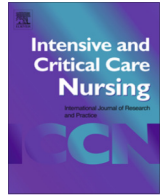




Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Research Article

Implementation and sustainment strategies for open visitation in the intensive care unit: A multicentre qualitative study

Kerry A. Milner*, Suzanne Marmo, Susan Goncalves

Davis & Henley College of Nursing, Sacred Heart University, 5151 Park Avenue, Fairfield, CT 06825, United States

ARTICLE INFO

Article history:

Received 16 February 2020

Revised 27 June 2020

Accepted 22 July 2020

Keywords:

Intensive care units

Critical care

Family

Patient

Open visitation

Unrestricted visitation

ABSTRACT

Objective: Open visitation in adult intensive care units has been associated with improved family and patient outcomes. However, worldwide adoption of this practice has been slow and reasons for this are unclear. This study documents barriers and strategies for implementing and sustaining open visitation in adult intensive care units in the United States experienced by nursing leadership.

Research design: Qualitative approach using grounded theory.

Participants: Nurse leaders in adult intensive care units with open visitation.

Setting: Magnet® or Pathway to Excellence® designated hospitals in the United States.

Methods: Semi structured interviews were conducted with 19 nurse leaders from 15 geographically dispersed hospitals. Interviews were recorded, transcribed and imported into Atlas.ti qualitative software for analysis. Grounded theory constant comparison analysis was used for coding and category development.

Findings: The analysis revealed three barriers; nursing attitudes and clinical and nonclinical barriers. Strategies to overcome these barriers were empathy, evidence-based practice, models of care, shared governance, nurse discretion, security and family spaces.

Conclusion: Intensive care nursing leadership experienced distinct barriers and strategies during pre-implementation, implementation and sustainment of open visitation. Other nursing leaders interested in open visitation can use these findings as they plan this transition in their intensive care units.

© 2020 Published by Elsevier Ltd.

Implications for clinical practice

- Barriers and strategies for implementation and sustainment phases of open visitation can inform different approaches for nursing leadership to use to change organisational culture in intensive care unit.
- Nursing attitudes are a barrier to implementation of open visitation, but empathy, evidence based practice and shared governance can serve as facilitators for implementation.
- To promote sustainment of open visitation, strategies to improve potential clinical and non-clinical barriers for implementation can be addressed through promoting nurse discretion and providing family spaces to connect visitors and the intensive care environment.

Introduction and background

Open visitation in the adult intensive care unit (ICU) where family members or designated support persons have unrestricted

access to the patient has been associated with improved family (Carroll & Gonzalez, 2009; Gonzalez et al., 2004; Jacob et al., 2016; Marco et al., 2006; McAdam & Puntillo, 2013; Nassar Junior et al., 2018) and patient outcomes (da Silva Ramos et al., 2013; Fumagalli et al., 2006; Holloway & Galvin, 2016; McAdam & Puntillo, 2013; Nassar Junior et al., 2018; Rosa et al., 2017; Shulkin et al., 2014). United States (US) national data indicate limited adoption of open visitation since it was first recommended by the Society for Critical Care Medicine (Davidson et al., 2007) and

* This work was performed at the Davis & Henley College of Nursing, Sacred Heart University.

* Corresponding author.

E-mail address: milnerk@sacredheart.edu (K.A. Milner).

the American Association of Critical Care Nurses (AACN) (“Family presence: visitation in the adult ICU”, 2012). In the last national study (Liu et al., 2013), only 10.4% of adult ICUs had open visitation. Ten years later, open visitation in US hospitals recognised for nursing excellence was only 18.6% (Milner et al., 2020). Outside the US a similar pattern of restrictive visitation has been observed (Garrouste-Orgeas et al., 2016; Giannini et al., 2008; Haghbin et al., 2011; Noordermeer et al., 2013) despite being recommended by World Federation of Critical Care Nurses (WFCCN Review Group, 2019).

Possible barriers to implementing open visitation in the ICU have been described. Surveys of nurses who regularly provide bedside care reveal attitudes that open visitation negatively affects patient care (McAdam & Puntillo, 2013; Riley et al., 2014), and increases workload (Coombs et al., 2017; Gershengorn & Garland, 2016) and interruptions (Monroe & Wofford, 2017). Open visitation policies have been described as contributing to a fear of a “free-for-all” (Kozub et al., 2017) and concerns about nurses’ personal safety have been reported (Keys & Stichler, 2018; Lee et al., 2007). Physicians identified barriers such as perceptions that open visitation violates patient rights and may place patients’ safety at risk (Riley et al., 2014). Other barriers identified in the literature include structural and architectural features of the ICU that limit space to accommodate several visitors (Cappellini et al., 2014).

Evidence on facilitators for implementing and managing open visitation is limited to two single setting studies. In one study, nurses working in a medical ICU in an urban university hospital participated in focus groups to identify solutions to perceived problems and strategies to facilitate successful implementation of open visitation (Lee et al., 2007). Solutions for protecting patient confidentiality included having a large family room for private consultations and directing visitors to a waiting room when nearby discussions involved other patients. Strategies for improving nurse and visitor communications included visitor education on the structure and flow of an ICU, staff education on the emotional needs of visitors, and social work consults to meet the visitors’ emotional and physical needs. Nurses also identified the need for a well-defined policy for the management of visitors that use threatening behaviour towards staff.

In a performance improvement study, nurses working in a surgical trauma ICU were surveyed about barriers to implementation of open visitation and the solutions to resolve them. The solutions included scripted prompts for staff to use with visitors to address issues of patient safety (e.g. interruptions during medication administration), the environment (e.g. overcrowding of patient room), and communication (designating a spokesperson) (Kozub et al., 2017).

Limited adoption of open visitation in adult ICUs may be related to the lack of research on effective strategies for implementation and sustainment. A recently published review on open visitation concluded that research exploring views of ICU nurses and staff is urgently needed to understand the challenges faced during the transition to open visitation and the strategies to promote sustainment and the change in culture (Ning & Cope, 2020).

The American Nurses Credentialing Centre is an arm of the American Nurses Association that promotes excellence in nursing and healthcare globally through its credentialing programmes (e.g. Magnet® and Pathway to Excellence® Programme). In healthcare organisations worldwide, being in the Magnet® programme indicates exemplary nursing professional practice and the delivery of the best patient care (“Magnet Model - Creating a Magnet Culture,” n.d.). Similarly, the Pathway to Excellence® designation indicates healthcare organisations that have demonstrated healthy work environments for nurses while promoting

high nursing professional practice standards (“Pathway to Excellence Program,” n.d.). Nurses in leadership positions in Magnet® or Pathway to Excellence® Programme facilities are in a unique position to facilitate open, flexible ICU visitation policies and potentially improve patient and family outcomes. The purpose of this study was to document the barriers and strategies for implementing and sustaining open visitation in adult ICUs experienced by nurse leaders.

Methods

Design

A grounded theory approach was chosen for this study to understand the process and practises of implementing open visitation in adult ICUs. A primary purpose of this method is to build theory and conceptual models that have immediate implications for clinical practice (Egan, 2002; Glaser & Strauss, 1967). Grounded theory has been utilised to develop recommendations for improving practise in the ICU including nursing leaders’ establishment of patient safety protocols (Hägström et al., 2017) and nurse training programmes for new graduates entering ICUs (Lewis-Pierre et al., 2017).

Definition. Open visitation was defined as “unrestricted access of hospitalised patients to a chosen support person (eg, family member, friend, or trusted individual) who is integral to the provision of emotional and social support 24 hours a day, according to the patient’s preferences, unless the support person infringes on the rights of others and their safety, or the support person’s presence is medically or therapeutically contraindicated” (“Family Visitation in the Adult Intensive Care Unit,” 2016, p. 1).

Participants and setting

Nurses working in Magnet® and Pathway to Excellence® hospitals are required to routinely translate best evidence into practise and demonstrate improved healthcare outcomes. Managing family and visitors is part of nursing practise so nurses often develop the visitor policies (Khaleghparast et al., 2015). Therefore, it is reasonable to assume that nurse leaders of adult ICUs in Magnet® and Pathway to Excellence® hospitals are a valid and reliable source for information on barriers and strategies for implementing and sustaining open visitation. The method used to identify the 68 Magnet® and 32 Pathway to Excellence® hospitals with open visitation in their adult ICU has been previously published (Milner et al., 2020).

Sampling and recruitment

For this study, the researchers searched LinkedIn and hospital websites to obtain email addresses of nurses in leadership positions (e.g. Magnet® or Pathway to Excellence® programme director, nurse manager, senior nurse manager, clinical/patient care director) in the ICU of the 68 Magnet® and 32 Pathway to Excellence® hospitals. This method yielded 29 email addresses. Next, the researchers obtained the direct phone numbers for 26 of the hospitals’ c-suites by calling the hospital operator and then made calls to obtain the contact information of nurses in leadership positions associated with ICU. This method yielded 11 additional contacts. Email invitations were then sent to these nurses (n = 40) inviting them to participate in a semi-structured phone interview. These recruitment methods yielded a total of 19 nurse leaders from 15 hospitals who agreed to be interviewed.

Table 1
Interview Questions.

Question
What is your role at this Magnet® or Pathway to Excellence® hospital?
How many years have you had open visitation in adult ICU?
Do you have open visitation on all your adult ICUs?
If no, what are the differences?
Describe how you implemented open visitation in the adult ICU.
How did the different staff members respond to the open visitation policies?
a. Do you recall the reaction of nurses?
b. Do you recall the reaction of physicians?
c. Do you recall the reaction of social workers?
d. Other disciplines?
Were there any barriers or challenges faced during implementation?
If yes, what do you think the reasons were for these barriers or challenges?
What strategies were used to overcome these barriers?
What was successful during implementation?
What was successful during sustainment?
Do you have a QI process for monitoring adherence to open visitation policy?
If yes, please describe the QI processes.
Do you have additional ideas or thoughts for implementation and sustainment of open visitation in the adult ICU?

ICU, intensive care unit; QI, quality improvement

Data collection

For hospital characteristics the researchers used public data available from the American Hospital Directory website (<https://www.ahd.com>). These data included geographic location, median number of specialty care beds, and trauma level designation. The number of years with open visitation and nurse leader position was collected from the participants at the start of the interview.

A semi-structured interview discussion guide, summarised in Table 1, was developed by the authors to elicit nurse leaders' perspectives about barriers and strategies for implementing and sustaining open visitation in their adult ICU. The discussion guide was reviewed by a nurse scholar in critical care. The first author (KM, critical care nurse) served as the interviewer for all interviews and used comprehensive probes to obtain and clarify responses from participants. On average, the interviews lasted 30 minutes, took place over the phone, and were audio-recorded. Recruitment was continued until no new information emerged during the interviews (e.g. data saturation).

Data analysis

The audio files were transcribed verbatim into Microsoft Word by a professional transcription service. The Microsoft Word files containing the transcripts were imported into ATLAS.ti version 8.4.0 (Friese, 2019) for data management. An "open coding" process (Strauss & Corbin, 1990) was used by two of the researchers (SG, nurse manager/supervisor and acute care nurse; SM, medical and critical care social worker) to develop a preliminary codebook with the discussion guide as an initial framework. When new ideas or concepts related to the study purpose were identified, they were assigned a semantic code (Strauss & Corbin, 1990). To check for consistency, these researchers independently coded two randomly selected transcript excerpts to establish intercoder agreement of the textual codes for the codebook (Campbell et al., 2013). Initial intercoder agreement was 77.8%. After reconciliation, intercoder agreement was 85.7%. Remaining transcripts were coded using the codebook and new codes were added as needed. The coded data were printed out by code type, reviewed for accuracy, and examined for links to other codes. This "axial coding" process (Strauss & Corbin, 1990) was performed to connect code categories,

and to look for relationships that could reasonably be taken to represent common core categories. As a part of the ongoing interpretive process, the constant comparison method (Glaser & Strauss, 1967) was used to compare and contrast core categories within and across groups, which allowed for the discovery of similarities and differences in the data. Similarities and differences in perceived barriers and strategies for implementing and sustaining open visitation were identified within and between interviews (Boeije, 2002).

Rigour of the study

Several steps were taken to enhance the research credibility and transferability. First, a standardised codebook, and intercoder agreement cheques were used to reduce potential researcher bias and subjectivity (Onwuegbuzie & Leech, 2007). The researchers also provide a detailed description of the data collection and analysis procedures as an "audit trail" for other researchers interested in replicating the study (Bloomberg & Volpe, 2008). Finally, to increase the opportunity for transferability (Bloomberg & Volpe, 2008), the researchers provide details about the study participants and recruitment and study context.

Ethics

This study was approved by the Institutional Review Board (IRB) at the authors' university (IRB# 180112A). This study conformed to the principles outlined in the Declaration of Helsinki (World Medical Association, 2013). Participants were informed of the study purpose and participation was voluntary in an email invite. Prior to the start of the phone interview, the interviewer obtained verbal consent for study participation and audiotaping. Participants were also informed about the confidentiality in presenting the results. Participant and hospital names were not used when presenting participant data. This report adheres to the Consolidated Criteria for Reporting Qualitative (COREQ) research guidelines (Tong et al., 2007).

Table 2
Participant and Hospital Characteristics.

Characteristic	n	%
<i>Gender</i>		
Female	17	89.5
Male	2	10.5
<i>Designation</i>		
Magnet	14	93.33
Pathway to Excellence	1	6.67
<i>Position</i>		
Nurse manager of ICU unit(s)	6	31.57
Director Critical Care Service or Patient Service	8	42.12
Magnet programme leadership	4	21.05
Other	1	5.26
<i>Location of hospital</i>		
Northeast	2	13.34%
South	5	33.33%
Midwest	3	20.0%
West	5	33.33%
<i>Trauma designation</i>		
Level 1	7	46.67
Level 2	2	13.33
Level 3	2	13.33
None	4	26.67
	Median	Range
Number of specialty care beds	85	12–168
Years with open visitation	6	1.5–20

ICU, intensive care unit

Findings

Demographics

From November 29, 2018 to February 20, 2019, 15 interviews were conducted by phone with 19 nurse leaders in hospitals with adult ICU with open visitation. Table 2 displays the participant and hospital characteristics. The nurse leaders were mostly female, director or nurse manager of critical care or patient care services in geographically dispersed Magnet hospitals. Nearly half the hospitals had a trauma designation of level 1. The median number of specialty care beds was 85 and the median number of years with open visitation was 6.

Framework for barriers and strategies for open visitation

During the axial coding phase of data analysis, it was determined that unique core categories emerged during pre-implementation, implementation and sustainment phases of open visitation. Data analysis revealed that participants communicated barriers and facilitators for these three distinct phases. Fig. 1 illustrates this framework for the phases of implementing open visitation conceptualised during data analysis.

Pre-implementation phase of open visitation

During the pre-implementation phase, the open coding process yielded the major categories of nursing attitudes, empathy and evidence-based practice (EBP). Empathy and EBP were identified as strategies to overcome the barrier of nursing attitudes. In this context EBP represents a problem solving approach to clinical practise that integrates best available evidence, clinical expertise, and patient/family preferences and values (Melnyk and Fineout-Overholt, 2015) Table 3 displays the participant quotes for each barrier and strategy identified during the pre-implementation phase.

Negative nursing attitudes. The nursing attitude of resistance was the most often expressed barrier in the pre-implementation phase. As participants were exploring or planning the transition to open visitation in their ICU, they described resistance from experienced nurses who were socialised to ICU nursing through

provider centric models of care. Nurses were described as questioning how they could manage to provide high quality care to critically ill patients with visitors, including children, being allowed at any time.

Using empathy. Empathy was identified as a key strategy in the pre-implementation phase. Specifically, nurses reflected on personal feelings and professional experiences associated with open visitation, and participants drew on these positive feelings to change their own perceptions and to foster buy-in to open visitation. Examples of both personal and patient empathy were identified. Personal empathy related to the nurses' own experience with open visitation. Patient empathy related to nurses who witnessed patients who got better or had a good day when they has a visit from someone special.

Advocating EBP. EBP was another key strategy for gaining nurse buy-in during the pre-implementation phase. Participants appealed to the professional practice expectation of aligning practise with available evidence, clinical expertise and patient preferences. Specifically, participants referred nurses to the AACN practise guidelines ("Family presence: visitation in the adult ICU," 2012; "Family Visitation in the Adult Intensive Care Unit," 2016) and challenged nurses to review the best available evidence on open visitation. Participants suggested consulting with child life specialists and social work to use their expertise and evidence to address nurse concerns about allowing young children to visit the ICU.

Implementation phase of open visitation

During the implementation phase, the open coding process yielded the major categories of nursing attitudes, EBP and shared governance. Nursing attitudes were a barrier to implementation, and EBP and shared governance were facilitators. Table 3 displays the participant quotes for each barrier and strategy identified during the implementation phase.

Negative nursing attitudes. The most often reported barrier in the implementation phase was negative nursing attitudes related to the role of family and visitors while in the ICU. Participants expressed that nurses were concerned about family and visitors interfering with their ability to provide care to their critically ill patients.

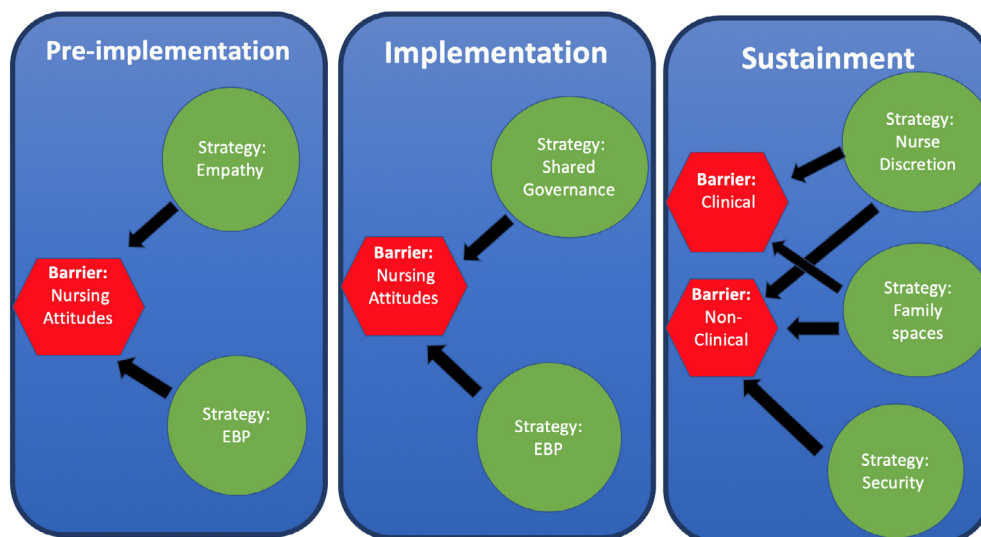


Fig. 1. Framework for Implementing and Sustaining Open Visitation in the Adult ICU. This figure describes the barriers (red) and the strategies (green) to overcome the barriers in pre-implementation, implementation and sustainment of open visitation. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

Table 3
Participant Quotes for Barriers and Strategies for Implementing and Sustaining Open Visitation in the ICU.

Pre-implementation Phase		Categories	Participant Quotes
Pre-implementation Phase	Barrier	Negative nurses' attitudes	<i>The biggest challenge was getting some of the folks [nurses] who had been here for longer periods, so higher seniority, to get away from the practisc of not having family present.-participant 2</i> <i>Once you say 'open' it's kind of just literally open the doors for people to come, and so the initial reaction was, how am I going to manage with people just drifting in and out coming in? -participant 9B</i> <i>...even when the visitation was starting to be opened a little more and we were unlocking doors and stuff, there was kind of a push back [from nurses] 'but not children, children shouldn't be in here,'-participant 3</i> <i>And, you know for most of the people that were resistant, even they could say, you know, 'if this was my loved one, yes, I'd want to be here' so we leaned very heavily on that one kind of component. -participant 11</i>
	Strategy	Using empathy	<i>I know a particular patient that comes to mind that he had a ruptured aneurism... mentally he was just very depressed and down and stuff... And I said [to his wife], well if you would like to come in and bring the boys in to see him... I'll make special arrangements for them to come in and see him... you could see such a difference as soon as he saw those boys. -participant 1</i>
		Advocating evidence-based practice	<i>We really look to the AACN to help guide our practice. Our Chief Nurse Officer challenged them to go to the literature to find the information about visitation, the nurses went to the literature and said, 'it is better for the patient', and that's where I think, we kind of turned the entire pendulum on the ICU about open visitation -Participant 9A</i> <i>I think that if we remember the fact that we all want an evidence-based environment then we don't have a leg to stand on in terms of fighting it [open visitation]. -participant 13</i> <i>Working with some of the folks in child life specialty, and with our social worker, and educating the staff on how for children it's actually more traumatic not allowing them to come in to visit - participant 2</i>
Implementation Phase	Barrier	Negative nurses' attitudes	<i>Sometimes they view family members as a hindrance verses being helpful or a partner in this person's journey. -participant 15</i> <i>There are some difficult families that impede the care, and sometimes just going in and out of the rooms and getting interrupted numerous times it slows down the nurse and what she needs to be doing - participant 8</i>
	Strategy	Advocating evidence-based practice Shared governance	<i>Find your champions because they exist within your intensive care units, and you know who these nurses are; find your champions... and then look at the evidence, because all of this... along with all the literature supports it, on AACN's website for everyone to be able to view -participant 7A</i> <i>The biggest piece of anything is sort of frontline staff... that they're driving it, and that they are facilitated by someone who can guide them but not take it over, that the front-line staff work on it, develop it and have them own it, because the buy-in is much more effective and quicker -participant 5</i> <i>It [implementing open visitation] was driven by the staff, if you [use] shared governance models to bring it through-participant 6</i> <i>I think Patient Advisory Councils are really important... I think having the voice of the patient is a strategy that works every time -participant 14</i>
Sustainment Phase	Barrier	Clinical	<i>If it's flu season, the request that we have for them is to wear a mask or not visit if they had colds - participant 15</i> <i>When there's isolation issues, if it's very problematic and patients, visitors are not following appropriate isolation they can be banned from coming - participant 3</i>
		Non-clinical	<i>It [ICU] does have a locked door at night now just because we would have problems with sometimes homeless getting into the building and then wandering into the rooms, so they do that for their [patient] safety -participant 3</i> <i>We have been allowed to restrict any visitor if they are not complying with the rules we have set... and if they continue to show that type of behaviour then we are allowed to call security to have them removed from the premises -participant 15</i>
	Strategy	Nurse discretion	<i>You don't want staff, a beside ICU nurse to feel that they're not empowered to have a voice if someone is being disruptive to the care of the patient, or you know approaching them in a way that they feel threatened... we know that we're dealing with people who are in stress, and sometimes they're not making the best decisions or communicating in the most helpful way. -participant 7A</i> <i>That's why we still give them [nurses] the autonomy if there's something impactful going on, we don't want it to become a spectator sport with the visitors. So, we still have that piece in there [referring to visitation policy] where we can restrict -participant 8</i>
		Security	<i>We are an inner-city hospital, we set up a process for patients, through one door after eight o'clock at night, and the security guard sits at that door at night, and then they [security] would give them name tags, you know, like, 'Approved from Security,' - participant 15</i> <i>They have panic buttons for the nurses - participant 14</i> <i>So, if my nurses have felt threatened by an aggressive visitor, first they call security. If security doesn't respond in a way that makes them feel comfortable, or [does not] remove that person, then they are at liberty to call our local police department - participant 3</i>
	Family spaces	<i>We believe that patient rooms have a clinician zone, a patient zone, and a family zone. So, we encourage families to stay and participate in care -participant 6</i> <i>Our redesign of our space has helped a lot to make it more comfortable for all to be present, and we do have definitely lots of family members present in our unit. We also have two big family lounges... and there is also coffee, ice machine with water, and a refrigerator and microwave in that space, and some tables for eating -participant 10A</i> <i>I think we've created a culture that it's not even an expectation it's just something that we do... we understand that the integral parts that patients' families and loved ones are whoever they define as 'family members,' the important role that they play in the healing process, and how they advocate for their loved one, and are truly part of our interdisciplinary team. -participant 10B</i>	

Advocating EBP. A strategy that contributed to success in the implementation phase was nurse-to-nurse education on evidence-based best practises. Several participants suggested seeking out EBP champions within nursing to help disseminate this information among the nurses.

Shared governance. Shared governance emerged as a strategy for the implementation phase. Participants identified the importance and value of a shared governance structure where nurse input and ownership of the process facilitated the implementation of open visitation. Participants also reported the need to include patients in advisory councils to support the implementation of open visitation.

Sustainment phase of open visitation

During the sustainment phase the open coding process yielded the major categories of clinical and non-clinical barriers, nurse discretion, security, family spaces and culture. Nurse discretion, security and family spaces were facilitators. Table 3 displays the participant quotes for each barrier and strategy identified during the sustainment phase.

Clinical barriers. Clinical barriers were identified as accepted clinical situations where open visitation is suspended. For example, during flu season protection of fragile patients was identified as a major concern by nearly every participant and open visitation may be suspended. Participants were also concerned about maintaining isolation precautions. In some cases, visitors may be asked to leave if they do not follow isolation precautions after being educated.

Non-clinical barriers. Nonclinical barriers were identified as changes to the ICU environment in response to situations that jeopardise staff safety. Changes included keeping ICU doors closed or locked in certain hospitals or at certain times or suspending open visitation for disruptive visitors.

Nurse discretion. While open visitation is the policy, participants supported nurse discretion as a way for nurses to set parameters of safety while maintaining a partnership between the nurse, patient and visitor. Participants described that including nurse discretion in visitation policies facilitated nurse empowerment and autonomy to act if visitors were being disruptive.

Security. Participants acknowledged that having a security presence facilitated sustainment of open visitation. Security presence ranged from the capability to lock ICU doors or press a panic button if there was an imminent security threat to security at the entrance of the ICU at night. Nurses were encouraged to do what they needed, to maintain safety for themselves and their patients with strategies such as calling local police if security wasn't responding.

Family spaces. Family spaces encompassed physical space that belonged to the family. These were dedicated spaces within the ICU where family felt welcomed to relax and participate in caring for the patient. Participants recognised that physical structures may not be changeable, however, newer physical structures with ICU rooms having larger family space and a family common area on the ICU made this process easier to sustain. For those facilities with older structures, nurses would partner with the family to carve out family, patient and nurse "zones" in the room.

Family space also included a culture where families were able to communicate freely and feel welcomed as a member of the ICU team. Providing space for family and visitors on the care team helped family and staff understand the role in the patient's healing process.

Discussion

This multi-centre qualitative study documents nurse leaders' perceptions about barriers and strategies to implementing and

sustaining open visitation in adult ICUs within Magnet[®] and Pathway to Excellence[®] hospitals of different sizes and trauma designation, in urban areas across the US. New findings to advance the process of implementing and sustaining open visitation that did not appear in previous studies (Lee et al., 2007; Liu et al., 2013) were empathy, EBP, nurse discretion, security and family spaces.

To ensure nurse buy-in during the pre-implementation phase, nurse leaders appealed to nurses' empathy using personal or professional storeys of nurses who experienced open visitation as a family member or saw the patient's condition improve after family visits. Previous research suggests that empathy represents an intellectual form of knowing that inspires nursing innovation and change (Zuber & Moody, 2018). Nurse leaders also reported using the EBP process to disseminate evidence to get nurse buy-in. Previous research supports that EBP models drive sustainable organisational change (Fineout-Overholt et al., 2010).

Allowing children to visit the ICU was a concern of nurses in this study as well as our previous study where nearly 60% of adult ICUs claiming to have open visitation did not allow children to visit (Milner et al., 2020). In a sample of AACN members, 27.4% of nurses working in an adult ICU reported no policy for child visitation and 67.9% thought children were at risk for psychological trauma when visiting an adult in the ICU (Desai et al., 2020). The literature suggests that there is little evidence to support restricting children from visiting the ICU, and that restriction may be harmful to children's coping process (Hanley & Piazza, 2012). Collaborating with social workers and childlife specialists to support nurses in preparing children for patient visits was suggested in the current study and supported by other research (Desai et al., 2020; Hanley & Piazza, 2012).

During the implementation phase of open visitation, nurse leaders identified champions to disseminate information about the positive effects of open visitation on patient outcomes (e.g. EBP). Use of champions has been associated with increases in evidence-based practises (Parker et al., 2019). Shared governance councils were also an effective implementation strategy that is consistent with previous reports where organisations have leveraged shared governance to advance EBP, improve quality of care, safety and work life (Gallagher-Ford, 2015).

In the sustainment phase, nurse discretion was a key strategy. Nurses expressed the need to be able to set parameters for open visitation that keeps the patient, family, nurse and healthcare team safe while maintaining patient-nurse-family partnerships. Lessons learned from a nurse-led quality improvement project in the surgical ICU indicated that nurses should have the ability to customise open visitation in order to best meet the patient's condition and that the need for nurse discretion should be communicated often to families, patients and staff (Kozub et al., 2017). Each participant stressed the importance of empowering nurses to assess patients care needs, and incorporate the assessment findings as parameters for visitation. Visitors and staff need to understand that open visitation does not permit unrestricted access to patients, rather it is should be a professional and individualised visitation plan, based on patient and family needs (McAdam et al., 2008).

Security presence in the ICU emerged as a strategy for sustainment of open visitation. In this study, nurse leaders expressed the need for a security presence to maintain safe open visitation and provide support for when open visitation needed to be suspended. In the US gun violence in hospitals is rising with 88 shootings occurring in 86 hospitals resulting in 121 deaths between 2012 and 2016 (Wax et al., 2019). A recent qualitative study revealed that nurses in the US want a security presence in the ICU and waiting area, metal detectors and bag inspections by security guards at access points, and centrally monitored security cameras throughout the ICU (Keys & Stichler, 2018). Outside the US, reasons for and the type of security presence in the ICU may look different, but is still necessary. For example, the coronavirus pandemic has

created a global need for increased administrative controls for health security like recording all persons entering a patient's ICU room and keeping non-essential staff and visitors to a minimum (Jansson et al., 2020). A security presence as described by the nurse leaders in this study may help to address these tasks.

In the sustainment phase, nurse leaders perceived that family spaces, both physical and emotional, were important for open visitation. Inadequate physical space for families has been reported as a barrier to family involvement in care (Hetland et al., 2018). Attention to family's emotional space is achieved by honouring family involvement and sense of belonging. Research supports involvement of the family and patients in the plan of care to decrease risk of post-intensive care syndrome for family (Davidson et al., 2012).

Limitations and strengths

There are several limitations to our study. The researchers did not interview bedside nurses whose views may be different than the nurse leaders. The researchers had a good response rate of 47.5%. However, potential participants for which there was no contact information or did not respond to the study invitation may have a different perspective on barriers and strategies for implementing and sustaining open visitation. The researchers conducted phone interviews and could not assess participants' non-verbal communication cues.

Strengths of this study include a proposed framework for implementing and sustaining open visitation. The multicenter sample allowed for a broader range of perspectives that may make the framework more widely applicable. The researchers used rigorous qualitative methods including standardised codebook, intercoder agreement cheques, audit trail and details about the ICU, participants and recruitment. The research team included individuals from social work and nursing. Researchers with multiple perspectives can provide a richness of theoretical approaches and an unbiased perspective when investigating complex processes (Bindler et al., 2012) like implementing and sustaining open visitation in the adult ICU. Lastly, to address positionality (Bryant & Charmaz, 2007) that may influence data collection and analysis the authors disclose their professional experience in clinical settings in the methods.

Conclusion

In this multicentre qualitative study, barriers and strategies were identified by nurse leaders for different phases of implementing and sustaining open visitation. As noted in this study, the transformative experience of implementing open visitation contributed to a critical care culture shift away from provider centric models of care to one of patient and family centred care. Future research should include comparison studies to evaluate if open visitation improves patient, visitor, and staff outcomes when compared to adult ICU's with restrictive visitation. Implementation and evaluation studies should also be encouraged to shed further light on best practises for this type of organisational change.

The authors report grant from the Helene Fuld Health Trust National Institute for Evidence-based practice in Nursing and Healthcare during conduct of the study.

Funding Information

The funding agency was the Helene Fuld Health Trust National Institute for Evidence-based Practice in Nursing and Healthcare.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- Bindler, R.C., Richardson, B., Daratha, K., Wordell, D., 2012. Interdisciplinary health science research collaboration: strengths, challenges, and case example. *Appl. Nurs. Res.* 25 (2), 95–100. <https://doi.org/10.1016/j.apnr.2010.06.004>.
- Bloomberg, L., Volpe, M., 2008. In: *Completing Your Qualitative Dissertation: A Roadmap from Beginning to End*. SAGE Publications, Inc, Thousand Oaks, California. <https://doi.org/10.4135/9781452226613>.
- Boeije, H., 2002. A purposeful approach to the constant comparative method in the analysis of qualitative interviews. *Qual. Quant.* 36 (4), 391–409. <https://doi.org/10.1023/A:10209095>.
- Bryant, A., Charmaz, K., 2007. *The Sage Handbook of Grounded Theory*. Sage Publications Inc, London, UK.
- Campbell, J.L., Quincy, C., Osseman, J., 2013. Coding in-depth semistructured interviews: problems of unitization and intercoder reliability and agreement. *Sociol. Methods Res.* 42 (3), 294–320. <https://doi.org/10.1177/0049124113500475>.
- Cappellini, E., Bambi, S., Lucchini, A., Milanesio, E., 2014. Open intensive care units: a global challenge for patients, relatives, and critical care teams. *Dimensions Crit. Care Nurs.: DCCN* 33 (4), 181–193. <https://doi.org/10.1097/DCC.0000000000000052>.
- Carroll, D.L., Gonzalez, C.E., 2009. Visiting preferences of cardiovascular patients. *Prog. Cardiovasc. Nurs.* 24 (4), 149–154. <https://doi.org/10.1111/j.1751-7117.2009.00053.x>.
- Coombs, M., Puntillo, K.A., Franck, L.S., Scruth, E.A., Harvey, M.A., Swoboda, S.M., Davidson, J.E., 2017. Implementing the SCCM family-centered care guidelines in critical care nursing practice. *AACN Adv. Crit. Care* 28 (2), 138–147. <https://doi.org/10.4037/aacnacc2017766>.
- da Silva Ramos, F., Fumis, R.R., Azevedo, L.C., Schettino, G., 2013. Perceptions of an open visitation policy by intensive care unit workers. *Ann. Intensive Care* 3 (1), 34. <https://doi.org/10.1186/2110-5820-3-34>.
- Davidson, J.E., Jones, C., Bienvenu, O.J., 2012. Family response to critical illness: postintensive care syndrome-family. *Crit. Care Med.* 40 (2), 618–624. <https://doi.org/10.1097/CCM.0b013e318236ebf9>.
- Davidson, J. E., Powers, K., Hedayat, K. M., Tieszen, M., Kon, A. A., Shepard, E., et al., 2007. Clinical practice guidelines for support of the family in the patient-centered intensive care unit: American College of Critical Care Medicine Task Force 2004-2005. *Critical Care Medicine*, 35(2), 605–622. DOI:10.1097/01.CCM.0000254067.14607.EB.
- Desai, P.P., Flick, S.L., Knutsson, S., Brimhall, A.S., 2020. Practices and perceptions of nurses regarding child visitation in adult intensive care units. *Am. J. Crit. Care* 29 (3), 195–203. <https://doi.org/10.4037/ajcc2020370>.
- Egan, T.M., 2002. Grounded theory research and theory building. *Adv. Dev. Hum. Resour.* 4 (3), 277–295. <https://doi.org/10.1177/1523422302043004>.
- . *Critical Care Nurse* 32 (4), 76–78.
- Family Visitation in the Adult Intensive Care Unit. (2016). *Critical Care Nurse*, 36(1), e15–e18. DOI:10.4037/ccn2016677.
- Fineout-Overholt, E., Williamson, K.M., Kent, B., Hutchinson, A.M., 2010. Teaching EBP: strategies for achieving sustainable organizational change toward evidence-based practice. *Worldviews Evidence-Based Nurs.* 7 (1), 51–53. <https://doi.org/10.1111/j.1741-6787.2010.00185.x>.
- Friese, S., 2019. *User's manual for ATLAS.ti 8.4.0. ATLAS.ti Scientific Software Development, Berlin, Germany*.
- Fumagalli, S., Boncinelli, L., Lo Nostro, A., Valoti, P., Baldereschi, G., Di Bari, M., et al., 2006. Reduced cardiocirculatory complications with unrestricted visiting policy in an intensive care unit: results from a pilot, randomized trial. *Circulation* 113 (7), 946–952. <https://doi.org/10.1161/CIRCULATIONAHA.105.572537>.
- Gallagher-Ford, L., 2015. Leveraging Shared governance councils to advance evidence-based practice: the EBP council journey. *Worldviews Evidence-Based Nurs.* 12 (1), 61–63. <https://doi.org/10.1111/wvn.12062>.
- Garrouste-Orgeas, M., Vinatier, I., Tabah, A., Misset, B., Timsit, J.-F., 2016. Reappraisal of visiting policies and procedures of patient's family information in 188 French ICUs: a report of the Outcomerea Research Group. *Ann. Intensive Care* 6 (1), 82. <https://doi.org/10.1186/s13613-016-0185-x>.
- Gershengorn, H.B., Garland, A., 2016. Who should be at the bedside 24/7: doctors, families, nurses? *Seminars Respiratory Crit. Care Med.* 37 (1), 107–118. <https://doi.org/10.1055/s-0035-1570350>.
- Giannini, A., Miccinesi, G., Leoncino, S., 2008. Visiting policies in Italian intensive care units: a nationwide survey. *Intensive Care Med.* 34 (7), 1256–1262. <https://doi.org/10.1007/s00134-008-1037-4>.
- Glaser, B., Strauss, A., 1967. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Sociology Press, Mill Valley, CA.
- Gonzalez, C.E., Carroll, D.L., Elliott, J.S., Fitzgerald, P.A., Vallent, H.J., 2004. Visiting preferences of patients in the intensive care unit and in a complex care medical unit. *Am. J. Crit. Care* 13 (3), 194–198.

- Hägström, M., Holmström, M.R., Jong, M., 2017. Establishing patient safety in intensive care—a grounded theory. *Open J. Nurs.* 07 (10), 1157–1171. <https://doi.org/10.4236/ojn.2017.710084>.
- Haghbin, S., Tayebi, Z., Abbasian, A., Haghbin, H., 2011. Visiting-hour policies for intensive care units in southern Iran. *Iranian Red Crescent Med. J.* 13 (9). <https://doi.org/10.5812/kowsar.20741804.2242>.
- Hanley, J.B., Piazza, J., 2012. A visit to the intensive care unit. *Crit. Care Nurs. Q.* 35 (1), 113–122. <https://doi.org/10.1097/CNQ.0b013e31823b1ecd>.
- Hetland, B., McAndrew, N., Perazzo, J., Hickman, R., 2018. A qualitative study of factors that influence active family involvement with patient care in the ICU: Survey of critical care nurses. *Intensive Crit. Care Nurs.* 44, 67–75. <https://doi.org/10.1016/j.iccn.2017.08.008>.
- Holloway, I., Galvin, K., 2016. *Qualitative Research in Nursing and Healthcare*. Wiley-Blackwell, Hoboken, NJ.
- Jacob, M., Horton, C., Rance-Ashley, S., Field, T., Patterson, R., Johnson, C., et al., 2016. Needs of patients' family members in an intensive care unit with continuous visitation. *Am. J. Crit. Care* 25 (2), 118–125. <https://doi.org/10.4037/ajcc2016258>.
- Jansson, M., Liao, X., Rello, J., 2020. Strengthening ICU health security for a coronavirus epidemic. *Intensive Crit. Care Nurs.* 57. <https://doi.org/10.1016/j.iccn.2020.102812>.
- Keys, Y., Stichler, J.F., 2018. Safety and security concerns of nurses working in the intensive care unit. *Crit. Care Nurs. Q.* 41 (1), 68–75. <https://doi.org/10.1097/CNQ.000000000000187>.
- Khaleghparast, S., Joolae, S., Ghanbari, B., Maleki, M., Peyrovi, H., Bahrani, N., 2015. A review of visiting policies in intensive care units. *Global J. Health Sci.* 8 (6), 267–276. <https://doi.org/10.5539/gjhs.v8n6p267>.
- Kozub, E., Scheler, S., Necochea, G., O'yrne, N., 2017. Improving nurse satisfaction with open visitation in an adult intensive care unit. *Crit. Care Nurs. Q.* 40 (2), 144–154. <https://doi.org/10.1097/CNQ.0000000000000151>.
- Lee, M.D., Friedenberg, A.S., Mukpo, D.H., Conray, K., Palmisciano, A., Levy, M.M., 2007. Visiting hours policies in New England intensive care units: strategies for improvement. *Crit. Care Med.* 35 (2), 497–501. <https://doi.org/10.1097/01.CCM.0000254338.87182.AC>.
- Lewis-Pierre, L.J., Kovacich, J., Amankwaa, L., 2017. The application of grounded theory: an example from nursing workforce research. *Qualitative Rep.* 22 (5), 1269–1283.
- Liu, V., Read, J.L., Scruth, E., Cheng, E., 2013. Visitation policies and practices in US ICUs. *Crit. Care (London, England)* 17 (2), R71. <https://doi.org/10.1186/cc12677>.
- Magnet Model - Creating a Magnet Culture. (n.d.). Retrieved May 4, 2020, from <https://www.nursingworld.org/organisational-programmes/magnet/magnet-model/>.
- Marco, L., Bermejillo, I., Garayalde, N., Sarrate, I., Margall, M.A., Asiain, M.C., 2006. Intensive care nurses' beliefs and attitudes towards the effect of open visiting on patients, family and nurses. *Nurs. Crit. Care* 11 (1), 33–41.
- McAdam, J.L., Arai, S., Puntillo, K.A., 2008. Unrecognized contributions of families in the intensive care unit. *Intensive Care Med.* 34 (6), 1097–1101. <https://doi.org/10.1007/s00134-008-1066-z>.
- McAdam, J.L., Puntillo, K.A., 2013. Open visitation policies and practices in US ICUs: can we ever get there? *Crit. Care* 17 (4), 171. <https://doi.org/10.1186/cc12763>.
- Melnyk, B.M., Fineout-Overholt, E., 2015. *Evidence-Based Practice in Nursing & Healthcare. A Guide to Best Practice*. Wolters Kluwer, Philadelphia.
- Milner, K.A., Goncalves, S., Marmo, S., Cosme, S., 2020. Is open visitation really "open" in adult intensive care units in the United States?. *Am. J. Crit. Care* 29 (3), 221–225. <https://doi.org/10.4037/ajcc2020331>.
- Monroe, M., Wofford, L., 2017. Open visitation and nurse job satisfaction: an integrative review. *J. Clin. Nurs.* 26 (23–24), 4868–4876. <https://doi.org/10.1111/jocn.13919>.
- Nassar Junior, A.P., Besen, B.A.M.P., Robinson, C.C., Falavigna, M., Teixeira, C., Rosa, R. G., 2018. Flexible versus restrictive visiting policies in ICUs. *Crit. Care Med.* 46 (7), 1175–1180. <https://doi.org/10.1097/CCM.0000000000003155>.
- Ning, J., Cope, V., 2020. Open visiting in adult intensive care units – a structured literature review. *Intensive Crit. Care Nurs.* 56, 2–8. <https://doi.org/10.1016/j.iccn.2019.102763>.
- Noordermeer, K., Rijpstra, T.A., Newhall, D., Pelle, A.J.M., van der Meer, N.J.M., 2013. Visiting policies in the adult intensive care units in the Netherlands: survey among ICU directors. *ISRN Crit. Care* 2013, 1–6. <https://doi.org/10.5402/2013/137045>.
- Onwuegbuzie, A.J., Leech, N.L., 2007. Validity and qualitative research: an oxymoron?. *Qual. Quant.* 41 (2), 233–249. <https://doi.org/10.1007/s11135-006-9000-3>.
- Parker, C.N., Shuter, P., Maresco-Pennisi, D., Sargent, J., Collins, L., Edwards, H.E., Finlayson, K.J., 2019. Implementation of the Champions for Skin Integrity model to improve leg and foot ulcer care in the primary healthcare setting. *J. Clin. Nurs.* <https://doi.org/10.1111/jocn.14826>.
- Pathway to Excellence Program. (n.d.). Retrieved May 4, 2020, from <https://www.nursingworld.org/organisational-programmes/pathway/overview/>.
- Riley, B.H., White, J., Graham, S., Alexandrov, A., 2014. Traditional/restrictive vs patient-centered intensive care unit visitation: perceptions of patients' family members, physicians, and nurses. *Am. J. Crit. Care* 23 (4), 316–324. <https://doi.org/10.4037/ajcc2014980>.
- Rosa, R.G., Tonietto, T.F., da Silva, D.B., Gutierrez, F.A., Ascoli, A.M., Madeira, L.C., et al., 2017. Effectiveness and safety of an extended ICU visitation model for delirium prevention. *Crit. Care Med.* 45 (10), 1660–1667. <https://doi.org/10.1097/CCM.0000000000002588>.
- Shulkin, D., O'Keefe, T., Visconi, D., Robinson, A., Rooke, A.S., Neigher, W., 2014. Eliminating visiting hour restrictions in hospitals. *J. Healthcare Qual.* 36 (6), 54–57. <https://doi.org/10.1111/jhq.12035>.
- Strauss, A., Corbin, J., 1990. *Basics of Qualitative Research*. Sage, Thousand Oaks, CA.
- Tong, A., Sainsbury, P., Craig, J., 2007. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int. J. Qual. Health Care* 19 (6), 349–357. <https://doi.org/10.1093/intqhc/mzm042>.
- Wax, J.R., Cartin, A., Craig, W.Y., Pinette, M.G., 2019. U.S. acute care hospital shootings, 2012–2016: a content analysis study. *Work* 64 (1), 77–83. <https://doi.org/10.3233/WOR-192970>.
- WFCCN Review Group, 2019. This Position Statement on the Provision of a Critical Care Nursing Workforce was prepared by a WFCCN Review Group.
- World Medical Association, 2013. World Medical Association Declaration of Helsinki. *JAMA* 310 (20), 2191. <https://doi.org/10.1001/jama.2013.281053>.
- Zuber, C.D., Moody, L., 2018. Creativity and innovation in health care: tapping into organizational enablers through human-centered design. *Nurs. Adminis. Q.* 42 (1), 62–75. <https://doi.org/10.1097/NAQ.0000000000000267>.