and prevention of constipation in older adults

Key findings from the review

Data were collected, analyzed and are presented according to the research questions: context, characteristics of the influential, mechanisms of influence, and impact.
Context

With respect to context, organizational leadership and culture, defined as the behavior of the group, emerged as important themes from the literature in the clinical setting and validated and expanded the theoretical findings.

Organizational leadership

Supportive organizational leadership was noted as an essential element of successful implementation in six studies. Organizational leadership was seen as multidimensional and multi-layered and included vice-presidents, directors, overarching governing bodies (i.e. the Trust in the UK), professional associations (i.e. RNAO), unit managers and educators. Some studies suggested that all members of the organizational leadership must buy-in to the EBP and work together as a team for the implementation to be successful. Buy-in at the organizational level was most often exhibited by the organizational leaders initiating implementation of the EBP. This was described as particularly important as FLNs reported that they and their peers perceive behavioral cues from their organizational leaders and often times the staff would follow their lead. Supportive organizational leadership was exhibited by members of the organizational leadership attending meetings, educational sessions, encouraging staff and publicly supporting the influential. Lastly, leaders also showed support by providing the resources necessary to implement the EBP. Resources included human resources (i.e. workload, relief time to receive training) and financial resources, mostly for necessary equipment. Of note is that the only studies that mentioned resources dedicated for the influentials role was studies that were part of the RNAO initiative. While a few studies mentioned the importance of having a supportive leadership, having an unsupportive leadership was associated with poor outcomes and negative attitudes from staff.

Culture

In addition to behavioral cues, three studies documented the importance of the organizations values, beliefs and culture being consistent with the EBP. The integration of the EBP into organizational culture was achieved by modifying hospital documents, policies and orders to
reflect the EBP. Two studies provided insight into some of the barriers associated with implementing a new practice and included workload of FLNs, workload of influentials, unsupportive leadership and poor communication.

**Application to the framework**

Based on the findings, organizational leadership was modified and expanded to include the notion that organizational leaders were supportive, multi-layered and worked as a team, and often initiated the implementation of the EBP. Support was described as provision of resources as well as providing verbal and behavioral encouragement for the implementation of the EBP. The theme of culture was expanded to include barriers to change and the importance of having organizational culture being aligned with the implementation of the EBP remained important.

**Characteristics**

Few studies provided information on influentials characteristics and the data provided did not expand the preliminary categorizations as described in the theoretical literature which were personal attributes, professional attributes and skills.

**Personal attributes**

Few studies provided in-depth information on the personal attributes of the influential. Most studies described the influential as supportive. Support was exhibited mostly through facilitative activities (see Mechanisms). The influential was also described as being an expert or having knowledge of the EBP. They were passionate and committed to the implementation of EBP. One study described the influential as being persuasive and innovative, while another commented on their enthusiasm and positive attitude.

**Professional attributes**

In all of the studies the influential was well-known to their target group, had a nursing background, and was internal to the organization. Having these attributes led to the perception of the influentials having clinical credibility. Influentials held a formal position within the organization in addition to their role as influential. Most of the influentials were APNs.
An APN was defined as a nurse who had a graduate degree and whose role involved an element of clinical practice requiring expert knowledge and skill and might include, but not be confined to, clinical nurse specialists, nurse educators, nurse consultants, nurse practitioners, practice development nurses. The second most common position was nurse managers, followed closely by a team of FLNs. Of the studies describing an APN as an influential, most reported that they were in an ideal position to promote, enable and advance the use of evidence in nursing practice. Of note is that as part of the RNAO initiative, hospitals were provided with partial funding for an APN, usually a clinical nurse specialist, to lead the implementation. Thus, the APNs involved in these studies were given formal roles as influential outside of their clinical roles as APNs. These studies described the implementation of the EBP as part of their formal job, rather than in addition to their other responsibilities.

Conversely, studies describing the influential as a nurse manager found that nurse managers are not in an ideal position to advance the use of evidence and that doing so was outside of their scope of practice. In the two studies that used a team of FLNs, one study found this to be successful whereas the other did not due to lack of clear leadership on the unit. In most cases, the role of influential appeared to be in addition to or part of the nurse’s current role and the nurses volunteered to take on the extra responsibility. As noted above, APNs felt that advancing the use of evidence was already part of their role and managers did not. The survey study assessing the validity of a tool to nominate influential found that the professional role of the influential was not consistent.

**Skills**

Influentials’ skills were described in one of three ways: a) formal education; b) skills that may enable the influential in fulfilling their role; and c) training that the influential underwent in order to fulfill their role. With regards to formal education, completion of a Master’s degree in nursing was seen as important to this role. The importance of having a Master’s degree was especially mentioned by nurse managers, as they felt they lacked the skills necessary to influence the use of EBP due in part to not having a Master’s degree and therefore, they often nominated others with the necessary skills to fulfill this role.
Overall, it appeared that the role of an influential could be enhanced by having additional skills or training for the role. A few studies suggested that the influentials role may be enhanced by having research skills (i.e. searching for evidence, critical appraisal skills and an understanding of research methodology)\textsuperscript{67, 69, 72, 75}, mentoring skills\textsuperscript{67, 69, 73}, and communication skills\textsuperscript{66, 70, 72}. Two studies suggested having skills or experience in implementing change may assist the influentials ability to affect change\textsuperscript{69, 75}. One study described coaching skills as an asset\textsuperscript{73}.

Four studies described training that the influential underwent prior to starting their role as an influential\textsuperscript{66, 68, 69, 73, 74}. Training was a key part of the RNAO initiative and involved the influentials attended a 1- or 2-day interactive workshop that provided information on EBP and the RNAO Best Practice Guidelines program, the role of a champion, and application of RNAO’s guideline implementation toolkit. The workshop provided information on how to plan for the process of change, how to assess current practice, compare current practice with guideline recommendations and how to select recommendations that address these gaps in practice. The workshops also provided information on general and tailored implementation strategies as well as suggestions on how to engage stakeholders in the implementation process\textsuperscript{66, 68, 69}. Campbell (2008) also described training sessions for the influentials. The influentials attended three informational sessions offered by agency’s educational department which included a review all components of the EBP as well as clear description of their role and responsibilities. The influentials took a competency exam relating to the EBP and had to achieve greater than 90%. They were then formally introduced as influentials to the staff\textsuperscript{74}. Lastly, the study conducted by Ellis mentioned that the influentials received training on coaching and mentoring skills, but mentioned no further information on their training\textsuperscript{73}.

\textit{Application to the framework}

Based on the above information, each main theme was expanded from the initial framework. Personal characteristics were expanded to include supportive and knowledgeable. While other attributes such as being enthusiastic, passionate and committed to the EBP and its implementation were described in some studies, these were not seen as strong themes and were not included in the framework. In terms of professional characteristics, the empirical literature provided insight into the uncertainty presented in the theoretical literature. Based on these findings, the influential holds a formal position internal to the organization where the change is
being implemented, are peers or near peers (e.g. APNs), and are experienced in nursing. Additionally, it appears that that the influentials role within the organization is most positively described as an APN or FLN, but not a manager. With respect to skills, higher education, such as having a Master’s degree in nursing was described as an enabler as was training for their role and thus, these were added to the framework. Some studies suggested that the influential may benefit from skills relating to research, implementation, or communication however, these were not added to the framework as they were not clear themes.

**Mechanisms**

Nine of the 11 studies described at least one mechanism of influence. Facilitation was described most frequently, followed by social influence, education transfer, and audit and feedback emerged as a new mechanism. Of note is that there was overlap between the mechanisms with most studies describing facilitation and social influence or education transfer strategies. Based on this overlap and others, it appears that the mechanisms are used in conjunction with each other.

*Social influence*

Social influence was a key mechanism in seven of the nine studies that described a mechanism of influence. 66-70 73 75. Social influence was exhibited through role-modeling, using the culture on the unit to affect change, and providing information that was used to influence the group (peer pressure). Influentials often modeled the behavior they were trying to change 66 67 69 75. Four studies explicitly stated role-modeling as a key feature of the influentials role 66 67 69 75. Within this role, the influential acted as a mentor 69 75 and a local leader 69. Influentials would show the FLNs how to do or apply the new practice by modeling the behavior on the unit 66 69 75. The influentials would also allow FLNs to formally shadow them when caring for patients 75. In two studies, the main influential had a team of advocates who were present on each shift to be constant reminders of the EBP at the bedside, promote positive attitudes, problem solve at the bedside, and reinforce the need to implement the EBP 70 73.

Social influence was described as the influential leading a cohesive team who works well together and collaborates toward a common goal 66 68 70 73. By being perceived as an informal leader, the influential was able to change the norms on the unit to mirror the EBP. The influential
created an atmosphere welcoming change by changing negative attitudes toward the EBP. The influentials influence spanned beyond the nursing unit as they would also include other related disciplines to allow for interdisciplinary collaboration. This was most often achieved through small group activities and setting standards by modeling the appropriate behavior.

The information used by the influential for social influence came from many places and was often referred to as peer pressure. An example of peer pressure is when the influential would speak with colleagues who have already successfully implemented the EBP to better understand how to do it and then would relay the success of the new EBP by their peers and help FLNs see the implications for their practice. Lastly, while Campbell provided no information on the mechanisms of influence, the author commented on the success of their role as being consistent with what is known about the social nature of change and success may have been due to the influential being a peer.

**Education transfer**

Five out of the nine studies described education transfer as key to the influentials role. The transfer of education was conducted both actively and passively. In terms of active strategies, three studies described in-person transfer of education and this was most often achieved by leadings rounds or formal workshops, impromptu meetings and other face-to-face communication. More passive dissemination of information was described far more frequently. Information was disseminated through email, pin boards on the unit, posters, newsletters. The purpose of disseminating information was to keep nurses updated, provide information on the rationale behind the EBP, how to apply the recommendations, and trouble-shoot. One study also indicated that influentials would provide ongoing, continuous education to reinforce and remind nurses as well as orientate new nurses.

**Facilitation**

Facilitation was the most frequently described mechanism of influence. Two studies described the mechanism of facilitation differently than the others and these studies were analyzed and presented separately. Within facilitation, it appeared that the influential had three main responsibilities: act as a resource, act as a liaison, and undertake administrative activities. Two studies indicated that the influential acted as a local and accessible resource.
Influentials were described as being and visible and accessible \(^{66}\) and available to problem solve at the bedside if needed \(^{75}\). In this role, the influential was available and accessible to answer questions and solve problems \(^{67}\). Secondly, the influential would act as a conduit for nurses to communicate with other departments and administration \(^{69}\) \(^{73}\). They would advocate for change and support for the nurses and the EBP \(^{69}\). Lastly, the influential conducted several administrative activities including organizing rounds \(^{68}\) \(^{69}\) and assisting with changing hospital documents to mirror the EBP \(^{69}\).

The studies that explored the role of nurse managers as influentials described facilitative behaviors differently. The managers described their role as being facilitative and enabling with regards to using evidence in practice, however the authors found that nurse managers words did not match their actions \(^{65} \) \(^{71}\). Nurse managers thought the use of evidence was the responsibility of each individual nurse and thus, they took a more passive role in enabling nurses to use evidence \(^{65} \) \(^{71}\). Enabling FLNs was described as informing the nurses to use evidence in practice to meet their job responsibilities and professional responsibilities \(^{65}\). FLNs did not see their managers as being facilitative or enabling, but did feel that nurse managers were in a position to act as leaders and champions of EBP \(^{71}\). Because managers felt that advancing the use of evidence was outside of their role, they felt role strain and that competing demands inhibited their ability to promote EBP \(^{65} \) \(^{70} \) \(^{71}\). All three studies that explored nurse managers as influentials acknowledged that there is a need for a person to facilitate to the use of evidence in nursing practice; however it is not within their scope \(^{65} \) \(^{70} \) \(^{71}\).

**Audit and feedback**

Audit and feedback was a mechanism of influence that emerged from the literature. Four studies noted that influentials would audit practice and provide feedback to the nurses and other members of the organization \(^{66} \) \(^{67} \) \(^{69} \) \(^{70}\). Ploeg et al found that influentials felt that assessing guideline use among FLNs was an important aspect of their role \(^{69}\). They would assess guideline compliance by creating nursing-specific indicators and assessing practice by way of in-person audits or review of charts \(^{69}\). Some influentials used this information to provide feedback to their staff regarding how well they are doing and also highlight aspects of care that require more work to meet compliance \(^{69}\).


Application to the framework

The mechanisms of influence that emerged from the data in this review provided more insight into the strategies utilized by the influentials in the clinical setting. While the main mechanisms remained the same, with the exception of the addition of audit and feedback, numerous strategies were added to each mechanism. Social influence was expanded to include role-modeling, changing cultural norms through informal leadership, and providing information (peer pressure). Education transfer was expanded to include the use of both active and passive strategies as well as continuous or ongoing education. Lastly, facilitation was exhibited by the influential acting as a resource and a liaison and conducting administrative activities.

Impact

Two before-after studies evaluated the impact of the use of an influential as a strategy to increase nurses use of evidence. Both studies found that the influential was successful in changing FLNs behavior to reflect the EBP. In one study, a chart audit was undertaken to evaluate the effect of the introduction of a group of influentials consisting of six trained FLNs on compliance with an evidence-based CPG before (n=60) and after (n=60) introduction of the influentials. This study found that the influentials led to a statistically significant improvement with FLNs compliance with the EBP increasing from 20% to 74% (p ≤ 0.001). Unfortunately, this study did not document any activities or characteristics of the influentials to be able to analyze whether certain activities or characteristics lead to a positive impact.

The second study evaluated the implementation of an evidence-based program in one hospital. The interventions for this study included an influential, a workshop for all nurses, presentation of rounds, communication via emails and hospital newsletters, and pegboards. Assessment of the program was conducted using questionnaires, a before-after chart audit, and a focus group. The questionnaire explored nurses perceptions of their own ability to assess patients according to the EBP and their perceptions statistically significantly increased from 18.6% to 32.2% (p = .004) post-implementation as did their perceived ability to treat the patient correctly (25.4% to 36.4%, p = 0.017). Furthermore, nurses perceptions of the units ability to assess, document, and treat patients according to the EBP was significantly higher after implementation. The chart audits that were conducted pre-implementation (n=74) and post-implementation (n=44) found that the
scale associated with the guideline was used significantly more post-implementation (5% to 43%; p < .001). With respect to narrative descriptions of the EBP, there was a significant increase from 39% to 61% (p=.022). Overall, the consistent presence and support of the influential was seen as key to the implementation of the program. Unfortunately, the authors provided little insight into the activities or characteristics of the influential. However, this study did find that the influential, as part of a larger implementation program, also positively affected FLNs perceptions of theirs, and their colleagues’ ability to practice the EBP.

Application to the framework

Based on the impacts reported in the empirical literature, it appears that influentials affect FLNs behavior with respect to changing behavior to reflect the new EBP. Additionally, one study found that influentials may also change FLNs attitudes towards themselves and others in terms of their ability to implement the EBP. Thus, the framework was revised to also include a change in attitude.

Summary

In sum, the data from the scoping review provided detailed information to support and expand the major themes that emerged from the theoretical literature. These modifications were important as they expanded what was known in the theoretical literature by providing a better understanding of how these theoretical concepts may be applied clinically. Additionally, these data provided insight from influentials as most of the included studies were from the perspective of the influential or administrators with minimal information being provided by the FLNs. While the data from the empirical literature provided more insight into how the mechanisms are utilized and which characteristics may be important, the data did not provide information into the relationship between the mechanisms of influence and context, characteristics or impacts. The findings from the review did however suggest that strategies are often used together and thus, the mechanisms of influence are now displayed as being conducted with the other mechanisms which is illustrated by the addition symbol (+) between each mechanism. As well, while the included studies included various types of EBPs, it was difficult to assess the impact of different types of EBPs due to only 6 studies assessing specific EBPs and there was a lot of variability between the EBPs. Overall, the modifications to the conceptual framework are seen in Figure 3.
Figure 3. Revised conceptual framework based on the scoping review

* indicates an addition to the framework.
CHAPTER 4. SEMI-STRUCTURED INTERVIEWS

In the second phase of this study, semi-structured interviews were conducted to further explore and build upon the conceptual framework by exploring the perspectives of the front-line nurses. Grounded theory was used as the methodological framework to guide the collection of data and analysis.

Methods

Sampling and recruitment

The population of interest in this study was FLNs who work directly with patients in general hospitals in Ontario. FLNs were of particular interest as there is limited information available in the literature from the FLNs perspective. Therefore, it was hypothesized that FLNs may be able to provide new, important information on who influentials are and the mechanisms they use to influence change to build upon current knowledge and the conceptual framework.

This study employed maximum variation sampling, a subset of purposive sampling, to obtain a representative sample. Purposive sampling is a type of non-probability sampling that is characterized by selecting participants based on the knowledge held by the participant. Maximum variation sampling further categorizes the participants based on pre-determined characteristics of interest and is used when specific characteristics from an otherwise homogeneous group are seen as important to the phenomena under review as was the case in this study. The characteristics of participants were that were seen as important was years in practice (greater than or less than 10 years in practice) and hospital type (community or academic general hospitals).

Recruitment of participants started at the organizational level. A comprehensive list of Ontario’s academic (n=35) and non-academic general hospitals (n=191) was obtained from the Ontario Ministry of Health and Long Term Care website. Five hospitals from each stratum were randomly selected to be contacted. Once the hospitals were selected, a contact person from each center was sought. The contact person was either the manager of a nursing unit, the Director of Nursing or the Vice-President of Nursing. If the hospitals were agreeable the contact person
often suggested a recruitment strategy to target FLNs that was suitable for their organization. Due to organizational preferences, different strategies were employed at each center.

At each site, the local liaison played a large role in recruitment to connect the interviewer (EP) with the FLNs. At some sites, letters of invitation and consent forms were sent to FLNs from the local liaison and the FLNs were asked to contact EP directly if interested. At other sites, letters of invitation and consent forms were sent to FLNs from the local liaison and the FLNs indicated interest to the local liaison who then connected EP with the interviewee or organized an interview time. Reminders were sent out by the local liaison at 2-3 week intervals, up to a maximum of three times. Some sites also posted flyers around the hospitals asking interested FLNs to contact EP if they were interested in the study or invited EP to present in-services to FLNs at their hospital during scheduled times. Despite the mode of contact, all FLNs received a letter of invitation articulating the purpose of the study, their role in the study as well as details relating to participation (see Appendix D and E for the letter of invitation and consent form that was approved by the University of Toronto’s Research Ethics Board). All participants were informed of confidentiality and anonymity to alleviate any concerns of their responses being made public. Signed, informed consent was obtained from each participant prior to the interviews.

Inclusion and exclusion

Once participants indicated interest, participants were screened for eligibility. Participants were required to have more than one year of experience as an FLN. Additionally, nursing students and Registered Practical Nurses were excluded as they have different roles and responsibilities than FLNs.

Sample size

Based on the number of questions and type of data that was being sought, it was projected that 10-20 interviews would be required to reach theoretical saturation. Theoretical saturation is the process of acquiring sufficient data to develop each category and/or theme fully in terms of its properties, dimensions and to take into account variation. Theoretical saturation was attained when: a) no new or relevant data emerged in any category; b) each category was fully developed
and demonstrated variation; and c) the relationships between categories were fully explored and explained.

Ethics approval

Research ethics approval was sought and obtained from the University of Toronto’s Research Ethics Board prior to commencement of the interviews. Research ethics approval was also sought and obtained from specific organizations when necessary. All interviews were conducted in keeping with ethical standards.

Data collection

Semi-structured interviews were conducted to allow for the collection of information to explore the study’s objectives and expand, confirm or reject the a priori framework. An interview guide was developed and pilot-tested with two FLNs prior to the start of the study to ensure that the questions were all encompassing, unbiased and resulted in answers useful to the study’s objectives. The interview questions and prompts were developed based on the key concepts in the framework and the findings from the literature review. Questions were asked to explore the main concepts in the framework (i.e. context, characteristics of the influential, mechanisms of influence, and impact) as well as identify new, emergent themes. The interview guide can be found in Appendix F.

Interviews were conducted over the phone and in-person. The interviews were conducted in a location selected by the participant. Regardless of setting, all interviews were audio-recorded and transcribed verbatim by a professional transcriptionist. All transcripts were de-identified by the transcriptionist prior to review by the thesis committee.

Data analysis

This study utilized grounded theory methods including open coding, axial coding and data integration.
Open coding

Data analysis began after the second interview was conducted and transcribed. The first three interviews were carefully reviewed by members of the thesis committee to ensure that they were being conducted well and that relevant data were being captured. The first stage of data analysis (open coding) entailed line-by-line reading of each transcript for relevant text. Relevant texts are passages in transcripts that express a distinct idea related to the research objectives. All relevant text were highlighted and copied into an Excel Workbook and coded. Coding is a process of extracting concepts from raw data. Concepts are the words that stand for the ideas in the data and are the first level analysis. During this stage, the objective was to extract all relevant text to start to understand the concepts that were emerging from the data and break down the data into manageable pieces.

Of note is that the questions that were asked of participants, while open-ended, were asked to be able to address the study’s objectives. Thus, each relevant text was associated with a category of interest that was determined a priori according to the research objectives. Categories were used to group, merge or combine lower-level concepts based on similarities. Each relevant text was categorized as context, characteristics of the influential, mechanisms of influence, and impact and within these categories the relevant text were coded based on the ideas provided by the participant. When relevant information emerged that did not fit into one of the predetermined categories, it was labeled as ‘Other’ and was analyzed separately to better understand its place in this study. In addition to providing codes, memos were also documented during the analysis process. These memos allowed for the recording of analytic notes on the specific passage or on other analytic ideas, hunches or questions. Lastly, each participant was given a unique ID number which included a 3 digit number (e.g. 001), and letters indicating each of the following factors: type of hospital (academic or community), years in practice (senior or junior), and department (e.g. general surgery).

During this initial coding stage, comparisons were made between the coded data and new data. Codes were constantly compared and contrasted with data that were previously coded. This constant-comparison allowed for new themes to emerge in order to expand and refine the framework. As a result, axial coding started by relating minor concepts into larger, encompassing sub-categories. A list of repeating codes and sub-categories were delineated during this stage.
Axial coding

Axial coding is the second level of analysis and is characterized by the crosscutting of data and relating concepts to each other. In this stage, older data are compared to new emerging data based on similarities, differences and relationships to further collapse data into sub-categories. This iterative process is referred to as constant-comparison \(^7^9\). Constant-comparison involves analyzing interviews, coding them and developing concepts and when new data are coded and categorized, they are compared against existing codes and categories to allow for new emerging themes \(^7^9\). As noted above, it was not necessary for the emergent data to fit into the framework, but rather the framework was used as a guide and an initial method of organizing relevant text.

After every two or three interviews were conducted and transcribed, the thesis committee met to review the emerging themes, relevant text and development of sub-categories. To facilitate this process, EP synthesized the information into a codebook. The codebook was used as a dictionary and reference guide to assist with organizing and labeling current and future relevant text. It was also used as a tool to communicate ideas and ways of organizing the data to the thesis committee. At various times throughout the study, the thesis committee independently reviewed the codebook as well as a full transcript to ensure that all relevant information was captured and no relevant text was lost or coded incorrectly. Where a disagreement arose with the coding of text, the thesis committee discussed the inconsistencies and resolution was sought through consensus. These discussions were useful to further refine the codes, ideas and organization of the data. The content of the codebook was modified based on feedback from the thesis committee as well as from new interviews. The process of reviewing the codebook began after the second interview and continued until theoretical saturation was reached. Once theoretical saturation was reached, data integration began. The final codebook can be found in Appendix G.

Data integration and methodological rigor

The final stage of analysis was data integration. Data integration is the process of linking categories around core categories and refining the final categories until they are complete. To do this, all codes were collapsed into a sub-category based on similarities and overarching themes. During this phase, the thesis committee continued to meet regularly to discuss the collapsing of
categories into rich, complete themes that appropriately captured the data. Data were analyzed based on participant characteristics such as type of hospital and years in practice.

For a grounded study to be considered methodologically rigorous, trustworthiness must be established. In qualitative research, trustworthiness is sought through use of the constant-comparative method of analysis and ensuring that theoretical saturation is reached \(^{79}\). Straus and Corbin (2008) explain that in qualitative research, trustworthiness should be sought rather than qualitative measures such as validity and reliability \(^{79}\). Trustworthiness indicates that the findings are credible and is achieved in qualitative research when the methodology had been used repeatedly and used in a manner consistent with the design \(^{79}\). The relationship between subcategories and categories were analyzed, as was the relationship between different categories. The data were then integrated into the a priori framework which allowed for its expansion, modification and finalization. Rather than having one core category, which is typical of grounded theory, the objective of this stage of analysis was to inform the framework and the core categories presented in it: context, characteristics of the influential, mechanisms of influence, and impact. In this phase, data were used to test the theories that were already known based on the theoretical understanding and current literature on influentials in nursing. The framework was expanded and modified based on the views of FLNs, and these data were compared, contrasted and merged with what was already known.

As described by Mays and Pope, there are a variety of strategies that may be used to ensure that the data collected was trustworthy. One of the methods used to ensure trustworthiness, validity, comprehensiveness, and reflective analysis was triangulation \(^{80}\). Data collected from the theoretical literature, empirical, peer-reviewed literature as well as data from semi-structured interviews were compared and contrasted to corroborate an overall, comprehensive interpretation. Member checking is also an important step in validating the data however, this was not feasible in this study as the participants interviewed did not indicate interest in being involved in this process due to lack of time and limited research experience. To mitigate this issue, when a new theme arose or a concept was raised that was of interest, the interview guide was modified to include questions to address the emergent themes. Trustworthiness was also sought within the thesis committee to ensure that data was being coded and analyzed appropriately, the thesis committee reviewed and modified the codes and themes based on new data and the final themes and subthemes were decided as a group, based on consensus. Having
the thesis committee discuss the codebook also limited potentially ‘forcing’ the data into the a
priori framework. The combinations of the above strategies were used to ensure that the data
collection and analyses were trustworthy.

Results

Overall, 23 participants expressed interest in this study however, two participants had less than
one year of work experience, one was a nursing student and two were registered practice nurses
and therefore were not eligible to participate. Overall, 18 FLNs participated in this study.
Theoretical saturation was reached by the 16\textsuperscript{th} interview, however two additional interviews were
conducted to ensure saturation. Thus, 18 participants were required to ensure that theoretical
saturation was reached. On average the interviews lasted 25 minutes (range: 13-47 minutes).
Most interviews were conducted over the phone. Participants represented six hospitals across
Ontario, three academic and three non-academic hospitals, with nine participants from each
group. Participants worked in different wards including general surgery, emergency, medicine,
cardiology, surgery, obstetrics, psychiatry, and the intensive care unit. Eleven participants were
baccalaureate prepared, while seven were diploma prepared. Eleven participants worked as a
nurse for 10 or more years, while seven worked as a nurse for one to nine years. The EBP that
was described by the group varied widely and ranged from falls prevention to medication
administration. Table 5 displays the demographic characteristics of the participants.

Key findings

Data were inductively coded based on the information provided by the FLNs. The data were also
analyzed based on predetermined characteristics of interest, namely whether the FLNs were
employed at an academic or non-academic centre and whether they had more or less than ten
years nursing experience. Interestingly, there were no differences between these groups in terms
of how participants perceived the characteristics of the influential, mechanisms of influence,
perceived impact or contextual factors. The data were also analyzed based on the type of EBP
being implemented and the department in which they worked and again, no differences were
found between the groups. Thus, data are presented in the results section in a unified and
synthesized way without stratification.
Table 5. Participant characteristics in the semi-structured interviews

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N=18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
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<tr>
<td>Females</td>
<td>16</td>
</tr>
<tr>
<td>Males</td>
<td>2</td>
</tr>
<tr>
<td>Hospital type</td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>9</td>
</tr>
<tr>
<td>Community</td>
<td>9</td>
</tr>
<tr>
<td>Years in practice</td>
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<td>Senior</td>
<td>11</td>
</tr>
<tr>
<td>Junior</td>
<td>7</td>
</tr>
<tr>
<td>Employment status</td>
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</tr>
<tr>
<td>Full-time</td>
<td>13</td>
</tr>
<tr>
<td>Part-time</td>
<td>5</td>
</tr>
<tr>
<td>Training</td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>11</td>
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<tr>
<td>Diploma</td>
<td>7</td>
</tr>
<tr>
<td>Type of EBP</td>
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<tr>
<td>Prevention of dementia</td>
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<tr>
<td>Skin-to-skin</td>
<td>1</td>
</tr>
<tr>
<td>Sepsis</td>
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</tr>
<tr>
<td>Restraint policy</td>
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</tr>
<tr>
<td>Enhanced recovery after surgery</td>
<td>4</td>
</tr>
<tr>
<td>Falls prevention</td>
<td>4</td>
</tr>
<tr>
<td>Wound care</td>
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<tr>
<td>Patient flow</td>
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<td>IV therapy</td>
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<td>Department</td>
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<td>Psychiatry</td>
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<td>Surgical</td>
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</tr>
<tr>
<td>ICU</td>
<td>1</td>
</tr>
</tbody>
</table>

The data that emerged from the interviews provided insight into the major themes under review, particularly with regards to characteristics of the influential and the mechanisms of influence due to the emergence of the overarching theme of credibility. The theme of credibility provided a link between the characteristics of the influential and mechanisms of influence. Based on the emergence of credibility, it appeared that the influential was able to influence change and influence the uptake of EBP based on being perceived as credible by the FLNs. Due to this finding, the results section is presented differently from preceding chapters. The contextual factors and perceived impact are presented in a similar way in the same order (first and last respectively) as this is how they are presented in the framework. The characteristics of the influential and mechanisms of influence are presented under the heading of credibility (refer to Appendix G for representative quotes).
Context

The contextual factors that emerged from the data as important to the uptake of evidence by FLNs was in keeping with the data from the empirical literature and included organizational leadership and culture on the nursing unit.

Organizational leadership

Organizational leadership was perceived by the FLNs as having an important role in influencing the uptake of evidence in nursing practice. Organizational leadership was described by FLNs as members of the organization who have a higher position than the influential such as Vice Presidents or Directors of Nursing, physicians, nurse managers or a combination of different persons at the administrative level. The FLNs perceived the role of organizational leaders as initiating the implementation of the EBP, as well as playing a supportive and facilitative role in the implementation of the EBP.

In particular, FLNs perceived the organizational leadership as playing an important role in influencing the uptake of EBP because they perceived that the initiation of the EBP often came from the organizational leadership’s level. The FLNs perceived that the organizational leadership often encouraged or mandated the influential to implement the EBP based on a provincial or organizational mandate, such as the RNAOs Best Practice Guidelines. In a few cases, the FLNs believed that the EBP was initiated based on the influential noting a local gap in care, however this was rare.

The FLNs perceived support from the organizational leaders including provision of resources for implementation such as printing pamphlets and buttons, creating materials for implementation and/or securing resources necessary for implementation. For example, members of the organizational leadership would create PowerPoint presentations and provide the evidence for the influential to share with their staff. They also provided protected time for the FLNs to attend training sessions. In a few cases, it was noted that once the funding ran out, there was difficulty is sustaining the influentials ability to educate the FLNs. FLNs also perceived that successful organizational leaders included influentials, FLNs and other key stakeholders in the development of the EBP. This is represented by the quote below:
It was really talking to individual nurses about what would work for them, how they would actually use it and how they could see themselves use it rather than people just telling us, you should be doing this. I think that is has been a huge benefit involving the frontline rather than just saying this is what you’re going to do. (013)

The relationship between organizational leaders, influentials and FLNs was seen as very important to FLNs and this relationship was often described as multi-layered team work. The FLNs often perceived that the influentials worked as a group with other stakeholders to develop and implement the EBP. In cases where it was perceived that the influential was working alone, one participant commented that the implementation of the EBP may have been more successful if the influential was part of a team. Multi-layered teamwork and engagement of all stakeholders is illustrated in the following quote

She went around and different people interested in the idea that if we have this evidence out there and other people are using and they’re (it is working) then why not? So she went around and she spoke to us and to different doctors and stakeholders and that’s how it all started. (018)

Lastly, in some cases, FLNs perceived that the organizational leaders provided input into the selection of the influential. In most cases, the influential was the clinical nurse educator (n=9), or nurse manager of the unit (n=2). However, in other cases, the organizational leaders put out a call to all nurses who were interested in the role and would interview them to assess their suitability. When selecting the influential, the FLNs noted that they were strategically selected to ensure that they were a good match, and available at all time: “They strategically selected them so that there was one or two on every shift revolving around the clock; working at all times so they would become resources for the shift in case anybody had any questions” (001). In cases where FLNs were nominated for the role of influentials (n=6), most of the time they were nominated as a group of influentials. In cases where there was only one influential, FLNs suggested that it may be more beneficial to have a group of influentials to address questions and be approachable at all times. This theme of team was mirrored in the FLNs description of organizational leaders, as the organizational leaders were often described as a group composed of numerous individuals from different disciplines to ensure a well-rounded group.
Culture

At the unit level, FLNs noted that the current culture on unit may impact the influentials ability to influence the uptake of new evidence. Some FLNs perceived their units to be open and ready to change, while others commented on perceived resistance to change. For example, one participant shared that:

Some of the senior nurses were not too happy with the new changes or plan of new changes. They were not receptive to the changes. Then there were nurses who had experience with the (EBP) and said it would be good and would work for us and the younger nurses are accepting of anything new. So some are optimistic about it, really supportive, some are okay and some not so supportive. (016)

Despite the units’ perceived readiness for change, the influential appeared to be able to change nurses’ attitudes and successfully implement the EBP. Thus, while readiness to change was a theme that emerged from the interviews, it did not seem to impact the influentials ability to influence the uptake of EBP.

In addition to the units’ readiness to change, FLNs commented on numerous contextual barriers that may inhibit the adoption or implementation of a new EBP. Of note is that the perceived barriers described by FLNs related to the implementation of the EBP and not the influentials ability to influence change. FLNs mentioned lack of time, conflicting demands, and the EBP as being too onerous as some of the barriers to implementing the EBP as is illustrated in the following quote:

It was kind of one of those catch-22 situations. This was identified, we started to do it and then the agency rolled out (another change). I think it was because they kind of piggybacked each other quite quickly that everybody was like, oh my god, this takes forever. (004)

Additionally, some FLNs commented on themselves, as well as their colleagues being unreceptive to change. Despite some sites lack of readiness to change and the known barriers, FLNs perceived that influentials addressed these barriers and change the FLNs perception and actions.
Application to framework

The contextual factors, including organizational leadership and culture, mirror those presented in earlier iterations of the framework. Organizational leadership appeared to play an important role in the development and implementation of the EBP by providing support for the influential and assisting with the introduction and implementation of the EBP. Of note is that the relationship between organizational leaders, influentials and FLNs was very important, particularly when developing and implementing the EBP. This relationship highlighted the importance of the theme of multi-layered teamwork. In addition to organizational factors, unit level contextual factors, including readiness to change and barriers to change, also emerged from the data. While some units were less receptive to change, the influential was able to influence FLNs to promote change and overcome the barriers. As is described in the impact section, the influential was able to mitigate many barriers and resistance to change by transferring education and using social influence strategies or sharing audit results with the group. The notion of the EBP being embedded at the organizational level remained a constant theme from previous iterations of the framework. In the final version of the conceptual framework, the contextual factors are seen as factors that when used in conjunction with a credible influential person, leads to a positive impact.

Credibility

Credibility emerged as an overarching theme and a link between characteristics and mechanisms of influence. Credibility was earned through exhibiting social, educational, and leadership characteristics and undertaking activities that demonstrated these characteristics. Based on this, it appeared that mechanisms and characteristics are not separate entities, but are dependent on each other and are linked by credibility. In the first iteration of the framework, context, characteristics and mechanisms were depicted as three separate factors with double-sided arrows connecting all three boxes. Within characteristics, three subthemes were presented: personal attributes, professional attributes, and skills. Under mechanisms, education transfer, social influence and facilitation were listed as key mechanisms of influence. Over the course of the study, as new data emerged, these sub-themes were re-classified into different categories. As will be discussed in detail below, characteristics were reclassified from personal attributes, professional attributes and skills into being knowledgeable, ‘one of us’, and an approachable practice leader. Mechanisms
were reclassified as education transfer, social influence, and leadership activities and paralleled characteristics. The relationship between characteristics of the influential and credibility will be further explained following the results of the characteristics and mechanisms that emerged from the interviews.

Characteristics

Influentials were described by FLNs as being credible which was exemplified by the FLNs perceiving the influential as an approachable practice leader, “one of us”, and knowledgeable. It appeared that being “one of us” was of particular importance as this linked the influential to the group based on commonalities and familiarity which was described as important. However, it was the combination of the three characteristics that made the influential credible which increased their ability to influence change.

Approachable practice leaders

Influentials were perceived by FLNs as being approachable practice leaders who were passionate, supportive, and a respected colleague to the FLNs. They were described as being non-judgmental and receptive to concerns regarding the implementation of the EBP. For example, one of the participants commented that:

He was very receptive. I for one was kind of against it and he is somebody that you can talk about your concerns, what you are feeling, and that you disagree with it. We were able to voice this disagreement without feeling any fear of being looked upon negatively (016).

The influential provided support in a non-judgmental way that made FLNs feel that they could approach them with any issue and get the support and assistance they needed. Influentials were also described as not only listening to the concerns of FLNs but they took immediate action to resolve the issues that were presented as is illustrated in the following quote: “She listens to our concerns and she takes action. It’s not just like listening and then forgetting about it. She takes action and she helps”(008).

Influentials were also considered to be effective leaders because they provided support for the FLNS throughout the implementation process. Influentials often performed tasks outside of their
usual job requirements to ensure that FLNs understood the EBP, received adequate information and had their questions and concerns answered. Many influentials would stay outside of their regular working hours to ensure that they spoke with nurses on different shifts. In addition, some influentials were more actively involved and helped the FLNs on the unit when they could. For example, one participant commented “If I needed help on how to perform this particular technique, she would accompany me right to the bedside; so to provide direct one-on-one feedback” (012).

*One of us*

All influentials in this study were nurses, internal to the organization, and known to the FLNs. This was viewed as a positive attribute by study participants that led to increased credibility. Many nurses commented on personally knowing the influential and having rapport with them. For example, one participant commented that “she works with me in the clinic here and she’s the coordinator and she does a lot of evidence-based stuff. So she would be one of the persons I would look up to” (018).

Being familiar with the influentials allowed for the FLNs to feel more open and comfortable communicating with them. It was important that the FLNs felt that the influentials identified with their concerns and were empathetic to their needs. It was also important that the influential was of slightly higher standing in the organization so that they had the ability and authority to make change happen. One participant described the influential as “fitting the bill” because he was “in the middle but he understands because he practiced as a nurse. He could identify with us and that makes a big difference” (016).

In circumstances where the influential was described as not having these characteristics, the perception of the influential was negative and engaging nurses in the implementation of the EBP was more difficult. FLNs did not respond well to influentials who were unfamiliar and unknown, or not well respected, credible members of their group. For example, one participant described the introduction of an influential that came from outside their organization and was unfamiliar to the group as being a negative experience as the influential was not seen as being one of them:

> Before you start telling me, who has been doing this job for 20-years, that this is now a better way to do it; come and spend a little bit of time in my shoes…
if you can convey you really understand what it’s like to try and do these things you want us to do, it means so much to the frontlines as opposed to you in your high heeled shoes and your suit, clicking down the hall (011).

Lastly, it was important to the FLNs that the influential was not only a member of their group and/or organization, but they were experienced and respected. Most influentials were respected due to the way they cared for their patients, the knowledge they had about nursing and/or the EBP, as well as having experience as a FLN, particularly in their organization.

Knowledgeable

Influentials having knowledge of the EBP and nursing practice in general contributed to their credibility. Being knowledgeable was described as the influential having knowledge of nursing and/or the EBP, having increased skills, training or education relating to nursing or the EBP, and/or undergoing training to be knowledgeable about the EBP. The influentials were often described by study participants as acting as a local resource that was often used by FLNs to answer questions or provide clarification on immediate issues. Having a local resource that was available, accessible and knowledgeable was described as making “a lot of the nurses more comfortable because she is so knowledgeable about (the EBP). They know that they can call her at any time and she’ll pop over and give them an opinion” (009).

The influential was also perceived as knowledgeable because they often had higher academic degrees (e.g. Masters training) or additional certifications, which led to increased credibility due to being perceived as having the skills required to implement the EBP and answer their questions. For example, one participant commented that the influential has “worked here for a number of years but has worked in other settings as well. She was working on her degree and a number of nurses here don’t have a degree. I think that made her more influential” (002).

Summary

Overall, influentials were described by FLNs as being an approachable practice leader, “one of us”, and knowledgeable. As a practice leader, the influential was described as supportive, passionate and respected. ‘One of us’ included many of the characteristics that were previously classified under professional attributes such as being known to the FLNs, internal to the organization, and having a nursing background. It appeared that this category was described as
most important by the FLNs. Lastly, the influentials were described as being knowledgeable which included having higher formal education such as a Masters degree, having increased knowledge of the EBP, and being seen as a valuable resource. The overarching theme of credibility was exemplified by the FLNs perceiving the influential as having these three key characteristics.

Mechanisms

The FLNs described three mechanisms of influence: education transfer, social influence and audit and feedback. Of note, facilitation did not emerge as a mechanism of influence as was noted in previous iterations of the framework. Many influentials used strategies from each mechanism to influence change.

Education transfer

Education transfer was described by FLNs as influentials transferring information about the EBP to FLNs. Most participants described several different strategies undertaken by the influential when educating the staff. The most commonly described strategies were in-person teaching sessions. These sessions varied greatly; some described formal teaching sessions such as rounds or in-services where the influential presented information on the EBP to a large group of FLNs. While others described informal sessions where the influential would discuss the EBP during huddles, or have impromptu meetings with FLNs on the floor. In conjunction with the in-person sessions, many influentials would also disseminate information on the EBP to the group by sending emails with PowerPoint slides, relevant articles or educational videos. Some influentials would also post information on central bulletin boards or on the walls on the unit.

Most of the information presented at these sessions related to general information about the EBP, how to do it, why it was important and how to mitigate or effectively handle problems that may arise. Many FLNs commented that information on why the EBP is important and how it will benefit their patients was more influential than other types of information. Influentials also provided education to the FLNs about potential roadblocks or issues that they may encounter when caring for patients based on the EBP as noted in the below excerpt:
So it wasn’t just we should do it. But actually practically how to apply this. What some of the road blocks might be to doing this with patients and how to get past those; so not just step A, B and C but what might you encounter that might make it difficult to having to get around some of those. (002)

In conjunction with didactic training sessions, some influentials also engaged the FLNs in role-playing activities. Role-playing activities were formal teaching sessions where the influential would create scenarios for the FLNs to practice the EBP and have their colleagues watch, participate and provide feedback. It was also an opportunity to ask questions, express concerns, and practice the EBP in a safe environment before applying it directly to patients. One participant described her experience with role-playing in the following way:

We were called in to see how we will perform at the bedside. So we kind of practiced and during that practice, it made a big difference. We were able to see where we were lacking and where we could improve. It helped a lot. (016)

Some influentials would also give the FLNs quizzes to test their knowledge of the EBP to ensure that they were knowledgeable and comfortable in performing the new activities, before they were able to implement the new practice into their patient care.

Education transfer was described as an ongoing, continuous activity. Influentials would provide a series of educational or training sessions when they first introduced the EBP and would also follow-up regularly with reminders, additional reading material or supplemental educational sessions. For example, one participant commented that “we do team huddles on a fairly regular basis. And so this is something that was huddled quite a bit actually; quite heavily. It wasn’t just done on one huddle; it was huddled throughout the process” (004). When follow-up was not described as an activity undertaken by influentials, it was mentioned by FLNs as an important activity that should be undertaken. Various strategies such as in-person teaching sessions both formal and informal, as well as written and electronic reminders and posting around the unit were strategies that were used as follow-up.

Social influence

Another mechanism of influence described by the FLNs was the use of social influence strategies. Social influence strategies were defined as indirect strategies that related more to connecting with FLNs or others in a social, in-person, real-time way rather than formal
education. One of the main strategies utilized in social influence was influentials modeling the behavior they were trying to change. Influentials were described by FLNs as being on the unit to show the influentials in real time, how to use or do the EBP. For example, one participant shared that the influential would “actually personally come around, she was at triage for quite a while showing us how to (do the EBP)” (003). Some influentials roles also included caring for patients, and these influentials would lead by example by always using or doing the EBP.

In addition to modeling behavior, influentials used social influence strategies to influence the FLNs perception of the EBP as well as engage key stakeholders within the organization. One useful social influence strategy was presenting information about how others have successfully implemented the EBP. ‘Others’ were local hospitals, hospitals within the province or other centers internationally and this information was shared during city-wide nursing meetings, national and international conferences, local or neighboring hospitals, and other departments within the hospital. The FLNs related to this information as it was perceived as peer-to-peer information sharing which was perceived as having increased credibility and trustworthiness. For example, in one hospital, a group of FLNs shared their experiences with implementing the EBP with the influential who in turn shared their story with their staff. Below is an excerpt from how this information was received by the group:

(We) were able to talk about the experiences of the other hospital with the same (EBP). So that was also informative for us, they said that it will work because someone else is doing it and this is what problems they encountered, what is positive and negative about it. We were able to understand that. The nurses said it works well and they were satisfied and patient satisfaction went up (016).

The influentials were also seen by FLNs as being agents of change by engaging key stakeholders in implementing the EBP. Influentials acted as a liaison between administration and the FLNs, as well as between nursing and other departments. One participant commented the influential “went around and got persons or different people interested in the idea. She went around and she spoke to different doctors and different clinicians and that’s how it all started (018)”.

Audit and feedback

The third type of mechanism of influence utilized by the influential was audit and feedback. Many influentials would audit the nurses practice to ensure that the FLNs were doing the EBP
and would then share this information either one-on-one with the FLNs or as a group. This information was used to increase compliance, increase interest or share information about how the team is doing. One participant explained audit and feedback in the following way:

So what they’ll do is they’ll post the audit results. So let’s say, on a percentage out of a hundred; it should be 100% but often it’s not, in terms of compliance. So let’s say if it’s 80% one month that means that 80% of the patients either had their saline lock dated and we were flushing it accordingly to the protocol. And so by looking at the percentage you can see if there’s room for improvement (012).

In addition to presenting the results of the audit, some influentials would use these data to provide positive reinforcement to their staff about the work they have done and the success of the changes they have made. Positive reinforcement was described by many FLNs as being important as it was perceived that the positive feedback acknowledged the changes that they were making were difficult and that their efforts were appreciated.

Summary

The three mechanisms of influence reported by FLNs used by influentials to influence change were education transfer, social influence and audit and feedback. Of note is that FLNs did not describe the influentials role as facilitative as defined by the PARIHS framework. Also of note is that the data that emerged from the FLNs reinforced what was already known in both the theoretical literature and the empirical literature relating to mechanisms of influence and strategies used to achieve the desired change. Thus, the mechanisms section remained similar. Also of note is that the mechanisms of influence included numerous strategies to achieve change, although not one mechanism or strategy was perceived as being more or less effective, it appeared that the influential undertook several different strategies based on their knowledge of what would work well for their particular group. This finding indicates that it is not necessarily what the influential does by way of mechanism of influence, but rather how they do it. Thus, it appears that influentials tailor the interventions or strategies they use based on their relationship with, and knowledge of their target group.
Application to the framework

Based on the emergence of credibility as an overarching theme for linking characteristics and mechanisms, numerous changes were made to the framework. First, based on the findings from these interviews, it appeared that the characteristics of the influential are closely tied with mechanisms of influence. For example, the transfer of education was closely linked with the characteristics of being knowledgeable, while social influence was closely related to being ‘one of us’. Based on the findings from the interviews, it appears that there is a strong relationship between the characteristics of the influential and the mechanisms of influence that they use. While each mechanism was closely tied to key attributes of the influential, it appeared that the success of the interventions was due to the activities and strategies being undertaken by a credible leader. Thus, the overarching theme of credibility spanned across mechanisms of influence as well. Due to these strong connections, characteristics and mechanisms were collapsed into categories based on the connection with each other and are now presented as three major factors; social factors, educational factors, and leadership factors. Figure 4 illustrates how the influentials characteristics and mechanisms of influence were collapsed into three major factors and provided below is further explanation of these factors.

In the framework, these factors are displayed as three large interconnected circles with credibility at the centre providing the link between them and the result of them. These factors are depicted by diagram to show overlap between categories and the diagram has been enlarged relative to other factors to depict the importance of credibility in the framework.

Figure 4. Development of factors describing credibility

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>+</th>
<th>Mechanisms</th>
<th>=</th>
<th>Credibility</th>
</tr>
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<tbody>
<tr>
<td>'One of us'</td>
<td>+</td>
<td>Social influence</td>
<td>=</td>
<td>Social factors</td>
</tr>
<tr>
<td>Knowledgeable</td>
<td>+</td>
<td>Education transfer</td>
<td>=</td>
<td>Educational factors</td>
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</tbody>
</table>
Social factors

Social factors played a large role in the influentials ability to influence. It is believed that the social influence strategies were successful because the influential was internal to the organization, known by the target group, and was considered to be one of them which led to increased respect and credibility. Due to the influential being perceived as being ‘one of them’, they were able to infiltrate the group norms, and be perceived as a credible role-model worthy of having their behavior modeled. The influentials used many social influence strategies to affect change such as modeling the behavior they were trying to change and informing the FLNs of other units’ success in implementing the EBP in order to create more motivation and pressure to adopt the new practice.

Educational factors

The transfer of education was a key mechanism of influence and was well received because the information was coming from a credible and knowledgeable influential person. The influential was often described as being knowledgeable or an expert in the EBP to be implemented. As well, they often had higher degrees, specialty certifications or underwent training for their role. These factors were seen as making the influential more knowledgeable than FLNs. Influentials used a multitude of strategies to provide information about the EBP to the FLNs. They used both passive and active strategies. The most common passive strategies included circulating information about the EBP. While active implementation strategies included in-person educational sessions such as in-services or huddles. It appeared that active strategies were better received than the passive strategies; however both were required to ensure that the influential informed all staff about the EBP. The content of the educational sessions included information on what the EBP was, the evidence behind it, why it was important and how to do it. While all types of information were seen as important, providing an explanation of why it was important to adopt the new practice and explaining how it will affect patient care was described as very important. Lastly, the transfer of education was an ongoing, continuous activity undertaken by the influential.
Leadership factors

The activities that emerged as important to the role of the influential but fell outside of social influence and education transfer were re-categorized under the broad category of leadership activities. Leadership factors emerged from the combination of facilitative strategies described in the literature and the emergence of audit and feedback in the interviews as well as the key characteristic of being an approachable practice leader. Being an approachable practice leader included many of the characteristics that were consistently described as important including being visible and approachable and taking action to address concerns. As a leader, the influential was often described as being supportive and respected. In this version of the conceptual framework, leadership strategies are interventions or strategies that are perceived as being effective because they are undertaken by a leader. The influential carried out numerous activities that fall outside the scope of social and educational strategies, and were considered to be activities that related to the leadership characteristics of the influential. For example, the influential often acted as a liaison between the FLNs and other departments in the hospital. As well, the influential often assisted with auditing practice and providing feedback to increase compliance. It is believed that these strategies and perhaps other leadership strategies are effective because the influential is perceived as a supportive, respected and experienced leader.

Summary

Based on the overarching theme of credibility, the final framework was re-conceptualized into a more dynamic framework with the concept of credibility as the central theme and social, educational and leadership factors as themes that overlap to create credibility. These themes were modified from being in one linear box, as was depicted in the first iteration of the framework, to being displayed as three large interconnected circles. The circles were made larger than the context and impact boxes as this was seen as the most important finding in this study. This is a very important finding as it is the first study to highlight the importance of credibility as well as provide linkages between the characteristics of the influentials and mechanisms of
influence used. Based on these findings, it appears that the type or number of strategies may not be as important as the fact that these strategies need to be undertaken by a credible person.

Impact

Based on the data provided, it appeared that the impact associated with the influential occurred at the individual and unit level, or were associated with patient outcomes. Additionally, while most EBPs were well received, there were a few cases of unanticipated negative impacts.

Individual level impact

At the individual level, FLNs described the influential as impacting their behavior, knowledge and attitude toward the EBP. These changes led to a sense of increased accountability and the perception of providing better patient care. For example, one participant found that “the knowledge is what put me in at an advantage point; to help take care of these patients and able to have them move forward and I guess in the long run have them home quicker without any problems (005)”. One participant commented that having the influential on the floor made her feel an increased sense of responsibility for doing to the EBP. The participant commented that “I would have to be accountable to her with my bedside care for the EBP”. (005)

Unit level impact

At the unit level, FLNs described the influentials as impacting the behavior of the group, changing the culture on the unit and making it a safer place. As well, the FLNs commented that the unit as a whole felt a sense of pride for providing better patient care. The FLNs perceived the change of behavior as having a positive impact on the unit as a whole because “it just made it easier because it made it more consistent. So what I was doing, everybody was doing” (004). In addition to increased consistency, the FLNs also felt an increase in pride for the changes that they made as is illustrated in this quote:

(The group) was proud of the change that they made; that they are now doing (the EBP). So they would brag to patients and say, even when patients come in for a visit; you know we do (the EBP) here and we’re
really good at it. We know what it means. We know how important it is. (002).

These positive impacts were mainly due to the influential's ability to change the culture on the unit to be more receptive to change, work closely as a group, and create a sense of safety on the unit. One participant commented that that influential style of leadership and strategies used positively affectively the unit:

Everybody seems so calm. They come to work and people come to work now without feeling burdened or anything. The atmosphere on the unit has changed quite a bit and people seem relaxed, people still going home on time (016).

Lastly, the FLNs perceived that having the influential on the unit made it a safer environment. FLNs felt that the unit was safer because of the physical presence of the influential, and their ability to answer questions on the spot or show the influential how to do the EBP in real-time.

**Patient care**

In addition to individual and unit impacts, FLNs also felt that these changes impacted patient care. Numerous participants commented that after implementation of the EBP, they were able to see improved outcomes with their patients. One participant commented that “we have found that if you prioritize this type of patient, their outcome is remarkably improved. Even if it makes us a little busier, it’s okay because you’re doing it for a reason” (003).

**Negative impact**

In some cases the EBP was not well received. The reason for the EBP not being successfully implemented was often due to issues with the EBP itself or the patient population, and not with the influential. For example, in one case, the FLN commented that “I think that people have become a little bit more reluctant to initiate restraints at this point. Just because it is a little bit more cumbersome now. There’s quite a bit of documentation that has to go in behind it” (004). Although the EBP was not always well received, the FLNs commented that the poor impact was not the result of the influential’s ability to influence, but rather attributed to the EBP being too onerous or being implemented when other changes were also occurring.
Application to framework

Data presented in these interviews provided insight into the impact that FLNs perceive as the result of the use of an influential at the individual and unit level. While a change in behavior, knowledge and attitude were found at the individual and unit level, the impact of these changes differed. At the individual level, the impact of the influential led to an increased sense of accountability while at the unit level, there was an overall feeling of increased consistency, a sense of pride, and a positive culture of safety. FLNs also commented that the changes made led to increased patient outcomes, which led to feelings of accomplishment and pride. In the initial framework, the known impacts related to changes in behavior and knowledge. Based on the data from the interviews with the FLNs, it appeared that influentials did impact nurses’ behavior and knowledge, however this change also resulted in impacting their satisfaction with their job, created a sense of pride and safety, and allowed for a positive shift in culture. It appeared that impacts such as increased sense of pride and increased job satisfaction were of greater importance than expected impacts such as a change in behavior.

Summary

The information that emerged from interviews with FLNs changed and expanded the framework. The major changes that emerged from the interviews was the overarching theme of credibility and the linkages between the characteristics of the influential and mechanisms of influence that had not previously been established. Overall, the findings from this study resulted in the development of a framework that illustrates the key factors associated with the role of an influential in influencing the uptake of evidence in nursing practice. While context, characteristics, mechanisms and impacts were initially thought to be important to the role of influentials, the findings from this study illustrated which factors within each category are important and how they relate. This study found that contextual factors, (i.e. organizational leadership and barriers to change) affect the influentials impact, but are not related to the influentials characteristics or mechanisms of change. Another key finding was that the characteristics of the influential are directly linked with the mechanisms of influence and that the mechanisms are perceived as effective due to being undertaken by a credible individual. The interplay of characteristics and mechanisms was found to be the most important element of the influentials role and is thus depicted larger than context and impacts in the framework. Also, in
this iteration of the framework, the diagram has been altered from the previous linear models, to illustrate the dynamic and interconnected relationship between these factors while allowing for credibility to be located in the center of the framework. Lastly, while this study found that influentials are able to change clinical behaviors and influentials attitudes toward the EBP, the major impacts are related to increased job satisfaction and a positive change of culture on the unit. The final framework is presented below in Figure 5.

Figure 5. Final framework
CHAPTER 5. DISCUSSION

This chapter presents a discussion of the key concepts presented in the framework in comparison to what is known in the literature. The strengths and limitations of the study are discussed as are the implications for future research.

Summary of key findings and the related literature

The aim of this study was to explore the role of an influential person on the uptake of evidence in nursing practice. This study explored the key factors associated with an influential that included: 1) contextual factors that enable an influential to influence the uptake of EBP; 2) key personal and professional attributes of an influential; 3) mechanisms of influence utilized by the influential to influence the uptake of EBP; and 4) the impacts associated with the use of an influential. The theoretical literature, empirical literature and semi-structured interviews with FLNs were synthesized and triangulated to answer these research questions and started with the development of a framework based on a review and synthesis of the theoretical literature (Chapter 2). This was expanded based on the results from the scoping review of the empirical literature on the role of influentials in nursing (Chapter 3), and was further refined based on the data that emerged from interviews with FLNs (Chapter 4).

There were three key findings that emerged from this study. Two of these key findings related to the emergence of credibility as an overarching theme by highlighting a) the importance of influentials being perceived as credible by FLNs and b) the link between characteristics of the influential and their mechanisms of influence. The third key finding related to importance of the impact of the influential on FLNs sense of pride and job satisfaction. Each of these findings will be discussed in relation to the current literature.

Credibility as overarching, linking theme

In this study, credibility emerged as an overarching theme and was the key linkage between characteristics and mechanisms. The concept of credibility is not new to the field of nursing. Previous studies have suggested that credibility is an important characteristic of the influential; however this study highlighted the importance of credibility as perceived by the FLNs and also suggested that credibility may link characteristics and mechanisms of influence. The authors of a
recent review looking at the role of nurse leaders and their influence on the process of implementing EBP found many of the same characteristics and mechanisms that were noted in the framework, namely leadership, role-modeling, providing feedback, being accessible, visible and encouraging, knowledgeable and credibility. The authors, however, did not describe the relationship between characteristics and mechanisms and did not find credibility to be an overarching, linking theme. The reason for this may be due to the fact that the authors only included seven studies, two of which overlapped with studies included in the scoping review in this study. This is important because the theme of credibility did not emerge from the scoping review; it emerged from the interviews with FLNs. Secondly, the articles included in the review were mostly qualitative and included the influentials perspectives, not the FLNs. This is an important distinction to note as the theme of credibility emerged from the interviews with FLNs and it was their perspective of the influentials role that greatly impacted the framework due to the emergence of credibility as an overarching theme. Thus, while credibility was described as an important characteristic in some of the studies in the scoping review, as it was in this article and others, it only emerged with great importance from the perspective of the FLNs. In sum, while credibility is often documented as an important attribute of an influential in nursing, FLNs perceive credibility to be more important than influentials and administrators suggesting that having the influential be perceived as credible by FLNs may increase the effectiveness of the influentials influence.

**Characteristics of the influential were perceived as more important than the mechanisms of influence**

The second main finding in this study was the mechanisms of influence appeared to be most successful if they were undertaken by a credible influential. This finding suggests that characteristics may be more important than mechanisms of influence and may help to explain the conflicting results that have been seen in the literature on the effectiveness of influentials because these studies may be reporting small to moderate levels of effectiveness because the influential was not perceived as credible by their target group. One of the most consistent findings from the literature on opinion leaders is that there is limited information on who influentials are, their characteristics, and their role. Thus, the finding that the characteristics of the influential may be more important than their actions may help to explain some of the variability reported in the literature. For example, in the Cochrane review on the effectiveness of
opinion leaders, the authors did not comment on the personal attributes of the influential, but rather assessed which activities that conducted. Similarly, the review by Grimshaw et al also focused on strategies used and not on the characteristics of the person conducting the review\textsuperscript{30}. More recently, an integrative review of eight studies conducted to evaluate implementation strategies used in nursing found that the use of many strategies may be more beneficial than the use of one but again, did not evaluate the role or characteristics of the person performing the strategies\textsuperscript{81}. Thus, the findings from this study suggest that the lack of documentation on the characteristics of the influential may help to explain the reason for the conflicting results with respect to mechanisms of influence in the current literature. In sum, future studies should be encouraged to note the attributes of the influential and report on these characteristics in order to note heterogeneity and to be able to assess whether characteristics are in fact more important than mechanisms of influence.

\textit{Influentials impact on FLNs sense of pride and job satisfaction was perceived as the most important impact}

This study found that the impact of the influential is similar to what would be expected when implementing change; change in behavior, knowledge and attitudes. However, this study also found that influentials may have a broader impact as their influence resulted in increased job satisfaction, change in the units culture and increased sense of pride. Other studies have found similar results. For example, a qualitative study conducted by Matthew-Maich et al with healthcare professionals and patents from three hospitals that implemented the RNAO CPG on breastfeeding found the influentials impacted the patient, nurse, unit, inter-professional relationships, organizational level and system (community)\textsuperscript{18}. As well, another publication by the same authors also found that successful influentials impacted FLNs by increasing their job satisfaction, confidence and preparedness as well as increased their knowledge, inter- and intra-professional trust which resulted in increased pride\textsuperscript{82}. Thus, while the findings of this study are not new, they do highlight the importance of increased sense of pride and increased job satisfaction as an important impact that may lead to a change in behavior or increased adoption of an EBP. Thus, future studies may want to include these factors rather than focusing solely on change in behavior, knowledge and attitudes.
Other findings

The other findings from this study reflect what is already known in the literature. With respect to context, this study found that supportive organizational leadership was an important factor that enabled the influential to influence change. It was important for organizational leaders to provide support for the influential as well as for the implementation of the EBP. Support was exhibited by providing financial and human resources required to implement the EBP. As well, support was shown through organizational leaders assisting with developing materials and tools to help the influential implement the EBP. Interestingly, the initiation and introduction of the EBP most often came from organizational leaders, not the influential or FLNs. Additionally, the implementation of the EBP was often described as a team effort and included organizational leaders such as Vice-Presidents and/or Directors, the influential and often times FLNs as well.

An integrative review of 12 studies assessing the interventions used by organizational leaders to influence research use in clinical nursing practice also found that successful organizational leadership influenced nurses’ use of evidence by providing resources, role-modeling behavior and providing support. Similarly, a study conducted by Dogherty et al. which included 20 nurses in Canada who attended a KT symposium, also found that successful implementation of the EBP was dependent on a multidisciplinary effort including multiple members of the organization and departments and that organizational leaders should include the FLNs in the development and implementation of the EBP. Thus, while the notion of supportive, engaged and active organizational leadership is not novel, the findings from this study confirm its importance and highlight the necessity for supportive organizational leaders to be actively engaged and involved in the implementation of the EBP and support the influential.

With respect to culture on the unit and readiness to change, barriers to the use of the EBP were consistently discussed as a contextual factor that may impact the influential’s ability to change practice. While the data from the interviews suggested that regardless of the barriers, such as FLNs resistance to change and loss of financial resources, the influential was still able to change practice and/or attitudes, it is believed that unit level factors, including barriers and readiness to change may be important factors that impact the influential’s role. There is a lot of information in the literature that suggests that barriers must be addressed prior to implementation and that having a culture open to EBP has been established. A survey of 121 nurses at one center in the US to assess their readiness for EBP found that both organizational and unit culture was
important to facilitate EBP\textsuperscript{86}. The barriers noted in this study, namely lack of resources and time, or resistance to change, mirror those described in the introduction. In another study on barriers in nursing, Gale et al surveyed FLNs and managers to assess their readiness to change and perceived barriers and found FLNs would support the EBP if the clinical educator presented it as important and if they were involved in the development, planning and implementation of the EBP. Wallin et al, also found that several contextual factors such as unsupportive leadership, resources, time, support functions, staff development, interpersonal relationships, job pressure and organizational culture and climate impacted adoption\textsuperscript{87}. Overall, the contextual factors that emerged from this study confirm what is known in the literature. However, this study provides evidence that supportive organizational leadership may be an important factor to assist influentials in influencing change and that barriers to change may not play as large a role as is described in the literature. Therefore, future studies should ensure that the organizational leadership is engaged and supportive of the influential and the EBP and that barriers to implementation have been noted.

Another finding was that this study suggested that the influentials influence was likely not impacted by the type of EBP being implemented. This is different than the current literature that suggests that the type of EBP is an important element in the implementation of the EBP. The reason for this difference may be since the focus of this study was on how the influential influences rather than how well the EBP is implemented. Interestingly, however, there was a fairly wide range of EBP in both the empirical literature and the interviews (e.g. use of restraints, fall prevention, medication administration, skin-on-skin care etc) and this study found that the influentials influence was perceived as successful despite the type of EBP being implemented. However, this study did not assess whether the EBP was actually successfully implemented. Thus, while it did not appear that the type of EBP affected the influentials ability to influence FLNs further studies are required to substantiate these findings.

**Strengths and limitations**

A key strength in the design of this study is that it followed a rigorous methodological approach which allowed for data to be triangulated from the theoretical literature, empirical literature and interviews with FLNs to provide a comprehensive exploration of the role of influentials in nursing. The findings of credibility and the association between characteristics and mechanisms
add to the existing literature on the role of influentials. Furthermore, this study used data collected from FLNs to allow for an exploration of their view of the role of the influential and expand the existing framework. While other studies have been conducted with FLNs, those studies merged the findings with data from influentials. Interestingly, these findings added to what was known in the literature and thus, added to the literature base and framework.

There were several limitations with this study. First, the scoping review was limited to the English language and peer-reviewed journals based on indexing in two databases, Medline and CINAHL. These databases were selected because they are the largest databases that house peer-reviewed journals related to healthcare and nursing. Based on the initial searches, many non peer-reviewed articles, such as editorials or opinion papers, were found and due to this, the gray literature was not explored because it was the opinion of the authors that more non peer-reviewed articles would emerge. Publication bias is a second limitation of the scoping review. In order to minimize this, the reference lists of relevant articles as well as hand searching of journals were searched and led to 3 additional articles included in the review.

Furthermore, while the interviews were conducted following a methodically rigorous approach, some limitations should be noted. First, as is common with all qualitative interviews, these data are limited to the self-report nature of the data collected. Secondly, while qualitative data may be subject to interpretation bias by the researchers, this potential bias was mitigated by the interviewer (EP) not having a background in nursing, which limited her knowledge of the culture and potential biases. As well, the thesis committee worked very closely during data collection and analysis to ensure that the themes were emerging from the data, rather than forcing the data into preconceived categories. Another potential limitation is that the results may not be transferrable to other healthcare settings. However, this issue was addressed by purposively sampling FLNs from different types of hospitals, departments, and different years of practice to get a well-rounded perspective of the topic.

Implications for theory, practice and future research

The framework has implications for both practical use and theoretical application. With respect to the theoretical applicability, this framework expands and at times confirms the work of PARIHS, SIT and DI by introducing the concept of credibility and providing evidence that these
theories may not be mutually exclusive based on the linkages between them. This framework may be used to expand PARIHS’s explanation of facilitation to better understand exactly who facilitators are and what they do. Currently, the PARIHS framework outlines many suggestions and possibilities pertaining to the role of facilitator. For example, PARIHS suggests that the facilitator may be internal or external to the organization, and may or may not be experts on the EBP to be implemented. The findings from this study may be used to provide more concrete guidance on characteristics and strategies used by the influential/facilitator that may be used by persons wishing to use the PARIHS framework. For example, the findings from this study suggest that the influential should be known to the target and internal to the organization where the change is taking place. With regards to SIT, the findings from this study validate the authors’ conceptualization of social influence strategies. However, the findings from this study may be used to expand SIT to include additional factors, such as education transfer and leadership activities that may be of interest. As well, the findings from this study expand SIT’s current view of impacts by adding important elements such as increased job satisfaction and sense of pride. Lastly, the role of the influential as presented in this study closely mirrors the role of the Champion described in DI. However, some of the attributes and activities also resemble DIs description of an opinion leader. Thus, while the findings from this study do not corroborate the roles presented in DI, the findings of credibility may be included as an important element of both the opinion leader and champion role.

Practically, this framework can be used by researchers and organizations wanting to implement or study influentials in nursing. The framework may be used by organizations as a starting point to select, recruit or train nurses within the organization to be the influentials. This framework may be used as a tool to ensure that the influential possesses the attributes necessary to be an effective influential such as being perceived by FLNs as being credible, knowledgeable, ‘one of us’, and an approachable practice leader. For example, the findings from this study may be used to develop a checklist for all the necessary characteristics that the influential should possess. The checklist would include attributes such as internal to the organization, known to the target group, experienced, knowledgeable, respected etc. This checklist may be used by organizations to assist in the selection of the influential or may be used as a selection tool by FLNs to select an influential.
Future studies may be conducted to test and validate the utility of the framework. Studies may be conducted to assess whether credibility is an essential element by implementing an EBP in nursing ward with a credible influential and comparing it against a nursing ward with an influential that are not deemed credible. For example, a cluster randomized controlled trial may be conducted with the experiment group having a credible influential implement an EBP and have a matched control group have a non-credible influential lead the implementation and compare the results. Another option would to conduct a study with three arms, one group could receive the influential and various strategies, the second group could received only the various strategies and the third group would receive usual care (control group).

Conclusion

In sum, this study provided insight into the role of the influential in influencing the uptake of EBP in nursing. The findings from this study added to the current literature by providing a comprehensive framework that highlights the importance of credibility as an overarching theme that is achieved by the influential having social, educational and leadership attributes and undertaking activities that exemplify these factors. The findings from this study also de-emphasize the importance of mechanisms of influence and emphasize the importance of potential impacts on FLNs sense of pride and satisfaction with their work. The final framework was developed based on triangulation of the theoretical and empirical literature as well as with interviews with FLNs and is therefore robust.
References


44. Russell-Babin KA. Calling all opinion leaders! Keys to the diffusion of evidence. Nursing management 2010;41(9):8-11.


Appendices

Appendix A. Search terms for Medline and CINAHL

**Medline search terms**

1. exp Leadership/
2. exp Mentors/
3. exp Consultants/
4. champion.mp.
5. opinion leader.mp.
6. exp Evidence-Based Nursing/
7. exp Education, Nursing, Continuing/
8. exp Nurse's Role/
9. exp Nurse Practitioners/
10. exp Nurse Clinicians/
11. exp Nurse Administrators/
12. exp Nursing Research/
13. exp Practice Guidelines as Topic/
14. exp Guideline Adherence/
15. change agent.mp.
16. facilitator.mp.
17. coordinator.mp.
18. exp Preceptorship/
19. exp Students, Nursing/
20. quality indicators, health care/ or exp "standard of care"/
21. exp Clinical Protocols/
22. exp Critical Pathways/
23. exp Comment/
24. exp editorial/
25. exp Interview/
26. exp Lectures/
27. exp Letter/
28. exp News/
29. exp Information Dissemination/
30. exp "diffusion of innovation"/
31. 1 or 2 or 3 or 4 or 5 or 15 or 16 or 17
32. 6 or 13 or 14 or 20 or 21 or 22 or 29 or 30
33. 7 or 8 or 9 or 10 or 11 or 12
34. 31 and 32 and 33
35. 18 or 19
36. 23 or 24 or 25 or 26 or 27 or 28
37. 34 not 35
38. 37 not 36
39. limit 38 to (English language and yr="1993 -Current")
CINAHL search terms

1. (MM "Leadership")
2. (MM "Mentorship")
3. (MH "Nurse Consultants+")
4. champion
5. coordinator
6. facilitator
7. change agent
8. opinion leader
9. (MH "Nursing Practice, Evidence-Based+")
10. (MM "Research, Nursing")
11. (MH "Nurse Administrators+")
12. (MM "Clinical Nurse Specialists")
13. (MH "Nurse Practitioners+")
14. (MM "Nursing Role")
15. (MM "Education, Nursing, Continuing")
16. (MM "Critical Path")
17. (MH "Nursing Protocols+")
18. (MM "Clinical Indicators")
19. (MM "Guideline Adherence")
20. (MM "Practice Guidelines")
21. (MH "Students, Nursing+")
22. (MM "Preceptorship")
23. (MM "Clinical Effectiveness")
24. (MM "Selective Dissemination of Information")
25. S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8
26. S9 or S16 or S17 or S18 or S19 or S20 or S23 or S24
27. S10 or S11 or S12 or S13 or S14 or S15
28. S21 or S22
29. S25 and S26 and S27
30. S29 not S28
31. Limiters - Published Date from: 19930101-; English Language; Peer Reviewed
## Appendix B. Screening tool for the scoping review

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<th>Inclusion Criteria</th>
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<th>Unsure</th>
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</thead>
<tbody>
<tr>
<td>Describes, compares, evaluates the implementation of EBP (the use of research evidence when making clinical decisions) for nurses in an acute care hospital setting</td>
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<td>Explores the use of an individual or team of individuals, who influences nurses’ use or knowledge of EBP</td>
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<td>Explores, describes, compares, develops, implements or evaluates the characteristics, duties, roles, responsibilities, activities, or impact of an influential</td>
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<tr>
<td>Relates to the implementation of evidence-based practice meaning the use of research evidence when making clinical decisions</td>
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<td><strong>Publication</strong> type is one of the following:</td>
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<tr>
<td>• Review (systematic review, meta-analysis, meta-narrative, realist)</td>
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<td>• Program evaluation</td>
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<td>• Case study</td>
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<td>• Survey/Questionnaire</td>
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<td>• Interviews or focus groups</td>
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<td>• Observational/cohort study (including before/after)</td>
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<td>• Randomized controlled trial, controlled clinical trial</td>
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<th>Exclusion Criteria</th>
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<th>Unsure</th>
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<tr>
<td>Not relevant to frontline nurses, or where relevant data cannot be distinguished from other disciplines</td>
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<tr>
<td>Relates to nursing students, recent graduates, midwives, school nurses or the context of preceptorship</td>
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<td>Does not describe implementation of EBP directed towards nurses in a hospital setting</td>
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<tr>
<td>Does not describe, explore or evaluate the use of an influential</td>
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<td><strong>Publication</strong> type is one of the following:</td>
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<tr>
<td>• Anecdotal/Opinion/Editorial</td>
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<td>• Gray literature</td>
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<tr>
<td>• Concept analysis</td>
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### Appendix C. Data extraction form for scoping review

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<tr>
<td>Title</td>
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<td>Journal</td>
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<thead>
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<tr>
<td>Study design</td>
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<tr>
<td>Participants (#, inclusion)</td>
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<td>Were the participants</td>
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<tr>
<td>influential(s)</td>
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<tr>
<td>nurses being influenced</td>
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<tr>
<td>other</td>
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<td>Practice targeted (including clinical domain)</td>
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<table>
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<tbody>
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<table>
<thead>
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<tbody>
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<tr>
<td>Influentials label</td>
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<td>Mode of nomination</td>
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<td>Training of influential</td>
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<td>Documented skills related to being influential (e.g. research, change management)</td>
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<td>Degree(s) held</td>
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<td>Characteristics</td>
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<td>Impact from use of influential</td>
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<tr>
<td>Other key results/findings</td>
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Appendix D. Letter of invitation

To whom it may concern,

By way of introduction, my name is Emily Pearsall and I am a graduate student at the University of Toronto, Institute of Health Policy, Management and Evaluation. I am writing to you now to ask if you would be willing to participate in my thesis project that is looking at the effect of a person, or group of people on your use of evidence-based practice.

I hope you will take the time to consider participating in this study. This study aims to explore the ways in which a person or group of persons influence the use of evidence or new knowledge in daily nursing practice. By understanding this process, it is expected that the results from this study will be used to develop effective strategies to implement evidence or new knowledge into nursing practice in a way that is useful for both nurses and administration.

As part of this study, I am interested in interviewing you to better understand the use of evidence or new knowledge in daily nursing practice. Your participation in this study would consist of a single interview which should take no longer than twenty minutes. This interview can take place at a date and time of your convenience. This interview can be conducted in-person or on the telephone.

If you are interested in being a participant or would like to learn more about this study, please read the attached consent form and then contact me via email at eapearsall@gmail.com or by phone at 647-808-8243 with any questions you may have or to set up an interview time.

Thank you kindly for considering this invitation to be part of this study.

Best Regards,

Emily Pearsall
MSc Candidate
Institute of Health Policy, Management and Evaluation
University of Toronto
eaepearsall@gmail.com
647-808-8243
Appendix E. Consent form

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Study title  An exploration of influentials in nursing

Investigator  Emily Pearsall, University of Toronto, 647-808-8243, eapearsall@gmail.com

Before agreeing to participate in this study, it is essential that you read this document to fully understand the purpose of this study, your role in this study, and your rights as a participant. Please read this explanation about the study and its risks and benefits before you decide if you would like to participate. You should take as much time as you need to make your decision. You should ask the investigators to explain anything that you do not understand and make sure that all of your questions have been answered before signing this consent form. Before you make your decision, feel free to talk about this study with anyone you wish. Please note that you should not sign this form until you understand all of the information. Most importantly, please note that your participation in this study is voluntary.

Information about the study

This study aims to better understand how a person or group of people affect the use or knowledge of evidence in nursing. The reason for conducting this study is because the use of evidence or new knowledge in clinical practice has received a lot of attention in the nursing literature, however, there is little information about how to get evidence or new knowledge into practice. Thus, this study aims to better understand how a person or group of people can assist nurses in using evidence or new knowledge in practice.

This study is a Masters level thesis project through the University of Toronto, Department of Health Policy, Management and Evaluation. This study is not sponsored or connected in any way to your hospital.

If agreeable to participate in this study, you will be asked to take part in a single telephone interview. This interview will last no longer than 20 minutes and can be scheduled at any date or time that is most convenient for you. The questions that you will be asked relate your experience in using evidence in practice and the process that occurred to assist you in implementing the change.

Voluntary participation and Withdrawal

Your participation in this study is voluntary. You will have various opportunities to withdraw from this study should you wish. You may leave the study at any time without affecting your employment status. You may refuse to participate and not sign this consent. There will be no repercussions for doing so. Secondly, should you agree to participate and change your mind, you may withdraw at any time. Thirdly, you may refuse to answer any question you do not want to answer, or not answer an interview question by saying “pass”. Lastly, if you agree to participate, but do not want to answer specific questions; you may decline to answer questions at any time.
before or during. Should you choose any of the above scenarios, there will be no negative consequences.

Please note that if you decide to withdraw from the study after the interview has taken place, your responses will already have been anonymized and thus, it may be impossible to remove your answers from others’ responses.

We will give you new information that is learned during the study that might affect your decision to stay in the study

Protection of your information

All of your responses will only be seen by the principle investigator (Emily Pearsall) who will also be conducting the interview. All of your information will be kept confidential and anonymous. Your answers will not be shared with anyone outside of the thesis committee including anyone at your site or elsewhere.

A unique identifier will be used by the principle investigator to identify your responses. Your name and any other identifying information will not be available in any report or presentation that may arise from the study.

All data will be kept on an encrypted, password-protected USB key and notes will be kept in a secure, locked cabinet within a locked office in the Toronto General Research Institute. All data will be destroyed five years after conclusion of the study.

The final paper(s) that will arise from this study may include quotations from participants, but again, these quotes will be anonymized and no site specific information will be used.

It is expected that the results from this study will be presented at conferences and published in a peer review journal as well as being housed at the University of Toronto as a Masters Thesis project.

Risks and benefits to participating in this study

There are no direct risks with your participation in this study. Additionally, there are also no direct benefits. However, the findings from this study will be shared with you and the larger nursing community to hopefully better inform implementation of evidence-based practice.

As this study is an unfunded Masters thesis, we are not able to provide compensation for your time. However, we are very appreciative of your time and your interest in generating new knowledge for yourself and others. Lastly, there are no expenses for you to take part in this study. Your interview will be conducted through a conferencing centre which has a toll free number you will be provided with. Thus, you may choose any time and place that is convenient for you to call the toll-free number.

Questions about the study
If you have any questions, concerns or would like to speak to the study team for any reason please call the principle investigator Emily Pearsall at 647-808-8243 or eapearsall@gmail.com

If you have any questions about your rights as a research participant or have concerns about this study, you may contact the Office of Research Ethics at University of Toronto at: ethics.review@utoronto.ca or 416-946-3273. The office of research ethics is a group of people who oversee the ethical conduct of research studies at the University of Toronto. These people are not part of the study team. Everything that you discuss will be kept confidential.

**Consent**

The research study has been explained to me and my questions have been answered satisfactorily. I have the right not to participate and the right to withdraw at any time. I have been informed that I have not waived my legal rights nor released the investigators or involved institutions from their legal and professional responsibilities. I know that I may ask now, or in the future, any questions I have about the study. I have been told that information relating to me will be kept confidential and that no information will be disclosed without my permission unless required by law. I have been given sufficient time to read the above information.

I hereby consent to participate. I have been told I will be given a signed copy of this consent form.

____________________   _______________________        _________________
Name of Participant          Signature of Participant                Date

I have explained to the above Participant the nature and purpose, the potential benefits, and possible risks associated with participation in this research study. I have answered all questions that have been raised about the study.

____________________      _______________________      _________________
Name of Person Obtaining    Signature of Person Obtaining     Date
Consent                    Consent
Appendix F. Semi-structured interview guide

OPENING REMARKS

- Hello, my name is Emily Pearsall. I’m a graduate student at the University of Toronto.
- Thanks so much for agreeing to speak with me today.
- For my thesis I am interviewing front line nurses at hospitals across Ontario to learn more about the characteristics of individuals who influenced or assisted you in learning about or incorporating new research findings or evidence into your practice.
- The interview will require 15 to 20 minutes. Our conversation is being recorded but your responses will remain confidential, and neither you nor your organization will be identified.
- Before we begin do you have any general questions?

PROFESSIONAL ROLE (demographic characteristics)

First, we have a few quick questions so that we understand your professional role.

How long have you worked as a nurse at this hospital? In total?
Are you a university or diploma trained nurse?
What is your job title? Briefly, what are your main responsibilities?
What is your employment status (full time, casual) and time commitment (#shifts per week or month, hours per shift, day versus night)?

EBP CONCEPT (establish mutual understanding)

Before asking specific interview questions let’s agree on what we mean by EBP.

1. How do you define evidence based practice?
   Prompts: use of research findings plus professional knowledge and patient preferences when making patient care decisions…might be guidelines or research studies or expert knowledge

INFLUENTIAL CONCEPT (establish mutual understanding)

For this study we are interested in learning more about how individuals or groups either inside or outside your hospital promoted or enabled an evidence based practice. We’ll refer to these individuals or groups as influentials.

2. (A) Can you describe an example or scenario where either an internal or external individual or group promoted or enabled the adoption of an evidence-based practice? (B) Why or how were they in this position or role?
3. What characteristics did the influential possess that promoted or enabled adoption of the EBP?
   Prompts:
   - Position: professional association, government, hospital executive or manager
   - Profession: nurse colleague, nurse manager, physician, other clinician, information specialist/librarian, knowledge broker, researcher, etc.
   - Personal: persuasive, approachable, trustworthy, enthusiastic, knowledgeable, etc.
4. How did the influential promote or enable adoption of the EBP? What did they do?
Prompts:
- Provide information
  - What kind of information (explicit knowledge such as guidelines, data, published research, evaluation reports, other printed material, etc. or tacit knowledge based on expertise or experience)
  - How was it delivered (one-on-one, educational meeting, other meeting, academic detailing, formal or informal mentoring, email; single or multiple occasions; over what period of time, etc.)
- Model the behavior (through demonstrations, role play, observation, etc.)
- Exert peer, team or organizational pressure (policies, benchmarks, collegial influence, other mechanism of accountability, etc.)
- Other strategies

IMPACT
5. What influence did this have on you? What was the outcome or impact of what the influential did?
Prompts:
- Individual nurse (knowledge, attitude, beliefs, behaviour, satisfaction, etc.)
- Team or unit (better teamwork, integration of care, satisfaction, efficiency, etc.)
- Hospital level (lower costs, etc.)
- Patient level (improved compliance, satisfaction, clinical outcomes, etc.)

CHALLENGES
6. (A) What was challenging about guidance from, or interaction with the influential? (B) How could the experience and its impact or outcome have been improved?
Prompts:
- Timing of change, lack of time to implement change, authority, trust, feasibility of adopting new practice, relevance to practice, clarity of information, little perceived benefit, etc.

CONCLUSION
Is there anything that upon further reflection you wanted to add?
Do you have any other questions?
Thank you for taking the time to speak with me.
Appendix G. Codebook from interviews

Context

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<tr>
<th>Sub-theme</th>
<th>Examples</th>
<th>Representative quote</th>
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<tr>
<td>Receptive to change</td>
<td>So we have a great group of staff. Part of that is the (EBP) and part of it is the I think the openness for the staff to be able to offer something that also be able to understand the patient social context and that may not be what she wants to do. But still be able to offer to explain it and then accept the patient’s decision. (002)</td>
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<td>Unreceptive to change</td>
<td>Overall, I had some different characteristics with some of the nurses...the senior nurses were very...unapproachable. They were not too happy with the new changes or plan of new changes, saying, we work like this for 20 odd years, why are the changes. The senior nurses were less receptive to the changes. And then there were nurses who... have had that experience with the bedside reporting and it would be good, so the positive of the...about it. Oh yah, it should work for us. (016)</td>
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<tr>
<td>Culture</td>
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<tr>
<td>Readiness to change/Adaptability</td>
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<td>Organization</td>
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<tr>
<td>Lack of time</td>
<td>So one challenge I didn’t mention was which was the mainly overarching challenge was trying to get people together. (001)</td>
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<td>Too many changes/conflicting</td>
<td>I think it was just...it was kind of one of those catch-22 situations. I think it was, this was identified, we started to do it and then the agency rolled out (another change). So I think had we had an opportunity to have just changed our practice a little bit, first say, 3, 4, 5-months and then have this rolled out, it wouldn’t have been so bad. But I think it was because they kind of piggybacked each other quite quickly that everybody was like, on my god, this takes forever. I think if that was on a stand-alone, I think it would have been...it was done perfectly well. (004)</td>
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<td>EBP too much work</td>
<td>I think that people have become a little bit more reluctant to initiate restraints at this point. Just because it is a little bit more cumbersome now. There’s quite a bit of documentation that has to go in behind it...it’s deferred...it’s changed the staff behaviour in that where before they may have been a little bit more proactive and said, this patients escalating, we’re putting them in the restraints right now; whether it be closed door or for a point. Regardless it’s a restraint and the same procedures have to be followed. (004)</td>
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<td>Engage stakeholders</td>
<td>When you put a call-out to staff to be involved in a Task Force, you take what you get. So if, not all the appropriate people are responding to be able to participate in the Task Force, you’re not...and especially if you’re only meeting once. You’re not necessarily going to get the perspective that you need in order to have all the information that you should have. (010).</td>
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<td>Created implementation</td>
<td>They created a curriculum to train it; so complete with you know PowerPoint, you know a lesson plans, activities and they connected with the institution to borrow space. (001)</td>
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<td>tools/resources</td>
<td>Maybe to involve more people which ultimately is down to funding as well. So to free up some nurses time is really important to make things more inclusive. (013)</td>
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<td>Secured resources/provision of</td>
<td>And then we ran out of money and then we said, okay let’s keep it going but now you have to come on your own time; it stopped working. And that’s when we fell to volunteers who were working for free anyway needed to carry this through. (001)</td>
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<tr>
<td>resources</td>
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<td>Organizational</td>
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<td>Leadership</td>
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<tr>
<td>Included FLNs in the implementation</td>
<td>So my manager recommended me for the project, like that’s really the biggest influence in allowing me to feel connected to the evidence. (013)</td>
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<td>But it was really like a lot of talking to individual nurses about what would work for them; how they would actually use it and how they could see themselves use it rather than people just telling us, you should be doing this. So I think that’s been a huge benefit is really involving the frontline rather than just saying this is what you’re gonna do. (013).</td>
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Characteristics

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<td>Approachable practice leader</td>
<td>So she was passionate about it. She followed up about it. She was able to articulate not just that was best practice but why it was best practice. And when it was successful she was able to point that out. (002)</td>
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<tr>
<td>Passionate</td>
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<td>Takes action</td>
<td>She’s very focused with us, like if...the thing with her is she listens to our concerns. So she listens to our concerns and she takes action. It’s not just like listening and then forgetting about it. She takes action and she helps. (008)</td>
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<tr>
<td>Non-judgemental</td>
<td>I find like he was very receptive. For one was kind of against it. He well he’s well receptive, you can talk with him, he’s somebody you can talk about your concerns, what you are feeling, that you were being out of the group or if you were different or if you disagree with it. I don’t think it gonna work; everybody has a disagreement; we were able to voice over this disagreement without feeling any fear of you know, being looked upon negatively (016)</td>
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<td>Goes beyond ‘the job’</td>
<td>Not really because she’s doing a lot...she can even go beyond her scope. Like I know she’s not supposed to do this but she will when there’s nobody around, she will help. (008)</td>
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<tr>
<td>Provides support</td>
<td>She is very dynamic and very supportive. She’s not gonna invite you to be involved in a project</td>
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## Education transfer

### Mechanisms

#### Knowledgeable

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<td>Act as a local resource/ Available and able to answer questions</td>
<td>I know that she does make a lot of the nurses more comfortable because she is so knowledgeable about it. They know that they call her at any time when she’s there and she’ll pop over and give them an opinion. So it is good. (009)</td>
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<td>Have higher academic qualifications or certifications than the FLNs</td>
<td>I know that for you know in terms of education requirements; almost all the advanced practice nurses have a Masters in Nursing. So and because the Master’s is very also research focused, she’s comfortable sort of reading he literature as they say, right? (012)</td>
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<td>Knowledgeable about EBP</td>
<td>She’s knowledgeable with her field and about the (EBP)...you can approach her and you know that when you get answers. (008)</td>
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<td>Knowledge</td>
<td>I said, we have a 4-hour session for you and they gave us...so they gave us their PowerPoint, we did the group work and we did some case studies; the same thing that we...so it’s kind of like train the trainer, right? (001)</td>
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#### Credible/experie need/ respected

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<td>Identify with nurses \ Before you start telling me who have been doing this job for 20-years, that this is now a better way to do it; come and spend a little bit of time in my shoes...if you can convey you really understand what it’s like to try and do these things you want us to do, it means so much to the frontlines as opposed to you’re in your high heeled shoes and your suit, clicking down the hall, telling me, oh yes you can do this, there’s no reason you can’t manage this number of patients...but that’s not how it works here. (011)</td>
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<td>Identifies with nurses \ He just fit the bill as we would say because he comes from...he’s in the middle but he understands because he’s a nurse, practiced as a nurse. He could identify with us and that makes a big difference. You know some managers coming from administrative aspect of it and say or come the manager that he will take his clothes off, put his scrubs on and go help a patient...turn patients you know in there. (016)</td>
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#### Familiar to group

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<td>Fined to group \ She’s been I think a nurse for at least 10 years by now. So having someone that’s...that well prepared educationally and working on our unit and dedicated to helping our staff on our unit...each unit has their own advance practice nurse. So we know her very well (012)</td>
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### Multi-pronged strategies tailored to the needs of FLNs

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<td>Disseminate information \ So she did...I think she emailed a PowerPoint to the staff. She also made posters. I think the bigger influencer and those things helped; was she discussed it at every change of shift. (015)</td>
<td>I had signs around on the unit. I would...I did for about a month I did weekly in-services, days and nights with Shirley actually; we did it together. We...many things. We made t-shirts. We did presentations. We educated the RN’s and care assistants’. (017)</td>
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<td>Disseminate information \ We actually delivered information sessions. So we would recruit nurses who were available and willing to come and we would create mini-classes, rent space, not rent space just you know book space in the institution and deliver 4-hour sessions that involved you know a PowerPoint, some role-play and just a whole sort of 4-hour curriculum surrounding the...(EBP) And that would involve lecturing, leading group discussions, a small group discussion, answering questions and doing follow-ups with the group that I had that I delivered the session to; doing follow-ups later on in the future. If they have any questions or if they need further clarification or literature references and so on. (001)</td>
<td>So the nurse educator, she would...we would have like rounds, like I mean like meetings and then she would show us like examples of like the...that sheet that needs to be filled out, was expected of us. (007)</td>
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<td>Reminders \ Sends out emails, put in the bulletins, like in washroom or in the lounge. So to remind you. And of course, if not she will have this sticky notes(008)</td>
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<td>Reminders \ About the role play...a few nurses were called in to see how we will perform at the bedside. So we kind of practiced. And during that practice, it makes a big different...we were able to voice; really see where the lacking is and where we could improve and where we can improve...So we were just watching to see how it feels, although we were nervous. Some of us were nervous about it. But that helps us a lot, it did help. It helped a lot. (016)</td>
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<td>Role-play \ You read, she talks, speaks with you, you read through your information and then a follow through with a test and then you have to have I believe its 80-percent to pass. And if not, then she’ll sit down and go over it one by one with you. (005)</td>
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Ongoing education
Continuous education
And then basically what we do is we do team huddles on a fairly regular basis. And so this is something that was huddled quite a bit actually; quite heavily. Like so it wasn’t just done on one huddle, it was huddled throughout the process. So this is what we’ve identified and this is what we’re gonna do. So okay, this is what we’ve been doing, how’s it going? So it was an on-going process and it was discussed at all levels. (004)

Follow-up
The only thing I think perhaps is maybe just within a brief time again, maybe do a quick I guess review to say, hey, okay, make sure that we’re on top of it and that we’re continuing to still follow through and provide the appropriate patient care according to the guidelines. (005)

Content
Importance of EBP
Acknowledge that this is a significant change and this is why. This is why it’s significant. So it’s like oh yah, you know it’s tough for a…to change and leave it at that. (002)

How to trouble shoot
So it wasn’t just we should do it. But actually practically how to apply this. What some of the road blocks might be to doing this with patients and how to get past those; so not just step A, B and C but what might you encounter that might make it difficult to having to get around some of those. So she was creative in helping the staff implement a fairly straightforward standard that you can run into a number of road blocks. So she helped them be creative and I think that was because of her experience; that she was able to think of a lot of scenarios where it might be more difficult and to come up with suggestions on how to get around those. (002)

Social influence

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<td>Liaised with the departments in the hospital</td>
<td>Well she went around and she got persons or different people interested in the idea that you know if we have this evidence out there and other people are using and they’re getting people home early, why not…so she went around and she spoke to different doctors and different…and that’s how it all started. (018)</td>
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<td>Modelled behaviour</td>
<td>If I needed help on how to perform this particular technique, she could accompany me right to the bedside; so to provide direct one-on-one feedback. (012)</td>
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<tr>
<td>Content</td>
<td>I shadowed a day with a wound care nurse and I just kind of followed her around and was able to see what she’s doing and see her research and how she’s I don’t know gained all the knowledge that she has. (009)</td>
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<td>She also would actually personally come around, she was at triage for quite a while showing us how to (do the EBP). (003)</td>
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<td>Some of the nurses...also had a meeting where those nurses were able to talk about the other experiences of the other hospital with the same bedside reporting. So that was also informative for us, they said okay, it will work because someone else is doing it and this is what their…the problem they encountered; what is positive, what is negative about it. So that we’d be able to kind of understand that...The nurses said it works well and they found that nurses were satisfied, patient satisfaction went up and stuff like that. (016).</td>
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Audit and feedback

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<tr>
<td>Audit and feedback</td>
<td>So what they’ll do is they’ll post the audit results. So let’s say, on a percentage out of a hundred; it should be 100% but often it’s not, in terms of compliance. So let’s say if it’s 80% one month that means that 80% of the patients either had their saline lock dated and we were flushing it accordingly to the protocol. And so by looking at the percentage you can see if there’s room for improvement (012)</td>
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<td>I think every couple of months depending on our results we would come up and do like another, like sort of congratulations presentation, like yah, these are our numbers, we’re doing better; that kind of thing so (017).</td>
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Impact

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<tr>
<td>Awareness</td>
<td>Well the both direct material influence is having been made aware of (the EBP), its dangers and how we can prevent it. (001)</td>
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<tr>
<td>Behaviour</td>
<td>It’s definitely changed my behaviour and my clinical actions, yah.(001)</td>
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<tr>
<td>Culture shift</td>
<td>Made team more knowledgeable and accountable</td>
<td>I think if you look at it from a group perspective like from a unit perspective; I think (the impact) was more a knowledge and accountability. (004)</td>
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<td></td>
<td>Created a safe environment</td>
<td>I’m talking from my observation with the whole unit. Everybody seems so calm. Everybody had this calmness about them. They come to work and people come to work now without feeling burdened or anything. Even though it’s a new practice where we all work you know...about it. But so far it...the atmosphere on the unit has changed quite a bit and people seem relaxed, people still going home on time. So it’s a job well done. (016)</td>
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| **Job satisfaction** | **Increased constancy** | I definitely feel that she makes the unit safer. A safer place for me to work and a safer place for the patients to be on because without her there, there would be no sort of key person to drive best-practice in change. (012) |
| | **Proud of change** | I think for me again, because I’m one of the older staff on the department, it just made it easier because it made it more consistent. So what I was doing, everybody was doing. (004) |
| | | They were proud of the change that they made. That they are now doing it. So they would brag to patients and say, even when patients come in for a visit; you know we do (the EBP) here and we’re really good at it. We know what it means. We know how important it is...So they were quite proud of making that significant change and being able to offer it to the patients because they really care what a patient thinks. And yah, they were quite proud that the patients were much more satisfied doing (the EBP). (002) |
| **Knowledge** | | Well it was definitely positive. Yah, it definitely gave me a lot more knowledge about the different sort of things that we can do for patients and what we should be looking for. (009) |
| | | I think the staff understood it, understood the reason why; you know from the medical legal perspective, everybody was on board with that, they got it. It took a little while to kind of change their thinking patterns about it. But I think everybody was really okay with it, we understood it, we grasped the concept, there was no real issues with that. (004) |