

Impact of an Implementation Science Study on Nursing Leader's Competencies: *A Qualitative Study*

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Nursing leaders must engage with evidence-based practice (EBP) to advance quality patient care. The purpose of this study was to understand the impact of an implementation science study on nurse manager competencies. Qualitative focus group interviews were conducted with leaders following an implementation science study. The AONL Nurse Manager Competency Framework was used as a guide. Leaders felt they were able to promote EBPs, influence others, and grow in their professional role after participating in the implementation science study. Involvement in nurse-led implementation science research can enhance frontline leaders' ability to engage with and promote EBP.

One of the most challenging roles in health care is that of the nurse manager.¹ Not only are nurse managers responsible for operational oversight of patient care, including budgetary constraints and staffing challenges, they are also frontline leaders in implementing evidence-based practice (EBP) initiatives that impact quality and safety metrics.¹ However, Melnyk and colleagues^{2,3} found that a major barrier to effective implementation of EBP was manager and leader resistance to EBP, as well as manager's inability to provide hands-on support and lack of role modeling.

Improving nurse manager's involvement in EBP, as well as other clinical inquiry such as quality improvement and nursing research, is imperative, because it will advance quality patient care. Additionally, in being involved with clinical inquiry, nurse managers stand to gain by adding to their own mastery of the American Organization of Nursing Leaders (AONL) Nurse Manager Competencies in managing business, leading people, and developing their own leader within.⁴ The purpose of this qualitative study was to understand the impact of a large implementation science study on nurse manager's competencies.

BACKGROUND

CHG Bathing Implementation Science Study

In fall 2018, a needs assessment identified that nursing staff were not following the evidence-based chlorhexidine gluconate (CHG) bathing protocol for central line-associated bloodstream infection (CLABSI) prevention.^{5,6} As such, an implementation science study was conducted from May through September 2019, including 14 critical care units at 2 large hospitals.

KEY POINTS

- Frontline nursing leaders involved in nurse-led implementation science research improved their own ability to manage business, lead people, and develop as a leader.
- Nurse leaders benefit from collaboration with nurse investigators to understand data and facilitate feedback to staff.
- Leaders who engage with nurse-led research enhance their own understanding of research and evidence-based practice.

Prior to beginning the study, the research team met with the unit-based nursing managers and clinical team leaders to garner their support and engagement in the design of feedback to staff.

The intervention consisted of 2 implementation strategies, educational outreach visits and audit and feedback. During educational outreach visits, infection prevention experts completed in-services with nursing staff to review the importance of and process for CHG bathing. For the audit and feedback strategy, documentation and process compliance audits were completed, and weekly feedback was sent to nursing leadership for dissemination to staff. After the intervention, CHG bathing process compliance significantly improved. After 12 months, CLABSI rates significantly decreased.⁷ Full results of this study have been previously published.⁷

The success of this implementation study was in part due to the strong collaboration and support from the nurse managers and clinical team leaders. Following the implementation study, we conducted qualitative focus group interviews to understand the impact of the study on nurse manager's competencies as outlined by AONL, including the science of managing business, the art of leading people, and the development of the leader within.

METHODS

In August and September 2020, 2 PhD-prepared authors completed qualitative focus group interviews. Nurse managers and clinical team leaders from the 14 units where the study was conducted were invited via e-mail to participate. Due to scheduling conflicts and physical distancing requirements due to COVID-19, 4 participants requested individual interviews scheduled with the researcher via Zoom or Webex. Only the

researcher and participants were present during the sessions, which were audio-recorded and transcribed verbatim. No identifying information was included in transcription. Semistructured interview prompts were developed using the AONL Nurse Manager Learning Domain Framework (*Table 1*).⁸ This study was approved by both hospital's institutional review boards.

Analysis

The AONL Nurse Manager Learning Domain Framework was used as a predetermined code list during analysis. The criteria of credibility, reliability, and confirmability were used to establish trustworthiness of the data.⁹ Credibility was established through data redundancy and detailed analysis of the qualitative transcripts. One researcher used the predetermined code list to identify themes of the data. An audit trails was used to confirm these themes through 2 PhD-prepared nurses with a background in qualitative research and 2 quality-nursing leaders. They were asked to rate how well each quote supported the overall theme using a 4-point Likert scale (1 = not at all representative, 4 = very representative).^{10,11} For each quote, an average rating was calculated; included in the findings section are those quotes with the highest rating for each theme. Lastly, confirmability of the data was established through the voluntary participation and wide variation in perceptions and thoughts.⁹ NVivo version 12 qualitative software was used to manage the data.¹²

FINDINGS

Sample

Of the 14 units included in the implementation science study, nurse leaders from 10 units participated in focus

Table 1. Semistructured Interview Questions From the AONL Framework

Theme	
<i>The science</i>	The study provided you with ongoing outcome measurement findings. How did this impact your ability as a nursing leader to respond to those outcome measurements? For this study, experts rounded on your unit to support CHG bathing and documentation, and you were provided with audit and feedback data. How did this help you as a nursing leader promote EBP?
<i>The art</i>	How did this study impact your ability as a nursing leader to influence others to change practice? This study allowed staff to participate in research and data collection (champions through auditing). How did this study impact your ability to develop staff in this type of role within nursing research?
<i>The leader within</i>	How did this study impact you, personally as a nursing leader, to grow professionally in terms of advancing EBP?

CHG, chlorhexidine gluconate; EBP, evidence-based practice.

group interviews. Seven sessions (3 focus groups and 4 individual interviews) were completed with 14 total participants. Individuals participated in 1 session. Each session lasted approximately 25 minutes (range 15 to 45 minutes). Data saturation was reached after these sessions. All participants were white and non-Hispanic. Most were female (85.7%, $n = 12$) with a mean age of 47.1 (SD ± 12.8) years and with 11 years (SD ± 11.6) of experience in their current roles. Eight participants were nursing managers, and 6 were clinical team leaders. The themes of the science, the art, and the leader within were used based on the AONL Nurse Manager Learning Domain Framework (Figure 1).

Theme 1: The Science of Managing Business

During the implementation science study, nursing leaders were provided with outcome measurement findings (CHG bathing compliance feedback). To understand how the study impacted the nursing leader's science of managing business competency, they were asked how these data impacted their ability as a nursing leader to respond to outcome measurements. Nursing leaders appreciated that they were directly provided feedback on CHG bathing compliance. Having these data allowed them to communicate with their staff successes and opportunities for improvement. One clinical team lead noted that having the data was empowering, stating, "Whenever you have a dip in your data or compliance, it empowers you to figure out what was going on and to follow up with staff." [Participant 3]. One nurse manager in the pediatric intensive care unit noted:

We do a lot of studies and initiatives, but staff do not get real-time feedback on how successful they were and how it impacts the patient. I think that was extremely helpful for us because you had the ability and resources to provide that feedback to us. If it's up to frontline managers, sadly, unfortunately, it usually is not on the forefront of our to-do list. But I think [the research team] giving us that data really helped us to provide it to frontline staff and increase their compliance, because they saw what they were doing was making a positive difference for the patient. [Participant 4].

Local nursing leaders were also asked how the implementation science study helped them, as leaders, promote EBP at the bedside. They commented that being a part of the study provided them support to help ensure that nursing staff were providing EBPs. Having the data and additional support helped them remove barriers and promote EBP.

We would take the [nursing staff] that didn't do so hot, and we were able to educate or reeducate. And then we'd just ask, what would help you [do CHG

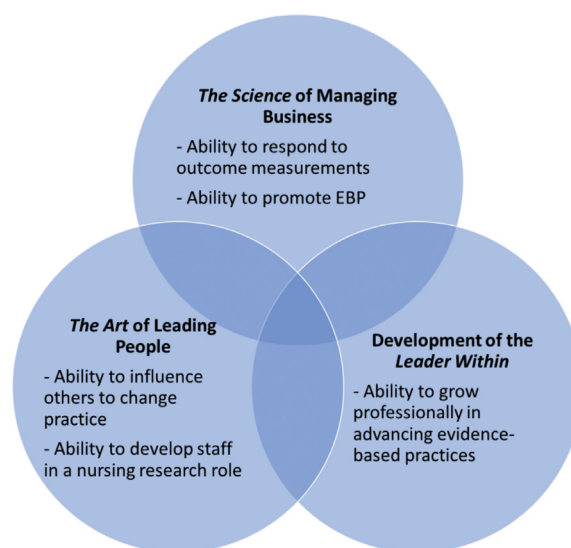


Figure 1. Overview of AONL Nurse Manager Competencies Related to the Implementation Science Study

AONL, American Organization of Nursing Leaders; EBP, evidence-based practice.

bathing] more often? Did you forget about doing it? Or, maybe you didn't chart it or things like that. So, we were able to ask the question. [Participant 9].

As a manager, the support at the unit level helped me ensure that I was receiving the education the same way the staff received it. So, when I followed up with staff, I knew that the training and the evaluation was consistent. [Participant 10].

Theme 2: The Art of Leading People

Participants were asked how the study impacted their ability to influence others to change practice, in an effort to understand the art of leading people. Similar to the science of managing people, nursing leaders felt that being provided the compliance data helped them hold staff accountable for following the evidence-based CHG bathing practices. They also noted that partnering with the research team helped improve staff nurses' compliance with CHG bathing because it provided a solid foundation for helping staff understand the importance of the practice.

Being provided the compliance data helps with accountability. Accountability is what helps staff, and usually that accountability is my responsibility as a nursing leader. It is left up to my own wherewithal with me remembering that I need to hold people accountable for something. The data was "ready-to-serve-accountability," which sometimes that's just what practice changes need. Most people do have the best intentions in doing [EBP], but it is

our responsibility, as managers, to keep the patient safe. And the way we do that is to hold staff accountable to good clinical practice. I think that's kind of where the real power is sometimes. [Participant 1].

We had tried to implement CHG bathing before the research study started. We saw a tremendous difference [in compliance] once we were able to provide real-time meaningful information to staff. Before, staff thought "Maybe CHG works, maybe it doesn't work. I'll just do it if I get to it." But with the data, you can actually show people that yes, it does make a difference. Here's why, here's how, here's what it has shown. I think this has made a huge difference to staff. For me as a manager, I was able to really help them understand why CHG bathing was so important. [Participant 6].

I think that the CHG bathing practice coming in a more research, evidence-based, formalized way help to support our efforts at the unit level because we had the evidence to back us up. It was not just another ask from leadership. Having it come as a research study held more weight in getting staff buy-in. [Participant 10].

One manager felt that being a part of the study helped her engage more with nurses' practice and CLABSI prevention efforts.

It helped to engage me more in nurses' practice of CHG bathing and care for central lines. I collaborated with charge nurses, and myself and my supervisor team engaged in monitoring CHG bathing every morning. With the data we were provided, we began presenting our data each month and made sure our quality boards were up to date. Being a part of the study drove us to expand our thinking about CLABSI prevention. [Participant 10].

Within the implementation science study, unit-based CLABSI champions (bedside nurses) served as data collectors and completed audits. This experience allowed them to participate in nurse-led research. The local nursing leaders were asked how this affected their ability to develop staff nurses in a nursing research role. Several participants appreciated their nurses being exposed to this role, because it helped provide professional development opportunities.

It helped us to have conversations with [staff] about if this is a part of nursing they enjoy. I think some of our staff are more excited about research than others, and I think it's helpful when you see the research and the data in progress. It helps to facilitate conversations about growth and development. [Participant 4].

Theme 3: Development of The Leader Within

Finally, we sought to understand how the study impacted the development of the leader within. Participants were asked how they were able to grow professionally in terms of advancing EBP from being a part of the study. Nursing leaders felt that the data and information they were provided gave them the confidence needed to pursue other EBP initiatives.

There's a lot of EBP thrown at nursing. As a nursing manager, you go to many meetings, and you get so much information about EBP, but you don't always get the results. So it's nice to see where we started, where we're at, and where we can improve; that's helpful. [Participant 8].

What this study has taught us is that if we have the data to support the practice, and we provide data showing nurses where the deficits are, we can change practice. This increases nurses' buy-in and compliance to whatever the ask is. This study helped us build our confidence and develop ways to push out new protocols. Whenever we have great evidence and support from research, the new initiative makes sense, and we feel more confident presenting it to staff. [Participant 10].

DISCUSSION AND IMPLICATIONS FOR NURSING LEADERS

This study provides evidence on the impact that being a part of an implementation science study had on local nursing leaders. To our knowledge, this is the first study that has sought to evaluate AONL nurse manager competencies specifically related to EBP and nursing research following a nurse-lead research study. The interventions included in the study, educational outreach visits and audit and feedback, provided nursing leaders with strong data and evidence that helped implement CHG bathing in practice. Most leaders noted that obtaining real-time compliance data helped them lead their staff by being able to share successes, opportunities, remove barriers, and provide accountability.

Being a part of this study allowed nursing leaders to promote EBP through the science of managing business, the art of leading people, and develop the leader within.⁴ Whereas nursing leaders may not have time to *lead* EBP projects or research studies, they valued participating in research and having opportunities to collaborate with nurse-led researchers. It is beneficial for nursing leaders to be a champion of EBP, because they are the "ultimate" champion for their unit. This exposure can provide beneficial experiences for growth of the nursing leader.

Additionally, involvement in nurse-lead research allowed nursing leaders to apply EBP and grow professionally as leaders, in turn allowing them to grow

their direct care staff—making them a more holistic leader. Further, the larger implementation science study enhanced nursing managers and clinical team leaders' ability to ensure accountability of the CHG bathing practice, adding to the sustainability of the practice. This study increased nursing leader's understanding of implementation science and provided them with a foundation for why EBP matters. Lastly, nurse leaders were provided with tools they need to support EBP at the bedside through improving their own understanding of EBP and implementation science research.

Limitations

Several limitations affect the transferability of these findings. Though we felt data saturation was reached, 14 participants is a small sample size. Additionally, we intended to have small focus groups with 3 to 5 participants each. However, several focus groups only had 1 participant, resulting in an interview rather than focus group context. Because of this, rich information retrieved from allowing participants to “bounce” ideas off one another was lost. Additional focus groups with more participants may have yielded differing results. Participation was voluntary; whereas most of the units included in the original study (10 out of 14) had nursing leaders participate, only those with positive feedback may have felt comfortable sharing their results. Other individuals with potentially negative comments may not have participated due to a possible loss of anonymity. Further, individuals within the participant's own organization facilitated the interviews, which may have biased participants to share positive comments.

CONCLUSION

This study adds to the growing body of literature on the AONL Nurse Manager Competency Framework. Findings provide evidence that nursing leadership involvement with nurse-lead research can improve leadership competencies through engagement in research and EBP. Further, engagement allows nurse managers to be more holistic leaders, increases leaders' understanding of EBP, and enables stronger leadership in regards to EBP initiatives. Nursing leaders with extensive experience may lack formal training in EBP, and yet, this study brought EBP and implementation of evidence into practice to life. Future researchers may benefit from considering nurse manager perspectives and involvement in nursing research based on the AONL Nurse Manager Competency Framework.

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