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Nursing Documentation Environment in the Hospital Setting

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Nursing Documentation Environment in the Hospital Setting

by

Alice E. Cavin

A thesis submitted to the faculty of
Gardner-Webb University Hunt School of Nursing
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Abstract

Nurses often document in open nurses' stations exposed to frequent interruptions. Much has been written on the need to limit distractions while collecting and administering medications but little has been published on the effects interruptions have on nursing documentation. The purpose of this study was to examine the environment in which nurses chart and to gather their perceptions of the documentation environment. Marilyn Ray's Theory of Bureaucratic Caring was the guiding framework for this study. A review of the literature revealed the effects open work spaces, noise, and interruptions can have on work performance. This study, a focus group discussion, involved seven nurses who worked, or have worked, in medical-surgical nursing. Results of the discussion revealed nurses are displeased with the noise and interruptions in their charting environments. Additionally, they feel that nursing leadership should provide a charting environment that is more compatible to timely and accurate documentation.

Keywords: Charting distractions, charting interruptions, documentation distractions, documentation interruptions

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CHAPTER I

Introduction

Significance

Nurses learn early in their careers that multitasking and prioritizing are essential for effective job performance. A patient may call for pain medication while the nurse is attempting to chart, a family member may approach the nurse for information while the nurse is administering medications, or a doctor may interrupt the nurse to request assistance with a procedure. The environment in which nurses chart, traditionally an open nurses' station, lends itself to frequent interruptions. Moreover, open work spaces have been linked to lower employee satisfaction and the noise associated with such has a high potential effect on work place errors (Chaudhury, Mahmood, & Valente, 2009; Schiavon & Altomonte, 2014). Considering the possible legal ramifications of erroneous charting; both plaintiffs and defendants turn to the medical record to guide their actions (Pozgar, 2014), it stands to reason that healthcare administrators would strive to provide optimal charting space. Much has been written on the consequences of interruptions to nurses while collecting and administering medications, and rightfully so, as medications errors can be costly to the patient, nurse, and facility, but limited research exists on interruptions to nurses while charting. Yet, 40% of nurse errors are from something other than medication (Balas, Scott, & Rogers, 2004). The purpose of this study was to examine the environment in which nurses chart and to gather their perceptions of the documentation environment.

Theoretical Framework

In the Theory of Bureaucratic Caring, Dr. Marilyn Ray addresses the challenge of providing spiritual and ethical caring (implicit order) in the political, economic, legal, and technological (explicit order) realm of a business-run health care organization. The theory is holographic at its base; the whole is in the parts, and the parts in the whole (Turkel, 2007). Each spoke in the wheel has a purpose and an effect. For example, the housekeeper, who is neither educated nor credentialed as the physicians and nurses, might consider his or her job as menial and unrelated to caring. The cleanliness of the room, however, can impact the patient's impression of the facility, as well as, the health of the patient. Housekeeping may be a spoke in the wheel, but without this part, the system is not whole. Spiritual-ethical caring and the organizational system are interwoven (Turkel, 2007). The theory consists of nine interconnected concepts. Those pertinent to this study are noted in Table 1.

Following the development of the original theory, Ray and Turkel developed a questionnaire to measure caring as an economic resource. Results revealed a necessary partnership among nurses, administrators, and patients for organization success. Those organizations achieving patient and economic success also scored high on organizational caring. Through Ray and Turkel's research, a link was established among caring, economics, and positive patient outcomes (Turkel, 2007). The research showed that administrators, both hospital and nursing, value high quality care. Lack of time is viewed as a hindrance by both nurses and patients in forming a caring nurse-patient relationship (Turkel, 2007). Figure 1 depicts the links between the conceptual, theoretical, and empirical measures of the proposed study.

With work environment linked to both employee stress and satisfaction levels (Haapakangas, Helenius, Keskinen, & Hongisto, 2008; Schiavon & Altomonte, 2014), it behooves management to provide amicable charting conditions. With increased attention on reducing nursing burn-out and improving retention, eliminating stress where possible should be of interest to nurse leaders. Reducing unnecessary noise and activity in the nurse's charting environment could relieve some anxiety.

Errors and omissions in charting can result in negligent patient care, including medication errors. Consequential costs might involve, not only lengthier hospital stays, but litigation costs as well. Delays in charting due to interruptions can further impact the bottom line in the form of overtime costs.

Interruptions in the workplace, particularly those from noise, have been shown to increase stress, increase errors, and lengthen process time (Gillie & Broadbent, 1989; Haapakangas et al., 2008; Pape & Dingman, 2011). In her open letter to nurse leaders, Catherine Leary calls for leadership to “do what is right for the patient and the dollars will follow” (Dunham-Taylor & Pinczuk, 2015, p.4). Providing nurses with a documentation-friendly environment for completing the cumbersome, detailed charting that is required could potentially reduce stress on nurses, allow for more timely charting, and increase bedside time with the patient.

Purpose

The purpose of this study was to assess the environment in which nurses chart and identify their perceptions of their documentation environment. This will provide insight into how well the healthcare organization is providing for nurses' needs with respect to documentation.

Theoretical-Conceptual Framework

Table 1

Ray's Concepts and Definitions and Relevance to this Study

Concept	Definition	Relevance to this study
Caring	The relationship between charity and right action, between love as compassion and justice of what ought to be done.	By providing for nursing needs while charting, patients' needs might better be served.
Spiritual-ethical caring	How facilitation of choices for the good of others can, or should, be accomplished. Treat people as beings, not an end or means to an end.	Are nursing needs being considered or is nursing a means to an end?
Physical	Mind and body are interrelated.	Is the charting area as stress free and ergonomic as possible?
Social-cultural	Intimacy with friends and family; communication, social interactions.	Are interactions in the charting area beneficial or hindering?
Legal	Responsibility, accountability, right to privacy, liability concerns.	Does the charting area enhance accuracy?
Political	How is nursing viewed by the organization?	Does the charting space indicate nursing is valued?
Economic	Allocation of resources to maintain economic viability.	Have nurses been provided the resources to chart accurately, completely and timely?

Note. Concepts and definitions as defined by S. Coffman in Alligood, M.R., & Mariner Tomey, A. (2010). Marilyn Ann Ray: Theory of Bureaucratic Caring. In (7th ed.), *Nursing theorists and their work* (pp. 118-119). Maryland Heights: Mosby-Elsevier

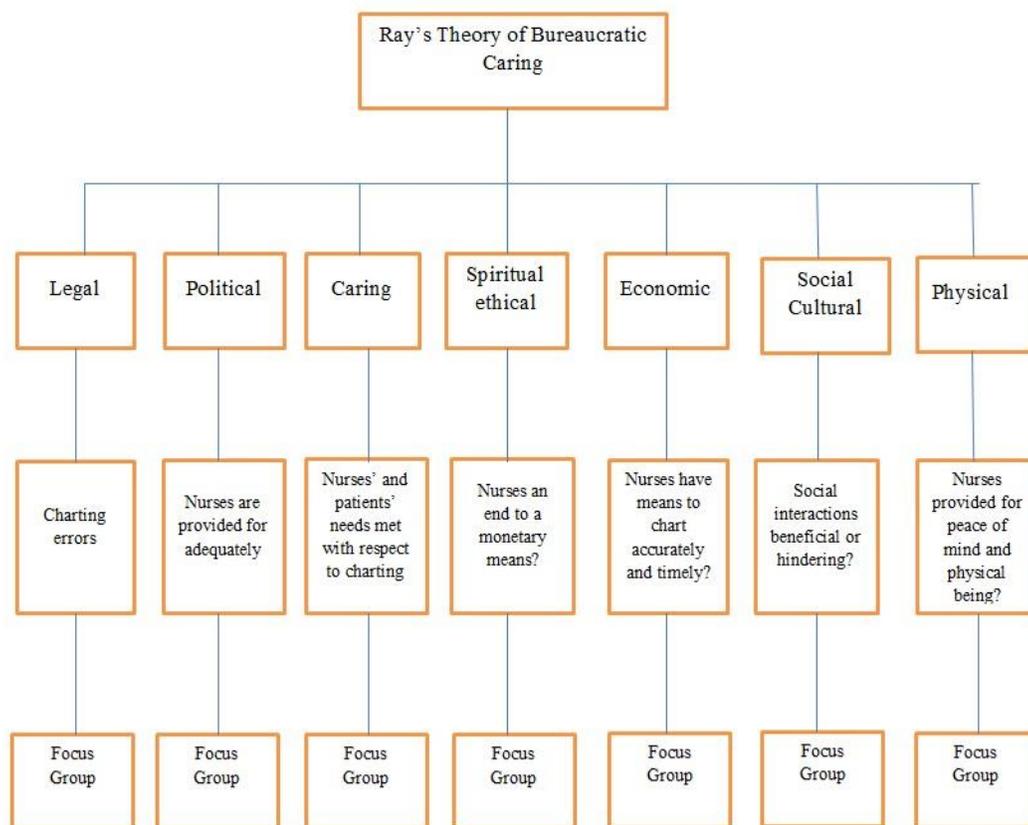


Figure 1. Conceptual – Theoretical – Empirical Diagram

Figure 1. Conceptual - Theoretical - Empirical Diagram

CHAPTER II

Literature Review

Nurses operate in a dynamic environment in which no two patients are the same. Medication doses differ among patients. Physician orders change. Nurses must be astute to subtle changes in a patient's condition. The complex environment in which hospital ward nurses work requires constant vigilance. Yet, nurses are often hampered with loud, open nurses' stations laden with distractions.

Complete and accurate documentation is essential in providing quality healthcare. Providers turn to the medical record for pertinent facts. Ancillary services such as dietary, physical therapy, and discharge planning; look to the patient's chart to design a treatment plan. The medical record serves as a legal document. Additionally, third party payers peruse the chart to verify the validity of billed charges.

In researching information on distractions while charting, key words and phrases searched include: distractions while charting, nursing distractions, documentation distractions, distractions leading to errors, distractions due to noise, noise at nurses' station, work place noise, interruptions in charting, and open versus closed nursing stations. Databases and search engines utilized include: CINAHL, PubMed, OpenAthens, Google Scholar, and EBSCO. Much has been written on the importance of reducing distractions while nurses collect and administer medication. The literature addresses the effect of noisy work environments on employees, as well as, optimal work station design. However, little has been written on the importance of providing for a distraction free environment in which nurses can chart.

Distractions during Medication Administration

Inattention to detail while calculating, collecting, or administering medications can be lethal. In the search for distractions while charting, routinely, articles on distractions while passing medications resulted. In the report *To err is human: Building a better healthcare system*, the Institute of Medicine (IOM) estimated that preventable medication errors result in at least 44,000 hospital deaths per year (Kohn, Corrigan, & Donaldson, 2000). Consequently, much has been written on the effects of interruptions during medication administration.

To assess the effects of interventions to reduce distractions in medication administration, Pape (2003) compared distractions to a control group using standard medication practices to those of two experimental groups with whom distraction reduction measures had been implemented. In the quasi-experimental study the first experimental group (n=8), followed a focused protocol intervention. Nurses were asked not to interrupt the nurse passing medication unless the interruption was directly related to the medication being administered. The medication nurse, in turn, was asked to refrain from interaction with others unless the conversation related to the specific medication. The second experimental group (n=8), utilized the focused protocol interventions along with a medsafe protocol. The nurse administering medications wore a red vest with the words: "Medsafe Nurse, Do Not Disturb". A significant reduction in distractions resulted in both experimental groups after implementation of the interventions ($p = .05$) (Pape, 2003, p. 86).

A pilot quality improvement project designed to reduce distractions and interruptions during medication preparation implemented five medication safety

interventions. Nurses were observed by the project director while preparing medications. Additionally, nurses were asked to complete a 5-point Likert-type scale survey of their perceptions of interruptions before and after interventions. Interventions included: wearing a medication safety vest, designation of a no-interruption safety zone, staff education, signage asking others to refrain from interrupting the medication nurse, and a card instructing nurses how to respond to interruptions. Pre and post intervention implementation, the project director made observations on 32 randomly chosen shifts occurring over eight days in a two month period. Before the interventions, 254 distractions were observed. Following the interventions, 68 were recorded. The results are significant ($p < .001$). Survey responses to interruptions also revealed fewer interruptions after interventions. The response findings were significant for two types of distractions: staff interruptions and noise in the area (Williams, King, Thompson, & Champagne, 2014)

Further studies address nurses' perceptions of the role the physical environment plays on medication errors (Mahmood, Chaudhury, & Valente, 2011), as well as factors affecting cognitive load of nurses during medication administration (Perron, 2015). While Mahmood et al. (2011) study was designed to assess nurses' perceptions of the physical environment of medical surgical nursing units on medication errors, questionnaire results revealed that 28.9% of participants perceived that omission of information from the charts occurred frequently at their hospitals.

Perron (2015) used electroencephalography (EEG) to compare the cognitive load of nurses passing medication, with varying levels of competing tasks. Nurses performed three simulated medication passes in a random order. The three tasks varied in degrees of

competing tasks ranging from no competing task to a competing task every minute. Significant differences were discovered, in those areas of the brain that are used for critical thinking and high level processing, among the varying tasks ($p \leq .05$). Due to the small sample size of the study, however, it is believed that statistical significance was not obtained.

Noise

Studies on noise in the hospital setting have focused on the patient's perspective (Richardson, Thompson, Coghill, Chambers, & Turnock, 2009). However, noise can be detrimental to staff as well. In an extensive literature review to assess the effect of environment on nursing errors, Chaudhury et al. (2009) found that noise and lighting have the highest potential effect on work place errors. Reducing noise was key to reducing stress and fatigue among staff.

A 2015 report aimed at addressing noise distractions in the work place, focused predominantly on a literature review with more emphasis on the psychophysical research papers than solely acoustic information. Findings included a subjective component of noise, with different reactions invoked among office workers to the same noise. The psychological aspect of noise accounts for as much as 50% of the annoyance perception whereas actual sound levels account for 25%. The literature review establishes that office noise results in a loss of concentration, memory recall, and therefore, performance (Oseland & Hodsman, 2015).

While Oseland and Hodsman (2015) found that workers react differently to noise, across the board, speech has been found to be the most distracting. A study, published by the 9th International Congress, designed to assess the relationship of the acoustic

environment on work performance and workers' perceptions of the acoustic environment revealed that speech is the most distracting noise in the office, regardless of whether the office is private or open. Questionnaire results were obtained from 689 subjects from 11 office buildings from 2002 to 2008. The questionnaire consisted of several sections and answers were formatted on a 5-point Likert scale. Comparisons were made between open and closed office layouts as well as among different types of noise, such as phones, equipment, and talking. Behavior modification to cope with noise included exerting oneself more, taking extra breaks, working remotely, and working overtime (Haapakangas et al., 2008).

Studies on hospital noise have focused primarily on the patient's perspective in efforts to improve patient satisfaction and outcomes. However, staff are exposed to excessive ward noise daily. Noise levels in a medical critical care unit taken over a seven day period ranged from 59.7 dB for day shift to 53.2 dB for night shift. Readings were higher at the main desk, averaging between 57- 65 dB (Peterson, 2000). Jahncke (2012) compared output productivity of office workers in low noise environments versus those in high noise environments. In the two experimental sessions, one low noise, 39 dB LAeq (weighted average), one high noise, 51 dB LAeq, subjects were asked to complete a variety of working memory processes such as serial recall, reading comprehension, and logical problems. Each group was given a 15 minute rest period before the experiment. After each work task, subjects had a seven minute break in which they were exposed to either a river movie with sound, river sound only, silence, or office noise. The total time in each session was about two hours. In addition to workers feeling more tired and less motivated after working for two hours in the high noise environment, those in the high

noise session remembered fewer words and had more missing answers. Those exposed to office noise during the break were less motivated than those watching the movie or listening to river sounds (Jahncke, 2012).

As Oseland & Hodsman (2015) found in their literature review, office noise can lead to reduced concentration. There are few places where this can be more costly than the operating room. Administration of anesthesia prior to and during surgery requires focus, with no room for error. Yet, lack of noise control has been shown to interfere with this high-risk process. A pilot study exploring the extent of interruptions and distractions during anesthesia induction revealed that CRNAs average 7.5 interruptions every nine minutes and could experience as many as 68 interruptions and distractions per hour. The observational study took place in a midsized, acute care, nonprofit hospital in Texas over a two week period. A convenience sample method was employed with the participants randomly selected by the Director of Anesthesia. A sample size of eight CRNAs was chosen. Three data collection instruments were used: a Demographic Data Collection Sheet, the Medication Administration Distraction Observation Sheet (MADOS), and the Distraction Perception Survey (DPS). Most of the interruptions were from conversation, personnel, and noise (Pape & Dingman, 2011).

Work Station Layout

The physical layout of the nurses' station can impact noise level exposure. Pan and Cheung Chan (2007) hypothesized that satisfaction in noise distraction would be higher in employees working in closed offices rather than open offices. A comparison of noise levels between two groups, those working in closed offices and those working in open offices, determined that work space enclosure is a significant determinant of

acoustic quality and noise level satisfaction. Using a noise meter to measure noise levels, in combination with a survey inquiring of acoustic satisfaction and effects of distractions from noise, Pan and Cheung Chan determined that not only is there less satisfaction with acoustic quality in open offices, but productivity suffers as well. Again, human generated noise was found to be most disturbing (Pan & Cheung Chan, 2007).

Though noise satisfaction levels may be lower in the open office design, nursing stations are commonly open. In an effort to address the questions: (1) What are the effects of physical environmental variables on nursing errors, efficiency, and patient care quality? and (2) What are the effects of physical environmental variables on nurses' job satisfaction and performance, health and safety? Chaudhury et al. (2009) reviewed literature and recruited focus groups for discussion. The study centered on medical surgical units. Focus group participants were recruited from three hospitals in the Pacific Northwest. Each of three groups consisted of six or seven participants with a total of 19. Participants were compensated with a \$25.00 gift card.

Nursing preferences included nursing units enclosed with Plexiglas that allowed for patient visibility but lowered noise, small alcoves within the nursing station that allowed for communication with staff while maintaining low noise levels, and a pod design that decreased fatigue. In short, nurses preferred patient visibility combined with low noise (Chaudhury et al., 2009).

Inherent in the accessibility feature of nurses in open nursing stations are interruptions. In a study to assess the therapeutic environment of open versus closed nursing stations, Southard et al. (2012) performed a cross-sectional, pre-test, post-test study of nursing station design on therapeutic milieu in an acute care psychiatric unit. A

convenience sample of 81 patients and 23 nursing staff members completed the Ward Atmosphere Scale (WAS), a 100-item true/false questionnaire that is divided into three dimensions: relationship variables, personal development, and system maintenance. The dimensions can be further divided into categories including involvement, support, autonomy, anger and aggression, staff control, and order. The pretest phase of the study involved a nursing station enclosed with tempered glass. The nurses' work area was in the back of the station. During renovation, the glass was removed and the nurses' work area was moved to the front of the station. Time frame between pre- and post-test questioning was 24 months. Findings revealed no statistically significant difference in patient or staff perceptions of the therapeutic milieu between the open versus closed nursing stations. Furthermore, there was no increase in patient aggression or use of seclusion or restraints. Though the same facility was measured before and after renovation, a weakness of the study was staff turnover, including nursing staff and psychiatrists. During the study period, new leadership implemented changes requiring adjustment and not all changes were popular among staff (Southard et al., 2012).

Distractions and Cognitive Shifts

Nurses are more visible and exposed to noise in an open nurses' station design. Not every noise becomes a distraction, however, and what bothers one nurse, another may be able to tune out completely. Yet, studies show that nurses are often interrupted and task switching is a frequent occurrence.

In an effort to unveil what makes an interruption disruptive, Gillie and Broadbent (1989) conducted a series of experiments with varying lengths and types of interruptions. Subjects participated in what appeared as a computer game (n=10 for each experiment).

They were given 12 problems, each with a list of items to be acquired. Three types of problems were presented: (1) free order in which objects could be taken in any order (2) fixed logic, the object had to be taken in a sequence and the sequence had a logical order and (3) fixed arbitrary in which the objects were taken in an arbitrary sequence. In experiment 1, the subjects were interrupted and asked to solve simple arithmetic problems, addition and subtraction of two digit numbers. The interruption was 30 seconds. Experiment 2 was identical but the length of interruption increased to 2.75 minutes. In experiment 3, the interruption length held at 2.75 minutes but the interruption was of free recall in which a word was displayed for 1.5 seconds with a delay of .75 seconds between words. Subjects read the words aloud. After the words had been presented, the subjects had 90 seconds to write down the words. Experiment 4 was similar to 1 and 2 but the numbers to be added or subtracted were coded as letters and the subjects had to make the necessary translations. In experiments 3 and 4, acquiring objects after the interruption took significantly longer than prior to the interruption. Results indicated that neither the memory load at the time of an interruption, nor the length of the interruption, is indicative of whether the interruption will be disruptive. However, dealing with an interruption that is similar to the task at hand and demands immediate attention is disruptive (Gillie & Broadbent, 1989). This may not bode well for nurses. As one is charting on a patient, an interruption by a phone call or physician could easily concern another patient and require prompt attention.

This task shifting is not uncommon in nursing. In an observational study to assess task switching in nursing, two of the hypotheses tested were: (1) Expectation of a high degree of task switching and (2) Few discernible task sequences, with task order

seemingly random. The study took place on a med-surge floor at a 339 bed hospital and a pediatric oncology unit in a 60-bed pediatric research hospital. As nurses were observed, task switching was monitored and recorded on a tablet computer. Data supported that nurse workflow incurs frequent task switching, interruptions, and unpredictability. The study concluded with the implication that even experienced nurses' job performance is impaired by frequent task switching (Cornell, Riordan, Townsend-Gervis, & Mobley, 2011).

A cognitive shift, a shift in focus from one patient to another, as defined by Potter et al. (2005), is a more narrowly defined form of task switching and has the potential to pull a nurse away from an important task associated with patient care. A study aimed at analyzing the nature of nurses' cognitive work and how environmental factors create disruptions that pose risks for medication errors, found that registered nurses average nine cognitive shifts per hour. Almost one fourth of the cognitive shifts (24%) involved an interruption just prior to the shift. Seven RNs were observed for four to nine hours each at Barnes-Jewish Hospital at Washington University School of Medicine in St. Louis. Of note in the study was that time spent on medication preparation and administration accounted for 16% of the nurses' time, yet documentation accounted for 23%. Interestingly, RNs did not attempt to control interruptions. They seemed resigned that interruptions are inherent with the work (Potter et al., 2005).

While task and cognitive shifts involve switching from one activity or thought to another, Woloshynowych, Davis, Brown, and Vincent (2007) investigated the actual communication load of an Emergency Department charge nurse. While observing the charge nurse, the researchers studied interactions, communication, simultaneous events,

and interruptions involving the charge nurse. Some of which involved task switching and some which did not. Eleven nurses were observed during 18 observation periods that totaled 20 hours. A microphone was attached to the lapel of the nurse and a recorder was placed in his or her pocket. The researcher shadowed the nurse and took field notes. A total of 2,019 communication events occurred in the 20-hour period, equating to 1.68 per minute. Communication multitasking comprised 14% of the occasions. In the post-observation interviews, eight of 11 nurses complained of having too many things going on at one time. There were discrepancies in what the researcher observed and what the nurses reported. On three occasions, the researcher observed unresolved communication events, in which the nurse was interrupted and never returned to the original task, yet the nurses interviewed reported no unresolved communications. With communication events occurring at a rate of one every 36 seconds, the ED charge nurse must navigate through frequent interruptions.

As witnessed in Woloshynowych et al. (2007) study, the nurse did not always return to the original task after an interruption. In a similar observational study in which ED nurses were shadowed, 15% of the interruptions resulted in task switching in which the nurse did not return to the task at hand prior to the interruption. At the University of Texas Health Science Center in Houston, a Level I trauma center, Brixey et al. (2005) studied how interruptions affect nursing care. The research was by non-participatory observation. Eight nurses were observed between 7:00 a.m. and 7:00 p.m. for a total of 40 observation hours. The researcher observed nurses as they went about their daily duties. Findings revealed that nurses were interrupted almost 12 times per hour. In 20% of the interruptions, it was not evident if the nurse returned to the prior activity.

In reviewing the literature, the focus of interruptions to nursing was found to be on medication administration. Yet, Hall et al. (2010) found that the majority of interruptions to nursing practice occurred when nurses were engaged in documentation or direct patient care procedures. In their mixed methods approach, observation combined with focus groups, over 360 nurses were observed. The study centered on interruptions to nurses' work and the outcomes. The primary sources of interruptions came from other health care members and the majority of interruptions resulted in negative consequences, such as delays in treatment or loss of concentration (Hall et al., 2010).

Summary

In searching for distractions in nursing, inevitably one finds research studies on the effects and prevention of distractions during medication administration. Interruptions while preparing medications can result in medication errors. Elevated noise levels in the work place have been shown to increase stress and fatigue among staff and lower the ability to focus. Open design nursing stations expose staff to increased noise and interruptions. It is precisely in these loud, exposed areas that nurses often chart, opening the door for potential documentation errors. With patient care plans designed, in part, on documentation of the patient's condition, the result of charting errors could be as detrimental to the patient as medication errors. Yet, little research has been published on the effects of interruptions to nurses while charting.

Documentation errors can not only be damaging to the patient, they can be costly to the facility as well, as evidenced by *Feeney v. New England Medical Center Inc* (1993). At 10:45 p.m. an intoxicated man was admitted to the ER and noted to be responsive. At 11:30 p.m., he was unresponsive with pupils fixed and dilated. The facility's standard of documenting respirations every 15 minutes had not been

maintained. Without such, it was left to the jury to surmise the events surrounding the patient's death. The hospital was implicated on the basis of the failure by the nurse and physician to provide adequate care. As was noted by one expert involved in the case, the documentation was "sparse and contradictory" (Giordano, 2003, p. 106).

This study was designed to assess the documentation environment of nurses and evaluate the impact of distractions on documentation.

CHAPTER III

Methodology

Study Design

In light of the little research on the charting environment of nurses, the aim of this study was to investigate nurses' opinions of the documentation environment.

Consequently, an exploratory descriptive study was employed. In an effort to gather opinions and facilitate discussion among nurses, the approach was by focus group. The coming together of those in similar circumstances allowed for free flowing exchange of ideas and building upon others' experiences. Discussion among group members lessened the involvement of the moderator, allowing for the moderator to serve as a facilitator and not participant.

Population and Sampling

Nurses were invited to participate in a group discussion at a central location in Eastern NC. This allowed for discussion in a non-threatening atmosphere away from their place of business. Recruitment flyers were posted in break rooms and common areas of two hospitals located in Eastern NC. Permission to post flyers was obtained by the nurse managers of the wards and the appropriate personnel for the common areas. Additionally, a Facebook invite to a local nurses group was posted. The group is private and is comprised of less than 25 nurses who currently work, or have worked, in the Jacksonville, NC area. Nurses were encouraged to reach out to fellow nurses to spread the word of the focus group meeting. Thus, a combination of purposive and network sampling methods was implemented. A \$20.00 gift card was offered to participants. The desired length of the meeting was 45 minutes to one hour.

Those nurses who were interested in participating were asked to text or call a number to respond. The maximum number of participants to be included was 10. One day before the study, the researcher phoned the respondents to confirm participation.

Data Collection and Analysis

The facilitator opened the discussion with the open ended question: “Tell me your thoughts of your charting environment”. Further questions posed to facilitate discussion included:

- With regard to interruptions, how does your documentation area work for you?
- How would a different charting space change things?

The conversation was audio recorded. Data was analyzed by thematic content analysis. Recurrent themes were identified and coded.

Ethical Considerations

Prior to the meeting, approval was obtained from the University’s Internal Review Board. Written consent from participants was obtained. Neither nurses, nor facilities, were identified in the study. A \$20.00 gift card was offered to participants. The documented findings are accessible by only those involved in the research. Recordings were transcribed and then destroyed. Results were submitted to, and are securely stored by the University. Following a three year period, the data will be destroyed.

CHAPTER IV

Results

The purpose of this study was to assess the environment in which nurses chart in the hospital setting and to gather nurses' perceptions of the workplace environment on documentation. Marilyn Ray's Theory of Bureaucratic Caring, which reflects on the challenge of providing spiritual and ethical caring in a business-run health care organization, guided this research.

Sample Characteristics

To encourage conversation, promote free-flowing exchange of thoughts, and glean the experiences of others, a focus group approach was utilized. The group met in a restaurant in eastern North Carolina. Flyers advertising the discussion were posted on med-surge/telemetry wards of two local hospitals. Additionally, a Facebook invitation was posted in a nurses' group consisting of nurses who had all worked on med-surge wards. The group was limited to 10 respondents. Eight nurses responded affirmatively. Seven, however, attended the discussion. All that attended responded either to the Facebook nursing group invitation or from word-of-mouth. The posters had little effect. All had experience in medical surgical nursing, though not all were currently working in med-surge. Their med-surge experiences were in open nurses' stations. All practiced nursing in the same county in eastern North Carolina, but not all at the same facility. The conversation lasted approximately one hour. At the conclusion, a \$20.00 gift card was given to all who attended.

Major Findings

The moderator opened the conversation with the statement: “Tell me about your charting environment.” To promote discussion, the following statements and questions were posed during the meeting:

- What are the sources of noise?
- How is charting impacted by interruptions?
- Tell me about your ideal charting environment.
- What are the positive aspects of your current charting environment?
- How would a different charting space change things?

Themes were identified in discussing the charting environment. A large number of themes were identified and coded. With the use of interpretive coding, these were then grouped under more abstract codes to narrow the categories (Grove, Burns, & Gray, 2013). The broader themes included: Collaboration, Charting in peace, Administrative, Efficient/Inefficient, and Patient Care. Table 2 illustrates some of the themes discerned and the associated codes.

Charting in Peace

When initially prompted to discuss their charting environment, the nurses responded that it is noisy and full of distractions. Terms to describe the documentation space included: “chaotic”, “noisy”, and “busy”. When asked to elaborate on the sources of noise, responses included: call bells, telephones, telemetry equipment, doors slamming, and patients and visitors approaching the nurses’ station.

Several of the nurses expressed an affinity for computers on wheels (COWs). “I like the COWs. We could step outside the room and find a little more peace and quiet.

We cluster at the nurses' station". At least one nurse preferred nursing pods, small nursing stations positioned on the ward to cover a section of rooms: "I always thought the nurses' station was terribly laid out. Pods...work nicely....Every five rooms there is a little nursing pod....We had our own meds.... It was noise free...you could concentrate."

The nurses concurred that they desire to chart in quiet. It was also recognized that the nurses are exposed to passersby, "there's no sign that says 'Please don't enter nurses' station' ".

Patient Care

Actions that could impede patient care were coded as *patient care*. This category included omissions or delays, from the nurse or other providers, in delivering care to a patient. The delays could be from nurses consumed with charting or providers not receiving the necessary information to treat a patient in a timely manner. This included accuracy of charting, as the nurses confirmed that physicians base their care, in part, on the nurses' documentation. Accuracy also has a legal component, however. Should documentation prove to be inaccurate in a court of law, it could affect the bottom line of the organization. Therefore, accuracy was also considered under the category of *administrative*.

While the nurses unanimously agreed that charting at the nurses' station is undesirable, with the exception of charting vital signs and intake/output, they also disliked charting at the patient's bedside. They felt that charting vital signs and intake/output at the bedside enhanced accuracy. As one nurse noted in reference to charting more detailed assessments or notes at the bedside:

...when you're charting and the patient or their family can see it, you're immediately gonna chart a little bit differently because you know there's a chance they can read it. So it impacts the way you're gonna chart things, too. I think it makes charting worse 'cause you can't say truly what you see and what you think.

Delays in charting can lead to delays in physicians obtaining necessary information about patients. One nurse observed, "Doctors look for things like JP drain output. It is not charted, because I haven't sat down".

The stressful charting environment and the resulting effect on patient care were evidenced in the remark:

...charting is always the thing hanging over your head.... We've been called in... [because] you didn't chart that you went to the patient's room. And it turns into that kind of paranoid environment where it does take away from patient care. And... when it comes to picking between, "Should I go get this patient a warm blanket or should I chart this...?" You're like, "Well, they're not going to know about the warm blanket. I better chart this."

Efficient/Inefficient

Comments reflecting that the current charting environment impacts efficiency, convenience, or time were coded as *efficient/inefficient*. Several aspects of the documentation environment fell into this category. Mentioned in reference to bedside charting, nurses often have paper notes, and "when you're at the bedside...you're not gonna pull out your papers". Yet, returning to the nurses' station to chart was also inconvenient: "I felt like I was walking into the patient's room, walking out and charting... You spend so much time walking back and forth".

References to a charting environment that does not allow for timely charting were coded as inefficient, such as delays in getting out on time due to charting. “People do all their patient care and then they're there three hours after their shift, charting...” When asked how a different charting environment might change things, it was believed that the charting would go faster.

Some aspects of the open nurses’ station were categorized as efficient. Nurses recognized the convenience of having the charge nurse readily available, as well as other nurses and monitors.

Collaboration

Not all of the opinions of the open nurses’ station were negative. When asked of positive attributes of their current charting area, comments voiced included: “we get to work together” and “my charge is right there”. While, the exposure of nurses in the open nurses’ station was criticized, it was acknowledged that: “We have open communication with each other”.

Administrative

Issues discussed that are under the control of administration, or concerns that may have facility-wide affects, were categorized as administrative. This includes legal concerns of documentation, as the facility could be liable for erroneous charting by nurses (Pozgar, 2014).

The nurses felt that they were not provided the time or resources to accomplish both patient care and charting: “People feel like they have to pick between charting and patient care”. As one nurse reported, after providing extensive comfort care to a terminal patient:

I gave the best nursing care I've ever given. I feel like I really made a difference in this patient. I made a difference in this family..... But my charting was insufficient to show that and because of that, I was judged off of my charting. I wasn't judged off of the fact that I actually took care of this man.

Nurses reported a general feeling of being undervalued as evidenced by the following comments:

...the nurse's station is on the outside. And then you have the doc box, which has tinted glass, which says, 'we're here to chart and do our business and focus.' And then you have the nurses that are sitting out in the open facing the patients, so it looks like, 'Oh, we're sitting here waiting for you to approach us with questions'...

My charting is [as] ...important as what the doctor's chart.... if they don't know what's been done and what's helping the patient, there's no point of the patient even being there.

...everything is a combination of a facility that doesn't support its nurses, a really poor nursing station structure...

Summary

The nurses unanimously felt that charting at the nurses' station is difficult due to noise, interruptions, stimulation, and a general lack of privacy. They were unwavering in their desire to chart in peace and expressed a desire for a more secluded charting space. Yet, nurses realize the advantages of access to other nurses and staff.

Nurses expressed the concern that they often have to choose between patient care and documenting. They felt that administration requires extensive charting and

scrutinizes the charting, but does not provide the tools needed. A lack of respect by administration for nurses, as professionals, was voiced.

Table 2

Comments and Related Codes Concerning the Documentation Environment

Comment	Code	Interpretive Code
Moderator: Tell me about your charting environment:		
Busy	Stimulation	Chart in peace
Distractions: Patients families, nurses, doctors want to talk to you.	Distractions	Chart in peace
Can chart at bedside but families look at what you're charting. They ask questions. Must log off so family won't see the whole chart or census.	Bedside charting, Privacy, Distractions,	Chart in peace, Patient care
There is so much noise at the nurse's station.	Noise	Chart in peace
Having a way to chart and be away from what is going on is important.	Chart in peace	Chart in peace
Used laptops but had to dock it and go back and get it. You were carrying around a tray.	Mobile computer, inefficient	Efficient/inefficient
Management needs to invest money so we can get something that works.	Administration	Administration
I feel like I walk into a patient's room and come back and chart, walk into a room and come back and chart. I spend so much	Convenience	Efficient/inefficient

time walking back and forth.

I like the COWs. We could step outside the room and find a little more peace and quiet. We cluster at the nurses' station.

Chart in peace, Mobile computer

Chart in peace

Moderator: What are the sources of noise?

Can't control patients from walking into an open nurses' station. There is no sign that says: "please do not enter nurses' station".

Noise

Chart in peace

Call bells

Noise

Chart in peace

Phones

Noise

Chart in peace

Telemetry unit

Noise

Chart in peace

Elevator buttons

Noise

Chart in peace

Doors slamming

Noise

Chart in peace

Family and kids

Noise

Chart in peace

Patients walk up with requests.

Noise

Chart in peace

Moderator: How is charting impacted by interruptions?

I often have to save a note and return later, which looks like I edited it.

Accuracy

Patient care

Mistakes occur due to late charting. Someone sees a med wasn't given and thinks "I'll give it". This can result in an error if it was given but not charted. But, distractions are what

Distractions, patient care, accuracy.

Patient care

make us late charting. You are charting that you gave a med four hours after you gave it, which happens a lot.

People feel like they have to pick between charting and patient care.

Importance

Administration

Nurses do their patient care and then they stay three hours after the shift to chart.

Time

Efficient/inefficient

It puts the nurse at risk

Value of nursing

Administration

Moderator: Are there any positive aspects of your charting area?

We get to work together.

Collaboration

Collaboration

Charge nurse is right there.

Convenience

Efficient/inefficient

Can ask the telemetry tech "what's the rhythm"?

Convenience

Efficient/inefficient

We have open communication with each other.

Collaboration

Collaboration

We can hear what is going on with other nurses' patients so if a doc calls, I can help.

Convenience, Patient care

Efficient, patient care

This is what you need me to do?" I don't care. I really don't, because I just charted a whole assessment on a wrong patient.

Accuracy

Patient care, administration

On the med-surge floor, there is a little cove with two computers. What if we went in there and saw a nurse was charting and we

Chart in peace, Noise, privacy,

Chart in peace.

said “Okay, I’m going to find another nurse. She is in the quiet room, now”, like they do for medication administration.

Moderator: Tell me about your ideal charting environment.

A black, windowless cube.	Noise, distractions, privacy, chart in peace	Chart in peace
Sound proof	Noise, chart in peace	Chart in peace
Quiet	Noise, privacy	Chart in peace
Isolated	Privacy, chart in peace	Chart in peace
We can chart, come out in 20 minutes to answer questions and finish charting.	Noise, accuracy	Chart in peace

Moderator: How would a different charting space change things?

More focused	Privacy, chart in peace, accuracy	Chart in peace, patient care
Less distractions	Distractions	Chart in peace
Fewer errors	Accuracy	Patient care
Would finish faster.	Time	Efficient/inefficient

CHAPTER V

Discussion

The purpose of this study was to examine the environment in which nurses chart and to gather their perceptions of the documentation environment. The guiding framework of this study was Marilyn Ray's Theory of Bureaucratic Caring.

Implication of Findings

In this study, seven nurses participated in a focus group discussion to evaluate their perceptions of the environment in which they chart. The nurses expressed concerns over noise levels, distractions, exposure, and errors in charting due to interruptions. This coincides with research literature revealing that nurses passing medications are less distracted and more focused when interruptions are limited (Pape, 2003; Williams et al., 2014). Reducing noise can reduce errors and stress (Chaudhury et al., 2009) and increase concentration and performance (Oseland & Hodsman, 2015). Nurses in this discussion voiced preferences for more secluded charting spaces with reduced noise levels such as pods, yet appreciated the value of having fellow nurses and staff readily available. This is consistent with Chaudhury et al. (2009) in which nurses preferred reduced noise levels but valued staff communication.

To accomplish their charting tasks, the nurses reported staying past their scheduled shifts. This parallels the research of Haapakangas et al. (2008) who found working overtime to be a behavior modification to cope with noise. Charting errors, such as charting on the incorrect patient, due to surrounding conversations and interruptions were disclosed by the nurses. This is in line with Gillie and Broadbent's 1989 study

which found that dealing with interruptions which are similar to the task at hand and demand prompt attention are disruptive.

A phenomenon that presented in this study, that was not evident in the literature review, was the responsibility nurses place on administration to provide an accommodating documentation space. Comments were made comparing the private charting spaces of the physicians to the exposed nurses' documentation spaces. The nurses were aware of the differences in provisions and expressed resentment that their charting was considered less important than that of the physicians.

Application to Theoretical/Conceptual Framework

Ray's Theory of Bureaucratic Caring considers multiple aspects of caring, extending beyond the nurse-patient bedside interaction. Ray recognizes the impact of political, economic, legal, technological, and other factors on caring. This holistic approach to caring addresses the connection between spiritual-ethical caring and the bureaucracy of the healthcare organization (Turkel, 2007).

In examining the environment in which nurses chart, nurse leaders would be wise to consider the concepts of Ray's theory. Are nurses' needs served? Is the charting area as distraction-free and stress-free as possible? Does the charting space indicate that nursing is valued? Is accuracy enhanced in the existing documentation area? Concepts from Ray's theory and how they align with participants' thoughts are indicated below.

Charting spaces:

- Are stressful - Physical
- Are error prone - Legal

- Do not meet nurses' needs and, consequently, nurses may not meet patients' needs - Caring
- Do not indicate nursing is valued - Political
- Allow for collaboration with other staff - Social-Cultural
- Do not include the resources for charting efficiency - Economic

The final concept relevant to this study is spiritual-ethical: how facilitation of choices for the good of others should be accomplished. The nurses in this study recognize their value to patients. Does administration perceive their value or are nurses simply a means to an end?

Using Ray's theory as a guide to providing high quality patient care, it would behoove nursing leaders to provide for the needs of nurses with respect to charting. It is doubtful that stressed and unfocused nurses can provide the desired level of care, and consequential errors from charting interruptions might negatively affect the patient's plan of care.

Limitations

This study was based on one focus group discussion with seven participants in an eastern NC county. Broader studies involving larger sample sizes and an expanded geographic area could better determine how widespread the problem of charting distractions is. Furthermore, just as quantitative studies have unveiled astounding numbers of deaths due to preventable medication errors, so might they provide concrete data on the actual numbers, types, lengths, and outcomes of distractions.

Implications for Nursing

Much attention has centered on providing a distraction-free environment for collecting and administering medication. Yet, it is often in a similar, if not the same, environment that nurses document assessments and findings. Considering how much is riding on accurate documentation, it is puzzling that so little attention has been paid to the charting environment. Designing and altering the care plans for patients is often based on documentation. With electronic charting now the norm, providers can peruse charts remotely, limiting the interaction with nurses. Dietitians rely on charting to determine eating percentages and habits of patients, discharge planners evaluate patients' activity levels, and plan post-hospital care around documented findings, and physicians order medications based on charted vital signs.

It might be a challenge to satisfy nurses' desire to collaborate with other nurses and the need to provide a quiet charting atmosphere. Altering the traditional nursing station design will require support from administration and could be costly. Nursing leadership has recognized that alternatives to the traditional nursing station for charting might be in order. Nurses reported charting in patient rooms, pods, and with the use of computers on wheels, hallways. While these spaces might be quieter than the open nursing station, they are not free from distraction. A patient may be watching television or conversing with visitors. Passersby in the hallway can be distracting and both situations open the nurse and facility to HIPAA violation vulnerability.

Administration needs to look at caring from an organizational view point. In business, a positive link has been identified between employee satisfaction and firm value based on stock market performance (Edmans, 2016). With reimbursement by Centers for

Medicare and Medicaid based, in part, on patient satisfaction ratings, hospitals might consider this relationship when providing for nurses' needs (U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services, 2018). Furnishing nurses with an appropriate charting space, as distraction-free and stress-free as possible, might not only reduce errors, but lead to increased employee satisfaction and enhance the bottom line. Extended length of hospital stay due to inappropriate care might be a relatively mild negative consequence of charting delinquencies. Poor patient outcomes, revocation of nursing licenses, and costly lawsuits are the more serious and potentially devastating repercussions

Recommendations

While nurses' reactions to distractions may seem complacent (Potter et al., 2005), nurse leaders need to realize the potential costs associated with erroneous charting. Future studies to better quantify the cost of charting omissions and inaccuracies are warranted. In addition to considering actual numbers of distractions and errors, time lost due to interruptions, as well as, the effects of interruptions on nurses should be examined. With nurses reporting lower quality of care and increased job dissatisfaction with 12 hour shifts (Merrifield, 2017), working beyond the scheduled shift to complete or correct charting, results in not only overtime costs, but potentially increased burn out. Moreover, the literature revealed that working in noisy environments increases stress (Chaudhury et al., 2009; Haapakangas et al., 2008) and nursing stations are inherently loud (Peterson, 2000). With nurse turnover rates as high as 27% in the United States (Halter et al., 2017), providing an amiable charting environment might make a difference in retaining nurses.

Conclusion

The literature addresses the effects of noisy work environments, open work spaces, and interruptions to nurses while attempting to administer medications. The many forces begging for the nurse's attention simultaneously are also recognized. This study revealed that nurses consider their charting environment to be incompatible with timely, accurate, and stress-free charting. Nurses often chart in noisy, exposed areas subject to many interruptions. While human voices have been found to be most distracting (Haapakangas et al., 2008; Pan & Cheung Chan, 2007), telephones, alarms, and call bells can interrupt as well (Chaudhury et al., 2009). Increased noise levels and interruptions can lead to increased stress (Chaudhury et al., 2009; Haapakangas et al., 2008).

Ray understood, in the development of the Theory of Bureaucratic Caring, that caring goes beyond bedside nursing and incorporates the entire organization. In the business of healthcare, one must protect assets just like any business. Stressed and fatigued nurses cannot provide the best patient care. Administration needs to recognize that providing for patients means providing for staff, as well. As Catherine Leary advised nurse leaders, the primary goal is to take care of the patient; the money will follow (Dunham-Taylor & Pinczuk, 2015, p.4).

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