

What Does Nursing Teamwork Look Like? A Qualitative Study

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A qualitative study was conducted applying a theoretically based model of teamwork to determine relevant team processes among nurses. Nurses from 5 patient care units participated in focus groups, describing team processes in their daily work. Responses were analyzed in the Salas framework to develop a concrete conceptualization of teamwork within nursing teams. Results support the framework as a means for describing teamwork among nurses. **Key words:** *nursing care, nursing teamwork, qualitative research, work environment, working conditions*

NURSING depends on teams to carry out its mission and objectives. The importance of effective teamwork in nursing and healthcare cannot be overemphasized. Nurses stay in jobs where teamwork is effective.^{1–3} Furthermore, when nurses work on effective teams, they are more productive⁴ and less stressed,⁵ the quality of the care they deliver is higher,^{6–8} there are fewer errors,^{9,10} and patients are more satisfied.¹¹

It is now generally recognized that teamwork is essential for patient safety. Beginning with the Institute of Medicine study, *To Err Is Human*,¹² administrators, regulators, and providers alike began to recognize the need for enhanced teamwork in healthcare to avoid patient errors. Specific to nursing, the seminal Institute of Medicine¹³ follow-up report also clearly indicated that nurses are “indispensable” to patient safety. Despite the increasing interest in teamwork, however, most studies have focused on emergency and surgical departments. Little attention has

been given to nursing unit teamwork in acute care hospitals. Specifically, it is not yet known whether conceptualizations of teamwork applied in other settings accurately reflect the team processes used by nursing teams. Lack of clarity about the teamwork processes underlying nursing teamwork hinders the development of targeted, effective quality enhancement and patient safety initiatives.

This article focuses explicitly on the nursing team itself, that is, registered nurses (RNs), licensed practical nurses (LPNs), nursing assistants (NAs), and unit secretaries (USs) working together in the delivery of patient care, as opposed to interdisciplinary or other types of teams. These teams have been overlooked in the current emphasis and concern about the impact of teamwork on patient safety despite the recent evidence that many errors are committed by nursing personnel in patient care units, most of which can be attributed to teamwork failures. Specifically, Rogers et al¹⁴ found that nurses working at least 12.5-hour shifts made actual errors on 5% of their shifts and those working 8- to 12-hour shifts made actual errors on approximately 2% of their shifts. The Joint Commission also reported that 70% of sentinel events were the result of team communication problems, a core component of teamwork.¹⁵ Clearly, there is a need to understand the mechanisms of teamwork underlying the functioning of nursing units.

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This article presents a qualitative study that applies the conceptual framework of teamwork of Salas et al¹⁶ to nursing teams. Our purpose is to determine whether this conceptual framework, which has been applied in other units (eg, emergency department and intensive care), also can be used to capture and describe teamwork among nursing teams in patient care units in acute care hospitals. We argue that improving our conceptual understanding of teamwork processes in nursing will help enable staff, nurse managers, patient safety officers, and administrators to optimally design initiatives designed to enhance patient quality and safety.

This framework describes teamwork in 5 major components, coined as the “Big Five,” supported by 3 main coordinating mechanisms, and it has been used as a foundation for studying teamwork.¹⁷⁻¹⁹ The framework itself is described in greater detail below; however, we first define how we are applying the term *team*.

WHAT CONSTITUTES A TEAM?

Teams have been defined by numerous researchers, but all definitions contain the following 3 elements: 2 or more individuals, with a common purpose, and those who are interdependent. Team members have specific role assignments, must perform specific tasks, must make decisions, and must interact and coordinate to achieve a common goal or outcome.²⁰

CONCEPTUAL FRAMEWORK

Numerous theories of teamwork have been offered over the past 20 years. An extensive review of the literature uncovered 138 teamwork models.²¹ Specifically, the Salas conceptual framework of teamwork was selected for this study because it offers a practical behavioral and precise explanation of teamwork that can be understood by staff, managers, and researchers. It also provides the diagnostic level of understanding needed to develop methods for enhancing teamwork. While we

provide a brief overview of the framework, we refer the reader to the original source for more detailed coverage.¹⁶

The Salas framework specifies 5 core components of teamwork: (1) team leadership (ie, structure, direction, and support provided by the formal leader or the other members of the team, or both); (2) collective orientation (ie, cohesiveness, individuals see the team's success as taking precedence over individual needs and performance); (3) mutual performance monitoring (ie, observation and awareness of team members and understanding team roles); (4) backup behavior (ie, helping one another with their tasks and responsibilities); and (5) adaptability (ie, ability to adjust strategies and resource allocation on the basis of the information gathered from the environment). In terms of relationships, the framework posits that leadership directly affects orientation, performance monitoring, and backup behavior. Both orientation and backup behavior influence performance monitoring. In turn, performance monitoring and backup behavior generate adaptability.

These relationships are fostered via 3 coordinating mechanisms according to the framework: (1) shared mental models (ie, mutual conceptualizations of the task, roles, strengths/weaknesses, and processes and strategy necessary to attain interdependent goals²²); (2) closed loop communication (ie, active information exchange in which receiver verifies receipt and the sender verifies whether the intended message was received²³); and (3) mutual trust (ie, shared perception that members will perform actions necessary to reach interdependent goals and act in the interest of the team).

STUDY METHODS

This qualitative study used focus group interviews with nursing staff from 5 patient care units in 1 acute care hospital—1 maternity/gynecological unit, 3 medical-surgical units, and 1 intensive care unit. The nursing teams comprised RNs, LPNs, NAs, and USS.

Units ranged in size from 30 to 90 staff members.

Sample

A total of 116 RNs, 7 LPNs, 28 NAs, and 19 USs were interviewed in 34 focus groups. Focus groups were segregated by job title to maximize the communication of teamwork issues, which they may have been reluctant to verbalize with members of the team in other job categories. Although all team members were invited to attend one of the focus groups, participation was voluntary. Of the total number of staff members in each unit, the participation rate ranged from 39% to 82% of the staff members.

For the RN focus groups, the average age was 42 years and 97% were women. The mean number of years of experience in nursing was 18.4, and they practiced in their unit a mean of 9.8 years. The LPNs participating in the focus groups had a mean age of 46 years, were all women, and had a mean of 25 years of experience in nursing and 23 years of practice in their current units. The NA participants had an average age of 25.2 years, were 94% women, reported a mean of 6.7 years of experience as an NA, and had 5.8 years of experience in their current patient care units.

Data collection

Focus groups were conducted using a semistructured design. Each focus group lasted 60 to 90 minutes. Each focus group was made up of 8 to 10 individuals. Participants committed to confidentiality (not to quote the others in the group outside the focus group) and were encouraged to be as open and honest as possible. Probe questions were centered on the 5 core behaviors and 3 coordinating mechanisms of the Salas framework, their interactions, and contribution to team effectiveness.

Data analysis

Focus groups were tape recorded, fully transcribed, and content analyzed, using the NVivo QSR qualitative analysis software. In the analysis, we used the grounded

conceptual framework approach by which empirical data are thematically categorized by induction.²⁴ Initial transcription analysis was completed by a trained research assistant, with a second follow-up analysis conducted by the lead author. The themes from the first and second analyses, although differently grouped, extracted the same issues from the empirical material. This was taken as a confirmation of the grounding of the analysis.

RESULTS

Themes extracted during both rounds of the grounded analysis paralleled the 5 core elements and the 3 coordinating mechanisms of teamwork identified in the Salas model, supporting it as a means for conceptualizing teamwork among acute care nursing teams. For each, evidence is presented from the focus groups demonstrating the applicability of the component to nursing teams on acute patient care units. Table 1 provides samples of direct quotes related to each specific component.

Team leadership

Leadership was the first theme identified from focus group discussions. Participants identified the overall leadership style and expectations of the nurse manager as key factors in determining whether or not they would operate as a team. There were both positive examples (eg, "Our manager really values us working well together and expects it" [RN]) and negative examples (eg, "The manager of our unit does not talk too much about the importance of teamwork. That is not one of her priorities" [LPN]) of nurse manager leadership identified.

Although nurse managers provided overall leadership and established expectations, assistant nurse managers or charge nurses (CNs) were responsible for ensuring that teamwork could occur on each shift by providing adequate staff and material resources and by facilitating appropriate communication. The CN was responsible to lead the team for a given shift, make appropriate patient

Table 1. Examples of focus group comments illustrating 5 core components of teamwork and 3 coordinating functions.

	Examples of presence	Examples of absence
Team leadership	RN: The charge nurse watches over all of the staff, determining when they need assistance.	RN: We don't get our assignment for the shift until 9 and even later. We never catch up.
Team or collective orientation	RN: According to what we hear the needs of the patients are, we divide our team. We do not go "OK there are 8 patients so you get 4 and I get 4."	NA: The RNs count the patients as opposed to looking at how much time everything would take.
Mutual performance monitoring	RN: We put up a board, and each person puts a green, yellow, or red tag up depending on how their work is going. Red means they can't take another thing, yellow is they are busy but it will probably get better soon, and green is I am on top of my work. That way the charge nurse knows who to give a new admission to and so forth.	RN: There were 3 of us that night, and we each had 8 patients. You couldn't help each other because you had 8 of your own. NA: I see a little of what the other staff are doing; if a nurse leaves a medication at the bedside, I just throw it away.
Backup behavior	RN: You ask once and everybody is there. If there is a crisis, everybody is behind you. When I had a real crisis with 1 patient, a nurse stayed after her shift and took care of all my other patients without me even asking.	RN: Sometimes I feel bad asking for help because I feel that if I am asking the charge nurse for help frequently, it looks like I am not able to handle my job, that I am not a good nurse
Adaptability	NA: Some units really watch out for their NAs and make sure they are not being given too much work.	RN: We have staff on both 8- and 12-hour shifts and instead of reassigning patients so the nurse coming on doesn't have patients on all three wings, we let her run.
Shared mental models	RN: We have a routine when a patient has to go on a "road trip" to have a diagnostic procedure . . . when the patient's nurse says s/he is ready, another nurse helps finalize the preparations.	RN: A nurse floated to our unit and did things the way they do on her floor. This created a safety problem because she thought the other staff members would give her patients their medications when she took a break. She found out several hours later this was not the case.
Closed-loop communication	RN: I meet with the NAs I am working with as soon as I can in the shift so we know the objectives for the shift and who is going to do what.	RN: I feel angry when I have not been told the important things I need to know for my shift. It makes me look bad, and the unit looks bad. I have had patients say, "Do you talk to each other?"
Mutual trust	RN: If I work with certain people, I know a good job is being done.	RN: I would like to believe the aide when she tells me she ambulated the patient, but I am not sure.

Abbreviations: NA, nursing assistant; RN, registered nurse.

assignments, ensure adequate staffing, and be available for consultation. Effective CN leadership was central to unit functioning and providing high levels of patient care. Participants pointed out that the person filling the CN role changes from shift-to-shift (eg, “We have a different CN almost every day. You have to do things differently for each one” [RN]).

In addition, RNs were identified as the leader of the patient care team of LPNs and NAs, an area characterized as uniformly problematic.²⁵ One issue identified was that often NAs received no supervision or clear delegation from RNs, and in some cases, the NAs refused to be directed by the RNs. NAs were given specific tasks to do such as vital signs, baths, and ambulation, but the RN was reported not to follow up with the delegation to ensure that these measures were completed appropriately. Instead of providing leadership in these instances, the RNs assumed that the NAs were “doing their job.” The leadership role of the NAs was also identified occasionally (eg, “When a patient coded, the NA, without being asked, moved a second patient out of the room” [RN]).

Another issue in the leadership role of the RNs related to the widespread practice of assigning patients under the care of 2 or more RNs to an NA. This was necessary because there were generally fewer NAs than RNs in the staffing pattern of most units included in this study. Thus, NAs may have 2 or more RNs to work with, and those RN leaders do not talk with one another to determine the total workload of the NA (eg, “We do work for *all* the RNs and they just keep piling it on, without knowing what else we have to do” [NA]).

Team or collective orientation

Participants gave many examples of the presence and absence of team orientation and the impact on teamwork. An example provided by an LPN about the need for collective orientation stated, “There was a bath that was left [by the previous shift] about 2 weeks ago. A staff member comes out to me and says, ‘Days left this for me.’ I said, ‘No, there

are reasons why that bed and bath were not done.’”

Another area illustrating the effect of team orientation was patient assignments. In many units, RNs began their shifts arguing about the number of patients they were assigned compared with other nurses. The acuity of the patient or care workload involved was not considered by the nurses; instead, only the number of patients was considered. Another common example of a lack of team orientation involved nurses searching for an NA to care for a patient when it would have been quicker for the nurses to do it themselves (eg, “If you’re trying to feed a patient and you are getting this page 5 times in a row saying ‘Assist patient with bedpan’... Well I don’t want to make them wait to go to the bathroom, so I have left my patient to find out that all they wanted was water. The RN could have given the patient water herself” [NA]).

Mutual performance monitoring

There were variations reported in the extent to which staff members monitor one another, but all agreed that it was important to do so for effective teamwork. Several factors were identified to be barriers to performance monitoring including physical layout of the unit, adequacy of staffing, demand surges caused by a large number of admissions or a worsening of a patient’s condition, the patient assignment model, the reluctance on the part of some staff members to let others know when they are overwhelmed, and the handoff report process. For example, one RN said, “I don’t even see anyone else. I am so busy doing my work, being tied up with my patients, I don’t know if anyone else is busy or what.” Another RN indicated better situational awareness among unit members: “We are aware of each other. It isn’t negative but if we see someone forget to wash their hands, we remind them. We do it for each other.”

Backup behavior

Participants expressed many examples of the impact of, or lack of, backup behavior

on effective teamwork. To provide backup, team members need to understand the components and responsibilities of other team members' jobs. For example, one RN said, "If we see someone forgetting to do something or making an error, we let them know."

Registered nurses also reported being aware and capable of completing the role of the NA and the US, although they were reluctant to do what they considered "aide or secretary work." Nursing assistants who worked in the unit for considerable time reported being aware of what needed to be done even if they could not complete the tasks themselves. The RNs pointed out that the NAs often did not understand the extent of their documentation responsibilities. The "it is not my job syndrome" was reported to be rampant. A theme emerged in which RNs often referred to the work of the NA as not "their work" even though the RN is legally and professionally responsible for the nursing care. For example, one NA reported, "There are times when you have asked for help and you don't get help. They [RNs] will say 'I will come and help you' and then 2 hours later, they have not come. You see them and they say 'Oh, by the way, do you need help?'"

Adaptability

Focus group participants gave many examples of flexibility and its effects on the level of teamwork. An RN provided this example: "We constantly have a change in our workload with patients getting sicker, new admissions—we can get 5 at a time—and we pitch in to cover the load together, rather than letting someone take on the impossible."

Similarly, a theme arose in which teams that were not engaged in performance monitoring suffered because they were not able to be responsive to changing workloads of other staff members. For example, one RN said, "When a NA calls in sick at the last minute and we can't get a replacement, the 1 or 2 NAs working get assigned all of the patients instead of having the nurses take some of them. The NA can't care for 18 patients."

Shared mental models

Shared mental models also were evident in the focus group discussions. Participants noted that when all team members have shared understanding about how to care the patient, including how they will work together, teamwork is enhanced. The opposite was also true. As evident in Table 1, the focus group participants pointed to the presence of many task-related mental models and their impact on team effectiveness. One such example given by an RN was the following: "Everyone knows what to do when a patient codes. The CN immediately pages the code team and takes the code cart to the patient's room, and everyone descends on the room."

Examples of the impact on teamwork when shared mental models were absent were also prevalent. Participants indicated that problems arose when procedural mental models were not shared, for example, causing shift reports to differ significantly. Standard communication methods, such as Situation-Background-Assessment-Recommendation (SBAR), were highlighted as methods for improving such shared mental models. For example, an NA indicated that "We are not given any report at the beginning of the shift so we really don't know anything about the patients."

Closed-loop communication

Communication was identified as a major factor in the success (or failure) of nursing teams. The vital importance of communication in teamwork was highlighted repeatedly around the themes of (1) handoff disconnects, (2) lack of knowledge about the workload of other team members, (3) inability to deal with conflict, and (4) inconsistent staff members.

Handoff disconnects

The most prevalent communication issues reported are related to preshift handoffs. The shift report was a major communication practice, necessary for staff members at the end of a shift to inform the incoming nursing staff

about the patients and unit issues. Numerous problems with the shift reports, however, were identified, including its length, not including critical information, reporting unnecessary information, excessive socializing, waiting for staff members to attend, and taping reports with no opportunity to ask questions. When the shift report and other handoffs were inadequate, participants agreed that teamwork was adversely affected.

Another handoff disconnect distracting from teamwork was the practice of not including the assistive personnel in the shift report. Nurses participated in the shift report, whereas NAs received reports from other NAs at the end of the shift. Some participants gave examples of cursory exchanges of information between nurses and NAs a few hours into the shift.

Lack of knowledge about other team members

Another theme identified related to the notion that staff do not or are not able to communicate their needs and issues with other team members during the shift. Several contributing factors played a role in this communication disconnect: poor communication skills on the part of selected staff members, the geography of the unit where nursing staff are physically distant from one another, and the model of care.

The model of care or method of assignment was reported to be a barrier to communication between nurses and NAs. Specifically, the NA cares for 2 or more of the nurse's patients; one theme arising from the focus groups was that RNs tended not to recognize the entire workload for which NAs were responsible.

Conflict management

Inability to manage conflict was another major theme. Nurses and assistive personnel reported that they were not able to manage conflict and had a tendency to avoid it. The conflicts may be small (eg, "I disagree with how we schedule our in-services, but the oth-

ers want it that way so I go along" [RN]), or they may spiral out of control and become major (eg, "I refuse to work when — works. If I see her, I walk way out of my way to avoid her" [RN]). Fear of conflict was a common thread in the discussions (eg, "I would do anything to avoid an argument" [RN]). When questioned about this avoidance of conflict, common responses included that it would make matters worse or that the person would become defensive.

Lack of consistent staff

Communication was shown to be adversely affected by the method of scheduling staff using a combination of 4-, 8-, and 12-hour shifts. Participants believed that this created a disjointed and confusing scheduling situation in which staff were coming and going at various times. The stability of the team would decrease with the introduction of 1 or more new staff member(s). Some staff worked a 12-hour shift from 7 AM to 7 PM. Yet, during their shifts, additional RNs and NAs began work at 3 PM. At 7 PM, new staff began their shifts while others left. Respondents noted that the constant "coming and going" of nursing staff inhibited effective communication and thus teamwork. The use of agency or per diem staff also was reported to create similar communication problems.

Mutual trust

Trust was identified as an essential element for teamwork. Participants offered numerous examples of the connection between teamwork and trust. Discussions also highlighted a high degree of mistrust expressed by RNs about the work of NAs (eg, "I don't think the NAs do what I ask them" [RN]) and vice versa (eg, "I have to watch some of the RNs—they don't give pain medication when I tell them the patient really needs it" [NA]).

Relationships between elements and mechanisms

Although space does not permit a full discussion of the relationships among the core elements and the coordinating mechanisms,

an example relationship is provided. Participants described the impact of a shared mental model and the amount of communication needed to give care to patients: (eg, "We don't have to be told what tasks to do . . . We just need to receive report on specific issues about this particular patient, like if they are going to be discharged or if they are upset about something" [NA]). Team communication is reported to be facilitated by placing communication boards where all staff can readily record nursing care needed and completed, which, similar to the other teams, decreases the need to communicate orally. For example, one RN said, "I love the boards . . . they [nurses] will write if they have done something. Some of them write the vitals done. I think that the night shift coming on needs to look at the boards to see what has been done and what needs to be done . . . highlight[ing] what needs to be done." The use of SBAR for shift report in 1 unit was evaluated by staff as effective in reducing the time needed for shift report as well as increasing the quality of the report.

The relationship between communication and shared mental models was also reflected in the extent to which team members anticipated each other's need for information without being asked. When that occurs, it facilitates communication and reduces workload.

DISCUSSION AND IMPLICATIONS

The findings of this study demonstrated the relevance and applicability of the Salas teamwork theory to nursing teamwork in acute care hospital inpatient units. There is a substantial science of teamwork that should be used in planning, implementing, and evaluating interventions to rectify communication disconnects and barriers to effective teamwork within nursing teams.^{26,27} We suggest several practical implications on the basis of our results.

Validating this conceptual model in acute care nursing teams provides a theoretical basis for practical suggestions and interven-

tions, which can be applied to optimize nursing teamwork and patient care. In general, these results provide a foundation for interventions and quality improvement projects aimed at reducing and mitigating nursing errors related to failures of teamwork. Themes identified in the focus group demonstrate that cognitions (thoughts), behaviors, and attitudes are vital to intradisciplinary teamwork, in addition to playing a vital role in interdisciplinary teamwork. Our results suggest a theoretically sound foundation for defining competencies to target during quality improvement projects related to nursing teamwork and can be used to guide the development of project objectives.

Our results also underscore the notion that teamwork comprise skills that must be developed and learned. One strategy for developing teamwork skills is through team training, a method that focuses on the skills and competencies necessary for effective teamwork, such as communication, mutual support, and leadership.²⁸ For example, the TeamSTEPPS system²⁵ offers a team training system designed to enhance patient safety by equipping trainees with skills in leadership, situation monitoring, mutual support, and communication. Some of the specific tools used in the TeamSTEPPS curriculum include backup behavior, briefings, and debriefings; SBAR and closed-loop communication techniques; and tools related to the other components of the Salas framework. To date, the literature on team training in healthcare suggests that it has a positive effect on employee perceptions of teamwork in their units, patient safety culture, and patient outcomes such as length of ICU stay and risk-adjusted mortality.²⁹

Our participant responses indicated that leadership responsibilities extended far beyond the traditional nurse manager role to include CNs and RNs. This means that leadership skills should be developed not only in all RNs but also in those in nurse manager roles. In addition, results suggested the need for interventions aimed at optimizing communication across shifts, especially during the handoff process. Standardizing

procedures and methods of communication (eg, the SBAR process) during these key time points in the care process is necessary for patient safety.

Communication can also be enhanced by (1) including all members of the nursing team in shift handoffs and/or briefings; (2) using centrally located boards as communication tools, listing each patient and what has occurred for them that day as well as care that needs to be provided; and (3) conducting interim shift “huddles” to confirm the care being provided to patients. Furthermore, developing a culture that promotes deference to experience, not only role, can help increase the ability of RNs, LPNs, NAs, and other assistive providers to speak up when they notice something that may potentially lead to an adverse event.

Limitations

The exploratory nature of this study limits the conclusions that can be drawn. Future research is needed to establish the validity of using the Salas framework to describe nursing teamwork processes. In addition, focus group members were employees of a single acute care hospital. Future research should

explore nursing teamwork across settings and geographical regions.

CONCLUSIONS

While previous studies of teamwork in the healthcare community have focused on multidisciplinary care teams, this study demonstrated that such teamwork processes are also vital within nursing teams. Our results suggest that to optimize nursing teamwork, quality improvement initiatives should target and develop in nurses and others on the nursing team the knowledge, skills, and abilities necessary to engage in effective team leadership, mutual performance monitoring, and backup behavior as well as foster collective orientation and adaptability. While this article lays the groundwork for exploring intradisciplinary teamwork, we must keep in mind that interdisciplinary teamwork is vital to a safe and effective healthcare system. Future research should strive to clearly define the expected professional relationship and interdependencies both within and across healthcare teams. To optimize teamwork across disciplines, we must also strive to increase teamwork within nursing.

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