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Facilitators of an Interprofessional Approach to Care in Medical and Mixed Medical/Surgical ICUs: A Multicenter Qualitative Study

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Abstract

The purpose of this study was to describe clinicians' perceptions of interprofessional collaboration in the intensive care unit and identify factors associated with interprofessional collaboration. We performed 64 semi-structured interviews in 7 hospitals with ICU nurses, physicians, respiratory therapists, nurse managers, clinical pharmacists and dieticians. ICU clinicians perceived two distinct types of facilitators to interprofessional collaboration in critical care: cultural and structural. In the critical care setting, cultural and structural facilitators worked independently as well as in concert to create effective interprofessional collaboration. Initiatives aimed at creating and facilitating interprofessional collaboration should focus attention on cultural and structural facilitators to improve patient care and team effectiveness.

Keywords

critical care; collaboration; communication; hospital/institutional environment; interprofessional care; health care delivery

Interprofessional health care is the process by which different professional groups work together to improve patient care through active engagement of all members of the care team, acknowledging and valuing the contributions of all providers (Zwarenstein, Goldman, & Reeves, 2009; Zwarenstein & Reeves, 2006). An interprofessional approach is recognized as

an essential feature of effective health care delivery and may be especially important in the intensive care unit (ICU) due to the complex clinical needs of critically ill patients. In a way, the functional unit of an ICU may very well be the interprofessional care team rather than the individual clinician (Manthous & Hollingshead, 2011). Critical care nurses played an influential role in the early development of the team approach in ICUs (Fairman & Lynaugh, 1998).

Effective interprofessional collaboration is important in the ICU because practices known to improve outcomes in critical illness involve complex care processes and successful application of timely interventions (Piquette, Reeves, & Leblanc, 2009). For example, patients with acute respiratory distress syndrome (ARDS) often require complex ventilation strategies (The Acute Respiratory Distress Syndrome Network, 2000), which require skilled nurses and respiratory therapists to work together to monitor closely respiratory status. Prone positioning, another evidence-based care practice in acute respiratory failure (Gattinoni et al., 2001), requires caregivers to strategically maneuver a patient into the prone position, while ensuring that intravenous lines and the endotracheal tube remain in place.

Contributions of individual provider types have been documented: the presence of intensivist physicians (board-certified critical care physicians) was associated with increased use of some evidence-based care processes (Cooke et al., 2008; Kahn, Brake, & Steinberg, 2007); pharmacist participation on rounds was associated with fewer adverse drug events, (Leape et al., 1999); respiratory therapist-driven weaning protocols promoted faster weaning from mechanical ventilation (Ely et al., 1996); and a greater proportion of ICU nurses with a baccalaureate degree was associated with lower odds of death (Kelly, Kutney-Lee, McHugh, Sloane, & Aiken, 2014). When these roles work together, an interprofessional approach to care is associated with improved outcomes in the intensive care unit (ICU), including greater hospital survival, shorter ICU length of stay, and lower costs (Burns et al., 2003; Kaye et al., 2000; Kim, Barnato, Angus, Fleisher, & Kahn, 2010; Smyrniotis et al., 2002; Young et al., 1998).

Despite the evidence supporting interprofessional care in the ICU, there is a distinct difference between the mere presence of an interprofessional care team and an interprofessional team that functions well. Assembling a team of skilled individuals, in this case, ICU professionals, will not automatically lead to success (Salas, Sims & Burke, 2005). Effective collaboration is not an automatic byproduct of co-location (Hackman, 1998). This was elegantly demonstrated in a study of semi-recumbent positioning for prevention of ventilator-associated pneumonia (Cook, Meade, Hand & McMullin, 2002). Although all members of the interprofessional care team supported semi-recumbent positioning, the therapy was not consistently implemented because each team member thought the others were opposed. An interprofessional team was present but was ineffective due to poor collaboration.

Interprofessional collaboration occurs when the members of the interprofessional team work together to solve problems or provide services (Reeves, Lewin, Espin & Zwarenstein, 2010). Collaboration assumes interdependence (Rose, 2011). Effective interprofessional collaboration promotes positive patient outcomes, as noted in early studies of ICU

organization (Baggs et al., 1999; Zimmerman et al., 1993), but newer evidence suggests that collaboration among ICU professionals may remain suboptimal (Garland, 2005; Sexton, Thomas & Helmreich, 2002).

Suboptimal collaboration may be present due to limited understanding of how ICU clinicians view interprofessional collaboration and lack of concrete strategies to improve interprofessional collaboration. In prior research on clinicians' perceptions of interprofessional collaboration, the focus was mainly on nurses' and physicians' perceptions (Baggs et al., 1997, 1999), or on nurses, physicians and respiratory therapists (Piquette et al., 2009), and did not target broadly all ICU providers. To improve interprofessional collaboration, it is necessary to understand what care providers think about interprofessional collaboration and what factors they identify as facilitating interprofessional collaboration.

The goal of this study was to examine how a variety of ICU clinicians – nurses, physicians, respiratory therapists, pharmacists, nurse managers and dieticians -- view interprofessional collaboration in the intensive care unit, and identify the elements that facilitate interprofessional collaboration. We defined interprofessional collaboration as “interprofessional work, which involves different health and social care professions who regularly come together to solve problems or provide services” (Reeves, Lewin, Espin & Zwarenstein, 2010). Because little is known about how to measure interprofessional collaboration or how ICU clinicians view interprofessional collaboration, we used a qualitative approach in order to identify domains that could be assessed in future quantitative work.

Methods

Study Design, Setting, and Subjects

We conducted a multicenter qualitative study using in-person, open-ended, semi-structured interviews with practicing critical care clinicians in seven hospitals in the greater Philadelphia region. Study hospitals were selected through purposeful sampling to capture a broad range of ICU organizational styles, in both university-affiliated and community hospitals and ICUs with varying levels of intensivist physician staffing. We categorized intensivist involvement as either primary intensivist management (i.e. closed), mandatory consultation, or optional consultation, according to prior work (Pronovost et al., 2002).

The sampling frame was generated from the 2005 American Hospital Association Annual Survey. Each hospital in the region was stratified by size and academic status. The seven hospitals selected were two academic hospitals with complete resident coverage, two community hospitals with house staff covering some ICU patients, and three community hospitals with no house staff in the ICU.

A single ICU in each hospital was studied. In hospitals with more than one ICU, we selected the ICU most likely to care for general medical patients. We focused on medical and mixed medical/surgical ICUs rather than subspecialty ICUs (i.e. Neuro ICUs or Cardiac ICUs) because we anticipated that medical and mixed medical/surgical ICUs would be more likely to care for a general population of critically ill adults. Almost every acute care hospital has

an ICU that cares for general medical patients, whereas only a small number of hospitals have subspecialty ICUs (Groeger et al., 1992). Before recruitment began, the study was approved by the University of Pennsylvania Institutional Review Board.

Within each ICU, we recruited participants using a combination of convenience, purposeful, and snowball sampling techniques (Bernard, 2000). We sought to enroll at least one physician (intensivist, hospitalist, or primary attending physician for each ICU), one nurse manager, one clinical pharmacist, one dietician, two respiratory therapists, and four staff nurses at each hospital. In determining the number of interviews, we balanced feasibility with the potential for additional information to be gained in an expanded sample.

To recruit participants, we posted advertisements in staff rooms and obtained suggestions from participants about other individuals potentially interested in participating. Non-physician participants received pens, a tote bag, and \$20 cash as an incentive. Physician participants received no incentives because we did not think we could offer an incentive large enough to meaningfully encourage physician participation, and a small incentive might paradoxically devalue the study. Thus, we relied on altruism to encourage physician participation.

Data Collection

All participants gave written informed consent and the interviews were typically conducted in the staff lounge at each respective ICU, which were closed during the interviews for privacy. A trained research coordinator conducted a single interview with each consenting clinician. The senior investigator (JMK) supervised initial interviews. Individual semi-structured Interviews were conducted between January 2007 and March 2008. The number and type of interviews were based on review and coding of interviews to determine informational saturation (Sandelowski, 1995).

The interview guide consisted of a series of open-ended questions about the role of collaboration in ICU care and potential facilitators to collaboration. A panel of experts in hospital organization and management developed the guide with input from practicing critical care clinicians. We conducted pilot interviews with two of each provider type at a non-study hospital and revised the interview guide based upon their feedback.

The interview guide began with the statement, “The purpose of this study is to learn more about the different ways ICU care is organized and how things like organization, teamwork, and culture relate to patient care in the ICU.” Domains of questioning included staffing, leadership, communication, and protocol use. Questions included, “What kind of collaboration tools or aids do you have?” “Tell me about daily rounds. Who participates? Who initiates?” “How do [respondent's provider type] communicate with [list other provider types] at times outside of rounds?” “How does the way your ICU is organized facilitate collaboration?” “On the other side, how does your ICU put up barriers to collaboration?” “Think about some other ICUs that you have seen. Can you name a few things that you do in your ICUs that other ICUs should emulate?” “On the other side—are there things that other ICUs do that you would like to adopt in your ICU? How would go about adopting those things?” We specifically did not use terms such as “multidisciplinary” or

“interprofessional,” due to considerable variation in understanding of these terms. All interviews were recorded and transcribed verbatim by a professional medical transcriptionist. NVivo 7.0 (QSR International, Cambridge, MA) was used for data management.

Data Analysis

In analysis, we identified collaboration in the data according to the dictionary definition of “to work with another person or group in order to achieve or do something” (“Collaboration,” n.d.), which was congruent with our definition of interprofessional collaboration (work which involves different health and social care professions who regularly come together to solve problems or provide services” [Reeves, Lewin, Espin & Zwarenstein, 2010]).

We used a thematic content analysis approach (Guest, MacQueen & Namey, 2011) and conducted the analysis concurrently with data collection. One investigator (JMK) and a trained research coordinator read all transcripts independently and inductively developed codes and themes. We refined the coding framework iteratively at group investigator meetings, discussing and refining codes throughout the interview phase. Emergent themes were developed after the interviews were completed, using a similar iterative consensus process. Evident themes were used to develop the final conceptual framework.

The trained research coordinator and one investigator (JMK) then each used the final coding scheme to code the same 20% random sample of interviews (n=13) to evaluate reliability and durability of the coding process. When agreement was established, all interview transcripts were coded by the research coordinator.

Results

Sample Description

Participating hospitals were diverse in size, academic status, and resident physician participation in the ICU (Table 1). All ICUs had intensivist physicians involved in clinical care. In three hospitals intensivist consultation was optional, in two it was mandatory, and in two the ICU operated under a “closed” model in which all care was the responsibility of the intensivist team. Three ICUs had daily interprofessional rounds, one ICU had interprofessional rounds on an ad-hoc basis (averaging two to three times per week), and the rest of the ICUs had no formal rounding process.

Characteristics of study participants are shown in Table 2. Participants were generally female, except for ICU physicians who were all male. All 7 ICUs contributed at least one participant of each provider type, except for clinical pharmacists (5 ICUs) and dieticians (6 ICUs).

Importance of Interprofessional Collaboration

Participants universally viewed an interprofessional collaborative approach as necessary for quality of care, endorsing expertise and communication as domains of collaborative care (Table 3). Expertise was the skill and quality of providers' knowledge, the core building

blocks of effective care. Communication was the ability to translate that knowledge for other care providers, such that the whole of caregiver knowledge became greater than the sum of its parts. Expertise in conjunction with protocols allowed a clinical pharmacist to communicate to and educate staff prior to changes in plan or protocol:

That really improves it, you know, with the protocol implementation, when you are there to give them the information... I give them, also, lectures about sedation interruption before we implemented the protocol (Clinical pharmacist).

Facilitators of Interprofessional Collaboration

Structural facilitators—Structural facilitators were hospital- or system-level interventions that enabled members of different disciplines to collaborate effectively and efficiently. Structural facilitators were identifiable tools that improved communication among care providers, rather than directly improving patient care.

Participants emphasized four types of structural facilitators of collaboration: clinical protocols, checklists, daily rounds, and information technology (Table 4). These types were not necessarily independent—actual structural facilitators could combine elements of all four. A staff nurse described how daily rounds were as much about communication as they were about decision-making:

Daily rounds are absolutely imperative to their care, like you have to have it. It keeps everybody on the same page, you know what's going on, regardless of what report you got in the morning. You're there, you hear it straight from their mouths, is why I'm present at every round, no matter if it's morning, afternoon, I try to be there because they're always changing something. (Staff Nurse)

Structural facilitators were most effective when they were formally acknowledged as instruments to improve collaboration. Lack of formal structure were cited as the major reason for ineffectiveness:

I think the collaboration is more informal than it is formal. We're looking to actually formalize and standardize it, but there is strong collaboration at the bedside with the nurse and the specific physician and I think the relationships are really good. There's not the active process of rounding that there should be though, so that formalized structure isn't where it needs to be. (Nurse Manager)

Without structured team communication, important team members missed timely notification of changes in plans:

Quite frequently the majority of our pulmonologists will tend to speak to the nurse if we are not directly in the room when they see our patient, and we don't find out about the wean until they leave the unit. That's one of our biggest issues, is that interaction is not there with us and the docs. (Respiratory Therapist)

Similarly, protocols improved collaboration. They ensured that the interprofessional care team would be in agreement about the plan of care, as described by a dietician:

“Protocolized care keeps, you know, it keeps everybody on the same page at the same time.” (Dietician)

Cultural facilitators—Cultural facilitators were organizational characteristics that enhanced the interprofessional environment and reinforced the organization members' shared goals. In this context, “culture” is defined as shared and socially transmitted values about individual behavior and interpersonal relationships (Goodenough, 1994).

ICU clinicians identified four distinct cultural facilitators that facilitated collaboration among health care professionals: accessibility, trust, value, and leadership (Table 4). Each of these characteristics of unit culture directly enhanced cooperation, communication, and collaboration within the team. Importantly, these characteristics were perceived as modifiable, often as a direct result of effort by team members and hospital administrators to facilitate interprofessional collaboration.

Accessibility: Accessibility was the notion that teamwork and patient-centered care were enhanced when team members worked alongside one another and were available when questions or other needs arose. Accessibility was being both present and willing to help a teammate, by putting the needs of team members, and therefore the patient, first:

It's great because I'm able to call that respiratory therapist and I'm able to make the judgment call, like they're not comfortable weaning from the ventilator, their respirations are high, their heart rate's racing, like we need to get them back on, and they'll come right over and put them on. (Staff Nurse)

Accessibility was particularly important between physicians and allied health professionals. A physician immediately available in the ICU facilitated interprofessional care, even in a unit with a consultative physician model:

They have a doctor of the day... [who], starts in the ICU. So ... you're going to have your doctor for the whole day, whether they're med/surg patients or cardiac patients that doctor is going to be handling them. We can walk up to those physicians and just talk to them. (Respiratory Therapist)

Trust: Trust was defined as the degree to which the truster believes that another person or other entity can and will act in the truster's best interest (Goold, 2002). In the framework of interprofessional health care, trust was the notion that team members all possessed the intention and ability to reliably implement the team's shared goals. Participants stated that trust was reinforced by familiarity—staff members familiar with each other, usually through long working relationships and sometimes personal relationships, had greater trust in one another and therefore were more likely to provide effective interprofessional care:

There's not the kind of resistance to, you know, here's my idea, oh I don't want to hear it because I was taught this way and that's how you do it. There's good collaboration because I think there's personal relationships involved. (Nurse Manager)

Trust was distinct from authority, but authoritative knowledge was facilitated by personal relationships and the concomitant trust they provided. Therefore, trust was a key element in translating new clinical evidence into practice. Care providers were reluctant to adopt innovative therapies unless they trusted the individual introducing the innovation:

I don't know if it's because we've all worked together for over ten years that they've, you know, respected. I know you definitely have to have your physicians respect you. If, you know, it's my patient on the line and my license on the line, you better show me that you know what you're talking about. So I think we've done that. (Respiratory Therapist)

Frequent turnover of physician or non-physician providers disrupted the personal relationships that facilitated trust, reducing the effectiveness of the interprofessional approach:

When we have a nurse in that doesn't really know our policies and procedures... you don't know their skills and they don't know how much they can back you up in a crisis. (Staff Nurse)

Value: Value was team members' assignment of cultural worth to each other's experience, skill, knowledge and perspective. In this context, value was a characteristic of personal relationships rather than a tenet of the institution. Value facilitated interprofessional collaboration by opening communication and fostering collegiality. It was important that all team members value all other's opinions. Value could occur within a hierarchy in decision-making and was not unidirectional:

Both need to be open to have a collaborative relationship. What I find is some physicians really don't care to do that. And some nurses don't care to do that. So they never really established themselves. It's a two-way street; you have to have openness from the nurses and openness from the doctors to be able to establish these relationships. (Nurse Manager)

In this context, value was a characteristic of interpersonal relationships:

I think that the nursing staff is very easy to approach and talk to and they're open for suggestions. They're always like looking, you know, asking questions and stuff like that. Knowledge, you know, everybody wants to know things, so we're all just trying to work together and talking with each other and trying to do the best for the patient. (Physician)

Leadership: Strong leadership was an essential cultural component of interprofessional collaboration, both at the team level and the hospital level. A strong leader created and bolstered the shared vision of the organization, motivated team members toward high performance, and provided concrete examples for behaviors within the team. When leaders actively supported the mission, team members said they were more likely to successfully implement the mission in daily practice:

What makes it work is that the administrators here have patient safety in mind. That's definitely a priority. Like best practices, like DVT prophylaxis, GI prophylaxis, glycemic control, and they monitor all that. And when they see that there's a breakdown in the system they try to come up with processes to improve it, so I think that's what makes it work. (Clinical Pharmacist)

A “local champion” (Curtis et al., 2006) was a leader close to the bedside who could foster interprofessional collaboration. Local champions were a consistently beneficial quality improvement tool, yet local champions required leadership themselves to gain acceptance and authority to implement change:

So we work with the Department of Medicine and Surgery and we have a nurse champion on the team and it's supported by administration of the hospital and myself and epidemiology, and so we then develop the protocol of what the expectations are based on the standard of care. So the team works together to make sure that our policy reflects that. (Nurse Manager).

Discussion

There is a growing body of evidence on the role of interprofessional collaboration in ICU care outcomes (Baggs et al., 1999) and quality of care (Zwarenstein, Goldman & Reeves, 2009). In this study we explored factors that facilitate interprofessional collaboration from a variety of ICU clinicians' perspectives. These facilitators included both concrete structural facilitators of team communication in the ICU environment and cultural facilitators that reinforced the team's shared goals and vision.

We find preliminary support of our results in a conceptual model by Reeves et al. (2010) of 4 distinct domains of interprofessional care: organizational, processual, relational, and contextual. Our cultural facilitators were related to these relational and contextual domains, which Reeves et al. (2010) described as culture, hierarchy and social composition. Similarly, organizational and processual domains were defined as Reeves et al. (2010) as organizational support, time and space, and/or routines, are aligned with our identified structural facilitators; both are system level interventions that allow members of different disciplines to collaborate.

Structural facilitators such as daily rounds, protocols (Ely et al., 2001) and checklists (Pronovost et al., 2006) are increasingly common in the ICU. Use of electronic tools facilitated communication across providers in general internal medicine units in Canada (Zwarenstein, Rice, Gotlib-Conn, Kenaszchuk & Reeves, 2013). As these structural interventions increase, ICU directors can consider advancing cultural facilitators (trust, accessibility, value and leadership) that might increase the efficacy of these structural interventions. As in prior work (Baggs & Schmitt, 1997), accessibility was a cultural facilitator to interprofessional ICU collaboration among a diverse group of ICU clinicians (nurses, pharmacists, physicians and respiratory therapists). Initiatives directed at fostering trust and value in interprofessional teams can enhance collaboration by providing a stable colleague group with shared values.

Improving structural facilitators may also improve the cultural facilitators of interprofessional care, and vice-a-versa. Structural changes like checklists (Weiss et al., 2011) or clinical protocols may fail without concurrent investment in improving cultural facilitators. Indeed, quality gains from changes in staffing patterns are not assured (Levy et al., 2008), and technological innovations may carry unintended consequences (Koppel et al., 2005). Our study revealed the importance of both structure and culture, and we suggest that

efforts to improve interprofessional care should focus on both these domains. Indeed, as organizational science in health care expands (Scott, Mannion, Davies, & Marshall, 2003), accessibility, trust, value, and leadership will become important quality improvement targets (Plsek & Wilson, 2001).

Our study had several limitations. First, we chose semi-structured interviews as our method of data collection, rather than other methods like ethnography and focus groups. Interviews were useful to gain in-depth knowledge about complex topics and to capture individuals' perceptions in an unconstrained setting, but ethnography could have documented behaviors or actions that reveal how unit culture is enacted. Similarly, focus groups could have revealed views that were not identified in individual semi-structured interviews (Sinuff, Cook, & Giacomini, 2007).

The sample also had some limitations. We studied clinicians in medical and mixed medical/surgical ICUs, rather than subspecialty ICUs. Thus, our findings may not be applicable to all ICUs. Due to scheduling conflicts, we were unable to perform interviews with the targeted number of clinical pharmacists (2 per hospital) or interview any female attending physicians. Although we interviewed a diverse group of care providers we did not interview all types of ICU clinicians (e.g., nurse practitioners, clinical nurse specialists) or other critical care stakeholders, such as hospital administrators, patients, or patient surrogates. We focused on direct care providers expected to provide the most insight into interprofessional collaboration. Future researchers should examine the role of other stakeholders in the critical care team.

We focused on shared views across a cross-section of ICU clinicians and did not make distinctions among professional groups' perceptions of interprofessional collaboration or explore differences in the types of ICUs that were sampled. These differences, if any, should be explored in future work. Last, we did not perform some techniques such as data triangulation or member checking to address trustworthiness of qualitative data. Our results warrant confirmation in follow-up studies.

Conclusions

Interprofessional collaboration is essential to address the complexity of modern health care delivery in ICUs. We provided insight into ICU clinicians' perceptions of strategies that facilitate interprofessional collaboration. The conceptual domains of structural and cultural facilitators can be used to evaluate and improve interprofessional collaboration in the ICU and may have applications in other care settings where interprofessional collaboration is central.

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Table 1

Hospital Characteristics (N=7).

Characteristic	Number	Percent	Median	IQR	Range
Non-profit	7	100			
University-affiliated	2	29			
Teaching status					
Housestaff in hospital	4	57			
Housestaff in all ICUs	2	29			
Hospital beds			262	147-372	57-568
ICU beds			30	10-60	9-73
ICUs in hospital					
1	3	44			
2-4	2	28			
5-6	2	28			
Total interviews	9			6-11	3-12

Notes. ICU = intensive care unit; IQR = interquartile range

Table 2

Participant Characteristics (N=64)

Characteristic	Number	Percent	Mean	SD
Female	46	72		
Role in ICU				
Physician	7	11		
Nurse manager	9	14		
Staff nurse	22	34		
Respiratory therapist	15	23		
Clinical pharmacist	5	8		
Dietician	6	9		
Years in current position			5	4

Notes. ICU = intensive care unit. SD=standard deviation

Table 3
Domains of Interprofessional Care in the Intensive Care Unit

Domain	Illustrative Quote
Expertise	<p>I greatly appreciate the presence of a clinical pharmacist. It's something that we've had for several years and it is really a wonderful, wonderful resource because obtaining medications promptly, quickly, especially in a critical setting when you want things real fast. (Staff Nurse)</p> <p>I think nursing, in general, you're there with that patient for twelve hours, two days, three days in a row. You know that patient inside and out and sometimes you're not given the credit, you're not. (Staff nurse).</p> <p>There's this one doctor that is just an incredible teacher, so everyone is like listening to as much of rounds throughout the whole unit so they can try to be around him because he's actually very, very good... When he's there, I'm always around to make sure and we've actually had some very heated discussions about the way things used to be and the way they are now and modalities of treatment. (Staff nurse)</p> <p>That really improves it, you know, with the protocol implementation, when you are there to give them the information.... I give them, also, lectures about sedation interruption before we implemented the protocol. (Clinical Pharmacist)</p> <p>We do have a nutrition support team. There's a dietician that works with doctors and a nurse is also on the team, so they handle the complicated formulas, they would handle those, basically, so work with all the other patients. (Dietician)</p> <p>I think the respiratory therapist's role is ventilator managers, and that's where, you know, they're ninety percent of their input is assessing the patient on a ventilator and their issues and how they're tolerating weans and where they are in the process. (Respiratory therapist)</p>
Communication	<p>It's really a multi-disciplinary team. It's not nurse or physician, it's a team of people, it's a hospital initiative. (Nurse Manager)</p> <p>I would say there's an opportunity to really intervene on patient care in our ICU just because we have the rounding and because I think most physicians and nurses are open to pharmacy's suggestions and I think there's an opportunity to make a difference in patient care. (Clinical Pharmacist).</p> <p>Our one pulmonology group has a tendency to keep people on ventilators just a little too long. Like they have two that are very aggressive, two that aren't aggressive, and there's like one or two in between.... So this way respiratory can kind of go ahead and look at the patient and do their thing and say, okay, well, they've been on for twenty-four hours, they're off the sedation, I can do spontaneous weaning parameters here. (Staff Nurse)</p>

Table 4

Facilitators of Interprofessional Collaboration in the Intensive Care Unit.

Domain	Type	Illustrative Quote
Structural facilitators	Clinical protocols	Protocolized care keeps, you know, it keeps everybody on the same page at the same time. Everybody practices the same quality of care and the delivery of care. (Dietician)
	Checklists	We do have certain criteria that we look at every day when we make our rounds, we look at certain things. We look at best practices and so we have somebody who's a surgical patient look at the best practices and make sure that those goals are being met (Nurse Manager).
	Daily rounds	We do almost daily rounds with our director of ICU and if not daily, about at least three times a week he reviews all the patients, even if they are not his. We round with usually the nurse manager, the case manager, the dietician, a pharmacist, sometimes a physical therapists, a respiratory therapist. We try to get whoever is around in the unit and everybody kind of has their input on the patient. (Nurse Manager) We have rounds on our ventilated patients, we follow the VHA guidelines, so we look to make sure the head of the bed is elevated, that the patient is on DVT prophylaxis, we make sure if they're on a vent if they're able to wean that we are doing weaning on them.(Nurse Manager)
	Information technology	Computerized meds, which is great, because if a physician enters an order there's been times the pharmacy has called and said that this dose is too high or this will interact with that medication. (Staff Nurse) They actually come with their laptop and they have all the meds readily available, what the patient's on, so they can look down and we discuss... Because a nurse can't always remember, because everything's on the computer now.(Staff Nurse)
Cultural facilitators	Accessibility	I think that when you're available to them visibly, when you're right there they like it a lot. (Clinical Pharmacist) They're at the rounds, they have their patient profiles in front of them, so they're always helpful, you know, to suggest maybe this versus this or maybe you should change the antibiotic to something else or whatever and to have them on the floor is just awesome because if you have a question there's somebody right there. (Staff Nurse)
	Trust	There's not that many of us, so it helps that they know... If they trust you they'll call, you know, they'll not afraid to call us to come. (Respiratory Therapist) So most of the time like I could tell after working here in the ICU for a long time, so everybody respects what I say and I always talk to the doctors because, I'm not a doctor, so I just tell them this is what I think. (Respiratory Therapist) Just being able to communicate effectively and have rapport with them. I think having... it's a personality issues, I really do believe that. (Nurse Manager)
	Value	You want to be able to recognize minimal changes for good or bad, so you're really dependent on your co-workers. Communication, I think is okay; people aren't really afraid to speak up and tell each other how they feel, what they think. (Staff Nurse) I think a lot of them, you know, them involving the nurse in the actual care, you know, and valuing their opinion and asking them questions, you know. When they just come in and review the chart and just ignore what a nurse has done for twenty-four hours for their patient, but, you know, there seems to be communication between some of them, asking them what they think and how was their night. (Nurse Manager)
	Leadership	I would say that the climate here is patient focused, the intent for care delivery is, has a high level of integrity. Our number one hospital goal is patient safety. We take our employees very seriously. (Nurse Manager) The administrators here have patient safety in mind, that's definitely a priority. They have the patient, like best practices, like DVT prophylaxis, GI prophylaxis, glycemic control, and they monitor all that. And when they see that there's a breakdown in the system they try to come up with processes to improve it. (Clinical Pharmacist)

Notes. ICU = intensive care unit; VHA =Voluntary Hospital Association, Inc. (Irving TX); DVT = deep vein thrombosis; GI = gastrointestinal.