CREATING A PROTECTIVE PICTURE: A GROUNDED THEORY OF HOW

MEDICAL-SURGICAL NURSES DECIDE TO FOLLOW

A "CHARTING-BY-EXCEPTION" POLICY ON

A DAY-TO-DAY, PATIENT-BY-PATIENT BASIS

by

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A Dissertation submitted to the

Graduate School – Newark

Rutgers, The State University of New Jersey

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Graduate Program in Nursing

written under the direction of

Elise L. Lev

and approved by

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Newark, New Jersey

May 2011

ABSTRACT OF THE DISSERTATION

Creating a Protective Picture: A Grounded Theory of How

Medical-Surgical Nurses Decide to Follow

A "Charting-by-Exception" Policy On

A Day-to-Day, Patient-by-Patient Basis

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Rationale for the study: The philosophy behind the Charting-by-Exception (CBE) method of documentation remains a source of professional concern almost 30 years after its introduction. The literature lacks both qualitative and quantitative studies that address either staff nurse views of CBE, or the use of CBE data for clinical decision-making. **Method:** Classic Grounded Theory was used to explore the process Medical-Surgical nurses use in deciding whether to follow a CBE policy on a day-to-day, patient-by-patient basis. Approval of the Academy of Medical-Surgical Nurses (AMSN) Research Committee and the IRB at Rutgers University was obtained before the research began. Sixteen participants, recruited from the membership of AMSN were interviewed over the phone about their perspectives and experiences in using CBE to document clinical data. All participants were Registered nurses, worked as a staff nurse on an acute care, medical-surgical unit and used CBE. All interviews were recorded and transcribed verbatim. These data were managed using Atlas.ti and analyzed

using the constant comparative method as described by Glaser. **Results:** The theory which emerged from the data is a three-step process which includes Coming to Terms with the Method, Being Responsible in Documentation and Creating a Protective Picture. Creating a Protective Picture is the Core category which explains how the participants resolved their main concern; Create documentation they believed would be protective of their patients, themselves and/or their employers. **Conclusion:** The findings provide insight into what nurses consider responsible documentation practices and the decision-making process they use when documenting under a CBE policy with an exception-based electronic documentation system. Although documentation has historically been viewed by nurses as a task that takes time away from more important duties, the documentation choices made by each of the participants in this study demonstrated a) many of the reasons why nurses value taking time to record data with more detail than possible when following CBE policy and b) the value participants placed on the contribution nursing documentation makes to the provision of quality patient care.

Acknowledgement and Dedication

I am very grateful for the support and encouragement provided by my sister

Anne, my husband, Stephen and our children; Andrew, Jennifer, Matthew and

Trevor.   I'm thankful for collegial discussions throughout the research process

with my Grounded Theory peers, Annemarie Dowling-Castronovo & Ellen

Shannon. Last, but not least, I would like to acknowledge the counsel, guidance

and mentorship of my Committee Chair, Dr. Elise Lev and my Committee

members, Dr. Jeanne Ruggiero, Dr. Karen D'Alonzo and Dr. Susan Kossman.

This work is dedicated posthumously to my Mom and Dad…

You taught me to dream big and work hard to do my best.

You demonstrated your belief in my strengths,

even when I struggled to see them in myself.

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CHAPTER I

Introduction and Theoretical Perspective

Concern to Be Addressed

Nurses regard documentation as a task that must comply to standards, that takes time away from direct patient care (Junttila, Salantera, & Hupli, 2005; Keller, McDermott, & Alt-White, 1991) and as a part of the profession that must be endured (Morrison, 2010). Yet, in a review of literature completed to assess the effects of nursing record systems on nursing practice and patient outcomes, Urquhart, Currell, Grant and Hardiker (2009) stated that the number of studies that have explored the influence of nursing documentation on patient care and outcomes, indicate that nurses believe their clinical practice is linked to the record beyond its use as a note-keeping tool. Thus far, empiric studies have not been able to demonstrate a relationship between the quality and type of nursing documentation, and its effect on clinical practice and patient outcomes; studies have been hampered by poor methodological quality, small sample size and lack of rigorous control (Urquhart, et al., 2009).

Nursing students learn that the medical record serves as a legal record of the clients healthcare experience and that the written medical record serves multiple purposes including: communication between health professionals about the clients status and care, education, legal documentation, quality assurance, reimbursement and research (Parker, Wells, Buchanan, & Benjamin, 1994; Wilkinson & Van Leuven, 2007). There have been many

attempts made in the last few decades to facilitate the task of nursing

documentation, which has historically been seen as onerous and time

consuming (Carroll-Johnson, 2008; Keller, et al., 1991; Taylor, 2003).

Descriptions of several of the different methods of nursing documentation that

have been developed are summarized in Table 1 (see Appendix A).

As the importance of good information for effective nursing practices

was recognized, those in nursing, informatics, and business began to invest

considerable resources in the development of computerized nursing

information systems (Urquhart, et al., 2009). The need for collectable nursing

data that can be easily compared has become accepted as a means for

increasing the visibility of the profession of nursing and its impact on

healthcare (Junttila, et al., 2005). Implementation, integration and use of the

electronic health record (EHR) became a major focus across the continuum of

health care settings within the United States after an executive order signed by

President Bush resulted in a series of actions to advance efforts in providing a

majority of Americans with access to EHR's by 2014 (Bush, 2004). The force

of this executive order was expanded through recent legislation signed by the

current President, Barack Obama. The Health Information Technology for

Economic and Clinical Health (HITECH) Act that lies within the American

Recovery and Reinvestment Act (ARRA) of 2009 allocated considerable funds

for the use and exchange of nationwide health information (Cassidy, King, &

Wheatley, 2010). The HITECH Act established programs under Medicare and

Medicaid to provide incentive payments for the "meaningful use" of certified

EHR technology (Centers for Medicare and Medicaid Services, 2010) and calls for eligible professionals and hospitals to meet over 20 requirements for implementation and "meaningful use" of EHR's. The final definitions for the objectives of "meaningful use" that must be met were announced in July 2010 (U.S. Department of Health & Human Services, 2010). Adoption of EHR technologies is widely encouraged because both the implementation and use of these technologies have demonstrated the ability to facilitate quality improvement in the management of care for the chronically ill, achieve significant error reduction in documentation, and support evidence-based clinical decision-making, in addition to easing the management of complex health information (Institute of Medicine, 2001).

The push for implementation of the EHR has been accompanied by research that looks at staff and organizational issues associated with EHR use, and user acceptance of these systems. According to a model developed by Dillon, Blankenship and Crews (2005), acceptance was influenced by the graphic display of the system, and the demographic characteristics of users. This model predicted 44% of the general attitude of nurse respondents toward a newly implemented EHR. A major finding of this study was that nurses have positive attitudes toward EHR's, and want the system to be well-designed to support patient care. These researchers also found that nurses have real concerns about the inherent risks of using an EHR, and are worried that using the system might remove the human component of what they do. According to the authors, these concerns represent a healthy concern that hospital and

healthcare administrators should acknowledge and consider during implementation.

The trend toward use of EHR has been accompanied with the perception that many institutions are using exception-based documentation systems (Castner, 1998; Taylor, Lillis, LeMone, & Lynn, 2008). Several electronic nursing documentation platforms available today employ exception-based formats (Eclipsis: The Outcomes Company, 2008; Epicsystems, 2008; ERGO Partners Healthcare Solutions, 2008; McKesson, 2008; MEDITECH: Health Information Management, 2008). One website contains a claim that exception-based documentation technology can reduce documentation time by up to 50% (M2 Informations Systems Inc., 2008). The Institute of Medicine (1997) recognized identification and understanding of design requirements as one of eight critical activities to advance development and adoption of the EHR. Literature identifying a specific exception-based nursing documentation system, such as charting-by-exception, as a design requirement for a successful EHR has not been identified.

The documentation method of charting-by-exception (CBE) was introduced almost 30 years ago. It was designed as a cost-effective means to reduce documentation time so that nurses would have more time for direct patient care (Burke & Murphy, 1988; Murphy, Beglinger, & Johnson, 1988). CBE was initially conceived as a paper-based system (Burke & Murphy, 1988, 1995; Murphy, et al., 1988; Murphy & Burke, 1990). In 1991, one author predicted CBE would become a popular method of nursing documentation

(Iyer, 1991) and in 1992, there were 33 organizations throughout the United States and within two Canadian provinces using paper-based, CBE systems (Burke & Murphy, 1995). Current prevalence of the use of CBE across the United States or internationally is not known, although there is a perception that use of CBE is widespread (Noone, 2000; Shorr, 2000).

The original proponents of CBE anticipated that its use would enable nurses to have more time at the bedside, citing a 23% reduction in documentation time (Murphy, et al., 1988; Murphy & Burke, 1990). This proposition has not been entirely supported by empirical evidence. A study using a modified one group, pretest-posttest design with an independent observer to measure nursing time spent charting and providing direct patient care before and after implementation of CBE (Menke, Broner, Campbell, McKissick, & Edwards-Beckett, 2001), found no significant difference in nursing time spent on documentation, or devoted to direct patient care between the pre-implementation and post-implementation phases of the study.

The method of CBE was a radical departure from traditional documentation systems (Springhouse, 2007). Its use persists despite issues such as nurses on-going concerns about the philosophy, legal protection of the method (Davino, 2000; Frank-Stromberg, Christensen, & Elmhurst, 2001a, 2001b; Guido, 2006; Habel, 2003; Murphy, 2003; Simpson-Brooke, 2004), contradictory advice regarding the need to adhere to CBE documentation policies (Austin, 2006; Burke & Murphy, 2000; Chow, 2003; Clavreul, 2005; Geller, 2007; Guido, 2006; Habel, 2003; Michael, 2003; Smith, 2002), and

emerging concern about the potential impact use of CBE may have on clinical decision-making (Clavreul, 2005; Frank-Stromberg, et al., 2001a, 2001b; Green & Thomas, 2008; Guido, 2006; Jacobson, 2000; Kossman & Scheidenhelm, 2008; Murphy, 2003; Nissan, Cohen, Graham, & FitzGerald, 2000; Taylor, 2000).

Support for CBE as a Documentation Method

The existing literature focuses on nursing-management support for the use of CBE, rather than staff nurse perceptions and opinions about the method (Allen & Englebright, 2000; Clavreul, 2005; Noone, 2000). For example, nurse executives at an integrated health network valued creation of a computer-based CBE system with digital templates for patient assessments, because it enabled nurses working in inpatient, ambulatory and home care settings to chart by exception, review what previous nurses had entered, quickly update data as needed and move on to other activities (Kirkley & Rewick, 2003).

Support for use of CBE by nurses providing direct care was demonstrated by Rydholm et al. (2008), who used both quantitative and qualitative strategies to discern the nature and impact of faith-community nurse interventions on community-dwelling elders. The goal of the project was to obtain 1000 case notes regarding the faith-community nurses' most significant contacts with elders. Data was collected using the DIARY (Data, Interpretation, Action, Response and Yield) charting process, a format derived from the FOCUS (Data, Action and Response) charting system. Participants

(n = 75) were given the option of submitting their DIARY notes in narrative

format or through use of the DIARY tool; four forms that allowed

documentation of symptoms warranting immediate attention and reasons for

symptom disregard, matters of self-care, functional concerns, and

psychosocial/spiritual concerns in CBE format. The authors reported the

majority of the participants favored CBE; two-thirds of the 1,061 notes

received were submitted through use of the DIARY tool.

CBE has been described as a viable option for documentation that may

be difficult to implement due to the paradigm shift needed for staff to accept

the documentation philosophy behind the method, as well as staff concerns

about whether the use of CBE will protect them legally (Chow, 2003; Clavreul,

2005; Murphy, 2003). The perception that it takes a long time for a staff to

accept CBE and correctly use the system persists in the literature. Some have

commented that the potential decrease in documentation time is balanced by

the significant implementation time needed to develop the forms, flow sheets,

policies, and written standards of care that must be in place in order for the

method to function as intended (Clavreul, 2005; Craven & Hirnle, 2009; Guido,

2006).

Concerns Regarding CBE as a Documentation Method

Traditional (narrative) documentation methods are based on the

philosophy of "if it isn't documented, it hasn't been done" (Murphy & Burke,

1990, p. 68). CBE is non-traditional in that the method only requires

documentation of significant patient findings or "exceptions to the norm" after

an initial baseline assessment (Burke & Murphy, 1988; Murphy, et al., 1988; Murphy & Burke, 1990; Wilkinson & Van Leuven, 2007). According to several authors (Merkley & Nelson, 1995; Murphy, 2003; Simpson-Brooke, 2004), the heart of the controversy surrounding this approach to documentation is that the philosophy of CBE is based on the understanding and belief that "all standards of care have been met with a normal or expected response unless documented otherwise" (Murphy & Burke, 1990, p. 68). This presents a problem because the adage, "if it wasn't charted, it wasn't done" remains the prevailing attitude where legal matters are concerned (Habel, 2003; Smith, Duell, & Martin, 2008). Several authors (Murphy, 2003; Simpson-Brooke, 2004) express the opinion that nurses' use of narrative notes when documenting by exception reflects their concern about not charting normal findings without sharing empirical data to back up their statements.

Legal Concerns about CBE

Legal experts continue to affirm that staff nurses' concerns about the legal protection afforded to those utilizing CBE is warranted (Guido, 2006; Murphy, 2003). Additionally, others state that nurses working in a facility that uses CBE need to take extra precautions due to the risks involved with abbreviated documentation (Habel, 2003). Others maintain concern that the use of the method may show gaps in the provision of routine care that might be used to support the case for negligence (Frank-Stromberg, et al., 2001a, 2001b). To be effective, CBE must be used properly with adherence to associated standards, protocols, guidelines, and forms (Maxwell, 2009;

Springhouse, 2007). Burke and Murphy (2000) and others (Aiken, 2004;

Clavreul, 2005; Noey & Seng, 2002) continue to recommend that nurses using

CBE receive regular, on-going education and that quality assurance efforts to

assure correct use of the method are employed.

Adherence to CBE Documentation Policies

Those addressing general legal concerns about documentation and

specific legal concerns about CBE advise that nurses consistently follow their

employers documentation policies and procedures for their own legal

protection and that of their employers (Chow, 2003; Clavreul, 2005; Guido,

2006; Habel, 2003; Michael, 2003). Others explicitly state that nurses put their

facilities at risk when they choose to chart normal findings if their hospital

documentation policy is CBE (Austin, 2006; Clavreul, 2005). However, other

authors contradict these opinions, stating that nurses should write their

findings in narrative form if they do not think the CBE documentation gives a

clear, accurate description of the patient's condition (Smith, 2002), and that

there is nothing prohibiting documentation of normal findings that an individual

nurse feels is relevant in addition to CBE data (Geller, 2007).

Potential Impact of CBE on Clinical Decision-Making

There is emerging concern that use of CBE may have a potentially

negative impact on clinical decision-making and patient care. Some believe

that use of CBE may obscure evidence of nurses' attentiveness to individual

patient needs (Guido, 2006; Murphy, 2003) and that CBE does not provide a

thorough picture of clients developing conditions or reflect communication

among members of the healthcare team (Maxwell, 2009). One author recently

reflected that the interpersonal exchanges making up the psychosocial care

considered a fundamental part of nursing practice are rarely documented

(Carroll-Johnson, 2008). The potential consequences of a "minimalist mind-

set" to documentation are that staff might become so accustomed to not

charting that it leads to the omission of important or critical data (Clavreul,

2005).

Nurse participants' in a qualitative exploration of the impact of EHR use

on work and patient outcomes by Kossman and Scheidenhelm (2008), stated

that heavy reliance on checkboxes, drop-down menu selections and cut-and-

paste features in the electronic nursing documentation format might limit

critical thinking and charting accuracy. These participants' stated that they

were not likely to use the free text summary notes provided with the system

due to the increased time required for this activity. A quote from a staff nurse

included by the authors aptly illustrates the dilemma:

> *You get very lazy in your charting and documenting properly the way*
> *you see it. Take a surgical patient. You're viewing the incisional area.*
> *Here you'll have a checkbox. Is [the incision] pink all the way down?*
> *And the patient may have not just staples, they may have retention*
> *sutures. There's nothing in there for retention sutures. So do you think*
> *I'm going to say anything about them? Probably not… it's not one of the*
> *things you can click on (p. 74)*

Similar concern was raised by physicians who embraced CBE for its

capability to save time and effort in documentation, but felt that the "passive

nature of this charting system" may result in clinicians overlooking important care points (Nissan, et al., 2000, p. 242).

Concern about the impact that CBE may have on clinical decision-making is further reflected by those who believe medical records may not contain enough detail to facilitate critical thinking and decision-making in complex cases where subtle changes could be overlooked (Frank-Stromberg, et al., 2001a, 2001b; Jacobson, 2000). There is also concern that the use of CBE based on knowledge of clinical guidelines or critical pathways may present a problem to the "junior" nurse who may not have developed the critical thinking skills needed to differentiate the variations of "normal" courses of illnesses or diseases (Taylor, 2000).

It is important to acknowledge the potential impact of these concerns on the delivery of patient care and the care ultimately experienced by individual patients. Shorr (2000) observed that "the practice of CBE has been adopted by a number of hospitals and is being rationalized as expeditious, reflective of manpower productivity gains" (p. 91), but that CBE often results in incomplete, inaccurate, and misleading records that do not fulfill the purposes of documentation. Parker, Wells, Buchanan, and Benjamin (1994) shared concern that in some hospitals, a cavalier attitude toward charting may have been the consequence of efforts in some hospitals to address staff nurse concerns that documentation takes time away from patient care. Regarding the impact of the nursing record on the delivery of patient care, Taylor (2003) specifically states that what a nurse

write[s] or neglects to write about a patient might have a profound effect on the care the patient receives. Nurse records may also influence the practice of other professionals. Information that is not readily available in written format may not be available to other professionals care for the patient either at the time or at some stage in the future (p. 758).

Documentation should not be viewed as a distraction from patient care but rather should be valued for the contemporaneous record it provides of patients' treatment, their response, and the impact of this information on clinical decision-making (McGeehan, 2007). Although documentation can be time-consuming and laborious, Carroll-Johnson (2008) points out that it provides a concrete display that fosters recognition of nurses' work. She also suggests that nursing consciousness around the issue of documentation needs to be raised so that the contribution that good documentation brings to the clinical table can be recognized. This would allow the evaluation of nursing intervention and with it, sound, evidence-based practice.

Phenomenon of Concern

The phenomenon of interest for this research is the decision-making process nurses use in deciding what is important to include or not include about their patients in nursing documentation. The specific aim of this research will be to explore the decision-making of medical-surgical nurses who use CBE as their method of documentation. Few studies address either staff nurse views of CBE, or the utilization of data documented through CBE for clinical decision-making.

Purpose of Research

The assumption that nurses trust their employers' choice of documentation system and comply with these policies and guidelines is not always true (Murphy, 2003; Simpson-Brooke, 2004). There are two reasons why nurses working for employers choosing to implement CBE are faced with a situational dilemma: a) CBE calls for documentation of clinical data in a way that may differ from the way in which nurses are educated and b) the philosophy of CBE may differ from a nurse's personal or professional ethics and values for documentation.

The purpose of this research is to conduct a qualitative study that will examine narratives to reveal the decision-making process medical-surgical nurses use in determining whether to follow a CBE documentation policy on a day-to-day, patient-by-patient basis. The perspectives of medical-surgical nurses will be sought because the use of CBE in paper-based format was first piloted in medical-surgical settings and then later adapted to specialty areas (Burke & Murphy, 1988). Again, when use of CBE was first implemented for computerized documentation, it was first piloted on a general medical unit (Burke & Murphy, 1995).

Foundational Assumptions

Nurses have both positive and negative views about documenting the care they provide (Urquhart, et al., 2009). For many reasons, nurses do not always trust their employer's choice to use CBE documentation systems or follow these policies and guidelines (Murphy, 2003; Simpson-Brooke, 2004).

Use of CBE calls for documentation of clinical data in a way that may differ with the way they were taught in nursing school or with their personal professional or ethical values for documentation. Nurses who use CBE to document the care they provide must evaluate whether to adhere to the policy on a day-to-day and patient-by-patient basis. Current literature, however, does not report on the use of CBE from nurses' perspectives.

In summary, current literature suggests that there may be a situational dilemma faced by nurses who work in facilities where CBE is used. Nurses are expected to trust their employers' choice of documentation system and adhere to processes of documenting clinical data ways that may differ from what they were taught in their nursing programs or from their personal, professional, and/or ethical values.

Research Question

The research question that this study aims to consider is: What is the process used by medical-surgical nurses who are required to use the documentation method of CBE to make decisions about when to follow the policy on a day-to-day and patient-by-patient basis?

Significance

There are several reasons why a qualitative study that explores the decision-making process of nurses who use the CBE documentation method is important. Most importantly, the perspectives of the staff nurses who use CBE are not understood. Secondly, concurrent with the push for EHR implementation, there is an emerging concern that regards the potential

impact of an exception-based charting system on clinical decision-making

(Carroll-Johnson, 2008; Clavreul, 2005; Frank-Stromberg, et al., 2001a,

2001b; Guido, 2006; Jacobson, 2000; Kossman & Scheidenhelm, 2008;

Murphy, 2003; Nissan, et al., 2000; Taylor, 2000), and on the delivery of

patient care (Shorr, 2000; Taylor, 2003).

Taylor (2000) discusses a two-fold concern that regards the potential

impact of CBE on clinical decision-making. First, if an employer believes they

are exempt from the obligation to train staff on how to use CBE systems, skips

over facility specific definitions, and merely implements a written policy of

CBE, nurses may lack a common understanding of the process that is to be

used when identifying exceptions or documenting variances. Second, Taylor

(2000) questions whether the medical record can contain consistently relevant

information for the care and evaluation of each patient when CBE is used by

nurses with varying levels of experience and knowledge.

Nissan and associates (2000) describe concern that the passive nature

of the CBE documentation method may result in important care points being

overlooked. When the principles of CBE were built into a computer-based

inpatient medical record, designed for documentation of care for patients with

four colorectal surgery diagnosis-related groups, Nissan and associates

(2000) reported that the use of computerized care maps along with on-line

decision support assisted junior residents and nurses with clinical decision-

making. However, the hospital's main insurance provider did not accept the

exception-based charting system which it considered "perfunctory" (Nissan, et al., 2000, p. 246).

The philosophy behind the CBE method of documentation remains a source of professional concern almost 30 years after its introduction (Murphy, 2003), and the literature lacks both qualitative and quantitative studies that address either staff nurse views of CBE, or the utilization of data documented through CBE for clinical decision-making. Although legal experts continue to emphasize the importance of adherence to CBE policy for staff nurse and employer protection (Chow, 2003; Clavreul, 2005; Guido, 2006; Habel, 2003; Michael, 2003), staff nurses' concerns about and resistance to the method continues to be demonstrated by narrative documentation of normal findings (Murphy, 2003; Simpson-Brooke, 2004), and duplicate documentation (Frank-Stromberg, et al., 2001a). This study may help to inform the nursing profession regarding the debate on the need for adherence to CBE documentation policies.

Urquhart and associates (2009) suggest there is a need for research that expands the understanding of nursing practice through the exploration of the relationship between clinical practice and nurses' understanding of such, through their written expression of the information they use. These authors go on to recommend that more qualitative inquiry is required before more focused trials can be undertaken, and they assert that as the purposes of the nursing record are fully understood, questions can be framed to facilitate research designed to study the use of evidence-based systems (Urquhart, et al., 2009).

Given the length of time that has been devoted to debating the merits of CBE in the literature, it is important to fill the gap that exists regarding the perspective of the staff nurse who uses CBE for clinical documentation.

Qualitative inquiry exploring the decision-making process used by nurses when documenting by exception may add to the knowledge and understanding of infrastructure needed to support EHR development and diffusion (Institute of Medicine: Committee on Improving the Patient Record, 1997). Insight into the perspective of nurses who use CBE may reveal why there is emerging concern about its potentially negative effects on patient care and decision-making. This knowledge may also further additional research that could provide evidence that determines whether the use of CBE should be continued.

Summary

Despite having been introduced as an innovative approach to documentation, there are still professional and legal concerns about CBE more than two decades after its introduction. This study will explore the perspective of medical-surgical staff nurses who use CBE. Revealing the decision-making process that nurses use to select information they deem important for documenting nursing practice and supporting patient care and clinical decision-making may illuminate some of the reasons for resistance to the method of CBE. The findings of this study may also increase understanding of how nurses' time is used for the purpose of record keeping and help in furthering research that may explain its impact on the delivery of

patient care. This information may be useful for those who design nursing

record keeping systems and for those in positions to allocate resources for the

purchase and implementation of nursing information systems.

CHAPTER II

Review of the Literature

Purpose of Literature Review in Qualitative Research

Perspectives regarding the purpose of literature review in qualitative inquiry are varied. There is the general belief that researchers should be aware of all available literature, but set this information aside while conducting research in order to avoid deducing conclusions or bias analysis (Denzin & Lincoln, 2003). Brief and focused literature review can be used to demonstrate that little or no work has been done on the group, process or activity in question and that an open-ended, exploratory approach is justified (Stebbins, 2001). Knowledge of the literature can assist in the development of the initial questions for a qualitative study (Morse & Field, 1995).

Sandelowski and Barroso (2002) acknowledge literature review can reflect one, or a combination of logics on the part of the qualitative researcher: first, a deficit/gap logic emphasizing what is not known, pointing to the purpose of offsetting the knowledge deficit, second, an error logic emphasizing what is mistaken about current knowledge, pointing to the purpose of correction, third, a contradiction logic emphasizing inconsistencies in knowledge, pointing to the purpose of resolution and fourth, a synthesis logic emphasizing the commonalities between two or more bodies of literature, pointing to the purpose of illumination of the overlap (Sandelowski & Barroso, 2002).

Related to the grounded theory (GT) method, some authors view literature review as a source for identification of problems amenable to

qualitative inquiry (Corbin & Strauss, 2008). Glaser (1992, 1998) however, has other opinions regarding use of literature review in the conduction of a GT study. Glaser (1992) believes that review of literature in unrelated fields in the early stages of research can heighten a researcher's theoretical sensitivity to conceptualization of data and theoretical codes, in addition to stimulating theoretical sampling. Because the purpose of using GT is to generate categories, categorical properties, and theoretical codes that truly fit the data, Glaser (1992) states that review of related literature is appropriate only in the later stages of research, when the theory is sufficiently grounded in the core variable and integration of the categories, and their properties are emergent (Glaser, 1992). In GT, pre-research review of the literature should be avoided when possible (Glaser, 1998, p. 73). When pre-research literature review is required for a PhD dissertation or grant application, Glaser (1998, p. 72) recommends that the researcher submit to the process with the attitude that all that need be reviewed is more data for constant comparison. This literature review is completed according to the perspectives outlined by Glaser as discussed above.

Search Strategy and Available Literature

Searches of the ProQuest Dissertations and Theses database and the internet yielded two masters' theses which discussed CBE. Wills (1998) used a descriptive, non-experimental design to explore perceptions of the problem of incomplete documentation in a sample of 35 labor and delivery nurses working in one medical center in the Pacific Northwest. Subjects completed

and returned a 65-item survey developed by the author. Face validity of the survey instrument was established through use of an expert panel comprised of five graduate-prepared RNs with experience in research. The feminist perspective formed the basis for data analysis, which included calculation of means, frequencies, and frequency distributions for each item. In this study, 71% of the respondents believed much of nursing care is never recorded in the chart.   The researcher attempted to ascertain subjects' beliefs about possible solutions to the problem of incomplete documentation. Subjects were asked to rate a list of proposed solutions using a Likert-type scale of one to five (1 = the best, 5 = the worst). The top three ranked solutions and the worst five solutions were reported, but the entire list of suggested solutions was not included in the report. CBE was among the top three solutions (#2, n = 13) that received a rating of one.

The purpose of a paper by Aranzamendez (2004) was to review published evidence of CBE and evaluate whether use of the method delivers the outcomes it is said to offer. This author concluded that institutions choosing to implement CBE have consistently reported positive results and that their goals of documentation redesign were met, if not exceeded. While 36 sources addressing CBE and clinical pathways were reviewed, the author provided no critical analysis of the methodologies or appropriateness of data analysis used in any of the sources (Aranzamendez, 2004).

The body of empiric research literature available on CBE is very small. Search of MEDLINE, CINAHL, health, social/behavioral science and

science/technology databases for literature on CBE from 1983 through 2010 was conducted using the terms: "charting by exception" and "variance charting." Ancestry review was used to identify additional potential sources. A total of 76 sources, published in English and retrievable electronically or through bookstores, were selected for review. The sample is categorized by type, primary author affiliation, and country in Table 2 (see Appendix B). These documents included journal articles, books, editorials, letters, legal opinions, two Cochrane reviews, five empiric research studies and three qualitative studies. Most of these sources were authored by nurses in management, hospital education, informatics or legal roles, and consist of narrative reports, not empiric research.

The content of twenty-seven documents focused on descriptions of CBE implementation in a given setting or facility. The twenty-eighth, and most recent article of the type, addressed one hospital's decision to move away from using a paper-based CBE system to the use of an inclusive method of documentation when implementing an EHR. Although the nursing staff of this hospital perceived an increase in time required to document thoroughly, the advantages of using an inclusive system in which both positive and negative findings are documented included a more legible and thorough patient record (Lyden, 2008). The content of 25 documents centered on legal opinion. Remaining sources included eight editorials and four books. Two articles authored by staff nurses described implementation of CBE in perioperative settings, but neither included any discussion of staff nurse opinion or

perceptions of the method (Boike, Canala, Kozminski, & Wynd, 1995; Mesmer, 1997).

Only six reports of empiric research studies involving CBE were identified (Blachly & Young, 1998; Green & Thomas, 2008; Menke, et al., 2001; Nissan, et al., 2000; Parker, et al., 1994; Short, 1997). These sources will be discussed in detail later. No source focused primarily on the opinions, perspectives, feelings or concerns of staff nurses using CBE and none of the sources reflected an examination of in-depth decision-making from the perspective of nurses who use CBE on a day-to-day basis. To this end, the literature review reflects what is understood as historic support for CBE, illustrates areas of concern about the method and aids in identification of areas for research.

Historical Support for CBE as a Documentation Method

The method of CBE was introduced in 1983, as a cost-effective means to reduce nursing documentation time to allow nurses more time for direct patient care, decrease overtime and have a positive effect on productivity and staffing (Burke & Murphy, 1988; Murphy, et al., 1988; Murphy & Burke, 1990). Perceptions of CBE's intended purposes have evolved over time in research literature. In the 1980s, the method gained popularity as a mechanism to reduce length and time of charting and make it easier to note abnormal findings (Murphy & Burke, 1990). In the 1990s, use of CBE was promoted as a more efficient use of a nurse's time (Murphy, 2003). The early 2000s brought emergence of the perception that CBE was developed to

decrease end-of shift report time (Aiken, 2004) and to decrease the appearance of nursing negligence in cases of omission errors (Frank-Stromberg, et al., 2001a).

Historic measures of success related to implementation and use of CBE have included reduction of the cost of printing forms (Cummins & Hill, 1999), decreased time required for documentation (Ashworth & Aubrey, 1992; Burke & Murphy, 1988, 1995; Cummins & Hill, 1999; Murphy, et al., 1988; Murphy & Burke, 1990; Parker, 1997; Scoates, Fishman, & McAdam, 1996; Short, 1997) and the perception that use of CBE allows nurses more time for direct patient care (Burke & Murphy, 1988, 1995; Murphy, et al., 1988; Murphy & Burke, 1990). Increased compliance with regulatory requirements for documentation was observed when CBE was utilized in an early computer-based documentation system (Scoates, et al., 1996), which used CBE-facilitated recognition and reporting of complications and outcome variances (Castner, 1998; Murphy & Burke, 1990; Short, 1997). It is difficult to assess the quality of the aforementioned sources because of their variation in methodological quality; the studies include report of the reductions achieved without discussing or describing the methods for data collection or analysis of these figures.

Pilot Study Results

Results of a CBE pilot study were initially reported in an article by Murphy, Beglinger and Burke (1988) and in a book by Burke and Murphy (1988). According to Murphy and associates (1988), work sampling prior to the

pilot study determined the time spent charting and giving reports. The pilot

study lasted five weeks, during which the unit involved was allowed two weeks

to become comfortable with the method before work sampling was repeated.

It is unclear whether work sampling lasted the remaining three weeks of the

study period. Setting, sample size, data collection tools and method of

statistical analysis are not described; only "averages" are reported. Pre-

implementation, registered nurse (RN) charting time ranged from 10 to 110

minutes (average 44 minutes). Post-implementation, RN charting time ranged

from 10 to 60 minutes (average 25 minutes). This was initially reported as a

44% decrease and clarified as a 43% decrease in a later publication (Burke &

Murphy, 1988). Pre-implementation, licensed practical nurse (LPN) charting

time ranged from 30 to 60 minutes (average 43 minutes). Post-

implementation, LPN charting time was 20 minutes (range not reported) which

was reported as a 53% decrease. Pre-implementation, RN report time

averaged one minute, 45 seconds per patient per shift. Post-implementation,

RN report time averaged one minute per patient per shift; reported as a 40%

decrease, but was actually a decrease of 43%. Average RN direct care time

pre- and post-implementation was not reported. The authors did report an

overall time saving of 100 hours per day, but did not describe the method used

to calculate this. The authors also state that nurses were pleased with the

system but expressed concern about its legality. The methods used to collect

this data and the psychometric properties of the instruments used are not

described (Murphy, et al., 1988).

The details of the pilot study are expanded in the first book written by Burke and Murphy (1988). Here, the authors state the setting of the study was a 44-bed intermediate cardiovascular surgical unit. In this source, the authors indicate that work sampling data used to determine the baseline percentage of nursing time spent charting and in direct patient care prior to implementation was obtained from a secondary source (*Hagerty, BK, Chang, RS, Spengler, CD 1985; Work Sampling: Analyzing nursing staff productivity, Journal of Nursing Administration,15(9): 9 – 14*). They also indicate that work sampling was repeated at the end of the five-week study. This book cites the same figures reported in Murphy and Burke (1988) for RN charting time, pre- and post-implementation of CBE. The book also reports the same figures for pre- and post-implementation LPN chart time and RN report time, although the average decrease in RN report time is correctly reported as 43%. Average RN direct care time pre- and post-implementation were not discussed in this source. A questionnaire was used to determine the attitudes of all health care personnel toward CBE; however, the psychometric properties of this tool were not discussed. The total possible sample size was not reported, however 52 staff members returned questionnaires; 53.9% of the respondents were RN's (n = 28), 17.3% were nursing assistants (n = 9), 11.6% were physician's assistants (n = 6), 9.6% were unit secretaries (n = 5), 3.8% were clinical nurse specialists (n = 2), and 3.8% were physicians (n = 2).

House-wide Implementation Results

According to Murphy et al. (1988), approval for immediate house-wide implementation of CBE was granted after Medical-Dental Staff Committee review of the pilot study results. Approximately 800 RNs, 200 LPNs and 30 nursing assistants needed training on the components of the method (Murphy, et al., 1988). However, the details of the educational content, the length and number of orientation/training sessions provided and the length of time required for house-wide implementation are not provided (Burke & Murphy, 1988; Murphy, et al., 1988).

Results of house-wide implementation of CBE are reported in Burke and Murphy (1988) and Murphy and Burke (1990). The formulas used to calculate RN charting hours, annual charting costs, and charting cost per patient day are provided in the book (Burke & Murphy, 1988), but the methods used to collect the data necessary for these formulas was not described. The timeframe needed in order to implement CBE house-wide (11 patient care units) was not reported. One table indicates that post-implementation data was collected one year after implementation. The methods and instruments used to collect work sampling data post-implementation were not described. Pre-implementation RN chart time averaged 114 minutes (1.9 hours). Post-implementation RN chart time averaged 88 minutes (1.4 hours); reported as an average decrease of 26 minutes or a 23% reduction in average charting time. LPN chart time and RN report time pre and post house-wide implementation were not reported. Pre-implementation RN direct care time

averaged 145 minutes (2.4 hours). Post-implementation RN direct care time

averaged 172 minutes (2.9 hours); reported as an average increase of 27

minutes or a 19% increase of time available for direct patient care. Nurse

satisfaction surveys were made available to 110 staff nurses throughout the

hospital; 97 (88%) were returned. The role of nurses (RN or LPN) who

completed the survey was not reported. An example of the survey instrument

was included, but psychometric properties of the instrument were not reported.

None of the 13 items on the instrument asked about satisfaction directly.

From the survey data, the authors concluded that the staff recognized that the

implementation of CBE resulted in improved attitudes about documentation,

decreased charting time, and an increase in patient care time. Murphy and

Burke (1990) report that an average decrease of 26 minutes in documentation

time (23% decrease) was achieved with the house-wide implementation. No

discussion of the methods used for data collection or analysis was included in

this source.

Impact of CBE on Time for Direct Patient Care

Empiric research validating the perception that use of CBE enables

nurses to have more time at the bedside in direct patient care is lacking.

Menke, Broner, Campbell, McKissick and Edwards-Beckett (2001) used a

modified one group, pretest-posttest design to determine if use of a

computerized documentation system employing CBE, affected the time nurses

spent in direct patient care. In this study, an independent observer measured

nursing time spent charting and providing direct patient care during transition

from a paper-based documentation system to a computerized system with a graphical interface that allowed for point and click data entry, CBE and free-text entry. Data was collected during two three-month periods before implementation and one three-month period after implementation. Review of nursing documentation, pre and post-implementation of the computerized documentation system, showed improvement in completeness of the notes and their congruence with care plans (Menke, et al., 2001). However, analysis of variance (ANOVA) showed no significant difference in nursing time devoted to direct patient care or documentation between the pre-implementation and post-implementation time periods. The strengths of this study are: a) use of a modified, one group pretest–posttest design, b) analysis was based on time/motion data collected by an independent observer, and c) statistical analysis utilizing ANOVA was more rigorous than the use of averages and descriptive statistics. While the publications discussed previously have reported a decrease in documentation time and increased time spent in direct patient care through the use of CBE, these results may be due to several factors related to study design and data analysis: a) report of nurse's perceptions of time used for documentation after implementation of CBE, b) no use of an independent observer for data collection, and c) report of averages and descriptive statistics.

A cost-benefit analysis of the implementation and use of CBE and its impact on the costs of patient care is difficult to determine from historic and current literature because the methods used to calculate financial benefits

associated with use of CBE, as well as the costs incurred to implement the method, are not well described. Brunt, Eiland, Fleshman, Kovalchik and Wehling (2000) projected an annual savings of $51,520 due to the elimination of 80 forms through implementation of an inter-disciplinary documentation system utilizing CBE in an orthopedic unit at a 963-bed acute care facility in the Midwest. In this report, they also state that most caregivers reported spending less time on documentation but the methods for determining these outcomes are not described or discussed in any detail. Several authors merely state that reporting measures of variance and outcomes is facilitated by use of a computerized, exception-based system (Allen & Englebright, 2000; Nissan, et al., 2000).

Allen and Englebright (2000) examined several measures to evaluate the success of a computer documentation system that incorporated concepts of CBE and FOCUS charting. Three months after implementation, survey results demonstrated improvement in user satisfaction with the documentation system from a mean score of 3.43 to 4.47 on a 5-point scale. Nurses working on medical-surgical units reported a 55% decrease in charting time per patient, although the method for determining this measurement was not described. Incremental overtime decreased 45.1%, which translated to 8.2% of salary cost per patient day and an annual savings of $107,923 for four patient care units. The methods used to determine these savings were also not described. Content analysis of care plans revealed improved compliance with assessment and reporting of fall and nutritional risk screening. Validation

or replication of this evaluation would be difficult; the authors did not include the number of subjects surveyed, the number of charts reviewed or the tool used to extract data from the record. Psychometric properties of the survey tool used were not provided and methods of statistical analysis were not described.

Completeness of Documentation with CBE

Shorr (2000) shares the opinion that while CBE has been widely adopted by hospitals as an expeditious means to gain nursing productivity, it often results in "incomplete, inaccurate and misleading recordkeeping" (p. 91). Merkley and Nelson (1995) state that while staff of an Emergency Department embraced the method of CBE as the basis for physical assessment in a computerized program, they disliked storing only abnormal findings. Because no data appeared, the staff was concerned that others reviewing the record might think that a complete assessment had not been done. This dilemma was resolved by programming the computer to automatically store normal assessment parameters in addition to documented exceptions.

Parker, Wells, Buchanan and Benjamin (1994) used data from the RAND PP Quality of Care Study to evaluate the quality of nursing documentation recorded for depressed and aged patients prior to and after implementation of the prospective payment (PP) system. In this study, RNs abstracted data from the hospital charts of 2,746 depressed individuals, age 65 or older, who were hospitalized under Medicare, in one of 277 general medical hospitals prior to 1981-1982 and after 1985-1986. Institutional

characteristics (unit type, type of hospital, and nurse to patient-day ratio) were

obtained from files maintained by the Health Care Financing Administration

and the American Hospital Association. Inter-rater reliability was

demonstrated as "acceptable" through re-abstraction of 32 charts from the

entire sample by an independent RN. Assessments of cognitive status,

presence of suicidal ideation and the level of family and patient preparation for

discharge were assessed to evaluate the quality of nursing documentation.

Dependent variables with polychotomous coding (e.g., cognitive status) were

dichotomized. Statistical analysis was accomplished through logit regression

and use of the intra-class correlation model. The full range of dichotomous

variables was used to examine CBE. Only the findings as related to use of

CBE will be discussed here. Although documentation generally improved

under PP, many important assessments were grossly under-reported during

both data periods. No statistics specifically addressing the impact of CBE on

documentation quality were included in the report. Yet, in their discussion of

this variable, the authors stated that there was little evidence that the generally

low level of documentation was due to use of CBE. There were two notable

limitations to this study. The first was that the effect of CBE on the quality of

documentation was not the focus of this study and there was no attempt to

determine if the data being abstracted was captured through use of the

method. Second, the authors noted that their first wave of data (pre-

implementation of PP) was collected nearly 10 years before publication, and

that their second wave of data (post-implementation of PP) was collected

nearly eight years before publication of the findings (Parker, et al., 1994).

Impact of CBE on Clinical Decision-Making

In a recent Cochrane review, Urquhart and Associates (2009) assessed

the effects of nursing record systems on nursing practice and patient

outcomes. One of the seven questions used for the review specifically sought

to determine whether use of narrative progress notes versus CBE resulted in a

measureable difference in nursing practice or patient outcomes. Selection

criteria included randomized controlled trials, controlled clinical trials,

interrupted time series analyses and controlled before/after studies involving

nurses providing care, and patients receiving care recorded or planned using

different nursing record systems. Studies were included if they involved the

comparison of the use of one type of nursing record system with another in

hospital, community or primary care settings, and gave objective measures of

provider performance or patient outcomes. Only nine reports met the

selection criteria and were included in the review. The authors found no

appropriate studies that addressed the research question about CBE.

Nissan, Cohen, Graham and Fitzgerald (2000) conducted a prospective

study to evaluate the function and user friendliness of an EHR written in a

database platform that incorporated clinical guidelines for colorectal surgery

patients, and the principles of CBE. These physicians embraced CBE for its

capability to save time and effort in documentation, but were concerned that

the passive nature of the method may result in clinicians overlooking important

care points. The authors believed that using the method in an interactive

computer-based format would be a reasonable solution to these concerns

(Nissan, et al., 2000). Residents and fellows entered patient data in the

standard charts and the EHR, which was installed on a personal computer.

Evaluation of the EHR was based on responses to a questionnaire in which

fellows and residents were asked to rate the user friendliness, efficiency and

suitability of the program on a scale of 1 to 10 ("10" represented 30 seconds or

less to enter a note, "1" represented the chart could not be located or the

computer system had crashed). According to the authors, all fellows and

users graded the EHR between 8 and 10. The number of users surveyed and

the psychometric properties of this tool were not provided. The time required

to write daily notes in the standard chart was recorded and compared with the

time required to update the same patient records in the EHR. This

measurement included the time required to find the chart, write a note and

return the chart to the chart rack, compared with the time required to enter the

same data into the EHR. A table included in the report indicates these

observations were made for 15 inpatient medical records (IMR) and 15 EHR

entries (mean charting time in seconds; IMR = 238, EHR = 79).

Kossman and Scheidenhelm (2008) conducted a study using

phenomenological principles in order to describe nurses' experiences and the

meaning they derived with use of an EHR with exception-based

documentation in medical-surgical and intensive care units at two community

hospitals within a regional Midwestern health care system. Both hospitals

were in the second year of implementation of the same EHR. Questionnaire

surveys consisting of open-ended questions were collected in order to explore

the boundaries of the phenomenon of how nurses use an EHR and perceive

its impact on work performance and outcomes. Observation and interviews of

individual nurses on the study units allowed identification of practice patterns,

as well as problems encountered with EHR use and work-around solutions

used by nurses. The convenience sample was made up of a total of 46

participants. At the first hospital, 31 nurses completed 29 surveys and 15

interview/observations. At the second hospital, 15 nurses completed 13

surveys and 7 interview/observations. The themes that emerged were that

nurses thought use of the EHR system a) was extensive and time consuming

b) helped as well as hindered nursing work c) had positive and negative

effects on patient outcomes and d) was preferred over paper charts, but that

the system should be redesigned to perform better in order to support nursing

work. The participants in this study thought that reliance on checkboxes, drop-

down menu selections, and cut-and-paste features might limit critical thinking

and charting accuracy, and they were not likely to use the free-text function for

narrative charting due to the time required (Kossman & Scheidenhelm, 2008).

Other authors share concerns that the information recorded about

patient responses to treatment may be too brief or sketchy, that medical

records may not contain enough detail to facilitate critical thinking, and that

decision making in complex cases where subtle changes occurred could be

overlooked (Frank-Stromberg, et al., 2001a, 2001b; Jacobson, 2000). In an

early attempt to utilize CBE for interdisciplinary documentation, Charles (1997) reported that use of the method was thought to be an ideal solution to the challenges presented by the 1996 JCAHO nutrition care standards. However, the method posed several challenges to the nutrition staff. Changing the paradigm regarding the contents of chart entry proved difficult because documentation of a nutritional assessment and subsequent clinical decision-making was dependent on the inclusion of all laboratory values and patient diagnoses. An additional concern is that use of CBE based on knowledge of clinical guidelines may present a problem to the neophyte nurse who may not have developed the critical thinking skills needed to differentiate the variations of normal (Taylor, 2000). Other concerns are that the use of CBE may obscure evidence of nurses' attentiveness to individual patient needs (Guido, 2006; Murphy, 2003) and that the potential consequences of a "minimalist mind-set" to documentation are that staff might become so accustomed to not charting that it leads to the omission of important or critical data (Clavreul, 2005).

Green and Thomas (2008) reported a quality improvement project conducted at a tertiary care pediatric hospital located in a major metropolitan area in the Southeastern United States. The facility had implemented an EHR that utilized a checklist CBE format and a separate nursing addendum form for documentation of narrative data. Physicians expressed concern that the addendum form was frequently incomplete or not used. The hospital's Chief Nursing Officer concluded that staff nurses felt that narrative data was no

longer critical because of the CBE approach to documentation. The Risk Manager at this hospital noted an increase in litigation being settled out of court as a negative consequence of insufficient nursing documentation. In this project, surveys were utilized to examine interdisciplinary collaboration through the use of EHRs and focused on physician's (N = 37) perception of nursing documentation. The paper-and-pencil instrument consisting of five closed-ended questions requiring "yes" or "no" responses and one open-ended question was developed by the project leader after a review of literature pertaining to EHRs. Face validity and content validity of the instrument was established by use of an expert panel which included two nursing faculty and one nurse executive. Responses to the five closed-ended questions were analyzed with a hand-held calculator which yielded descriptive statistics. Content analysis of the open-ended question yielded three categories that all pointed to an over-arching concern that insufficient data were available on which to base medical treatment decisions.

In order to describe the barriers to charting physiotherapists experienced in private practices, Harman, Bassett, Fenety and Hoens (2009) audited one year of chart data and then conducted nine two-hour, audio-recorded focus-group interviews. Seven of the nine transcribed interviews (49 participants), were believed to be of sufficient quality for analysis and were imported into Atlas.ti (version 5.2.0), which was used to complete thematic analysis. The themes derived to describe the barriers to charting for the physiotherapist participants were: a) "Thinking, Not Writing", b) "Impairment

versus Functional Goals," c) "Time," d) "Fear of Failure," and e) "Length of Treatment."   In the discussion of their findings, these authors noted a tension in physiotherapy practice between recognizing the value of charting and addressing obstacles to documentation. Time constraints were the most important obstacle to these participants. They experienced time as a disincentive to charting, and perceived that making their thought processes explicit and writing down their clinical / treatment decisions took time that they did not have. However, they described charting as a tool for clinical decision-making, for motivating and communicating with clients, for keeping other therapists and clients "on track," for informing and evaluating client progress over time, for treatment continuity between team members, and for initiating changes in treatment (Harman, et al., 2009).

Nurse and Legal Expert Opinions and Perceptions of CBE

Positive regard for CBE by those in nursing management is emphasized in the literature (Allen & Englebright, 2000; Clavreul, 2005; Kirkley & Rewick, 2003; Noone, 2000). None of the historic or current sources identified have focused primarily on the opinions, perspectives, feelings or concerns of staff nurses using the method. Some authors have noted that staff nurse discomfort with the method and resistance to its philosophy is demonstrated through the use of narrative notes to address concerns about not charting normal findings (Murphy, 2003; Simpson-Brooke, 2004).

A total of 25 documents focusing on legal opinion and/or advice regarding use of CBE (17 documents published from 2000 to 2010) were

reviewed. Legal experts affirm that concern about the legal protection afforded those using CBE is warranted (Davino, 2000; Guido, 2006; Murphy, 2003). It is suggested that nurses working in facilities that use CBE take extra precautions due to the risks involved with minimizing documentation (Habel, 2003). Nurses charting by exception must know precisely what they are indicating in their documentation by using symbols or checking boxes (Morrison, 2010).

Use of CBE may show gaps in the provision of routine care that might be used to support the case for negligence (Frank-Stromberg, et al., 2001a, 2001b). One author recently cautioned physicians that use of an exception-based EHR can lead to mismatches between medical necessity and documentation. While use of CBE can facilitate documentation of office visits for physicians, providers are advised to carefully edit documents to ensure that what is documented accurately reflects the level of physical exam actually performed in order to prevent a mismatch of problem severity and level of service billed (Terry, 2007).

Adherence to CBE Documentation Policies

Historic and current literature has consistently reflected the understanding that successful implementation of CBE relies on the development of clearly defined standards of practice, and predetermined criteria for nursing assessment and intervention (Burke & Murphy, 1988, 1995; Clavreul, 2005; College of Registered Nurses of Nova Scotia, 2002; Iyer, 1991; Jacobson, 2000; Michael, 2003; Murphy, et al., 1988; Murphy & Burke,

1990; Smith, 2002). Burke and Murphy (1988, p. 165) stated that as long as nurses follow their hospitals policy for CBE, the method would be defensible in court and that on-going monitoring of adherence to CBE guidelines must be incorporated in quality assurance programs to ensure that requirements for legal and voluntary standards are being met. They continue to stress the importance of adherence to documentation policy when CBE is utilized (Burke & Murphy, 2000). Yet the literature does not reflect consensus on the recommendation to follow hospital policy, and none of the documents in which these opinions are published are based on empiric evidence.

Many authors advise that nurses should consistently follow their employer's documentation policies for their own legal protection and that of their employers (Austin, 2006; Chow, 2003; Clavreul, 2005; Guido, 2006; Habel, 2003; Michael, 2003). Others recommend that nurses should write their findings in narrative form if they do not think CBE documentation will give a clear, accurate description of the patient's condition (Smith, 2002). There is nothing prohibiting documentation of normal findings that an individual nurse feels is relevant (Geller, 2007).

Employer Provided Education Regarding CBE Policy and Method

Burke and Murphy (1988, p. 165) stated that "inconsistencies in charting make all nurses' charting suspect as to what care was actually provided" (p. 165) and advised that nurses should be fully oriented to documentation policies, procedures and standards their employers have put in effect to prevent inconsistencies. They continue to advise that nurses using

CBE receive regular, on-going education to assure they are using the method correctly (Burke & Murphy, 2000). The importance of regular employer-provided education about CBE documentation policies and procedures continues to be stressed by other authors as well (Aiken, 2004; Clavreul, 2005; Noey & Seng, 2002).

Summary

Use of CBE for nursing documentation continues despite several unresolved issues. McGeehan (2007) recommended that instead of being viewed as a distraction from patient care, documentation should be valued for the contemporaneous record it provides of patients' treatment, their response and the impact this information has on clinical decision making. Qualitative research is needed to gain a full articulation of nurses' beliefs, perceptions and decision-making regarding the use of CBE as a documentation method. Understanding the way nursing documentation underpins care can lead to the design of appropriate empiric research questions and designs (Currell & Urquhart, 2003) which in turn will lead to quality, evidence-based documentation of patient care.

CHAPTER III

Method

Rationale for Using Grounded Theory

Qualitative inquiry is appropriate when new detailed information is needed in an area that may have been studied quantitatively but lacks theoretical explanation. Regarding nursing documentation, qualitative research is recommended for its potential to expand the understanding of nursing practice through exploration of the relationship between clinical practice and nurses' understanding of what they choose to include in the written expression of their practice (Currell & Urquhart, 2003; Urquhart, et al., 2009). As the examination of decision-making and actions are inherent in GT, this method is appropriate for revealing the decision-making process used in nursing documentation from the perspective of the nurses using the documentation systems.

GT is a systematic way to develop theories about human behavior present within basic social processes relevant and problematic to those involved (Glaser, 1978). GT is based on the philosophic perspective of symbolic interactionism, which assumes that human action depends upon the meanings people ascribe to their situations. This assumption drives GT research, allowing the researcher to look closely at how people define events and realities and how they behave based on those beliefs (Tavakol, Torabi, & Zeinaloo, 2006). In this study, GT was used to explore, describe and explain the process of decision-making of staff nurses who use CBE to document the

care they provide in adult, medical-surgical acute care settings. The process used by individual nurses to decide what information is important to include in the medical record is amenable to interpretation through the symbolic interactionism perspective in GT methodology. The results provide insight into the process nurses use to decide what is important to include or acceptable to exclude when documenting care. The GT method prescribed by Glaser (Glaser, 1978, 1992, 1998; Glaser & Holton, 2007) was used throughout the course of this study. This chapter will outline the strategies used to obtain participants, procedures used to insure protection of human subjects, the data sources, processes used for data collection and analysis, the efforts made to achieve trustworthiness and a description of the audit trail that was maintained.

Strategy for Obtaining Participants

The exact strategies for enlisting participants in a qualitative study depend on the study design and the method being used. In this study, the design provided for an intensive interviewing technique and the GT method (Glaser, 1978, 1992, 1998). The use of GT is aimed at collection of information until theoretical saturation is achieved and the theory is fully developed. The number of participants needed to achieve theoretical saturation with this study was unknown, but was added when the finished research was reported.

Inclusion Criteria

Potential subjects were members of the Academy of Medical-Surgical Nurses (AMSN); they were drawn from RNs working in staff nurse positions in a variety of adult, in-patient, medical-surgical, acute care settings that use the CBE method to document the care they provided. Participants were required to speak and understand English. There was no exclusion of subjects based on age, gender or race.

Recruitment

Participants were self-identified. Information about the study and invitations to participate (see Appendix C) were individually mailed to members of AMSN who have classified themselves as staff nurses working within in-patient, acute care settings. Regardless of participation, all potential participants received a gift of $2.00, which was included in the mailed information packets (Dillman, 2000). Dillman (2000) described the five elements needed to achieve high survey response rates: a respondent friendly questionnaire, five timely contacts, a stamped return envelope, the use of personalization and a token financial incentive of one to five dollars. This method was modified for the current study; the use of stamped return envelopes, personalization of the cover letter and inclusion of a token financial incentive were implemented. Potential participants did not receive a survey in the mail because each participant that signed the consent form was to be interviewed over the phone. The use of additional contacts was not employed

after the initial mailing of recruitment packets in order to ensure that participants were self-selecting.

Interested participants sent their contact information (see Appendix D) to the researcher using a self-addressed, stamped envelope. The researcher then contacted potential participants by phone and verified that the individual was currently working as a staff nurse in an adult, acute care setting and using the CBE method of documentation. If the potential subject met these criteria, the researcher explained the study and addressed any questions the potential participant had. The respondent was asked if he/she was interested in participating.

If a respondent agreed to participate, the researcher asked the subject to return a signed consent form for participation and audio-taping (see Appendix E) with a second self-addressed, stamped envelope, which was included in the mailed information packet. When the researcher received the signed consent form, the respondent was contacted in order to set a date and time for a telephone interview. The researcher provided each participant a confirmation of the date and time of the interview, the toll-free telephone number, access code, and the instructions for completing the interview with a one-on-one conference call on the agreed upon date and time. The researcher retained a list of participant names, telephone numbers, and e-mail addresses until the research was completed in the event that the decision to perform member checks was made at various points throughout data analysis.

Demographic data were collected over the phone prior to the interview and included a) the participants' age b) the participants' gender c) the participants' highest educational preparation in nursing d) how many years the participant has practiced as a nurse e) whether the participant uses a paper-based or electronic charting system, and if electronic, which software package provides the matrix for documentation e) the date the participant last remembers receiving an in-service or education from their employer on their documentation policy and use of the CBE documentation system f) the participants' description of the type of education received g) the participants' estimate of the length of time the educational session lasted and h) their estimate of the total number of educational hours about CBE received from employers over the course of their career.

Using the member roster of AMSN provided the ability to recruit medical-surgical nurse participants' from a variety of locations within the United States. The aim was to have as much variation as possible in the geographic location of the participants, while restricting the practice area to acute, medical-surgical settings and the documentation method to CBE. Because the aim of the study was to see if nurses use a common process in making decisions about what to include, or not include, in nursing documentation, based on evaluating what was important to record about individual patients, it was important that the participants all used CBE as the method for documentation.

Protection of Human Subjects

Approval from the institutional review board at Rutgers, the State

University of New Jersey, was sought and obtained prior to the initiation of the

study (see Appendix F). Approval to use AMSN's mailing list was obtained

from the organization's Research Committee, according to AMSN Procedure

(AMSN Board of Directors, 2006). Potential participants were informed of the

purpose and aims of the research. Risks and benefits were explained.

Participants were informed that the telephone interview would be taped and

transcribed with no identifying information. Participants were asked if they had

any questions or concerns that needed to be addressed by the researcher,

and were given the opportunity to ask and discuss those concerns with the

researcher. Written informed consent was obtained from all participants.

They were asked to read and sign the consent (see Appendix E) and mail it

back to the researcher via U.S. mail with self-addressed, stamped envelopes.

Included in the consent was a separate consent for audio-taping the interview

data. The researcher explained that any interview could be stopped at any

time at the discretion of the participant and that all participants were free to

terminate their participation in the study for any reason at any time.

All audio recordings and transcripts will be destroyed three years after

the research is completed. All identifying information was removed from the

data upon transcription. Audio recordings, transcripts, and notes taken by the

researcher were identified by sequential number codes only and not linked to

participants' names, contact information, or consent forms in any way. Files

containing the participants' names, contact information, and signed consent forms were kept in a separate, locked file in the researcher's home office. All files and study information were kept under lock and key at all times, accessible only to the researcher.

The ethical researcher must be aware of the potential legal and or professional consequences of inadequate or incomplete documentation. Nurses may feel insecure when talking about their documentation practices based on their individual level of experience with documentation. They may also feel uncomfortable due to their level of understanding of their employer's documentation policies and their feelings of agreement or disagreement with their employer's choice of documentation system. These risks were outlined in the consent form.

One of the benefits of participation that was outlined in the consent form was that participants were given the opportunity to discuss their experience with using CBE at length. Hutchinson, Wilson, and Skodol-Wilson (1994) suggested that other potential benefits sometimes experienced through participation in research interviews include catharsis, self-acknowledgment, a sense of purpose, awareness of self, personal empowerment, healing, and providing a voice for the disenfranchised. The researcher was well trained, through her experience as a nurse in therapeutic communication techniques, and communicated acceptance, positive regard, and a non-judgmental stance when interacting with participants.

Lastly, intensive interviewing has the potential to reveal what the researcher may judge to be an inappropriate or dangerous practice on the part of the participants in regards to their documentation practices. In the context of data collection, it was inappropriate to discuss participants' deviation from their facilities documentation policies, except to question them in depth to meet the aims of the study. However, at the conclusion of the interview, the researcher would be ethically obliged to advise the participant to review his or her facility's documentation policies and encourage him or her to follow them to the best of his or her ability.

Data Sources and Collection

Data for the study were collected through the researcher's completion of the demographic data section of the interview guide, in-depth interviews, notes taken during the interviews and field notes. The demographic data section (see Appendix G) was designed to collect data on participants' age, gender, educational background, years of experience as nurses, use of paper-based documentation versus electronic CBE documentation systems, last-known employer provided in-service or education received by the participants' on their documentation policies, use of CBE and a description of what form this education took and how long it lasted.

The researcher conducted telephone interviews consisting of open-ended questions and probes consistent with the aims of the study. The interview guide continued to evolve over the course of data collection, guided by the developing theory, allowing for theoretical sampling and questioning

(Glaser, 1978). The interview guide was designed to elicit the meanings of documentation efforts from the perspective of the medical-surgical staff nurse and focused on the process used to decide what or what not to include in documentation on a day-by-day and patient-by-patient basis (see Appendix G). Each participant was asked to describe situations when he or she decided to adhere to their CBE documentation policy and those in which they decided to include normal information for a patient, even when they were not required to do so.

Each interview lasted approximately one hour. Each participant was encouraged to answer each question until he or she had no more information to add to that topic. All interviews were audio taped and transcribed verbatim. During each interview, the researcher noted background noises and the participant's use of feeling tones and tone of voice. These notes were appended to the transcriptions of each interview in order to more vividly portray the interview scene, and remind the researcher of the context of the interview.

Field notes were taken during any interaction with a participant. These notes included general text of phone conversations used to arrange an interview, how the time and date for the telephone interview was negotiated, any comments a participant made about the physical layout of the area where they were during the interview, and the length of the interview. Field notes were also used to document the researcher's behaviors and reactions, and to remind the researcher to focus on the participant's perspective.

Use of Telephone Interviews for Collection of Grounded Theory Data

Three recent reports provide examples of the use of telephone interviews for collection of GT data, but did not include an evaluation of the data quality (Abrahamson, Fisher, Turner, Durrance, & Combs-Turner, 2008; Heddle, Eyles, Webert, Arnold, & McCurdy, 2008; Rodriquez, Appelt, Switzer, Sonel, & Arnold, 2008). Three studies provided empiric evidence supporting the use of telephone interview for the collection of GT data.

Maudsley (2002) conducted semi-structured telephone interviews with 34 tutors from an undergraduate medical curriculum in order to explore how they characterized and made sense of problem-based learning. The interviews lasted 15-60 minutes, were audio taped, transcribed, and analyzed using an iterative, inductive approach that followed the tenets of GT. The potential negative impacts from the use of telephone interviews acknowledged by the author include missing important non-verbal cues, the generation of more hurried answers and the production of self-reported public accounts that differ from private accounts depending on the degree of acquaintance between the researcher and individual participants. However, use of telephone interviews was felt to be more convenient for participants, allowing for a 100% response rate, the clarification of misunderstandings and the preservation of participants' anonymity.

de Leeuw (2005) found that differences in data quality between face-to-face and telephone interviews were small, with face-to-face interviews doing slightly better than telephone. Data quality is influenced by the availability of

communication channels: verbal (words, text), nonverbal (gestures, expressions, body posture) and paralinguistic methods (tone, timing, emphasis). An increased sense of privacy during a telephone interview may increase participant's willingness to disclose sensitive information and decrease the effect of social desirability. On the other hand, the sense of greater control during a telephone interview may reduce the chance participants are persuaded to answer through motivation and / or provision of additional information and explanation.

According to Stussman, Simile and Dahlhamer (2007), almost 25% of the interviews completed for the 2005 National Health Interview Survey included at least one main section conducted primarily by telephone. Textual narratives (N = 10,461 entries) detailing why telephone interviews were used were collected for every interview. The authors used the constant comparative method to analyze the open-ended responses from two 5% samples to describe the circumstances of interviews where one or more sections were conducted primarily by telephone. Telephone interviews were driven by respondents in 84.1% of all cases. The category of "Actively Driven by Respondent" (64.3%) included cases in which a telephone interview was requested by the respondent (42.3%), the respondent did not want the interviewer in the house (8.3%), the respondent called and wanted to do the interview immediately (7.5%) and because of busyness (6.2%).

The "Passively Driven by Respondent" category included cases in which the respondent did not say he or she wanted a telephone interview, but

the situation necessitated this mode (19.8%). Interviewer reasons for

telephone interviews comprised only 4.8% and included cases of interviewer

preference for convenience (3.5%) or a desire to facilitate close-out of

individual cases (1.3%) within a 17-day time span. Other reasons (10.2% of

cases) included follow-up or re-assignment (4.8%), distance barriers (3.7%),

language barriers (1.2%) and natural disaster/weather issues (0.5%). These

authors concluded that the vast majority of cases in which telephone

interviews were respondent-driven indicate a trend in public preference for this

mode and that efforts to reduce telephone interviewing could result in a

reduced response rate (Stussman, et al., 2007).

Data Analysis

Data analysis followed the GT method described by Glaser (1978,

1992, 1998), which included use of the following techniques of constant

comparison; coding, memo writing and sorting.

Constant Comparative Method

The constant comparative method involves collecting and analyzing

data concurrently in order to generate categories and properties of the

phenomenon being investigated. Interviews were analyzed as soon as

possible after transcription. Glaser (1978) recommended three steps to this

process: comparison of incident to incident, comparison of concept to more

incidents, and comparison of concept to concept. Comparison of incident to

incident was done in order to establish "the underlying uniformity and its

varying conditions," which eventually became the generated concepts and

hypotheses (Glaser, 1978, p. 49). Next, as coding continued, concepts were compared to more incidents, allowing for elaboration of the theory, saturation, verification and densification of the concepts, and the generation of further concepts (Glaser, 1978, p. 50). Comparison of concept to concept established those concepts' best fit to a set of indicators, the conceptual levels between the concepts, and the integration of the concepts and hypotheses into the emerging theory (Glaser, 1978, p. 50).

In this study, the incidents to be compared involved those described by the participants as moments in time when they made a decision about whether to follow a CBE documentation policy for a particular patient. From these incidents, concepts emerged that were compared to other incidents. The researcher defined each concept and then reviewed all available data for evidence of the concept in order to fully explicate the properties of that concept, as presented in the data. The researcher also formulated working hypotheses about how various concepts were related to other concepts found in the data. The researcher returned to the data to look for evidence of relationships in the data. Integration of these hypotheses between concepts resulted in a tentative theory.

Coding

The use of coding is integral to the constant comparative method used in GT generation. According to Glaser (1978, p. 55) coding for conceptual ideas allows the researcher to break apart the data and frees the analyst to transcend the empirical nature of the data while conceptually accounting for

processes in the data in a theoretically sensitive way. Glaser (1978) suggested that codes are of central importance in the generation of theory (p. 55) and goes on to explain two types of codes: substantive and theoretical.

Substantive coding. This type of coding conceptualizes the empirical substance in the area of research and involves both open and selective coding (Glaser, 1978, p. 55). During open coding, the analyst codes the data in every way possible, seeking to identify as many categories that will fit, coding different instances into as many categories as possible and fitting new instances into new or existing categories. Open coding allows the researcher to identify the direction in which to collect further data through theoretical sampling.

Glaser (1978) suggested that several rules govern open coding and ensure its success. First, the researcher must keep the following questions in mind: a) what is this data a study of? b) what category does this incident indicate? c) what is actually happening in the data? Secondly, the data must be analyzed line by line, which facilitates verification and saturation of the categories. Third, the analyst must code his or her own data. Fourth, it is imperative to constantly interrupt coding in order to write memos and capture the perspective and insight gained through consideration of the questions already discussed. Next, the analyst should initially stay within the confines of the substantive area and field of study in order to maintain focus on identification of the core variable. Finally, the researcher should not assume the analytic relevance of any face sheet variable such as age, gender or social

class unless it emerges as relevant. Open coding continues until all data fits

the codes and the codes are verified, corrected and fully developed (p. 60).

The report of the completed research described when all codes were sorted to

fit and when the categories emerged and were complete. Selective coding

involves coding for the core variable (Glaser, 1978, p. 61); the concept or

basic social process to which all other concepts are related. In selective

coding, analysis is guided by the core variable and only those variables that

relate in ways sufficient to be used in a parsimonious theory. The point in

analysis from which interview the core variable emerged (became clear) was

be reported. Subsequent interviews were coded for the core variable until

confirmed, and the number of subsequent interviews needed to confirm the

core variable was reported.

Theoretical coding. This type of coding conceptualizes how the

substantive codes may relate to one another as hypotheses to be integrated

into the theory (Glaser, 1978, p. 55). Theoretical codes are implicit and

establish connections between concepts and dimensions around the core

variable. This integration leads to theory generation. Theoretical codes were

identified and further interviews were evaluated for these theoretical codes.

Memo Writing

As stated previously, the writing of theoretical memos is a crucial

analytic device used in generation of a GT. According to Glaser (1978, p.83),

memos allow the researcher to document ideas about codes and relationships

as these ideas occur. At least five important aspects of theory development

are accomplished through memo writing: a) data is raised to a conceptual level, b) the properties of each category are developed and the process of operational definition begins, c) hypotheses about connections between categories and their properties are presented, d) integration of connections between categories initiates theory development, and e) the emerging theory is located with other theories of more or less relevance (p. 84). Throughout this study, extensive memo writing was used to document the researchers thought processes and remind the researcher of the next step. Memos were written and stored within Atlas.ti, version 6.0 (Muhr, 1993 - 2010) and filed chronologically in order to visually display the researchers thought processes about the developing concepts and theory. Duplicate copies of the data stored in Atlas.ti (including all memos) were kept on back-up flash drives. Hard copies of all memos were printed from Atlas.ti and used by the researcher during the sorting process.

Theoretical Sorting

The purpose of memo sorting is to promote theoretical integration of memo content; key to generation of a dense, complex theory. Sorting often results in more memos, which then allows for a higher level of conceptualization (Glaser, 1978, p. 116). Glaser (1978, p. 87) suggested that sort ability is dependent on several rules. Each memo should be introduced by a title or caption indicating the category or property focused on in the memo. If two categories or properties appear in a memo, the relationship between the two should be discussed and categorized or highlighted in some

way so the hypothesis can be sorted for as well. Finally, multiple copies of

memos should be made to facilitate the sorting process without the loss of

originals. The result of theoretical sorting will be an integrated theory

grounded in the data and conceptualized beyond mere description of the data.

Qualitative Data Management Software (QDMS)

Atlas.ti, version 6.1.17 (Muhr, 1993 - 2010) was used to assist in

management, coding and analysis of data. The program allows for coding,

sorting of codes, memo writing, searching for and retrieving of codes, defining

codes and categories, and the construction of diagrams that demonstrate

relationships between conceptual codes. The program was used to assist in

the visualization and management of data, open and selective coding and the

writing of memos, however, the actual analysis of the data was carried out in

the manner described by Glaser (1978). Atlas.ti is qualitative data

management software that has a complex inter-connected, hypertext structure

that is visually attractive and easy to learn. The software allows all aspects of

the data for analysis to be visualized on screen at once, allowing the

researcher to easily compare incident to incident and to visually map out

relationships between different parts of the data and theoretical ideas (Barry,

1998). Friese (2004) compared six QDMS software packages in terms of data

entry, coding, data retrieval and system requirements. This information

assisted the researcher in the decision to use Atlas.ti.

Trustworthiness

Trustworthiness is the measure by which rigor and validity are judged in a qualitative study. Validity has been defined as the extent to which the research findings represent reality; this should be inherent in the design of the study and evident in every aspect of the researchers work (Sandelowski, 1993). Historic and recent publications by qualitative researchers have included discussions illustrating consistent support and advocacy for the use of the criteria for assessment of rigor in qualitative research as suggested by Guba and Lincoln in the early 1980's: credibility, transferability, dependability, and conformability (Golafshani, 2003; Mill & Ogilvie, 2003; Sandelowski, 1986, 1993; Yonge & Stewin, 1988).

Healy and Perry (2000) asserted that a qualitative study should be evaluated by the terms of the paradigm under which the research was conducted. According to Glaser (1998, pp. 236-237), the sources of trust in GT are the four criteria by which it is evaluated: the "fit" of the theory to the data, the "relevance" of the generated theory, the "work" or applicability of the GT and the "modifiability" of the theory. Fit emerges during the constant comparative process as concepts and patterns are generated from the analysis of the data. The relevance of the theory is automatic as the emergent concepts will relate to the true issues of the participants and the theory will reflect what is really going on as it is continually resolved. The workability of a GT depends on how tightly it is related to what is going on. Fit and relevance allow the grounded theorist to integrate a core category and sub-core category

into a theory that accounts for most of the variation of behavior in the substantive area. The importance of modifiability is that the theory does not miss anything that can be readily incorporated into it through constant comparison. The theory can be informed and modified by new incidents and/or literature review when appropriate. These standards will be employed in establishing the trustworthiness of this research.

Description of the Audit Trail

Cohen and Crabtree (2008) synthesized the published criteria for good qualitative research and identified the process of auditing as one of four techniques accepted for establishing the verifiability or reliability (trustworthiness) of qualitative research. To meet the criterion, the researcher is responsible for being able to provide someone external to the research with the ability to evaluate the accuracy of the findings, interpretations, and conclusions through examination of the process and the product of the research. Miller (1997) offered an extension of the framework for use of the external audit provided by early pioneers of the concept (Lincoln & Guba, 1985; Halpern, 1983; Schwandt & Halpern, 1988) by discussing her experience in conducting audits in detail and describing eight categories of materials that can be submitted for an external audit: raw data, data reduction and analysis products, data reconstruction and synthesis products, process notes, materials related to researcher intentions/dispositions, information relative to instrument development, verification/validity documentation, and material prepared for the auditor (Miller, 1997). The types of audit materials

that were maintained during this study are described in Table 3 (see Appendix H).

Summary

This chapter described the rationale for the overall method that was used in this study in addition to the steps of the method itself. Procedures for obtaining participants through recruitment and inclusion criteria were discussed. Precautions that were taken and procedures that were followed to assure protection of human subjects were described. Data sources were outlined. Glaser's (1978) methods of data collection and data analysis that were used to generate the GT were described. The standards employed to judge trustworthiness of the study and the audit trail that was maintained by the researcher were discussed. Several reports of research demonstrating the benefits and potential drawbacks of using telephone interviews for the collection of GT data were also reviewed, establishing the rationale and acceptability of this approach for the research.

Chapter IV

Participants and Sampling

Grounded Theory uses data from participants obtained through purposive sampling. This chapter describes the purposive sampling method used to identify and gain access to potential participants, and how the data was managed throughout the process of analysis. The participants in this research study are introduced through summaries of the group's demographic information.

Purposive Sampling

Research using a qualitative approach employs purposive sampling, rather than probability sampling, in order to gain access to participants who have direct and personal knowledge or experience with an event (Denzin & Lincoln, 2005). The investigator was granted permission to gain access to potential participants through the Academy of Medical-Surgical Nurses (AMSN). This provided the opportunity to recruit RN participants from a variety of locations within the United States. It also provided the ability to restrict interviews to participants who practiced in acute, medical-surgical settings, and who used the documentation method of CBE. The goal of the overall sampling strategy was to obtain data that were informed and representative of the experience of RNs who use the method of CBE to document patient care in an acute care, medical-surgical setting. The electronic AMSN membership list was filtered to display only RN members who had identified themselves as working in a staff nurse role.

From the filtered list, members with addresses from each of the 50 United States were selectively chosen by alternating choice of names from the top, middle, and bottom of listed names by state, and by making an effort to pick members from different cities in each state who would receive recruitment packets by mail. As the study evolved, theoretical sampling was employed as the data and emerging theory directed (Glaser, 1978, 1998).

Response to Recruitment Packets Mailed in October 2009

100 recruitment packets were sent out (Two AMSN members from each of the 50 states). The Contact Information form was returned by twenty-three individuals, and one person contacted the researcher by phone. Of these, five did not meet inclusion criteria: of these, one did not work on a medical-surgical unit, three were not working as staff nurses, and one could not be contacted by phone to establish inclusion. Of the nineteen people who were eligible and consented to participate, thirteen were interviewed and six were lost to follow-up.

Response to Recruitment Packets Mailed in April 2010

Fifty recruitment packets were sent out (One AMSN member from each of the 50 states). The Contact Information Form was returned by five people, one person e-mailed the researcher, and one person telephoned the researcher. Of these seven people, five did not meet inclusion criteria: one person did not work on a medical-surgical unit, two people were not working as staff nurses, and two people were not using CBE. One additional person excluded herself from the

study by mailing the recruitment materials back to the researcher with a personal note stating she no longer worked in a medical-surgical setting. One person was eligible, consented to participate, and was interviewed. One person, who had not yet consented, was lost to follow-up.

Response to Recruitment Packets Mailed in June 2010

Fifty recruitment packets were sent out (one AMSN member from each of the 50 states). Ten people returned the Contact Information Form. Two people did not meet inclusion criteria: one person was not using CBE, and one person could not be contacted by phone to establish inclusion. One additional person excluded herself from the study by mailing the Contact Information Form back to the researcher with a personal note stating that she used SOAP charting.

 Of the five persons who were eligible and consented to participate, two were interviewed and two were lost to follow-up. Theoretical saturation was confirmed with analysis of these data. At this point, one consented person had not yet been interviewed and three other people had returned their Contact Information Forms. These individuals were contacted by e-mail to thank them for their interest and to explain that further interviews were not needed.

Mechanics of the Coding Process

All of the interview recordings were transcribed verbatim by a medical transcriptionist. The accuracy of each of the transcripts was validated by the researcher who read each of the documents word for word while listening to the

interview recordings. After accuracy of a transcript was confirmed, the electronic document was loaded into Atlas.ti (Muhr, 1993 - 2010), the software program used to manage and code the data throughout the open and selective coding phases of analysis. Throughout analysis, memos were also recorded within the software program. The code list was printed out on several occasions in order to facilitate comparison of code labels and properties. This was done to identify similar codes that could be merged in order to increase the density of the concepts while condensing and simplifying the index of codes.

All memos and codes with complete descriptions of their definitions and properties were printed before beginning the theoretical sort. These pages were cut up so there was one memo or code/definition per slip. The theoretical sort was accomplished by arranging the codes and associated memos in piles in a rough pattern that diagrammed the proposed relationships between the codes.

The code relationships were then translated into more formal diagrams using the Network function within Atlas.ti (Muhr, 1993 - 2010).   These diagrams are included as attachments and are referenced in the appropriate sections of Chapter 5 – Discussion of the Theory. At the end of the analysis process, the researcher assigned names that replaced the participant identification codes. Throughout the dissertation, illustrative quotes from the participants and specific information about individual participants have been labeled with names that were changed to preserve their anonymity.

Theoretical Sampling

Initial impressions of the emergence of the Core category occurred during coding of the fifth and sixth interviews (LISA & ELLEN). Confirmation of the Core category occurred through coding data from the seventh, eighth, and ninth interviews (EDITH, ANN & BETTY). Once the Core category was confirmed and a preliminary conceptualization of the potential theory had emerged from the data, efforts were directed to theoretical sampling. Theoretical sampling is a purposive sampling strategy in which the evolving theory guides either the selection of the participants, the questions posed during interviewing, or the questions used to query existing data (Glaser, 1978, 1998). Sampling decisions through evolution of the questions posed during the tenth through fourteenth interviews (LANA, FAITH, WANDA, GAIL & TABITHA) were on-going, based on review of the data, and categories developed at each point in time, to determine the type of questions that might be likely to elicit data that would contribute to the further development of the theory. Theoretical sampling continued through the fifteenth and sixteenth interview (HALLIE & CAITLIN) until all concepts were fully developed, and no new information was revealed. The researcher then determined that theoretical saturation had been reached (Glaser, 1978).

Introduction to the Group of Participants

The sample consisted of 16 participants recruited over a ten-month period. The states in which the participants resided are summarized in Figure 1

(Appendix I). All participants were RNs currently working as staff nurses on an acute-care, medical/surgical unit in a hospital setting. All could speak and understand English. All participants responded to demographic questions over the phone before they were interviewed about using CBE.

Demographic Data

There were 14 female and two male participants whose ages ranged from 25 to 64 years old (mean = 44 years). The highest degree in nursing was a Bachelor's degree, held by seven of the participants (44%) and an Associate's degree held by nine of the participants (56%). Years of practice as a RN ranged from one to thirty seven years (mean = 12.75 years). All of the participants worked in institutions that used the EHR, although one participant stated that her hospital continued to maintain paper charts for small, defined portions of the medical record, such as report forms for Rapid Response teams and Code Blue (resuscitation) procedures. All of the participants used computers in their individual work areas or units to enter patient data. They were not asked whether the computers they used to enter documentation data were mobile workstations, permanently installed in patient rooms, permanently installed at a nursing station or a combination of all three types. Age, gender, practice years and the name of the documentation software used by each participant are summarized in Table 4 (Appendix J).

Education Received About Charting-by-Exception

At the start of each of the telephone interviews, participants were asked to recall: 1) the month and year of the most recent educational session(s) they had received about CBE; 2) the format and length of the educational session(s); and 3) an estimate of the total hours of CBE education they had received throughout their careers. A few participants (n = 3), could not recall when they had ever received any education about CBE while working as a nurse. One participant (ELLEN) stated that she recalled learning about the method in nursing school.

One participant (Betty) recalled receiving education on documentation software within the last year, but no education specifically on CBE either recently or at any time during her career. One participant had received education about CBE less than one month from the time of the interview. Five participants had received education about CBE within the last year. The last time three participants could recall education about CBE was greater than one year, but within five years at the time of their interview. Two participants recalled their last education about CBE as occurring five years from the date of their interviews. One participant last recalled receiving any education about CBE more than five years from the time of the interview.

Recent education about CBE was in the form of computer classes (n = 5), staff in-services (n = 3), classroom presentations (n = 3) and information presented on a bulletin board (n = 1). The length of these educational sessions

ranged from one hour or less (n = 5), between two and six hours (n = 5) and

more than six hours (n = 2).

Three participants stated they could not or chose not to estimate the total

number of educational hours she had received about CBE throughout her career.

One participant stated she had received "none" and one participant estimated

she had received "hardly any" education about CBE. One participant estimated

she had received "a lot." Of the rest of the participants who chose to answer this

question, one stated she only received education about CBE while in nursing

school. Five participants estimated they had received a total of five hours or less

of education about CBE throughout their careers. One participant estimated a

total of four to six total hours of education about CBE. One participant estimated

a total of seven to eight total hours of education about CBE and two participants

estimated they had received a total of 15 hours or more throughout their careers.

The education each participant recalled receiving on CBE is summarized in

Table 5 (Appendix K). Narrative story summaries for each of the participants are

included in Appendix L.

Summary

This chapter presented the purposive sampling methods used to recruit

the participants for the study. The mechanics of how the data was managed and

coded was described. The group of participants was introduced through the

description of their demographic data, including which of the United States the

potential participants resided in, and the participant's education about charting-

by-exception.

Chapter V

Description and Discussion of the Theory

Grounded Theory uses an inductive approach that emphasizes the experience of the participants in order to generate a theory that accounts for the pattern of their behavior relevant to their main concern. Grounded Theory research is optimally begun with only a sociological perspective and a general problem area, without the bias of a preconceived framework of concepts and hypotheses. Some researchers choose to begin with a clear question or problem area in mind, along with beginning concepts and research strategies. While this approach is less open, it still allows the researcher to be receptive to relevant concepts that emerge from the data and to discard irrelevant concepts that do not emerge from the data (Glaser, 1978, p. 45). The research question for this study was: What is the process used by medical-surgical nurses to decide whether to follow a Charting-by-Exception policy on a day-by-day, patient-by-patient basis? Through the use of Grounded Theory methodology, the three-phase process of Creating a Protective Picture emerged, which explains how participants made decisions about completing nursing documentation when using the method of CBE, on a day-to-day, patient-by-patient basis.

The Core Category

The core category is the concept that explains how the participants resolve their main concern and is related to all other concepts that emerge from

the data (Glaser, 1998, p. 117). Analytical judgments regarding identification of the core category are based on several criteria. First, the core category must reoccur frequently in the data and be central, and also be related to as many of the other categories and their properties as possible. Because of these first two criteria, it takes more time to saturate the core category than other categories. Second, the core category must relate easily and meaningfully with the other categories, have a clear and grabbing implication for formal theory, have considerable carry through, and be completely variable. Finally, while the core category accounts for variation in the problematic behavior, it is also a dimension of the problem (Glaser, 1978, pp. 95-96).

Creating a Protective Picture is the core category which emerged in this research; it explains how participants resolved their main concern about using the documentation method of CBE. According to Glaser (1978, p. 94), it is possible for an analyst to have a feel for what the core concept is, but be unable to formulate a conceptual label that fits the concept well. He advises that potential core categories should be given a "best fit" conceptual label as soon as possible in order to have a way of thinking about them, as coding proceeds. Impressions of a potential core category emerged through coding data from the fifth and sixth interviews (Lisa and Ellen). The core category was initially labeled as Protecting, with the sub-properties of protecting the patient, protecting one's self and protecting the hospital (Attachment M, Memo 1/17/2010 & 1/20/2010).

Confirmation of the core category occurred through coding data from the seventh, eighth and ninth interviews (Edith, Ann & Betty). As theoretical sampling and on-going comparison of incident to incident continued, the label for the core category was changed to Creating a Protective Picture, which provided a full conceptualization of the descriptive action inherent in the variable and its properties (Attachment M, Memo 7/8/2010 & 7/12/2010).

The Theory of Creating a Protective Picture

The three-phase process of Creating a Protective Picture involves: 1) Coming to Terms with the Method, 2) Being Responsible in Documentation, and 3) Creating a Protective Picture. The basic schema of the three phases of the theory is illustrated in Figure 2 (Attachment N). The properties and sub-properties of each of the three phases will be described and discussed in detail.

Phase I: Coming to Terms with the Method

Coming to Terms with the Method is a progression that includes four properties: Figuring the Method Out for Yourself, Defining Normal for Self, Accepting the Benefits and Negatives, and Pressure to Conform. The progression of this phase occurs over time, but the length of that time varies from individual to individual. The progression culminates with the participant having the general sense that they can document responsibly when using an exception-based system. The progressive nature of Coming to Terms with the Method is illustrated by a statement made by Lisa:

Um, I think that uh, initially you know, when we were all in nursing school, you know, we were all drummed into our head document, document, document, and if it's not documented, it wasn't done, and so I personally you know, would tend to over-document and really found it difficult, always thinking that if I didn't write enough, or I didn't put enough down, that, you know, I wasn't being responsible, you know, in my documenting. Took me a long time to, to realize that I could do, I could document what I had done, um, through Charting By Exception, still have it to be, what I felt to be, um, you know, able to stand up legally.

Figuring the Method Out for Yourself. One of the properties of Coming to Terms with the Method is Figuring the Method Out for Yourself. Qualitative analysis involves the conditions and backgrounds of the participants and referral to the relevance of face sheet or demographic data such as gender, age, religion, education, marital status, etc. In a grounded theory, categories and their properties must earn their way into a theory through constant comparison, saturation and theoretical sampling (Glaser, 1998, pp. 148-149).

The demographic variable of education about CBE did not earn its way into the theory of Creating a Protective Picture. Participants in this study described the experience of having the method "thrown at you" and having to figure out how to use the method in practice, regardless of the amount of education about CBE they had or had not received throughout their careers and regardless of how familiar or unfamiliar they were with their employer's documentation policy. A statement by Wanda, an RN with five years' experience, who recalled her own memories of the process of learning to use CBE, sums up this experience well:

When I first started, we needed to see, to be on the floor a couple days and shadow a nurse and see the charting and how they do it. And then go take the charting class. Because then you'd understand it better. Because you get into that charting class and I'm a brand new nurse and I'm sitting down and they're teaching me how to chart and I haven't even taken care of a patient yet. Or been on the floor. So it's kinda like you're just sitting there and it just doesn't, ya know, you just don't get it. I mean, you listen and you think you get it, but then when you get on the floor, you, you've gotta learn it all.

Participants' perceived a lack of consensus for how CBE was being utilized on their unit and/or throughout their facility; the consequence was a group of individuals figuring the method out for themselves.

Defining Normal for Self. Another property of Coming to Terms with the Method, Defining Normal for Self, conceptualized how each participant would define "normal" when documenting with the exception-based computer system. All participants used a nursing computer documentation system which allowed a mouse-click choice of a "Within Defined Limits" (WDL) or "Within Normal Limits" (WNL) statement within each body system category. Most, but not all, of the participants' nursing computer documentation systems had the criteria for the choice of the WDL/WNL statement readily visible on each screen or visible through a mouse click to an additional window. In facilities where the computer systems did not facilitate viewing the WDL/WNL criteria, participants described the ability to reference written policies, cue cards or reference books. Participants described seeking input from colleagues about how to use some of the definitions or criteria for "normal" when there was disagreement with how

"normal" was defined or when they felt "stuck" because a definition did not

necessarily fit an individual patient or clinical situation. The sub-properties of this

concept reveal the variety of individual practice patterns among the participants

in choosing to use WDL/WNL statements: Using the WDL/WNL Statement, Using

What is Normal/Baseline for the Patient, or Using the Understanding of Normal

Physiological.

Using the WDL/WNL statement. Some participants described the

practice of using the criteria for each WDL/WNL statement when choosing to

document when a patient's physical assessment findings were "normal." The

choice to use the criteria was sometimes, but not always, dependent on actually

referencing the written criteria each time a WDL/WNL statement was chosen; the

choice to use a WDL/WNL statement was often based on a participant's belief

that they knew all of the WDL/WNL criteria for each body system after having

used the system for a period of time. As Wanda stated:

> *You just kinda go right through the tab charting and fill in that, your b.i.d.
> assessments and there's actually the category, it'll say um, for your b.i.d.
> assessment you have on the very first page you can just do met, they're,
> they're called what we do met or not met. When you check met or not
> met, it'll, it has like a list of criteria… You have to open it. You have to
> click to open it. If you need to see, ya know, why you're choosing met or
> not met… I pretty much know, ya know, what if patients, once in a great
> while I may look at one if I'm wondering…*

Using what is normal/baseline for the patient. Other participants

described the practice of choosing the WDL/WNL statements based on

assessment findings they judged to be normal for the patient, regardless of the

criteria for each of those statements in their documentation system or policy. In

these cases, the record labels the patient's condition in a given body system as

"normal" according to the criteria in the system, but this will not necessarily

reflect the actual assessment made by the participant. Participants using this

practice held the perception or belief that everyone else, or at least a majority of

their peers, were also using the WDL/WNL statements in this way. As Anne

stated:

> *Some people say well glasses um, they've worn them all their lives, it's within normal limits, for them. But is it within normal limits for the general public because 20-20 is normal? And so some people mark within normal limits for glasses and some people don't. Some people consider that an exception. So there is absolutely no consensus on any um system um of the body to as far as what's normal and what's not normal.*

Using the understanding of normal physiological. Other

participants described choosing WDL/WNL statements based on the

understanding of what is considered to be normal physiological findings by most

nurses, regardless of the criteria written for those statements.

 Participants using this approach shared the perception or belief that others also

used the understanding of what is considered normal physiological when

choosing the WDL/WNL statements.

> (Peter) *Well, I think everybody's pretty well tuned to the fact that what we're looking for is, or what they're looking for is anything that's outside of the normal physiological, so I would (background noise) think that most*

everybody is probably not even paying a whole lot of attention to those cues any longer.

(Lana) Mostly cuz, I mean, I feel like I've been you know, a nurse long enough where I feel pretty comfortable in knowing what's normal, what's not normal… Not looking at any, in, ya know, in- interpretation of what's normal and just kinda going with [what] I feel is normal.

Again, with this practice, when participants had chosen a WDL/WNL statement, the record labels the patient's condition in a given body system as "normal" according to the criteria in the system. However, the label in the medical record would not necessarily reflect the participant's understanding of "normal physiological" or what had actually been assessed.

Accepting the benefits and negatives. Another property of Coming to Terms with the Method is Accepting the Benefits and Negatives of the Method. Benefits of the method are Prompting Thorough Assessment and Decreasing Documentation Time. The negatives of the method are Lost Data and Doubting Data Accuracy. All of the beneficial and negative aspects of CBE will be discussed separately. However, a comment by Yvette provides a good illustration of the combination of issues conceptualized by this property:

um, in a particular, well, inexperienced in general, but, um, it can help reinforce, there's so many things you have to do in nursing, there's so many things you have to do, that sometimes it's helpful, um, it gives you help, I forgot about that, yep, oh, yeah, yeah, I forgot about that, I may find out about that, so it can give you helpful prompts, but then again, that's if you read it. If you just go through the screen sort of ... yes, yes, yes, yes, yes, page through the screen and then file it, you've, it, but you haven't really taken the time to read it, you could be documenting some um, false information without meaning to do it.

Prompting thorough assessment. Participants thought reading the

criteria for normal findings and the exception choices within the computer CBE

systems had the beneficial property of prompting inexperienced nurses, or

nurses with less experience in certain areas, to complete a more thorough

physical assessment. The following statement by Ellen illustrates this:

> *Um, OK. Um, I think that in some sense it's helpful because I'll do my
> assessment and then I'll come in and I'll use the computer-based charting
> and if there was something I didn't think about assessing or I had forgotten
> to assess, it'll remind me that I need to go back and look at that. Um, so,
> um, I think it is helpful. You know, basically I do my assessment and then
> I can come back and it's like a double-check system for me.*

    Decreasing documentation time. Participants perceived using CBE,

within an exception-based computer documentation system, made it easier to

document their findings and enabled them to get documentation done faster.

This experience is illustrated by the following statement:

> (Peter) *Generally on, on a, on a shift-to-shift basis, it actually, it actually
> saves time. Because, because you're charting by exception or Charting
> to Standards, versus doing a complete charting of what you find…
> Everybody says that they feel that it's much quicker to chart to
> standards or chart by exception than it was in, in the prior system. And
> everybody's, we're all getting out, finishing up with our shifts with less
> and less overtime since we've gone to the system, so that tells me on
> an overall basis that the system is working.*

Tabitha was the only participant who shared comments indicating that she saw a

distinction between the impact of using CBE and using a computer to complete

documentation. Although this participant felt she sometimes spent more time at

the computer than at the bedside, she still experienced that using CBE made

documentation easier.

> *I guess, ya know, the other situation for me is that uh, sometimes I feel like, ya know, I spend more time at my computer than I do at the bedside. And um (tongue click), although, ya know, one of the ways that I try to do that is to actually do my charting in the patient's room with the patient right there, uh, versus, ya know, um, at a computer in the break room or, so I think, I think, and that's probably an issue with any form of um, computer-based charting is sometimes it seems like you're just spending so much time on that computer, but, I don't know that that's um, necessarily because of Charting By Exception but, certainly any computer-based method, I think, would cause some of those same feelings, but Well, I think most of the time it's an effective um, ya know, an effective means of documentation and um, ya know, I'd say probably 80% of the time I think it's effective um, I think there are a few instances where, ya know, just not enough information was given or things were rushed through and uh, but I, I generally like it. Um, I think it makes, I think it makes documentation a little bit easier.*

> ***Lost data.*** Participants identified that the trade-off with having an

easier, more efficient method of documentation, was that there would be some

data loss. There was the general understanding that, with CBE, some details

about a patient, including findings considered "normal", would not be visible in

the medical record. A statement made by Don describes this well:

> *Well, it's faster and easier. Uh, more efficient. But one of the negatives, one of the negative aspects is when you do not endorse any abnormals, uh, you don't really have a record of what the actual observations were. So you're losing a little bit of data that way. That has been my experience.*

Another statement by this participant illustrates the concern that CBE

documentation can sometimes make it difficult to ascertain exactly when a

change in patient condition had occurred:

> (Don) *Well, the patients, uh, at least in two cases patients had to be transferred out of the hospital and there were no, and when we went back to look at what was documented, they were pretty much (laughs), there was not sign of any slow, you know, slow decline. We looked back at the charting and there was, you know, nothing really showed up as being in the abnormal ranges. And there was, like, very little evident, very, very little evidence to um, to show where the, you know, how, where the decline started happening.*

Participants who performed chart audits shared that reviewing data captured with

CBE made it difficult to tell whether Clinical Pathway or Standards of Care

outcomes had been met.

> (Patricia) *I find it real hard to do chart audits… I audit charts for total joint to see if they're following the clinical pathway. Have they, have they progressed as you would expect them to do, and made the recovery in three to five days hospitalization… I don't know that uh, the catheter was taken out at a certain hour. I know it was taken out,… and um, we're supposed to do bladder scans every six hours to see whether they have… urinary retention. So, that might not be there. I won't find every-six-hour documentations that a bladder was scanned… When she did that, she found it empty, she didn't make any note because it was empty, which it was supposed to be. But I as an auditor didn't know that and so it's really hard for me to follow… They're normal findings, so it's normal to find a person's bladder empty, you know, after they urinate. So with no need to write that note, but if I'm going to follow, did this patient accomplish an empty bladder second-day post op if I don't have any document telling me.*

A statement by Yvette illustrates the trade-off of lost data for increased efficiency

in documentation:

To me, a medical record is like a, um, it's a story. It tells the patient's story from the minute they came in to the minute they were discharged. It's a snapshot. You should be able to look through that and really know everything that happened to your patient. And where they were, and what happened to them, and how they reacted to it (clear throat). And Charting-By-Exception doesn't leave that footprint. It, it leaves you with some information, but it doesn't leave you with the full story.

Doubting data accuracy. Participants described the experience of

trusting their own data, but not trusting the accuracy of CBE data entered by

others. Lack of trust in the accuracy of CBE documentation was grounded in

several conditions. One condition was observing other nurses entering data

quickly with rapid clicks of the computer mouse ("whizzing through the choices"),

which gave the impression that choices were being made without much thought,

in the haste to complete documentation quickly.

(Wanda) *I don't have confidence in that, what people, I, I have confidence in what I chart. But, I'm not confident that every single person on my unit is paying attention to that. I think that they are in a rush, in a hurry to get charting done or whatever, and they may just like flip right through 'em and chart that.*

Another condition was the perception of a mismatch of data when

reading the documentation of others. This happened when a participant's

assessment did not match what was documented last, and he/she was not able

to tell from the documentation when a change in patient condition had occurred.

It also occurred when CBE data was entered in a computer system that allowed

a "copy forward" function; previously entered data would populate new entry

fields and could be accepted with the click of the mouse. An example of this was when a participant who shared that previous documentation indicated the presence of a urinary drainage catheter, but he/she had personal knowledge that the catheter had been removed several shifts or days prior. While this "copy forward" function is not part of the method of CBE, many exception-based documentation systems enable this.

        Yet another condition that caused the doubt of data accuracy was having the impression that another nurse may have selected a WDL/WNL statement without having actually assessed the patient. Gail stated: *"Like, just about every shift, yeah. I mean, say someone's admitted for renal failure and then they put for GU [Genital-Urinary System] within normal limits. Really? OK (laugh)"*. This perception is also illustrated by Betty, who stated:

> *Um, sometimes it's appalling (laughing) I mean um, it's, it, they chart um, very carelessly and maybe when I read what they charted I think they didn't really assess their patient. Well, like to check within normal limits on something (laughing) and then you go in and, ya know, find some horrible thing on this person that nobody picked up on.*

Other participants shared about working alongside another nurse, observing that they did not assess a certain body system and then observing that same colleague select a WDL/WNL statement for that system when entering documentation. The temptation and the opportunity to complete documentation quickly by entering WDL/WNL data without having actually completed a physical assessment, was consistently acknowledged among participants.

(Faith) *I ain't gonna lie to you. There's tons of times where I've (laughs) was tempted or busy and stressed out and wanted to go home and just couldn't wait to get outta there and had a bad day or whatever, but it's my pride and my morality that I live with and I wouldn't be able to sleep good at night knowin' that I'd did it. So, I don't (laughs)… I've been man, I wish I could just do this and be done with it. But I couldn't do that. I, I just couldn't. Cuz it's so easy to do it, I guess, is why it's more, even more tempting. But have I ever done it? No.*

Pressure to conform. The final property of Coming to Terms with the

Method is Pressure to Conform. This variable and its sub-properties, Being the

Pressure and Withstanding the Pressure, encompasses the participant's

experience of settling for themselves what degree of adherence to CBE policy

worked for them in everyday practice. For some participants, pressure to

conform was related to their belief or perception that hospital management had

implemented the policy of CBE and an exception-based computer system in

order to get staff nurses away from narrative documentation because having

less, rather than more detail in the medical record might be better for the

hospital's bottom line if there was a lawsuit.

The overall pressure was to accept and adhere to CBE guidelines, and to

document like everyone else. This is illustrated by a statement made by Wanda,

who described the frustration she experienced when reading her colleagues'

documentation that included "normal" data that is not recorded when following

the method of CBE:

Um, I get frustrated when you follow somebody and they've been writin', actually writing those words in like… two side rails up, or, or they'll put in

"easy" for breathing… Um, ya know, and then you feel like if, what my frustration is, if I don't do it, my eight hour shift, I did not chart that there was two side rails up because that's the norm, but someone ahead of me did and then say on the next shift the patient maybe fell outta bed or somethin'. You know, I don't want it to come back to me and say well, everybody's been chartin' two side rails up but you today. But I know [name of hospital] legal system would back you up but it's just really difficult to, when people are charting in a thing… and then I come in and I know how to chart, and then I don't do it, and ya know, you kinda feel like you should be doin' somethin'. Charting there because, you know what I mean, it's almost like pressure.

Being the pressure. Some participants described exerting pressure on others to adhere to the method. They did this through on-going vigilance about how their colleagues are using the documentation system, use of verbal coaching, use of personal examples of how they used the documentation system, and reporting cases of non-adherence to a manager or educator.

(Gail) I see people charting a lot of norms and it's, it's just kind of a pet peeve and kind of annoying like, why are you (laugh), ya know… it's just uh making work for yourself. Why are you stating the normal, ya know... why are you writing that. You know, you already checked the little box that says within normal limits, so that's within normal limits, ya know.

Withstanding the pressure. Other participants chose to stand against the pressure to conform to use CBE like everyone else. These participants had an awareness that they were labeled by peers as someone who "documents too much" or "puts unnecessary detail in the charts." They described experiencing pressure through receiving unsolicited council, advice, or caution from peers, managers, or educators to stop using narrative detail or symbols to highlight

something in their documentation because of concern that doing so might put the

hospital, or others, at risk legally.

> (Ellen) *I don't know what other nurses do. I don't know what drives them. I just know that for me, I do it because I'm safe. I'm very cautious. And I don't care what the policy says, I'm gonna chart what feels safe to me and for what the patient, what's gonna be I think in the best interest of the patient.*

Summary of Coming to Terms with the Method

The first phase of the process of Creating a Protective Picture is Coming

to Terms with the Method. Participants came to terms with using CBE through

figuring the method out for themselves, defining normal for themselves,

accepting the positives and negatives of the method, and by being the pressure

or withstanding the pressure to conform to how the method is used in daily

practice. The major properties and sub-properties of Phase I are illustrated in

Figure 3 (Attachment O).

Phase II: Being Responsible in Documentation

The phase of Being Responsible in Documentation is on-going and

iterative. Participants described their efforts to be responsible with each episode

of documentation by giving thoughtful consideration of what would be "enough"

data to record at that given moment in time.

> (Hallie) *Uh, again it, it's just because I feel it's to me, if I just chart within normal limits, then I feel like I'm not charting enough. And uh, even though I know that's acceptable, especially if, ya know, like I said we have these little, like, cheat sheets and within normal limits means for every system you, ya know, if it, if everyth-, if the patient falls under that*

category where everything is normal, then that's all you really do need to chart. But uh, I just feel like if I just do that, it's just not enough.

The primary property of Being Responsible in Documentation is Assessing Adequacy of CBE to Create a Protective Picture. The sub-properties of Assessing Adequacy of CBE to Create a Protective Picture are Listening to the Voice of Experience, Capturing Nuance and Capturing Nursing.

Assessing Adequacy to Create a Protective Picture. Participants resolve their main concern about being responsible in documentation through the core variable, Creating a Protective Picture, which will be discussed in detail in the next section of this chapter. Participants described how they assessed the adequacy of CBE to create a protective picture in order to determine whether they would or would not chart-by-exception with each episode of documentation. Assessing the Adequacy of CBE to Create a Protective Picture involves the sub-properties of Listening to the Voice of Experience, Capturing Nuance and Capturing Nursing, which leads to the choice of either adhering to CBE policy or feeling constrained by the system and using other means to Create a Protective Picture.

 Participants believed CBE to be an adequate method to create a protective picture "most" of the time and for "most" patients. Conditions under which the method was adequate included: a) when patients were not recent admissions, b) patients who had been hospitalized for several days, c) patients with only one or few medical issues, d) patients who were almost ready to be

discharged, and e) when the choice of WDL/WNL statements or exception

statements "fit" the participants' current assessment of the patient or what they

were trying to capture with their documentation.

Participants perceived that the use of CBE would not be adequate; it

would not serve the patient, or it would only provide enough data upon which to

evaluate trends and make clinical decisions a "small percentage" of the time.

The most common conditions for which CBE was not perceived to be an

adequate method to create a protective picture were: a) within the first 12 to 24

hours of a patient's admission, b) documentation of an initial admission

assessment, or c) the first time a participant had cared for a particular patient.

Taking the time to write a full baseline assessment during the first encounter with

a patient (narrative and/or detailing normal data in addition to exception data)

allowed participants to feel comfortable with charting by exception later in the

shift or on successive days of caring for the patient.

> (Faith) *Um, well (sigh), I like the idea that if I've had the patient for days on end that, if the assessment hasn't changed right from when I had 'em the first day, that I can put within normal limits or unchanged, or whatever the brackets, whatever fits that patient's system. But I do feel as, and this is just my personal opinion, that if I'm laying eyes on that patient for the very first time, I want them to know what my within normal limits is, ya know, what I assessed originally so they know that yes, it truly hasn't changed when I say it hasn't changed. I don't want to go off of somebody else's admission assessment, and say it hasn't changed when I wasn't there, I didn't listen what they listened to. So my first initial assessment, I am writing, I am clicking that their lungs are clear. I am clicking that their, ya know, respiratory pattern is, ya know, non-labored, equal, even, ya know, their respiratory color is, is pink, moist, all that kinda stuff. But anybody who looks at that chart, anybody who*

looks at that assessment, anybody, whether it be my boss, the next nurse coming on, um, ya know, care manager, anybody who is using that car, um, chart for clinical data. If later for whatever reason it was to be reviewed by a legal consultant, I want them to know that this was my initial assessment, this is what I saw. And then, if I'm having them for 12 hours, when it comes down to that eight hours where you're in, supposed to do your reassessment, I will chart on the exception then. Nothing has changed except their, or, if nothing has changed, nothing has changed.

Other conditions for which CBE was not felt to be an adequate method to record data were: a) when a patient was demonstrating instability in one or more body systems; b) when informal discussions at work among colleagues and/or peers left the participant with the perception that a specific physician had a trend for bad outcomes in his/her patients or their unit or facility did not achieve good outcomes with certain types of patients, c) when a participant felt the need to document the behaviors of a patient with a mental health diagnosis; d) when the participant "had a hunch" or perception that something might be going wrong with a patient, but none of the available statement choices seemed to fit or accurately describe the observations of what was going on; and e) when documenting cardiac, respiratory or neurological assessments; three body systems that participants felt were especially important to have specific, detailed data for normal and exceptional assessment recorded on a regular basis.

When CBE was not felt to be an adequate method for documenting a particular episode of care, participants described "taking extra care" with their documentation by using a variety of methods to detail normal data, detail

exceptional data or wedge information into the medical record. For some participants, "taking extra care" meant using narrative comments or placing symbols in the record, in order to detail when there had been a change in patient condition from what was previously documented, or heard in report. They believed that doing this would make the change "stand out" and ensure that others reading the record would see it. Narrative statements were also inserted to help explain the reasons why an exception statement had been chosen. Notations or narrative were also inserted with the intention of alerting or communicating to other clinicians that they should be "extra-cautious" with their documentation for a particular patient.

    Listening to the Voice of Experience. Listening to the Voice of Experience informed participants about whether using CBE would be adequate to create a protective picture with their documentation, or whether the system was constraining them from being able to include the information they thought necessary to document at that time. Regardless of their level of experience or length of employment, participants described listening to their own internal voices, seeking and listening to the advice of their colleagues, or a combination of both, under a variety of clinical situations. When they experienced being constrained by the system, they chose to use other means to Create a Protective Picture. Listening to the Voice of Experience resulted in participants' decisions to:

- Follow their employers' documentation policy and chart by exception, using only WDL/WNL statements & exception statements by clicking the boxes or selecting choices within drop-down menus of the EHR.

- Use narrative in addition to choosing WDL/WNL statements (Detailing the Normal Data) because of the belief that the WDL/WNL statement alone was not going to provide enough detail for the normal findings.

- Use narrative in lieu of choosing a WDL/WNL statement (Detailing the Normal Data) because of the belief that choosing a WDL/WNL statement was not going to provide enough detail for the normal findings.

- Use narrative in addition to choosing exception statements (Detailing the Exception Data) because of the belief that the exception statement alone was not going to provide enough detail of the change in patient status.

- Use narrative in lieu of choosing an exception statement (Detailing the Exception Data) because of the belief that choosing an exception statement was not going to provide enough detail of the change in patient status.

When recalling examples of detailing normal or exceptional data, some participants described the experience of trying to "wedge" information into the medical record because it was not readily apparent where it "fit" within the CBE system they used. At these times, they acted on what their voice of experience told them would be important to record for an individual patient and made a

personal decision, as to where in the medical record it made sense to record the

data. Ellen stated:

> *And that's why I write additional, and that could be I suppose, that I write*
> *additionally because there might not be a place in the Charting By*
> *Exception where um, there's a check box to indicate something and so I*
> *do write it out uh, in more of a narrative form.*

The decision to use narrative was also informed by the impression (based on

each participants' experience) that although the patient met all WDL/WNL

statements in the CBE system, there was more going on than what just choosing

the statements with the computer mouse would describe.

> *(Tabitha) I guess, ya know, it just kinda goes back to, ya know, are, are*
> *we giving enough information about the patient when we chart by*
> *exception, um, but I, I would be concerned about um, ya know, is their, is*
> *their status really being depicted in uh, Charting By Exception, or would*
> *there be a better way to, to chart what's happening with your patient.*

Capturing Nuance. Capturing nuance conceptualizes the importance

participants placed on evaluating whether the use of the choices in a drop-down

menu or the statements with the CBE system would capture the subtle aspects,

nuances or "grey areas" of what they felt needed to be documented about the

patient. Subtle aspects, nuances or grey areas about the patient's story were

believed to be valuable for the decision-making of other nurses and providers

and to contribute to the provision of better care.

> *(Lana) Um, like OK, I for example, I had a patient yesterday who um,*
> *her mental status, it was really hard to describe, ya know, she didn't*
> *really fit some of the categories ya know, we all-, she was lethargic*

maybe, maybe you know, she was obtunded, but you know, she kinda went in and out, um, you know, and then there's family's interpretation of her, you know, what's been going on, and you just really can't pick one or two boxes and say that's what it is, so you kinda write a narrative about what's been going on in general, how her behavior is or how her mental status was…

Capturing Nursing. Capturing nursing conceptualizes the importance participants placed on evaluating whether the use of the choices in a drop-down menu or the statements with the CBE system would be able to capture the aspects, nuances and details of what they did for the patient. Participants endeavored to have the record clearly reflect their clinical decision-making (the choices for and implementation of an intervention), patient education, special things done for an individual patient and the development of a plan of care addressing specific patient needs. Participants shared that they also captured nursing by documenting the patient's status at a specific time when, as a nurse, they anticipated that the patient may develop a complication in the future. Participants also endeavored to clarify their choice of a normal statement by adding narrative that explained how they got assessment findings when documenting vascular, mental status or cardiac assessments: (Anne) *"not only do I show that it is within normal limits, but I showed how I got those results".* Adding additional narrative was also used in addition to choosing the WDL/WNL statement, to make absolutely certain that someone reading the chart will

understand this is what a participant found and meant by checking the WDL/WNL statement.

Summary of Being Responsible in Documentation

The second phase of Creating a Protective Picture is Being Responsible in Documentation. Participants experienced being able to be responsible with their documentation, through assessing the adequacy of CBE to create a protective picture. They did this through listening to their voice of experience and deciding how they were going to capture important nuances of the patient and capture what they, as the nurse, had done for the patient. The major property and sub-properties of Phase II are illustrated in Figure 4 (Attachment P).

Phase III: Creating a Protective Picture

Creating a Protective Picture is the core category and the third and final phase of the process. It addresses the participant's main concern about using CBE for documentation. Creating a Protective Picture can be accomplished through either charting-by-exception or by other strategies of documentation taken as a result of feeling constrained by the system. In this phase, participants act on their decision regarding how to enter data during each episode of documentation. The primary properties of Creating a Protective Picture conceptualize the purpose for the protective picture; Protecting the Patient, Protecting Self and Protecting the Hospital. The sub-properties of Creating a Protective Picture are Type of Picture and Forecasting. These labels

conceptualize the type of picture participants believed was needed in order to be protective and what the participants forecast as the importance or significance for entering data; their intent in Creating a Protective Picture.

Protecting the Patient. Participants believed that taking the time to put little details in the EHR was an important way they "looked out for the patient" by contributing patient specific information that could be used for clinical decision-making.   Caitlin stated, "*So I mean, the little things that can come back and uh, end up, ya know, if if there's a, like a patient's condition or even, ya know, we're all lookin' out for the best of the patient, for the patient.*" Participants described many episodes of documentation in which their primary focus was to record information they believed would be protective of the patient in some way because it was saved in the medical record.

> (Faith) *But it's just, it's a lot, it's, I'm not doin' that patient justice if I'm documenting within normal limits and it's clearly not, or let's hypothetically say it was, but then somethin' changed in the middle of the time and I, it just, you walk that fine line when you're using within normal limits and it's clearly not stated on the system we're using. Yes, it is stated in the book. But I can see that proposed question... When you used that within normal limits for this patient, did you go back to the given text book and look up at that exact time what's within normal limits?*

Protecting Self. Participants also shared descriptions of documentation episodes in which their primary purpose was to protect themselves, as illustrated by Wanda, who stated, "*So if I can't find what I'm looking for on the charting then I just write summary notes, that's the only way I can feel like I can cover myself.*"

The purpose of protecting oneself was grounded in concerns that, should a

patient's case go to court in the future, or if it was ever questioned that the

participant had provided care according to an established standard or policy, the

medical record should be able to reflect the details of a case.

> (Hallie) *cuz you will get written up if you don't. Especially with uh the uh, the repositioning because, ya know, if, if a patient comes up with some type of bed sore or ulcer of some time during their hospital stay then they go back and they look and see, did this nurse, ya know, chart that the patient was repositioned?*

Protecting the Hospital. Finally, participants described episodes of

documentation in which their primary purpose was to adhere to documentation

standards that would protect their employer. Protecting the hospital involved

documenting data that would either ensure full reimbursement from insurance

companies or provide good legal defense in the event the facility was sued.

> (Lisa) *Um, some of it will come from, as, as the person has been hospitalized and if we're beginning to see a pattern of behaviors um, that don't seem to match what's going on with the picture or there's a lot of complaint, then it'll actually get passed on shift to shift to make sure you document well.*

Type of Picture. Participants used several terms to describe the type of

picture they believed would be protective in the clinical examples they described

during the interviews. Participants consistently described wanting to "get a good

picture" to "paint a picture" or to "create a snapshot" in order to protect the patient

or the hospital. As Betty stated, *"I like to kinda paint a picture of what happened*

for that patient while they were there."   Sometimes, the purpose in using

narrative was to cluster data in one place so that others reading the medical

record would not have to tab through multiple areas to get the full picture of the

participant's assessment of a particular body system.

> (Yvette) *whereas, if I write a note that says GI status, I can capture all of that in one place in one note. And also write how they're tolerating it, you know, are they, so it's more, it's one place that if you're a physician or the next caregiver, you can look at it and say oh, OK, great, (clear throat) that gave me a really good snapshot rather than going into everything.*
> Documentation protective of self was often described as a "safety net" or

"leaving a footprint," especially when the participant's intent was to capture

nursing and what they had specifically done for an individual patient.

> (Yvette) *Because sometimes verbally things get lost. We have so much to remember that unless we write it down, I'm sure I have forgotten to verbally pass things on to the next nurse. Some little nuance or something. And if it's documented, then, that's kind of my safety net.*

    Forecasting. The sub-property of Forecasting is a conceptualization of

what participants saw as the significance or importance of why they should enter

specific data in the medical record. The various types of forecasting participants

described doing provided insight into what they believed their efforts at

documentation would accomplish. Participants described entering data because

they forecasted that a patient had the potential to develop a complication in the

future and felt it would be important for others to be able to read how the patient

had been "at this time" in order to gain insight into the development of the

complication. This type of forecasting is illustrated by a statement made by

Patricia, *"Yeah, when I'm looking at a patient and I'm seeing there's a possibility*

of something going bad here, that's when I'm going to write out more specifically

what I see as normal." Another type of forecasting occurred when participants

entered data they thought would be particularly useful to the nurse who would

replace them on the next shift. For example, Ellen stated:

> *if it's normal, I want to make sure I note that it was normal. One, because*
> *if there's a change from normal, if there's even a slight change I want that*
> *documented so that the next nurse knows so they can monitor it.*

Participants also saw that entering data would have value for clinical decision-

making. This type of forecasting is described by Don, who stated:

> *Well, if you're monitoring the condition of a patient, especially a cardiac or*
> *pulmonary, uh, respiratory or cardiac patient, sometimes subtle changes,*
> *even if they're in the average or normal ranges, uh, could be useful to*
> *have the actual data right there, so, that's just been my experience…*
> *because it was a way to document to the hospitalist that something was*
> *going on and we needed to do something with the patient.*

There were also participants who described episodes of documentation in which

they recorded data with the belief that the information they entered in the medical

record would have value at some unspecified time in the future. As Edith stated:

> *I was thinking about this patient and I was thinking that the subjective on*
> *my part had to be included because maybe a week from now when he,*
> *when something else happened, and maybe it wouldn't be me, maybe it*
> *would be an emergency room nurse reading this, she could say OK, now I*
> *understand.*

And finally, participants shared that they would enter data in the medical record

because they believed the information would be specifically valuable to the

physician or physicians caring for the patient. This type of forecasting is

illustrated by a statement made by Patricia:

> *if he should develop a compartment syndrome, it would be easy to cite*
> *when this began, and that would help the surgeons be able to know, you*
> *know, how soon or what action needs to be taken… I guess I want to be*
> *able to help anybody who would want to find out when did this start.*

Summary of Creating a Protective Picture

The third and final phase of the process involves the core category,

Creating a Protective Picture, which is how participants resolved their main

concern about using the documentation method of CBE. Multiple types of

pictures were believed to be protective, depending on the individual patient's

situation. Participants created protective pictures through the use of CBE or

through the use of other means, when they felt constrained by the exception-

based documentation system. Participants forecast the importance and

significance of information they believed important to document and created

pictures for the purpose of protecting the patient, protecting themselves and

protecting the hospital. The major properties and sub-properties of Phase III (the

Core variable) are illustrated in Figure 5 (Attachment Q). A complete model of

the entire theory of Creating a Protective Picture is illustrated in Figure 6

(Attachment R).

Meanings Inherent in the Theory

The meaning inherent in the 3-phase process of Creating a Protective

Picture is that participants who use the method of CBE strive to document

responsibly. The participants believed they did this by continually assessing how

adequate a picture of a patient's condition, care and response to that care would

be created by following the method each and every time data was entered in the

medical record. The iterative assessment of how detailed a picture is needed at

any given time drives the decision to follow a charting-by-exception policy, or not.

 Risks to the patient, to the self, and to the hospital that could be positively or

negatively affected by the type and quality of information recorded in the medical

record are considered.

Inherent in the meaning of the concept of Coming to Terms with the

Method is that despite being educated about CBE, each participant had to figure

out how to use the method for themselves. This involved determining how they

would define the concept of "normal" when making the choice to use a

WDL/WNL definition within the CBE documentation system. Participants who

used "what was normal/baseline for the patient" and those who used the

understanding of "what was normal physiological" had the perception or belief

that others were making these choices in the same way that they were.

Participants who used the WDL/WNL definitions to make the choice to use a

WDL/WNL definition within the CBE documentation system were aware that

some of their colleagues did not use this practice. Common among all participants was the awareness that there was a lack of consensus on how the method was being used among their peers, on a unit-based and sometimes hospital-wide basis. Participants also had to develop a personal level of acceptance of both the positive and negative aspects of using CBE.

Inherent in the meaning of the concept of Being Responsible in Documentation is the need for participants to assess the adequacy of CBE to create a protective picture each and every time they entered data in the medical record. When it was felt that CBE was adequate to create the protective picture, participants chose to follow the method. When a situation arose in which CBE was not felt to be adequate, participants chose a number of ways to "work around" the method in order to be able to record the information they felt was important to record, without being constrained by the exception-based computer documentation system.

Inherent in the meaning of the core concept of Creating a Protective Picture are the measures taken by participants to document in a way that solved their main concern. Creating an adequate, protective picture allowed participants to feel they were being responsible with their documentation.

Summary

Participants were able to create a protective picture with their documentation through charting-by-exception or through detailing normal data,

detailing exceptional data and by wedging information into the medical record,

when CBE was not felt to be an adequate method to record clinical data for a

given situation. The process of creating a protective picture through nursing

documentation is a multi-layer model that reflects the variations of documentation

decisions and behaviors of nurses who use the method of CBE to record clinical

data, including patient assessment, nursing intervention and patient response to

nursing care. A statement by Yvette reflects the importance of the quality of the

documentation "picture", incorporating the idea of the medical record as a

collaborative tool for patient care and the belief shared by all participants that

what they recorded in the medical record would have some kind of an impact on

a patient's care:

> (Yvette) *And, I will often go through on my patients and look back at the last couple of nurse's notes, or any kind of notes, um, but I don't, I don't get a lot of information if I'm going through the previous screens on my patient, when, when the screen repopulates for me, I look at it, but it doesn't give me, it doesn't give me a snapshot, it gives me a one-dimensional sort of look at the person, and, and, I sort of like the 360 a little bit, because it makes, it's easier for me to sort-of picture the person, um, and I can get a much clearer idea. And then I can get a clearer idea of what I need to do, which turns into better patient care, I think. So if I can leave that footprint for the next nurse…*

Chapter VI

Discussion of Findings

In research using the Grounded Theory Method, the findings are a substantive theory which emerges through constant comparison of incident-to-incident in the data. In this study, the theory of Creating a Protective Picture emerged as a theory of how medical-surgical nurses resolve their main concern about using the documentation method of Charting-by-Exception to record clinical data on a day-to-day, patient-by-patient basis. In this chapter, the relationship of these findings to the extant literature, and the contribution these findings make to the current literature, will be discussed.

Relationships of the Findings to the Extant Literature

The body of research literature available on CBE is very small, consisting of two Cochrane reviews (Currell & Urquhart, 2003; Urquhart, et al., 2009), three qualitative studies (Harman, et al., 2009; Kossman & Scheidenhelm, 2008; Rydholm, et al., 2008) and six empiric studies (Blachly & Young, 1998; Green & Thomas, 2008; Menke, et al., 2001; Nissan, et al., 2000; Parker, et al., 1994; Short, 1997). The remainder of the existing literature includes professional articles describing the implementation of CBE and legal opinions published in journals, books, editorials and letters reflecting what is understood as historic support for CBE, and illustrating areas of concern about the method. No previously published work focused primarily on the opinions, perspectives,

feelings or concerns of staff nurses using CBE, and none of the sources reflected an examination of in-depth decision-making from the perspective of nurses who use the method on a day-to-day basis. The extant literature was examined and compared to the findings of this research and this comparison provides insight into the relevance of the study findings.

Historical Support for CBE as a Documentation Method

Since its introduction, CBE has been seen as a cost-effective method of documentation that has a positive effect on nursing productivity. Aranzamendez (2004) reviewed 36 sources addressing implementation of CBE, evaluated the benefits believed to occur with use of the method (reduced documentation time, making abnormal data more obvious and the promotion of nursing efficiency) and concluded that institutions choosing to implement CBE have consistently reported positive results and that their goals of documentation redesign were met.

Scoates, Fishman & McAdam (1996) noted improvement in adherence to regulatory requirements for documentation when CBE was utilized in an early computer-based documentation system and several other authors observed that the use of CBE facilitated recognition and reporting of complications and outcome variances (Castner, 1998; Murphy & Burke, 1990; Short, 1997). The findings of this study are in contrast with observations made in these previous sources. Participants in the current study experienced difficulty conducting chart

review for the purpose of validating achievement of clinical pathway outcomes due to the lack of data documenting the performance of various tasks or assessment of specific indicators.

Of the six empiric studies in the extant literature, two reported data measuring decreased documentation time. Short (1997) reported implementation of a pilot project utilizing CBE combined with a clinical pathway for total hip replacement. Documentation time measured pre- and post-implementation demonstrated a 67% reduction. Staff overtime also decreased from 1.75 hours per nurse, per pay period to 1.1 hours (a 37% reduction).

Blachly and Young (1998) implemented CBE for documentation of medications in a skilled nursing facility to ensure productivity of the licensed staff. Most of the staff reported a 10-15% reduction in the time needed for medication passes.   The author's also found no significant change in the number of error reports (< .01 error rate) and a decrease in omissions and transcription errors; however, the wrong drug was given more frequently post-implementation.

All of the participants in the current study used CBE. All shared the perception that the use of the method decreases documentation time and some shared the perception that the use of the method reduced overtime among the nurses working on their unit. This finding validates what has been consistently reflected in the literature. While measurement of documentation time and overtime were beyond the scope of this study, some participants in this study

shared the perception that overtime had decreased on their unit because of CBE,

and all of the participants perceived that using CBE made the task of

documentation quicker and easier to complete.

Impact of CBE on Time for Direct Patient Care

As stated previously, investigation of the extant literature revealed no

examples of empiric research validating the perception that use of CBE provides

nurses with more time to provide direct patient care. Menke, Broner, Campbell,

McKissick & Edwards-Beckett (2001) conducted a study using a modified one

group, pretest-posttest design to determine if use of a computerized

documentation system employing CBE affected the time spent in direct patient

care. Their findings demonstrated improvement in completeness of the notes

and their congruence with care plans (Menke, et al., 2001). However, analysis of

variance (ANOVA) showed no significant difference in nursing time devoted to

direct patient care or documentation between the pre-implementation and post-

implementation time periods.

It was beyond the scope of this research to measure the time participants

actually spent doing documentation on a day-by-day basis, however all

participants had the perception that using CBE enabled them to complete

documentation quickly, leaving them time to focus on other things. An example

of this perception is illustrated by Ruth, who stated:

> *What I like about it is it gives you, if there is an abnormality, if everything is*
> *fine, you can zip through your charting without any difficulty. Especially*

I'm thinking about the post-op patient that's day two that's read… that's ready to go um home the next day (laughs), you know, everything is working out fine, you know, they're gonna be discharged, you know, everything is wonderful. What I like about exceptions is that it gives you, if they're peeing and pooping fine you don't have to worry about that, you can focus more time on the cardiac or the uh, respiratory issues... that aren't going fine. That's what I like about it. If everything else is wonderful, leave that alone. Let's focus on the other issues.

Completeness of Documentation with CBE

The existing literature on CBE reflects concern about the completeness of clinical information captured when CBE is utilized. Nurse participants in a qualitative study by Kossman and Scheidenhelm (2008) thought that use of CBE and reliance on checkboxes, drop-down menu selections and cut-and-paste features might limit critical thinking and charting accuracy and that they were not likely to use the free text function due to the time required. Shorr (2000) shared the opinion that while CBE has been widely adopted by hospitals as a means to gain nursing productivity, it often results in "incomplete, inaccurate and misleading recordkeeping" (p. 91).

Parker, Wells, Buchanan and Benjamin (1994) analyzed abstracted, secondary data to evaluate the quality of nursing documentation recorded for depressed, aged patients prior to and after implementation of the prospective payment system. They found a generally low level of documentation and wondered whether use of CBE might have led to the poor documentation quality. In their conclusion, they stated there was little evidence that the generally low

level of documentation was due to use of CBE. However, they also stated that

they had made no attempt to validate whether CBE was used to capture that

data being abstracted. No statistics specifically addressing the impact of CBE on

documentation quality were included in the report.

Merkley and Nelson (1995) observed that while the staff of an Emergency

Department embraced the method of CBE in a computerized program, they

disliked storing only abnormal findings due to concern that others reviewing the

record might think that a complete assessment had not been done. In contrast,

when Wills (1998) explored the perceptions of the problem of incomplete

documentation in a sample of 35 labor and delivery nurses, 71% of the

respondents believed much of nursing care is never recorded in the chart. When

these subjects rated a list of proposed solutions to the problem of incomplete

documentation, CBE was among the top three choices in the list seen to be the

best.

The findings of this study validate the concerns about the completeness

of CBE documentation found in the extant literature. The participants in this study

shared the experience of a twofold concern regarding the use of CBE resulting in

the loss of data. The first part of this concern is about the loss of details or

nuances of patient data that contribute to the clarity of the picture of the patient's

status and their response to care recorded in the medical record; completing

documentation faster came with the trade off of losing some detail in the data

being captured. The second part of this concern is about the loss of data that

captures the essence of what nurses do for patients on a day-by-day basis. In

contrast to the findings in the study by Kossman and Scheidenhelm (2008),

participants in the current study described regularly making the choice to take the

time to enter narrative data or to detail the normal or exceptional data, when they

did not believe that using CBE would create a picture that would adequately

protect the patient, themselves, or their employers.

Impact of CBE on Clinical Decision-Making

One of the research questions for a Cochrane review by Urquhart and

associates (2009) specifically sought to determine whether there is a

measureable difference in nursing practice or patient outcomes through the use

of narrative progress notes versus CBE. The authors included eight reports that

met the selection criteria, and they found no appropriate studies that addressed

the research question about CBE.

Nissan, Cohen, Graham, and Fitzgerald (2000) prospectively evaluated

the function and user-friendliness of a computer-based, inpatient medical record

that incorporated clinical guidelines for colorectal surgery patients and the

principles of CBE. These physician authors observed that CBE had the capability

to decrease documentation time. They discussed the concern that the method's

passive nature may result in clinicians overlooking important points of care;

however, they also shared the belief that using the method in an interactive computer-based format would mitigate this concern.

Green and Thomas (2008) reported physicians' perceptions of nursing documentation after implementation of an EHR that utilized a checklist CBE format and a separate nursing addendum form for documentation of narrative data. Content analysis of physicians' responses to an open-ended question on the survey instrument yielded categories illustrating concern that the addendum form was frequently incomplete or not used at all and an over-arching concern that insufficient data were available on which to base medical treatment decisions.

While measuring changes to nursing practice or the impact on clinical decision-making was beyond the scope of this research, the findings of the current study illustrate the participants' beliefs that the data they chose to include in the EHR, through the use of CBE or other means would have an impact on patient care. They perceived that the picture created through the data they recorded would have a protective effect for the patient, themselves and/or their employers. They also perceived that the data they chose to record in the medical record would have an impact on clinical decision-making.

The findings of this study also bring to light the variety of ways in which the participants made the decision to use the WNL/WDL statements within their EHR to document normal findings. Participants chose to use WNL/WDL

statements for "normal" findings based on the criteria or definition for those statements, what they believed were normal or baseline findings for the patient, or what they understood to be standard, accepted "normal physiological" findings for a given body system.

A serendipitous finding was that nine of the 16 participants in this research study were travel nurses (n = 2), worked in a float pool (n = 4) or stated they occasionally floated to other units (n = 3). Analysis of this demographic was beyond the scope of this study; it is unknown whether working as a travel nurse or within a float pool had an impact on the participants' perceptions on the use of CBE or how they made decisions to utilize the method in the various units they worked.

Taylor (2000) questioned whether the medical record could contain consistently relevant information for the care and evaluation of patients when CBE is used by nurses with varying levels of experience and knowledge. While demonstrating a correlation between experience level and the manner in which an exception-based computer documentation system is beyond the scope of this study, the findings illustrate that the "within defined limit" or "within normal limits" statements within the EHR documentation systems had a variety of meanings for the participants, and thus they demonstrated a variety of different ways in which they used the WDL/WNL label.

Nurse and Legal Expert Opinions and Perceptions of CBE

As stated before, the extant literature on CBE does not contain any source that focuses primarily on the opinions, perspectives, feelings or concerns of staff nurses using the method. Several authors discuss staff nurse discomfort with the method and that resistance to the method's philosophy continues to be demonstrated by use of narrative notes, documentation of normal findings (Murphy, 2003; Simpson-Brooke, 2004), and duplicate documentation (Frank-Stromberg, et al., 2001a). The participants in this study discussed the many methods they used to work around CBE within their computerized documentation systems when they felt that using the method would not create an adequate picture in the medical record.

These methods included duplicating CBE documentation through detailing normal as well as exceptional data and by the use of narrative notes whenever drop-down menu choices, WNL, or exception statements did not capture what the participants were trying to say.

The extant literature continues to reflect the affirmation of legal experts who state that there is reason for nurses' concerns about the legal protection afforded those using CBE (Davino, 2000; Guido, 2006; Murphy, 2003). There are those who believe that nurses working in facilities that use CBE need to take extra precautions due to the risks involved with minimizing documentation (Habel, 2003), and others who state that use of CBE may show gaps in the

provision of routine care that might be used to support the case for negligence

(Frank-Stromberg, et al., 2001a, 2001b). The findings of this study validate that

staff nurses using CBE do have concerns about the legal protection provided by

the method. The participants described their experience of making decisions that

addressed their primary concern when completing nursing documentation. Their

primary concern was that the product of their documentation efforts would be

able to protect not only themselves, but the patient, and also their employers, in

the event that a patient or family member should ever decide to litigate.

Adherence to CBE Documentation Policies

The opinion about whether it is important for nurses working at a hospital

that has implemented CBE to adhere to the method is mixed in the literature.

Burke and Murphy (1988) have consistently stressed the importance of

adherence to documentation policy when CBE is utilized, pointing out that as

long as all nurses follow their hospitals policy for CBE, the method will be

defensible in court (Burke & Murphy, 2000).

Many authors share this opinion, advising that consistent adherence to

the method affords legal protection for both individual nurses and employers

(Austin, 2006; Beverage, Donofrio, Mayer, Schaeffer, & Thompson, 2006; Chow,

2003; Clavreul, 2005; Guido, 2006; Habel, 2003; Michael, 2003). Others advise

the use of narrative to provide a clear, accurate description of the patient's

condition (Smith, 2002) and believe that nurses should not feel prohibited from including relevant "normal" findings in their documentation (Geller, 2007).

The findings of this study indicate that a lack of adherence to CBE documentation policy was a common occurrence among the participants on a day-to-day basis. When it was originally introduced in paper format, nurses using CBE on a daily basis documented only significant patient findings or exceptions to the norm by using symbols on a flow sheet, after an initial, admission, baseline physical assessment had been recorded in the medical record using WDL/WNL statements and criteria for each body system (Burke & Murphy, 1988; Murphy, et al., 1988; Murphy & Burke, 1990; Wilkinson & Van Leuven, 2007). When documenting by exception using current exception-based computer documentation systems, nurses document baseline admission assessments, and shift assessments using WDL/WNL statements and/or exception statements for each body system (Eclipsis: The Outcomes Company, 2008; Epicsystems, 2008; ERGO Partners Healthcare Solutions, 2008; McKesson, 2008; MEDITECH: Health Information Management, 2008). The process of Creating a Protective Picture revealed that the participants were more likely to chart-by-exception after they had completed their own full, baseline assessment of the patient at the start of their shift, often using narrative comments to detail normal, as well as exceptional findings. They were also more likely to follow the CBE method when documenting patient information, nursing

assessments, interventions and evaluation of care when they felt the method would create an adequate picture of the patient and care provided.

The method of CBE was believed to be an adequate way to document "most of the time" and in "most situations". Decisions about whether or not to follow a CBE policy were made upon each episode of documentation through careful assessment of each patient's situation and what was believed necessary to document by each individual nurse participant in order to protect the patient, themselves or their employers.

The findings of this study also indicate that staff nurses who use CBE in the course of their daily work have divided opinions regarding the importance of adherence to the method. This divided opinion mirrors what is reported in the literature by legal experts who have commented on CBE. The participants in this study shared the experience of "pressure" around the issue of following or not following their employer's CBE policy. Some participants chose to exert pressure on their colleagues to conform to completing documentation according to CBE policy guidelines, and in doing so experienced being more comfortable when using the method themselves. Other participants chose to withstand the pressure to conform and documented within their employers exception-based computer documentation system in a manner that was right for themselves, regardless of what their documentation policy directed, and regardless of the opinions and the pressure exerted by their colleagues.

Employer Provided Education Regarding CBE Policy and Method

Burke and Murphy (1988), as well as many others (Aiken, 2004; Burke & Murphy, 2000; Clavreul, 2005; Noey & Seng, 2002), have continually advised that nurses using CBE should be fully oriented to their employers documentation policies, procedures, and standards, and receive regular, on-going education about using the method to prevent inconsistencies and ensure they are using the method correctly.

Although regular, on-going education about CBE is advised in the literature, none of the extant literature provides a description of the actual implementation of an on-going education program on CBE, nor any empiric evidence demonstrating the impact of on-going education on the use of CBE in practice. The findings of this study indicate that some of the participants had received a relatively recent update on the use of CBE. None of the participants reported receiving education about the use of CBE at regular intervals, on an on-going basis, beyond education received in nursing school, or during orientation upon starting employment with their current employer.

Contributions to the Current Literature

As stated before, no other study has examined the experience or perspective of nurses who use the method of Charting-by-Exception to document the care they provide. This study provides a view into the experience of medical-surgical nurses who use this method of documentation by revealing the process

by which they make decisions about whether to follow a Charting-by-Exception policy on a day-to-day or patient-by-patient basis. The findings of this study suggest that nurses believe that the data they record in the medical record has a protective quality and that they assess and evaluate many factors that are unrelated to their hospitals' documentation policies when deciding what to enter in the medical record and how to enter it. The findings of this study provide several other important contributions to the current literature.

The first contribution this study makes to the current literature is an insight into how medical-surgical nurses decide whether to follow a CBE documentation policy. The foundational assumptions of this study were that nurses have both positive and negative views about the task of documentation and that they do not always follow the documentation policies and guidelines put in place by their employers. Therefore, nurses who use CBE must evaluate whether to follow those particular guidelines. However, the current literature does not contain reports of nurses' perspectives on the use of CBE. Consequently, an important contribution of the findings of this study is related to medical-surgical nurses' decision-making about when they will follow or not follow the CBE method. The literature reflects a divided opinion regarding the importance of adherence to CBE policy and briefly describes accounts of prolonged resistance from staff nurses toward accepting the philosophy behind CBE, which differs significantly from other methods of documentation. Regardless of the participants' familiarity

with their hospital's documentation policy, their decisions about whether to follow the method were the result of careful consideration, on a case-by-case basis; they made a personal evaluation of whether using CBE was adequate for capturing the data believed to be important, during each episode of documentation.

The second contribution of the findings of this study is a view into what nurses believe are responsible documentation practice and the reasons they value taking the time to record data with more detail than possible when following a CBE policy while using an EHR. The participants shared numerous examples of medical record information they valued for themselves and believed valuable for other members of the healthcare team. Participants in this study described the many methods they used to work around CBE within their EHR systems when they felt that using the method would not create an adequate picture in the medical record. There were many situations in which the participants shared the belief that putting detailed, individualized patient information and making what they did for each patient visible in the medical record was essential to the provision of quality care. These were situations in which the participants were not willing to accept the trade-off of generic or lost data for faster documentation. Yvette stated:

> *I think as an experienced nurse you can pick up subtleties, and you know the importance of the subtleties. And I know that they should be captured and documented. And I don't always trust that they're captured in Charting-by-Exception and I would rather write too much than not enough.*

The findings of this research also contribute to the understanding of the types and level of professional concern about use of the CBE method of documentation. While examples of professional concern by those in nursing management, education, and legal experts exist in the current literature, this study provides a view into the professional concern of nurses who must use the method of CBE in daily practice. The participants in this study shared their concern that following the method of CBE would not always be able to produce a clear picture in the medical record, which they believed would have a protective effect for patients, themselves, and their employers, as well as having an impact on the day-to-day clinical decision-making. Professional concern about the use of CBE was also evidenced in the participant's lack of trust in the veracity of the data recorded by others using the method.

A basic tenant of Grounded Theory is that "all is data", which expands the process of constant comparison and theoretical sampling. Brief comments in interviews and the popular press, documents and observations – whatever comes to the researcher in the substantive area of research is data to be constantly compared (Glaser, 1998). Although not a source of empiric literature, professional concern about CBE from those in the field of nursing informatics was reflected in the recent listserve communications among members of ANIA-

CARING (formerly the *American Nursing Informatics Association and the Capital*

Area Roundtable on Informatics in NursinG).

The purpose of this organization, which *currently* has 3,224 members in

30 countries and 50 states, is "to advance the field of nursing informatics through

communication, education, research, and professional activities" (ANIA-CARING,

2010). As a member of ANIA-CARING, the researcher has followed the topics of

discussion posted to the organizations listserve for several years. The

researcher observed that over three separate months throughout the period of

data collection for this study (August 2009 through July 2010), ANIA-CARING

members posted multiple queries and responses that included concerns about

CBE. IRB approval to include this additional data in the findings of this study was

obtained upon request for revision of the original study protocol (Appendix F).

These additional incidences of data reflect a pattern of professional concern

similar to that which emerged from the data in this study. Although these data

did not contribute to the theory of Creating a Protective Picture, they serve to

demonstrate the potential modifiability of the theory; one of the criteria used to

evaluate trustworthiness of a Grounded Theory. Conceptual labels from

"Creating a Protective Picture" are applied to abstracted summaries of these data

in Table 6 (Appendix S).

The final, significant contribution that the findings of this study make to the

current literature, is evidence that in practice, medical-surgical nurses who use

exception-based computer documentation systems do not always agree with the

definitions of "normal" in those systems, nor do they always use the criteria or

definitions for "normal" in those systems when labeling system assessment

findings as "normal". Some participants described referring to the normal criteria

in their documentation systems when selecting WDL/WNL statements, but not all

the time. Some participants made it their practice to use their understanding of

what was "normal" or "baseline" for the patient when selecting WDL/WNL

statements.

Some participants used their understanding of what was considered

"normal physiological" when selecting the WDL/WNL statements. When relying

on the understanding of what was "normal" or "baseline" for the patient or the

understanding of what was "normal physiological" in choosing to use a

WNL/WDL statement, participants shared the perception that others interpreted

WNL in a similar way as they did. Participants also shared an awareness of a

lack of consistency in how the CBE system was being utilized throughout their

unit, and sometimes, their facility.

Summary

This chapter has presented a discussion of the substantive theory that

describes how medical-surgical nurses resolve their main concern about using

the documentation method of Charting-by-Exception; the process they go

through in order to create a protective picture through their documentation. The

findings of this study were compared to what is known about CBE in the extant

literature. The contributions of this research to the current literature were

identified and discussed.

Chapter VII

Conclusion

The philosophy behind the CBE method of documentation has consistently raised professional concern, with a number of authors noting their apprehension about the potential impact of the use of exception-based charting on clinical decision-making (Carroll-Johnson, 2008; Clavreul, 2005; Frank-Stromberg, et al., 2001a, 2001b; Guido, 2006; Jacobson, 2000; Kossman & Scheidenhelm, 2008; Murphy, 2003; Nissan, et al., 2000; Taylor, 2000) and the delivery of patient care (Shorr, 2000; Taylor, 2003). These concerns have emerged in parallel with the push for implementation of the EHR. This study examined narratives told by the participants about their experience of using CBE to document clinical data in acute, medical-surgical settings.

Through use of the Grounded Theory method, the process of decision-making from the perspective of nurses using the documentation method of CBE was revealed. Creating a Protective Picture is a three-stage process that involves Coming to Terms with the Method, Being Responsible in Documentation and Creating a Protective Picture, which emerged as the core variable. All of the participants described making thoughtful, deliberate decisions regarding how they would enter data in an exception-based EHR. Their decisions regarding how to enter data with each episode of documentation addressed their main

concern about protecting the patient, themselves, and or their employers with the product of their documentation efforts.

The findings of this study provide insight into what medical-surgical nurses consider responsible documentation practices and the decision-making process they use when they must document clinical data under a policy of CBE with an exception-based EHR documentation system. Although documentation has historically been viewed by nurses as a task that takes time away from more important duties, the documentation choices made by each of the participants in this study demonstrated many of the reasons why nurses value taking the time to record data with more detail when using an EHR than is possible when following a CBE policy.

The participants expressed the desire that the effort they put into documentation would produce a picture that was protective of the patient, themselves and their employers. They believed the actions of putting detailed, individualized patient information and also making what they did for each patient visible in the medical record, were essential to the provision of quality care. This professional value was expressed in their many descriptions of the documentation episodes in which they were not willing to accept the trade-off of generic statements or lost data for faster documentation.

Strengths and Limitations

The first strength of this study is that the findings are grounded in the data of narratives told by nurses who use the documentation method of CBE in their daily work. The perspective of nurses who must use CBE for documentation has previously not been reflected in the literature. Because efforts at nursing documentation re-design are directed at developing methods and systems that maximize nursing efficiency while facilitating capture of data essential to the provision and reimbursement of patient care, it is important to consider the perspectives of nurses who will actually be using those methods and systems.

The second strength of this study is that the participants were recruited from the membership base of the only national, professional nursing specialty organization dedicated to adult health/medical-surgical nurses (AMSN, 2010). Participants were able to self-select based on their willingness to participate. Because recruitment packets were sent to AMSN members who resided in all 50 United States, the sampling strategy allowed the researcher access to participants who worked in a variety of acute care hospitals across the United States and who used a variety of exception-based computer documentation systems.

The third strength of this study is that concurrent professional discussion on a Nursing Informatics listserv mirrored some of the concerns of the participants. This adds to the theory's validity through the concept of

modifiability; one of the four sources of trust and criteria for evaluating a

grounded theory. The importance of modifiability is that the grounded theory

does not miss anything that can be readily incorporated into it through constant

comparison. The theory can be informed and modified by new incidents and/or

literature review when appropriate.

A limitation of this study was that the questions used to collect

demographic data did not include items addressing the social, economic or

cultural backgrounds of the participants. In future research, using questions

designed to collect demographic data describing social, economic and or cultural

factors would allow further modifiability of the theory if a relationship between

these factors and the process used by medical-surgical nurses in deciding

whether to follow a CBE policy emerges from constant comparison of the data.

Implications for Knowledge Generation and Practice

The findings of this research imply several things for the generation of

knowledge about nursing documentation practices. The first being that the

identification of the decision-making process used by nurses who document

under a CBE policy, may be useful to those who design and implement nursing

documentation systems, as well as those in the position to allocate resources for

the purchase and implementation of nursing information systems.

The data abstracted from the ANIA-CARING listserve included comments

about the level of detail in CBE systems and the need for code-able,

standardized nursing language that is missing from free text narrative notes. Informatics professionals have concerns about the best way to capture nursing data in EHRs to ensure that data is sufficiently detailed, discrete and code-able in order to meet the requirements for data exchange and meaningful use made requisite by the recently established HITECH guidelines. These concerns mirror several of the concepts within "Creating a Protective Picture".

From an informatics perspective, the concern centers on the best way to capture, code and retrieve data. From the perspective of the nurse participants in this research study, the concern centered on what was the best way to document with sufficient detail, to adequately support patient care and communication with other caregivers, in a manner that was protective.

As the responses of hospitals and informatics professionals to the implementation of the meaningful use guidelines evolve, these concerns have the potential to be the fulcrum for decisions and actions that will impact nursing documentation practices. Because nursing informatics professionals are one of many groups that have the ability to directly impact how nurses providing direct care must enter data within the EHR, it is important that they understand and incorporate into their practice the perspective and concerns of those using the informatics systems they design, implement and support.

This study brought to light the variety of ways in which the participants made the decision to use the WNL/WDL statements to document normal findings

within their EHR. This information has implications about the consistency and

accuracy of clinical data captured under a CBE policy, through use of an

exception-based system, and the potential impact that data has on clinical

decision-making. The literature already reflects questions and concerns about

the level of detail about individual patient data captured when nurses document

by exception, and the potential impact on clinical decision-making (Clavreul,

2005; Frank-Stromberg, et al., 2001a, 2001b; Maxwell, 2009; Taylor, 2000). The

findings of this study demonstrate that the definitions or criteria established for

WDL/WNL statements that represent "normal" assessment findings, do not

necessarily reflect what was actually assessed, or the understanding or meaning

of "normal" utilized by the nurses who chose to use those statements to

represent normal assessment findings. In practice, nurses may choose to use

WNL/WDL statements for "normal" findings based on the criteria or definition for

those statements. They may also base their decision on what they believe is a

normal or baseline finding for the patient, or on what they understand to be

standard, accepted, "normal physiological" findings for a given body system.

Finally, the findings of this study imply that there may indeed be disparities

between what nursing students learn about nursing documentation and how they

may be asked to document clinical data as practicing RNs. Many of the

participants recalled the information they had received about documentation in

nursing school when they described the process they went through in Coming to

Terms with the Method of CBE. Nursing faculty members need to be informed

about the perspective that practicing RNs have on nursing documentation, and to

use this information to design nursing curricula that will fully prepare their

students for this important facet of professional nursing practice.

<div align="center">**Recommendations**</div>

Based on the findings of this study, further research on the use of CBE in

practice is recommended. Replication of this research using classic Grounded

Theory method is recommended in order that the theory of Creating a Protective

Picture may be further modified and expanded based on additional participant

narratives. Nine of the sixteen participants in this research study were travel

nurses (n = 2), worked in a float pool (n = 4) or stated that they occasionally

floated to other units (n = 3). A study using a purposive sample of travel nurses

and/or nurses who work in a float pool, might reveal additional aspects of

decision-making related to nursing documentation that could further modify the

properties of the theory of Creating a Protective Picture.

Research testing the application of this theory to the documentation

practice of nurses who use methods other than CBE would be useful in

discovering whether there is a process of decision-making common to all

methods of nursing documentation. The identification of a common decision-

making process for nursing documentation would further efforts to design nursing

documentation tools and methods that are theory driven and evidence-based. A

study eliciting nurses' understanding of and accuracy in the use of WDL/WNL

statements within exception-based electronic documentation systems is

warranted. Finally, research that would generate an understanding of nursing

faculty perspectives on CBE and the current state of importance placed on the

inclusion of nursing documentation content in nursing curricula is recommended.

Summary

CBE, though in use for almost 30 years, still raises concerns and

unresolved issues. There are conflicting opinions regarding the importance of

consistent adherence to a CBE policy when a hospital chooses to implement this

method. The literature indicates that the assumption that nurses always follow

their employer's choice of documentation policy is incorrect. The experience of

the participants in this research strengthens this understanding by illustrating that

in practice, where CBE is concerned, the issue of adherence to policy is not the

main concern of nurses using the method. The main concern of the medical-

surgical nurse participants in this research was to create documentation that they

believed would be protective of their patients, themselves and/or their employers.

Their description of the efforts they took while documenting on a day-to-day basis

reflected the value they placed on the contribution nursing documentation makes

to the provision of quality patient care.

The development of "Charting-by-Exception" was a novel, innovative, and

controversial contribution to the many historical efforts to design methods which

facilitate nursing documentation and the capture of useful clinical data. Almost

30 years since its introduction, the perspectives of two of the participants in this

study illustrate that medical-surgical nurses are still struggling with the method

and its philosophy.   As Yvette and Ellen stated:

> (Yvette) *If I had to rely on the documentation, um, I would say more than half of the time I don't feel like I would get a good, a good picture. At all. I don't think I would get, uh, I don't think I would get as good a picture as I need to, to really take good care of that patient, to take the best care of the patient that I can.*

> (Ellen) *I guess I think maybe this could be a way of describing how I feel about the Charting By Exception is that it's easy to click that box that everything is normal, but, but what if it wasn't. You know what I mean, like what if you did forget to assess something and you still checked it, well then, how do you know for sure?*

Nurses need to be able to use documentation tools and a method that

facilitates their efforts to capture meaningful data that creates the protective

picture they believe is necessary in the medical record. The body of literature

addressing nursing documentation is largely atheoretical. This study using

Grounded Theory may have begun to lay a foundation for research that

addresses the practice of nursing documentation from the perspective of the

nurses doing the documentation in a more empiric fashion. Well-designed,

empiric research has the potential to generate knowledge that will allow the

development of quality, evidence-based methods for nursing documentation.

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Appendix A

Table 1: Comparison of Nursing Documentation Methods

Method	Description
Narrative*	Data is recorded as "progress notes." A chronological account of a patient's experience, which includes the patient's status, nursing interventions performed, and the patient's response. Each entry is dated, timed and signed.
FOCUS*	Organized into patient-centered topics called "foci" which are typically written/identified as a nursing diagnosis. Uses progress sheets with columns for Date, Time, Focus and Progress notes. Progress notes address the categories of: data (D), action (A) and response (R). Routine nursing tasks and assessment data are recorded on flow sheets and check lists.
Charting-by-Exception*	Requires documentation of significant or abnormal findings only. Assessment guidelines, definitions of "normal" assessment findings and standard procedures must be written and in place before the system is implemented.
FACT**	Incorporates many CBE principles. FACT stands for four key elements: • Flow sheets are individualized to specific services • Assessment features are standardized with baseline parameters • Use of concise, integrated progress notes and flow sheets to document the patient's condition and responses • Timely entries recorded when care is provided

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Appendix B

Table 2: CBE literature categorized by type of source, primary author role and

*country of publication (*Blue – Sources authored/published outside the

United States; *Italics - Sources published prior to 2000;* **Bolded –**

Sources published in 2000 or later)

	Author / Year	**Affiliation**
LEGAL OPINION / ADVICE	*Fiesta (1991)*	*Unknown*
	Fiesta (1993)	*Unknown*
	Grant (1994)	*Ontario, Canada*
	Tammelleo (1994a)	*Providence, RI*
	Tammelleo (1994b)	*Providence, RI*
	Unknown (1995)	*Unknown*
	American Health Consultants (1998)	*Unknown*
	Ritch-Brant (1998)	*Unknown*
	Davino (2000)	**Unknown**
	Jacobson (2000)	**Texas State Board of Nurse Examiners**
	Satarwala (2000)	**NCS Healthcare, Hilliard, OH**
	Taylor (2000)	**New South Wales, U.K.**
	Frank-Stromberg et al. (2001a)	**School of Nursing & College of Law, Northern Illinois University, Dekalb, IL**
	Frank-Stromberg et al. (2001b)	**School of Nursing & College of Law, Northern Illinois University, Dekalb, IL**

	Chow (2003)	Saskatchewan Registered Nurses Association, Saskatchewan, Canada
	Habel (2003)	Long Beach, CA
	Michael (2003)	Unknown
	E.K. Murphy (2003)	School of Nursing, University of Wisconsin, Milwaukee, WI
	Simpson-Brooke (2004)	College of Nursing, University of Utah, Salt Lake City, UT
	Childers (2005)	CJW Medical Center, Richmond, VA
	Austin (2006)	Children's Healthcare, Atlanta, GA
	Geller (2007)	Unknown
	McGeehan (2007)	Northern General Hospital, Sheffield, U.K.
	Terry (2007)	Unknown
	Morrison (2010)	Phoenix, AZ
DESCRIPTIVE / "HOW TO"	J. Murphy, et al. (1988)	St. Luke's Hospital, Milwaukee, WI
	Cline (1989)	St. John's Regional Medical Center, Oxnard, CA
	J. Murphy & Burke (1990)	Aurora Health Care & Sinai Samaritan Medical Center, Milwaukee, WI
	Brider (1991)	Unknown
	Brider (1992)	Unknown
	Kerr (1992)	Austin, TX
	Rajecki (1992)	Unknown
	Ashworth & Aubrey (1993)	Vanderbilt University Medical Center, Nashville, TN

	Boike et al. (1995)	*The Cleveland Clinic Foundation, Cleveland, OH*
	Merkley & Nelson (1995)	*LDS Hospital, Salt Lake City, UT*
	Thomas-Eggland (1995)	*Healthcare Personnel, Naples, FL*
	Von Nieda (1995)	*Department of Physical Therapy, Medical College of Pennsylvania & Hahnemann University, Philadelphia, PA*
	Burgum (1996)	*School of Nursing, Curtin University of Technology, Western Australia*
	Scoates et al. (1996)	*Gottlieb Memorial Hospital, Melrose Park, IL*
	Charles (1997)	*Atlantic City Medical Center, Atlantic City, NJ*
	Mesmer (1997)	*Shriners Hospitals for Children, Cinncinnatti Burn Institute, Cinncinnatti, OH*
	Parker (1997)	*Bellin Home Care, Green Bay, WI*
	Castner (1998)	*Ocean Renal Associates, Toms River, NJ*
	Wroblewski et al. (1999)	*Alexian Brothers Medical Center, Elk Grove, IL*
	Anderson & Schramm (1999)	*John Dempsey Hospital, Farmington, CT*
	Cummins & Hill (1999)	*Somerset Medical Center, Somerset, NJ*
	Allen & Englebrecht (2000)	**Methodist Healthcare System, San Antonio, TX & Colombia/HCA Healthcare Corp, Nashville, TN**
	Brunt et al. (2000)	**Summa Health System, Akron, OH**
	Waterman et al. (2001)	**Washington University School of Medicine, St. Louis, MO**

	College of Registered Nurses of Nova Scotia (2002)	**Hallifax, NS**
	Noey & Seng (2002)	**Tan Tock Seng Hospital, Singapore**
	Smith (2002)	**SON, Oregon Health Science University, Klamath Falls, OR**
	Lyden (2008)	**Maine Medical Center, Portland, ME**
OPINION / EDITORIAL	*Iyer (1991)*	*Iyer Associates & Med League Support Services, Stockton, NJ*
	Wolverton et al. (1995)	*Milwaukee, WI & Tualatin, OR*
	Dumpel et al. (1999)	*California*
	Burke & Murphy (2000)	**Aurora Healthcare, West Allis, WI**
	Noone (2000)	**OSF St. Francis Medical Center, Peoria, IL**
	Shorr (2000)	**Woodland Hills, CA**
	Clavreul (2007)	**Solutions Outside the Box, Pasadena, CA**
	Carroll-Johnson (2008)	**Unknown**
EMPIRIC RESEARCH	*Parker, Wells, Buchanan & Benjamin (1994)*	*RAND, Santa Monica, CA*
	Short (1997)	*Via Christi Regional Medical Center, Wichita, KS*
	Blachly & Young (1998)	*SON, University of Washington, Seattle, WA*
	Nissan et al. (2000)	**Department of Surgery, Memorial Sloan-Kettering Cancer Center, New York, NY**

	Menke et al. (2001)	**Children's Hospital and The Ohio State University, Columbus, OH & Medical University of South Carolina, Charleston, SC**
	Green & Thomas (2008)	**Methodist University Hospital & University of Memphis, Memphis, TN**
QUALITATIVE RESEARCH	Kossman & Scheidenhelm (2008)	University of Wisconsin-Madison and Illinois State University, Normal, IL & OSF St. Joseph Medical Center, Bloomington, IL
	Rydholm, Moone, Thornquist, Alexander, Gustafson & Speece (2008)	**Immanuel St. Joseph's-Mayo Health System, Mankato, MN**
	Harman, Bassett, Fenety & Hoens (2009)	**School of Physiotherapy & School of Occupational Therapy, Dalhousie University, Halifax, NS & Department of Physical Therapy, University of British Columbia, Vancouver, BC**
COCHRANE REVIEW	**Currell & Urquhart (2003)**	**Suffolk, UK**
	Urquhart, Currell, Grant, & Hardiker (2009)	**Suffolk, UK**
BOOKS	*Burke & Murphy (1988)*	*Aurora Health Care, Milwaukee, WI*
	Burke & Murphy (1995)	*Aurora Health Care, Milwaukee, WI*
	Aiken (2004)	**Nurse Attorney Resource Group, New Orleans, LA**
	Guido (2006)	**CON, University of North Dakota, Grand Forks, ND**

Appendix C

Recruitment Letter

Date

«FirstName» «LastName»
«Address1»
«City» «State», «Zip»

Dear Sir or Madam:

I am writing to ask your help with a study that will explore the process that Medical-Surgical nurses use in deciding what information to include in nursing documentation when using Charting-by-exception (CBE). This study is an effort to learn about the experience of nurses who use this method of documentation.

It is my understanding that you are a member of the Academy of Medical-Surgical Nurses and a staff nurse working in an adult, acute care setting. I am contacting a sample of registered nurse members of AMSN to ask if they use CBE and invite them to share their experience with using this method of documentation. Results from this research will be used to help nurse managers, administrators and educators understand staff nurse perspectives about the use of CBE, which was introduced more than 20 years ago.
Your answers are completely confidential and will be used to develop a theory about the decision-making process nurses use in deciding to adhere to a charting-by-exception policy on a day-by-day and patient-by-patient basis. Participation in this research study is voluntary. However, you can help me very much by agreeing to complete a telephone interview which will last approximately one hour.
A small token of my appreciation is enclosed as a way of saying thanks for your help.
If you have questions or comments about this study, I would be happy to talk with you.
My telephone number is 309-363-8099 (I will reimburse the cost of your call), or you can contact me by e-mail at noelkerr@pegasus.rutgers.edu.
Thank you very much for your help with this important study.

Sincerely,

Noël Kerr, MN, RN, CMSRN
PhD Candidate
College of Nursing, Rutgers University, Newark, NJ

Appendix D

Nurse Decision-Making during Clinical Documentation
Using Charting-by-Exception

Research Study Contact Information Form

My name is: _____

I am interested in participating in this research study. Please contact me at the following phone number to explain the study and answer any questions I have about participation:

(_____) _____ - _____ Home / Mobile / Work

The best time(s) to contact me by phone are: (Circle all that apply)

MN 1am 2am 3am 4am 5am 6am 7am 8am 9am 10am 11am
12noon 1pm 2pm 3pm 4pm 5pm 6pm 8pm 9pm 10pm 11pm

Please indicate your State and Time Zone:

State: _____

Time Zone: Pacific / Mountain / Central / Eastern / Alaskan / Hawaiian-Aleutian

My e-mail address is: _____

Please mail this form to the investigator, Noel Kerr, in the self-addressed, stamped envelope provided with the information packet.

Please wait to send your signed consent form
until you have spoken with the investigator by phone.

Appendix E

Consent to Participate in a Research Study

Nurse Decision-Making during Clinical Documentation
Using Charting-by-Exception

You are invited to participate in a research study being conducted by Noël Kerr, MN, RN, CMSRN who is a PhD Candidate in the College of Nursing at Rutgers University, Newark, NJ.
 You have been invited to take part in this research because you are a Registered Nurse, a member of the Academy of Medical-Surgical Nurses and a staff nurse working in an adult, acute care setting.

Purpose of the Research
The purpose of this research is to explore the process that Medical-Surgical nurses use in deciding whether to follow a Charting-by-Exception policy for documentation on a day-to-day, patient-by-patient basis.

Study Procedures
Approximately 25 to 30 subjects between 21 and 65 years of age will participate in this study. Your total participation will last approximately two hours. This includes time to read the study materials, communicate with the investigator, and complete the telephone interview.

The study procedure includes phone communication with the investigator to set up a date and time for a telephone interview and then completion of the telephone interview with the investigator, which will last approximately one hour.

- Those who are interested in participating in the study will complete the enclosed contact information form and return it to the investigator using the self-addressed, stamped envelope provided.
- Upon receipt of the form, the investigator will contact the potential participant by phone to verify 1) the potential participant is currently working as a staff nurse in an adult, acute care setting and 2) currently uses the charting-by-exception method for documentation.
- If these criteria are met, the researcher will explain the study and answer any questions the potential participant may have. If the potential participant agrees to participate in the study, the investigator will instruct him/her to return the signed consent form using the second self-addressed, stamped envelope provided.

- When the signed consent form has been received, the investigator will contact the participant by telephone to set up a date and time for the telephone interview during which data for the study will be collected.
- The investigator will provide the subject with a toll-free telephone number to call in order to complete the telephone interview.
- The investigator will provide a reminder of the date/time of the interview, the toll free number and instructions for accessing the conference call by e-mail or telephone message (which ever the participant prefers).
- The telephone interview will be audio-recorded by the conference call provider, sent directly to the investigator after the call, and then transcribed.
- Subjects may be contacted by the investigator at a later date for the purpose of obtaining validation that findings accurately describe their experience.

Risks

There are no foreseeable risks to participation in this study. You may feel slightly uncomfortable when talking about your documentation practices based on your individual level of experience, but this is unlikely.

Benefits

One of the benefits of participation is that you will be given the opportunity to discuss your experience with using Charting-by-Exception at length. Some of the benefits you may experience include self-acknowledgment, a sense of purpose, and personal empowerment. While your experience in using charting-by-exception is not likely to change from participation in this research, the study may produce valuable data about the experience of nurse's who use this method of documentation.

Confidentiality

Every effort will be made to maintain confidentiality of your study records to the extent permitted by law. Only the investigator and the Institutional Review Board at Rutgers University will be allowed to see the data, except as may be required by law. If you agree to take part in the study, a code number will be used to label the audio recording of the telephone interview, the written transcript of the audio recording and notes taken by the investigator. The code will not be linked to the master list of participants with your name and contact information.

All information will be kept in locked file cabinets and a password restricted computer. Only the investigator will have access to this information. If a report of this study is published, only group results will be stated.

All audio recordings will be destroyed, all transcripts and notes will be shredded and all computer files of data pertaining to this study will be permanently deleted three years after the research is completed.

Financial Costs to Participants
There will be no additional cost(s) for your participation in this study.

Payment for Participation
Participation in this study is voluntary. Regardless of participation, each individual approached for this study receives a gift of $2.00. You will receive no compensation for completing the study.

Right to Decline or Withdraw
You may choose not to participate and you may withdraw at any time during the study procedures without any penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable. The investigator has the right to withdraw you from the study at any time. If you choose to withdraw from the study, the investigator will keep all of the information collected as part of the permanent files of the research study.

Disclaimer
Rutgers University will not provide compensation or medical treatment in the highly unlikely event of a research-related injury.

Individuals to Contact
If you have any questions about the study procedures or need further information, you may contact Mrs. Noël Kerr by telephoning (309) 363 – 8099 or by e-mail: noelkerr@pegasus.rutgers.edu. The cost of your telephone call will be reimbursed by the investigator.

If you need further information about your rights as a research subject, you may contact Michele Gibel, IRB Administrator at:
Rutgers University Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 732-932-0150 Ext. 2104
Email: gibel@orsp.rutgers.edu

You have been provided with two copies of this consent form. If you agree to participate in this research study, initial the lower right hand corner of each page and sign one copy on each of the subject lines below. Please return the signed copy to the investigator in the stamped, self-addressed envelope provided and keep the second copy for your records.

I have read this entire consent form, received a copy of it and I understand it completely. I do not have any questions at this time. I agree to participate in this research study.

Subject: _____ Date: _____ / _____ / _____

Principal Investigator: _____ Date: _____ / _____ / _____

I understand that the procedure for this study involves audio-taping of telephone interviews. I agree to have my telephone interview with the investigator audio-taped.

Subject: _____ Date: _____ / _____ / _____

Principal Investigator: _____ Date: _____ / _____ / _____

Appendix F

IRB Approval Forms

RUTGERS UNIVERSITY
Office of Research and Sponsored Programs
ASB III, 3 Rutgers Plaza, Cook Campus
New Brunswick, NJ 08901

August 28, 2009

P.I. Name: Kerr
Protocol #: 10-046M

Noel M. Kerr
1313N. Institute Place
Peoria IL 61606

Dear Noel Kerr:

√

(**Initial** / **Amendment** / **Continuation** / **Continuation w/ Amendment**)

Protocol Title: "A Grounded Theory of How Medical-Surgical Registered Nurses Decide to Adhere to a Charting-by-Exception Policy on a Day-to-Day, Patient-by-Patient Basis"

This is to advise you that the above-referenced study has been presented to the Institutional Review Board for the Protection of Human Subjects in Research, and the following action was taken subject to the conditions and explanations provided below:

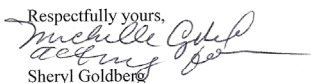|			
Approval Date:	8/24/2009	**Expiration Date:**	8/23/2010
Expedited Category(s):	6,7	**Approved # of Subject(s):**	30

This approval is based on the assumption that the materials you submitted to the Office of Research and Sponsored Programs (ORSP) contain a complete and accurate description of the ways in which human subjects are involved in your research. The following conditions apply:

- **This Approval**-The research will be conducted according to the most recent version of the protocol that was submitted. **This approval is valid ONLY for the dates listed above;**
- **Reporting**-ORSP must be immediately informed of any injuries to subjects that occur and/or problems that arise, in the course of your research;
- **Modifications**-Any proposed changes MUST be submitted to the IRB as an amendment for review and approval prior to implementation;
- **Consent Form(s)**-Each person who signs a consent document will be given a copy of that document, if you are using such documents in your research. The Principal Investigator must retain all signed documents for at least three years after the conclusion of the research;
- **Continuing Review**-You should receive a courtesy e-mail renewal notice for a Request for Continuing Review before the expiration of this project's approval. However, it is your responsibility to ensure that an application for continuing review has been submitted to the IRB for review and approval prior to the expiration date to extend the approval period;

Additional Notes: **Expedited Approval per 45 CFR 46.110**

Failure to comply with these conditions will result in withdrawal of this approval.

Please note that the IRB has the authority to observe, or have a third party observe, the consent process or the research itself. The Federal-wide Assurance (FWA) number for the Rutgers University IRB is FWA00003913; this number may be requested on funding applications or by collaborators.

Respectfully yours,

Sheryl Goldberg
Director of Office of Research and Sponsored Programs
graser@orsp.rutgers.edu

cc: Elise Lev

RUTGERS UNIVERSITY
Office of Research and Sponsored Programs
ASB III, 3 Rutgers Plaza, Cook Campus
New Brunswick, NJ 08901

June 24, 2010

P.I. Name: Kerr
Protocol #: 10-046M

Noel M. Kerr
1313N. Institute Place
Peoria IL 61606

Dear Noel Kerr:

√

(**Initial** / **Amendment** / **Continuation** / **Continuation w/ Amendment**)

Protocol Title: "A Grounded Theory of How Medical-Surgical Registered Nurses Decide to Adhere to a Charting-by-Exception Policy on a Day-to-Day, Patient-by-Patient Basis"

This is to advise you that the above-referenced study has been presented to the Institutional Review Board for the Protection of Human Subjects in Research, and the following action was taken subject to the conditions and explanations provided below:

Approval Date: 4/28/2010   **Expiration Date:**   4/27/2011   **Expedited Categories:** 6,7
Approved # of Subject(s):   30   **Currently Enrolled:**   20

This approval is based on the assumption that the materials you submitted to the Office of Research and Sponsored Programs (ORSP) contain a complete and accurate description of the ways in which human subjects are involved in your research. The following conditions apply:

- **This Approval**-The research will be conducted according to the most recent version of the protocol that was submitted. **This approval is valid ONLY for the dates listed above;**
- **Reporting**-ORSP must be immediately informed of any injuries to subjects that occur and/or problems that arise, in the course of your research;
- **Modifications**-Any proposed changes MUST be submitted to the IRB as an amendment for review and approval prior to implementation;
- **Consent Form(s)**-Each person who signs a consent document will be given a copy of that document, if you are using such documents in your research. The Principal Investigator must retain all signed documents for at least three years after the conclusion of the research;
- **Continuing Review**-You should receive a courtesy e-mail renewal notice for a Request for Continuing Review before the expiration of this project's approval. However, it is your responsibility to ensure that an application for continuing review has been submitted to the IRB for review and approval prior to the expiration date to extend the approval period;

Additional Notes: **Continuation Expedited Approval per 45 CFR 46.110**

Failure to comply with these conditions will result in withdrawal of this approval.

Please note that the IRB has the authority to observe, or have a third party observe, the consent process or the research itself. The Federal-wide Assurance (FWA) number for the Rutgers University IRB is FWA00003913; this number may be requested on funding applications or by collaborators.

Respectfully yours,

Sheryl Goldberg
Director of Office of Research and Sponsored Programs
egraser@grants.rutgers.edu

cc: Elise L. Lev

RUTGERS UNIVERSITY
Office of Research and Sponsored Programs
ASB III, 3 Rutgers Plaza, Cook Campus
New Brunswick, NJ 08901

September 21, 2010

P.I. Name: Kerr
Protocol #: 10-046M

Noel M. Kerr
1313N. Institute Place
Peoria IL 61606

Dear Noel Kerr:

(Initial / **Amendment** / Continuation / Continuation w/ Amendment)

Protocol Title: "Creating a Protective Picture: A Grounded Theory of How Medical-Surgical Registered Nurses
Decide to Follow a Charting-by-Exception Policy on a Day-to-Day, Patient-by-Patient Basis"

This is to advise you that the above-referenced study has been presented to the Institutional Review Board for the
Protection of Human Subjects in Research, and the following action was taken subject to the conditions and
explanations provided below:

Amendment Approval Date: 9/18/2010   **Expiration Date:** 4/27/2011   **Expedited Category:** 6,7

This approval is based on the assumption that the materials you submitted to the Office of Research and Sponsored
Programs (ORSP) contain a complete and accurate description of the ways in which human subjects are involved in
your research. The following conditions apply:

- **This Approval-**The research will be conducted according to the most recent version of the protocol that was
  submitted. **This approval is valid ONLY for the dates listed above;**
- **Reporting-**ORSP must be immediately informed of any injuries to subjects that occur and/or problems that
  arise, in the course of your research;
- **Modifications-**Any proposed changes MUST be submitted to the IRB as an amendment for review and
  approval prior to implementation;
- **Consent Form(s)-**Each person who signs a consent document will be given a copy of that document, if you
  are using such documents in your research. The Principal Investigator must retain all signed documents for
  at least three years after the conclusion of the research;
- **Continuing Review-**You should receive a courtesy e-mail renewal notice for a Request for Continuing
  Review before the expiration of this project's approval. However, it is your responsibility to ensure that an
  application for continuing review has been submitted to the IRB for review and approval prior to the
  expiration date to extend the approval period;

Additional Notes: **Expedited Amendment Approval per 45 CFR 46.110(b)(2) on 9/18/10 for Change in
Protocol Title from: "A Grounded Theory of How Medical-Surgical Registered
Nurses Decide to Adhere to a Charting-by-Exception Policy on a Day-to-Day,
Patient-by-Patient Basis" to: "Creating a Protective Picture: A Grounded Theory of
How Medical-Surgical Registered Nurses Decide to Follow a Charting-by-Exception
Policy on a Day-to-Day, Patient-by-Patient Basis"; Addition of Anonymous
Summary Data From ANIA-CARING List Serve Discussion Topics from August
2009 through July 2010**

Failure to comply with these conditions will result in withdrawal of this approval.
Please note that the IRB has the authority to observe, or have a third party observe, the consent process or the
research itself. The Federal-wide Assurance (FWA) number for the Rutgers University IRB is FWA00003913; this
number may be requested on funding applications or by collaborators.

Respectfully yours,

Sheryl Goldberg
Director of Office of Research and Sponsored Programs

Appendix G

Interview Guide

Participant # __ Date: __ / __ / __   Interview started: ___:___ Interview ended: ___:___

Explain purpose of interview and what will be done with the information. Reassure about confidentiality and validate awareness of/consent for recording…
I'd like to ask you some general questions to get to know you a little more before we get started…

<u>Demographic Questions</u>:

1. What is your age?

2. What is your gender? _____ Female _____ Male

3. What is the highest degree you hold in nursing?

    ___ Diploma ___ AD ___ BSN ___ MN/MSN ___ DNP ___ PhD/EdD/DNSc

3. How many years have you practiced as a nurse? _____

4. Is the CBE documentation system you use at work

    ____ paper-based or ____ electronic? (Name of System:

    _____)

5. When did you last receive in-service or education on your documentation policy / use of CBE from your employer?

    _____ Month _____ Year ____ can't remember

6. What form did the education you received take?

7. Approximately how long did the education session last?

8. Approximately how many total hours of education about CBE have you received from employers over the course of your career?

So, let's talk about your experience using CBE to document the care you provide…

<u>Interview Guide</u>
1. Please tell me about your general experience with using CBE at work…

2. Please tell me about a patient for whom you completely adhered to your CBE policy when documenting your assessment and their care…

3. Please tell me about a patient for whom you decided to include "normal" assessment findings or documented completion of a standard procedure even when your documentation policy states you are not required to do so…

Possible probes:
"Mmmmm?" / "uh huh?"
Could you clarify that last statement?
Would you like to add anything more?
Could you tell me a bit more about?
I'm interested in what you said about…
Why/What do you think that…?

Background noises:

Participant's use of feeling tones and tone of voice:

Appendix H

Table 3: *Types of External Audit Materials Maintained*

Category	Types of Materials
Raw Data	Labeled, dated interview transcripts
	Labeled, dated interview audio tapes
	Demographic data collected on participants
Data Reduction & Analysis Products	Coded transcripts
	Memos identifying codes, themes and related data chunks
	Lists of codes / themes / categories
Data Reconstruction & Synthesis Products	Sections, chapters, entire dissertation products
	Drafts of emerging theoretical propositions, models & refinements
	Visual diagrams / data displays
Process Notes	Memos detailing telephone calls related to research activities, contact with participants and chronicling research activities
	Correspondence between researcher and gatekeepers

| | Feedback on emerging product from faculty advisor / readers |
	Successive drafts illustrating the evolution of chapter outlines
	Documentation of methodological sources used
	Research course notes applicable to the research process
	Research timeline and chronology for data collection, analysis, writing captured in memos
Materials related to Researcher Intentions / Dispositions	Dissertation proposal
	Notes regarding suggested methodological revisions from faculty advisor / committee
	Institutional Review Board materials
	Documentation of permission to utilize AMSN member list for participant recruitment
	Documentation of framework for developing the written structure / format for composing the final report
	Documentation of sampling criteria and process

Information Relative to Instrument Development	Successive drafts of the interview guide
	Memos detailing possible areas of inquiry for interviews
	Copies of interview protocols with handwritten notes for each participant
	Memos detailing revisions / refinements as data collection evolves
Verification / Validity Documentation	Attestation or notes from peer reviewer(s)
	Memos documenting member check conversations with participants
Materials Prepared for the Auditor / Audit	Memos regarding "random thoughts" and "miscellaneous issues"

Appendix I

Figure 1: States in Which Participants Resided

Yellow shading – States from which potential participants expressed interest

Green shading – States in which participants resided
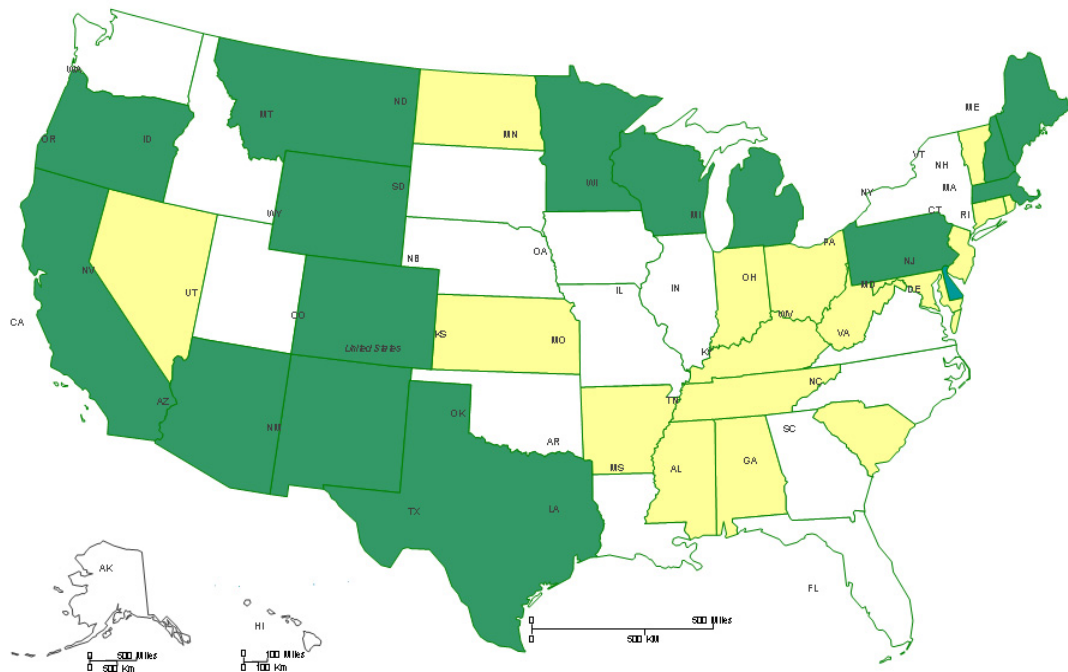
Used with permission, MapResources: Royalty Free Maps,

www.mapresources.com, Accessed July 20, 2010

Appendix J

Table 4: Participant Age, Gender, Practice Years, & Name of Software Used

	DON	**PATRICIA**	**YVETTE**	**PETER**
Age in Years	52	59	56	64
Gender	M	F	F	M
Highest Degree in Nursing	BSN	AD	BSN	AD
Years as an RN	4	37	29	27
Software	Healthland	*SCM	Meditech	Meditech
	LISA	**ELLEN**	**EDITH**	**ANN**
Age in Years	53	34	54	25
Gender	F	F	F	F
Highest Degree in Nursing	AD	BSN	AD	BSN
Years as an RN	10	1	8	3
Software	**HED	***VA–CPRS	***VA–CPRS	Meditech

	BETTY	LANA	FAITH	WANDA
Age in Years	49	31	29	48
Gender	F	F	F	F
Highest Degree in Nursing	AD	BSN	AD	AD
Years as an RN	22	9	5	5
Software	****C-M	*****C-P	*HED	******MLW
	GAIL	**TABITHA**	**CAITLIN**	**HALLIE**
Age in Years	32	25	62	57
Gender	F	F	F	F
Highest Degree in Nursing	AD	BSN	BSN	AD
Years as an RN	2	2	26	14
Software	Meditech	Meditech	E-Record	Unknown

*SCM: Sunrise Clinical Manager, **HED: Horizon Expert Documentation, ***VA-CPRS: Veteran's Administration-Computerized Patient Record System, ****Cerner-Millenium, *****Cerner-PowerChart, ******Mixed Last Word

Appendix K

Table 5: Education Received About Charting-by-Exception

	DON	PATRICIA	YVETTE	PETER
Last Month	April	October	January	August
Last Year	2009	2009	2008	2009
Form of Education	Computer Class	In-Service w/ Slides	Computer Class	Classroom Presentation
Length of Education	45 – 60 Minutes	2 Hours	7 – 8 Hours	1 Hour
Total Hours of Education on CBE Throughout Career	24	"A lot"	7 – 8	2 – 3
	LISA	ELLEN	EDITH	ANN
Last Month	September	Unknown	August	Unknown
Last Year	2009	Unknown	2003	Unknown
Form of Education	Bulletin Board	Unknown	Staff Meeting In-Service	Unknown
Length of Education	Time to read one page	Unknown	30 Minutes	Unknown
Total Hours of Education on CBE Throughout Career	15	Nursing School	1	Unknown

	BETTY	LANA	FAITH	WANDA
Last Month	October	Unknown	March	June
Last Year	2009	Unknown	2009	2005
Form of Education	Class on Software (Not CBE)	Unknown	Computer Class	Classroom Presentation
Length of Education	12 Hours	Unknown	4.5 Hours	2 Hours
Total Hours of Education on CBE Throughout Career	"None Specifically on CBE"	"Hard to say"	Not answered	2
	GAIL	TABITHA	CAITLIN	HALLIE
Last Month	February	June	Unknown	Unknown
Last Year	2010	2008	2005	2005
Form of Education	Computer Class	Computer Class & Preceptor	In-Service	Computer Class
Length of Education	Three 8-Hour Days	4 – 6 Hours	45 Minutes	Several Hours
Total Hours of Education on CBE Throughout Career	"Hardly Any"	4 – 6	3	5

Appendix L

Narrative Story Summaries of the Participants

The first participant, Don, was a 52-year-old male. He lived in the

Northeast and worked as a travel nurse on medical-surgical and telemetry units.

He stated that he would be working in one of the Southern states on his next

assignment. During the interview, this participant's voice kept fading in and out.

He stated that he lived in a very rural area with bad reception. Several times

during the interview, he was cued to repeat what he had said because the

interviewer could not hear his statement and wasn't sure it was being picked up

on the recording. This participant shared his concern that new graduate nurses

may get a false sense of security when completing their documentation with CBE

if they were relying solely on the criteria/definitions for normal within the systems

as cues for what to document. He recalled examples of two patients who had

declines in their conditions and had to be transferred to a higher level of care.

Review of documentation lacked any evidence to demonstrate when decline in

their conditions had occurred, and he wondered if the new graduates who had

cared for these patients believed they were "done" with their assessment

because they had addressed all of the choices built within the system.

Patricia, the second participant, was a 59-year-old female. She lived in

the Southwest and worked as a staff nurse on an ortho-neuro unit. This

participant stated that she had 20 years of experience as an LPN before

becoming an RN. During the consent process, this participant did not recall whether her employer had a written policy for documentation, however during the interview, she referred to the documentation guidelines for her facility.

The third participant, Yvette, was a 56-year-old female. She was the first potential participant to respond to the initial recruitment mailing and contacted the researcher by e-mail. She worked as a staff nurse in the medical-surgical float pool of a 200-bed hospital on the East coast. She observed that "they go back and forth" on the policy regarding how often documentation was required on each shift. During the interview, this participant was very articulate and seemed eager to talk about CBE. Interview questions began to evolve with this interview due to the concepts identified when the first two interviews were coded.

Peter, the fourth participant, was a 64-year-old male. He worked as a staff nurse on a gastrointestinal-genitourinary surgical unit. He had been dealing with illness and was a "no show" on the date his interview was scheduled. He completed the interview about two weeks later after contacting the researcher again by e-mail to reschedule.

The fifth participant, Lisa, was a 53-year-old female. She worked as a staff nurse in the float-pool of a 200-bed hospital on the East coast. She stated she mainly floated to medical-surgical units, but worked in critical care areas "about 20% of the time". During the interview, she was reminded to only share her experiences with documentation in medical-surgical settings. This participant

had been a part of the nurse team that designed the elements of their exception-based documentation system and yet she stated that it took her "a long time to accept use of the system". During the interview, she was engaged and sounded energetic. She stated that she always performed a full assessment and did not chart-by-exception when documenting a patient's admission because she wanted to provide a baseline with which to assess changes.

The sixth participant, Ellen, was a 34-year-old female. She worked as a staff nurse on a medical-surgical unit at a hospital in the Pacific North West. She stated that she "sometimes writes "normal" pulse findings on vascular patients". She stated she learned how to chart-by-exception in nursing school and had not received any education regarding the method from her employer. During the interview, this participant stated she didn't know if her employer had a written policy for documentation and that she had concerns about legal issues and patient safety. At the conclusion of the interview, this participant was encouraged to become familiar with the documentation policy at her facility.

Edith, the seventh participant, was a 54-year-old female. When enrolled in the study, she was working as a staff nurse at a medical-surgical unit that took "overflow" from the rehabilitation unit. Scheduling her interview was delayed because her signed consent had to be returned with instructions to initial the spaces in the lower right-hand corner of the first two pages. She had started working on the oncology unit at her facility by the time she was interviewed.

The eighth participant, Anne, was a 25-year-old female. She worked night-shift at the surgical unit at her facility, but stated she also floated to the medical unit. This participant chose to be interviewed in the morning just after returning home from work. Approximately 30 minutes into the interview, the researcher asked if the participant was experiencing any fatigue and if she had the energy to keep talking. The participant indicated that her energy level was fine and that she wanted to continue. She expressed concerns that "they won't catch the one exception" and described actions on her part to bring exceptions to the attention of others who would be reading her documentation. She shared frustration that her facility did not have a documentation policy to follow.

Betty, the ninth participant, was a 49-year-old female. She worked as a staff nurse and floated to multiple medical-surgical areas in a hospital in the Southwest. When enrolled as a participant, she was unaware whether her employer had a policy on Charting-by-Exception. She stated that her hospital was currently using a paper-based CBE system, was switching to an EMR in the next week, and that she was going to a training class the next day. She was interviewed after the EMR had been implemented. During the interview, this participant made a point of stating that she liked the computerized CBE system because it was "fast," but that is was "frustrating when the choices of descriptions do not fit the patient."

The 10th participant, Lana, was a 31-year-old female. She worked as a

staff nurse on an oncology unit and in the medical-surgical areas at a Midwestern

hospital. She stated that the electronic record system used at her hospital was

currently CBE, but that she was aware the facility would be switching to a non-

exception-based system sometime in the future. This interview was interrupted

at one point by the researcher who decided to take a cell phone call after being

distracted by the ringing of several calls to her cell phone in rapid succession.

The sounds of a child's cries could also be heard in the background on the

participant's line.

The 11th participant, Faith, was a 29-year-old female. She worked as a

staff nurse in the medical-surgical areas (primarily orthopedics) of a hospital on

the East coast. Scheduling an interview for this participant was initially delayed

because the participant had sent the signed consent form back with the contact

information form, and the document had to be returned with instructions to initial

the spaces in the lower right-hand corner of the first two pages. This participant

had questions about whether participating in the study would cause any risks to

her employer, and about measures that were being taken to ensure

confidentiality. These concerns were fully addressed before proceeding. This

participant was a "no show" on the date / time her interview was scheduled. A

call to her home, while the researcher remained on-line in the conference call,

confirmed that she still wanted to participate. The interview was re-scheduled for

10 minutes later and the participant completed the interview. This participant particularly wanted to talk about observing others enter data without actually assessing a patient. She gave examples of when she had reported this behavior to her manager.

Wanda, the 12th participant, was a 48-year-old female. She worked as a staff nurse in a surgical unit in a Midwestern hospital. This participant expressed frustration that *"people get it wrong and write out what they want".* This interview was interrupted by the researcher in order to ask two children to play quietly because they were making enough noise to be heard from the room below where the researcher was on the phone. The sound of a dog barking in the background on the participant's line was also heard later on.

The 13th participant, Gail, was a 32-year-old female who had completed a Bachelor's degree in Wildlife Biology before going to school to study nursing. She was from a Western state, worked as a traveling nurse, and was currently working on a Medical unit in a hospital in the South West. At the time of her interview, this participant was hesitant and expressed concerns that *"I'm not the greatest person to interview because I, I don't have experience with any other kind of charting".*

The 14th participant, Tabitha, was a 25-year-old female who lived in the Southwest. She worked as a staff nurse on a unit which she described as Medical-surgical, Oncology, and Bariatric. At the time of enrollment, this

participant was considering a return to school for her Master's degree and brought this up for discussion with the researcher.

Caitlin, the 15th participant, was a 62-year-old female. She worked as a staff nurse in a progressive care unit. Due to her varied work schedule, multiple phone calls and voice mail messages between researcher and participant occurred before the researcher was able to connect with Caitlin to confirm that she met inclusion criteria. During the phone call to establish inclusion, this participant expressed her interest and excitement about being interviewed. She also shared concerns about whether she would need to *"share things that would hurt my job."* These concerns were fully addressed with explanation of the procedures that were being followed to ensure confidentiality. Also during this call, Caitlin shared that she had recently gone through the death of a child, and she was currently managing work while supporting her husband through an illness that had required three hospitalizations. Despite these demands on her time, she was very motivated to complete an interview.

Hallie, the 16th and final participant, was a 57-year-old female. She worked in medical-surgical units as a member of the float pool at a facility on the West Coast. During the phone call to establish inclusion, she indicated discomfort with the method of CBE and that she often *"charts normals."* She had questions about how confidentiality for the research would be maintained, and these concerns were fully addressed during this call.

Attachment M

Representative Memos

Memo: Thoughts on the Core Variable
01 / 17 / 2010

Thoughts over the last few days...
Hesitant to state that I'm finding the core variable, but having some ideas re: what it "might" be, from what I am seeing as I code these first 5-7 interviews.

"Protecting patients - Protecting ourselves"   I don't know if it is "o.k." to have a dual variable/concept as the Core, but I think I see both of these things going on... that decisions are made either through concern re: the patient and beliefs/perception of what the MR can/will do to protect them, or out of a defensive posture when there is the perception that the nurse could be in legal jeopardy in the future, based on what is happening in the now.

Some ideas of how other codes could be "subsumed" under these variables

Protecting the Patient	Protecting Ourselves (formerly Personal Protection)
CBE Documentation Adequacy	Cautionary Detailing
Clinical Decision-Making	CBE Adherence
Creating a "Snap Shot"	Dotting the "I's" and Crossing the "T's"
Creating a safety net with written documentation	Getting a notion
Critical Thinking	Leaving a "footprint"
Discomfort CBE Mental Status	Pinpointing Time & Nature of Change
Discomfort CBE Vascular	Protecting the hospital
Disregarding the policy	Narrating the nursing work
Documenting a change	
Forecasting Complication	
Forecasting ValueMD	
Forecasting ValueNextShift	
Getting a good "picture" of the patient	
I would rather write too much...	
Meets outcome does'nt tell the story	
Value written baseline	
Valuing a "clear picture" for better care	
Wedging information	

"Doing for others what you would want done for yourself".... this code might fit under either category.
 Protecting patients by making sure that other clinicians have the information needed to make clinical decisions and protecting ourselves, meaning self and colleagues - in that crucial clinical information is documented.

Also:
"Listening to the voice of experience"
"Years of experience drive documentation"
"Pinpointing the time & nature of change" (?) (originally thought this is about protecting oneself, but it could also be about protecting the patient, in terms of identifying a key change and assisting clinical decision-making.

Memo: Discussion with Dr. Lev
01 / 20 / 2010

Prepping for discussion - 6 / 7 transcribed interviews have been coded. I printed out existing codes & their comments, along with a table indicating frequencies of each. Total = 74 codes. Highlighted any code used 5 or more times in yellow and underlined any used 4 times in Magenta. This morning, I can see that there are definitely some codes that are more about how participants have been describing the system/method of CBE; it's benefits and drawbacks - and that these codes are not necessarily about the process of decision-making, just observations or perceptions/feelings about the method.

Questions for Dr. Lev:
1. How to write questions for Theoretical Sampling? (You want to get the data, more properties of a variable, and yet, is there still concern re: "leading the conversation"?
Discussed the codes I've identified having used more than 5 times so far, and shared memo from 1/17/10 in which I explored thoughts on the Core variable; my initial impression that I may have a dual concept (Protecting patients/Protecting ourselves)... Dr. Lev stated I could just use the gerund "Protecting" and describe the properties of that variable as Patients and Ourselves... when do they do this and under what conditions? need to remain open that this may not be the core...
Need to re-read BG's writings to find what Dr. Lev's believes is discussion re: the 5 ?'s re: the properties of the core variable... She also stated it could have been written by Strauss & Corbin, or Draucker and sent references by e-mail. Not sure whether these ?'s are specific to GT or generic to "Qualitative Data Analysis" (QDA).
Theoretical sampling - Respondent says something re: protecting and I ask them to tell me more about that.... tease out more information and properties of the variable. No need to develop specific, leading questions about it...

2. Compromised GT proposal...
Considering not doing member checks. BG advises against - the theory won't necessarily be about participants experience, but will be grounded in the data, which they will not see the totality of. Have the rationale now that I know / understand more about the classic GT method.
Discussed - Dr. Lev is o.k. with this; Member checks are not written into my proposal, they are just written as a "may do" in my consent. Anything written into my proposal, I must do.
Knopf, Trish (2002) "Carrying on"... a GT study re: surviving breast cancer, this researcher apparently did member checks.

3. What to do about participants that stop communicating, can't arrange an interview? How do I classify these people? Is this "exclusion"?
What number responded and then were lost to follow up / did not respond to attempts to contact. Not exclusion, but lost to follow up... Must be described in writing about my sample.

Memo: Thoughts re: "Core" and Theory
07 / 08 / 2010

Have had difficulty focusing on only one Core (how participants solve main concern) as Protecting (w/ it's properties) because Painting a picture keeps appearing as just as important.

I have had difficulty hypothesizing how these two are related because they both appear equally important and "a solution" in the data. Perhaps it is the way I have been looking at the data?

After today's interview (CBE26 - 15th participant), I am almost completely confident I have reached conceptual saturation, as this participant did not reveal any new concepts and she reiterated those identified in previous interviews. Interviewing one additional participant tomorrow in order to confirm this.

Reviewing my data and thinking about tentative relationships I have diagrammed so far, I believe that Painting the picture may be a more appropriate Core than Protecting...
The common goal has been the desire to paint a picture, leave a snap shot and responsibily record what they saw, found, and/or did for patients and their response.

Coming to terms with the method
Properties
1. Figuring the method out for oneself
2. Wrestling with the concept of normal and deciding how one will define it
3. Learning to live with and/or acceptance of lost data and the lack of consensus, the knowledge that WDL does not mean the same thing, or is not used the same by everyone (no consensus as to how normal is defined).

Painting a Picture (as CORE)
Properties: Judging adequacy of the method to "paint" the picture... depending on the status of the patient, how clear a picture is needed and when will a "fuzzier" picture be tolerated?
(Continual assessment) Judging Adequacy of the Method - ie: whether to follow CBE or not, by adding narrative, normals as assessed on a day-to-day, patient-by-patient basis and whether to take the time to write more or less
1. Picture
2. Snapshot
3. Capturing normal
4. Capturing nursing
5. Capturing nuance
6. Detailing the normal
7. Detailing the exception

Being responsible in documentation
Trusting the data you, yourself enter, but tolerating / living with doubting the data from others (as a result of the lack of consensus and different ways that normal is defined)

Protecting (Consequence / Outcome)
Properties
1. Oneself
2. Patient
3. Hospital

Still debating within myself whether Painting versus Protecting is the Core... The goal / main concern seems to be Protection, is Painting how this is resolved? The decision re: how clear or fuzzy a picture will be tolerated?

It is difficult to write this out without being able to look at the potential relationships graphically.
Time to sort categories/concepts and properties again, re-order them on paper...

Memo: Thoughts re: "Core" and Theory
07 / 12 / 2010

Tolerating confusion and a sense of insecurity / questioning my choice of "core" when I had identified Protecting patient, self, hospital back in February and March. Had discussed with Dr. Lev and decided between the concepts I thought could be core - mainly Protecting and the Painting Picture.

Have returned to concern that even though Glaser states that two cores can be found and at some point one just needs to choose and can come back to the other later - that perhaps I focused on the "wrong" one and that it will not conclude with a grounded theory that fits the participants main concern.

Have not been able to shake the impression and belief that Painting the picture and Protecting have equal importance and significance for the participants within the data.

More thoughts today on my sorted codes and I had an "ah ha" moment! I have been able to re-conceptualize and deepen the Core: "**Creating a Protective Picture**" which incorporates the core of how participants solve the main concern - that of being responsible in documentation and protecting either self, patient, hospital or a combination of all three, depending on the situation.

Have debated whether to call the reconceptualized Core "Painting a Protective Picture"; how ever using the word painting somewhat limits the concept visually - ones sees the action of painting... Creating allows for the inclusion of the Snapshot properties and the other ways that participants have described leaving a picture in the record - that has the sub-properties or aspects/purposes of protecting self, patient, hospital. This re-conceptualization fits as a denser, more complex core concept that solves the main concern of the participants.
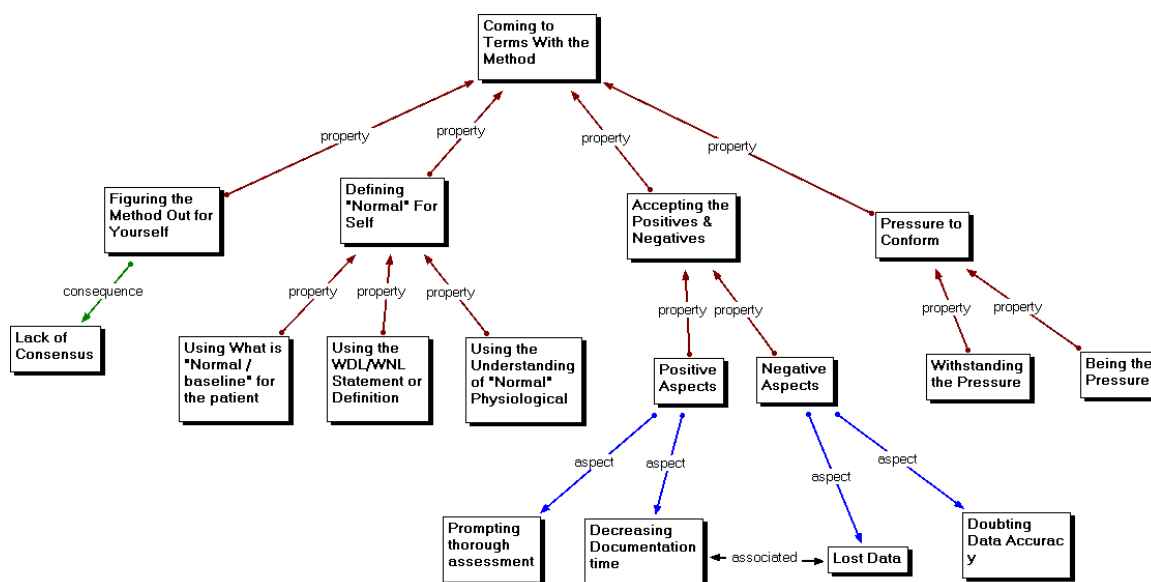
Attachment N

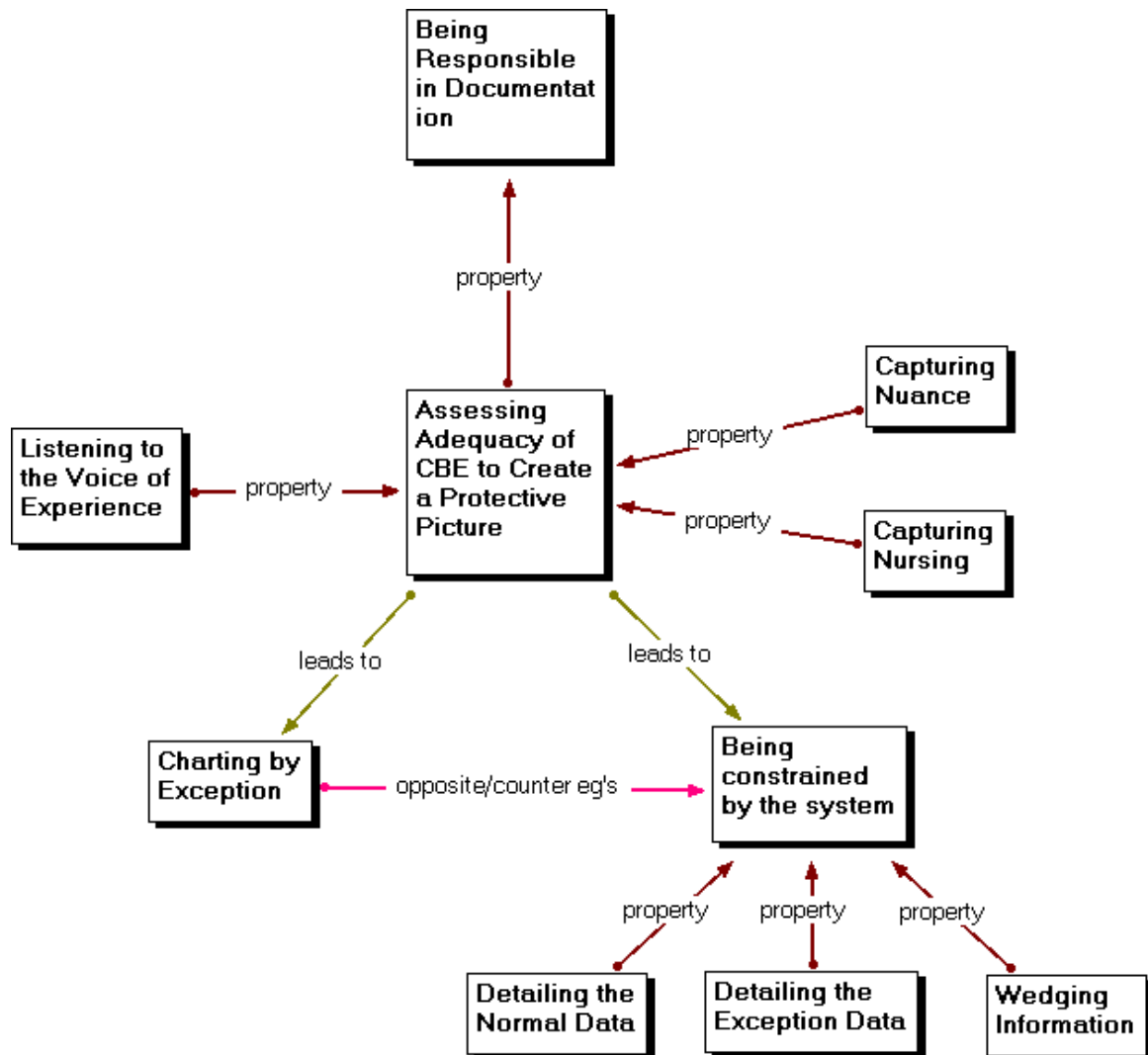Figure 2: Basic Structure of the Theory – Creating a Protective Picture
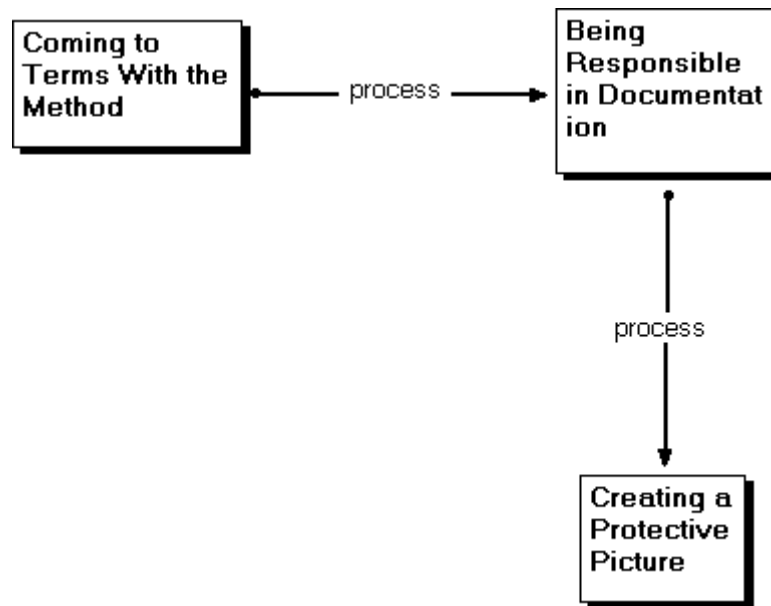
Attachment O

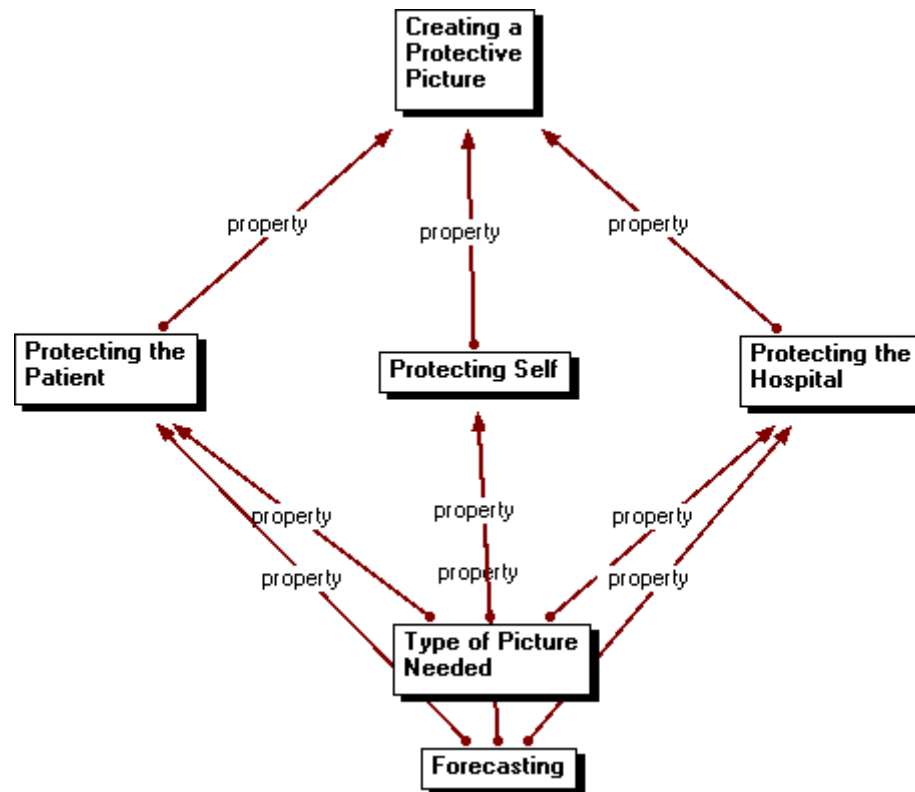## Figure 3: Phase I: Coming to Terms With the Method

Attachment P

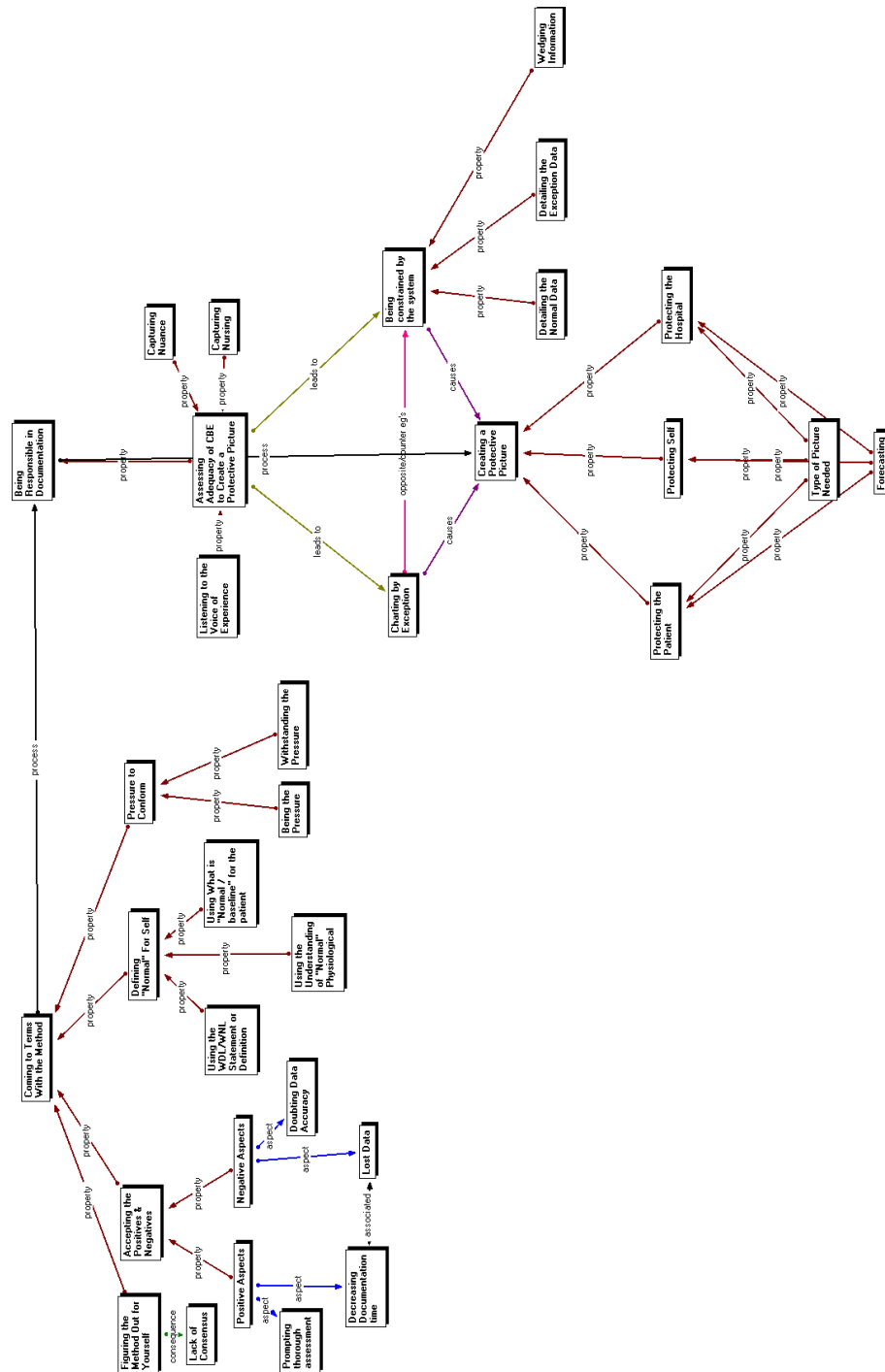Figure 4: Phase II: Being Responsible in Documentation

Attachment Q

Figure 5: Phase III: Creating a Protective Picture (Core Variable)

Attachment R

Figure 6: The Theory of Creating a Protective Picture

Appendix S

Table 6: Summary of ANIA-CARING Listserve Postings re: CBE

Month / Year	Total # Posts	(# Posts) Abstracted Themes	Application of Conceptual Label / Property From "Creating a Protective Picture"
December 2009	11	• (1) Hospital decision to implement CBE with new EHR; benefits versus risks to patient safety • (3) Staff nurse complaints re: Hospital decision to move away from CBE due to requirement of more discrete data in response to ARRA / HITECH Act mandate for ability to exchange data • (4) CBE re-named / re-designed to "Chart-by-Essentials" to increase level of detail captured with documentation • (3) Use of modified CBE method / must implement entire method	• Accepting the Positives & Negatives • Decreasing Documentation Time • Lost Data • Pressure to Conform
June 2010	42	• (21) Discussion about benefits and disadvantages of using standardized nursing terminology versus narrative, free text in the EHR ○ Interoperability & systems integration	• Capturing Nursing • Being Constrained by the System

		<li type="circle">Ability to code, quantify nursing contribution to outcomes <li type="circle">Loss of description of the "art" of nursing (8) Nursing documentation reduced to task lists that do not necessarily reflect the provision of care (7) Criteria for use of WNL, WDL or WNR statements (3) Hospital decision to move away from CBE to requirement of more discrete data to achieve more detail in documentation (3) Hospital decision to stop use of WDL or WNL statements due to legal concerns about data accuracy	- Capturing Nursing - Leaving a Footprint - Defining Normal for Self <li type="circle">Using WDL/Statement or Definition <li type="circle">Using What is Normal/Baseline for the Patient - Decreasing Documentation Time - Lost Data - Doubting Data Accuracy
July 2010	25	(12) Criteria for use of "WNL," "WDL," or "WNR" statements (7) Benefits & Negatives of Using CBE (4) Discussion about benefits & negatives of	- Defining Normal for Self - Accepting the Benefits & Negatives - Lack of Consensus - Capturing Nursing

		use of standardized nursing terminology versus narrative free text in the EHR
		   o Ability to code, quantify nursing contribution to outcomes
		   o Loss of description of the "art" of nursing
		• (2) Benefits & risks of using "copy forward" function within an exception-based system
			• Being Constrained by the System
			
			• Doubting data accuracy

Curriculum Vitae

Noël Marie Kerr
February 26, 1960
Dayton, Ohio

Education

1978	Diploma, Foothill High School, Pleasanton, CA
1983	Bachelor of Science, Nursing (Distinction), San Jose State University, CA
1991	Masters in Nursing, University of California, Los Angeles, CA Thesis - Critical Care Nurses Response to "Slow" Codes
2008	Certificate-Health Informatics, College of Applied Health Sciences, University of Illinois, Chicago

Employment

May 1984 - July 1987	Staff Nurse III, Stanford University Hospital, CA
Sept 1987 - Aug 1989	Clinical Nurse II, UCSF Medical Center, CA
Aug 1989 - Mar 1992	Clinical Nurse II, UCLA Medical Center, CA
Mar 1992 - Dec 1992	CNS, Santa Monica Hospital Medical Center, CA
Dec 1992 - Aug 1994	CV Coordinator, St. Francis Medical Center, CA
Aug 1994 - Dec 1994	Research Nurse, LAC-USC Medical Center, CA
Dec 1994 - Feb 1995	Staff Nurse, Children's Hospital Los Angeles, CA
Feb 1995 - Aug 1996	Case Manager, Hometown Health Plan, NV
Aug 1996 - July 2006	Medical-Surgical CNS, Washoe Medical Center, NV
July 2006 - June 2007	Assistant Professor, University of Nevada, Reno
Aug 2008 – Present	Staff Nurse, OSF St. Francis Medical Center, IL
Jan 2009 - May 2009	Instructor, Bradley University, IL
Aug 2010 – Present	Visiting Instructor, Illinois Wesleyan University, IL

Publications

Kerr, N. (2009). Is It Time to Change Our Perspectives on Nursing Documentation? *MEDSURG Nursing: The Journal of Adult Health*, 18 (2), pp 75-76.

Gatson-Grindel, C. & Kerr, N. (2006). Chapter 19: Adult Health Medical-Surgical Nursing Practice: Recent Changes and Current Issues. In Cowan, P. S. & Moorhead, S. (Eds.) *Current Issues in Nursing* (pp 159 – 166). St. Louis: Elsevier.

Kerr, N. (2006). The Patient's Right to Choice, *MEDSURG Nursing: The Journal of Adult Health*, 15 (2), pp 60, 94.