EXPLORATORY STUDY OF DOCUMENTED PSYCHOSOCIAL NURSING INTERVENTIONS WITHIN THE PALLIATIVE CARE SETTING

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Abstract

Further research is needed to better understand issues related to the provision of psychosocial care at end-of-life (EOL). Nursing documentation provides an effective strategy for assessing quality of care. The objective was to assess the quality of documentation processes for EOL care and to identify the degree to which a process-based approach was utilized. A case study qualitative design was applied through a retrospective chart review of the Powerchart documentation database. The process-based framework set out in the Nursing Role Effectiveness Model (NREM) and a modified version of the Quality of Documentation of Nursing Diagnoses, Interventions and Outcomes (Q-DIO) instrument were utilized to guide data collection and analysis. The majority of nursing documentation was of poor quality and statistically significant differences were noted between Q-DIO subsections. This study showed that nurses working in a palliative care setting vary in their ability to complete accurate high quality documentation of psychosocial care.

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CHAPTER ONE

Introduction

Providing positive end-of-life (EOL) care for patients and support for their families is an issue that has been gaining awareness in both scholarly literature and society. The recent Supreme Court of Canada (2015) ruling to force the government to enact a law to assert the right of individuals to terminate their own lives in times of medical suffering is the most seminal and prominent example. Legalizing physician-assisted deaths for adults suffering from irremediable medical conditions will promote an influx of individuals requiring adequate EOL care. EOL nursing care has been redefined over the past two centuries and now incorporates "end-of-life care" and "continuing care" for individuals with poor medical prognoses. Adding "supportive care" reflects efforts to avoid negative connotations associated with death (Pastrana, Junger Ostgather, Elsner & Radburch, 2008). Supportive care includes medical and psychosocial management.

Psychosocial care is defined as the care nurses provide to manage the emotional, social and spiritual wellbeing of the patient (Coates, 1997). Management of a patient or family members' feelings and emotions through quality nursing interventions has been underreported in recent literature. Nursing care has traditionally focused on medical management of physiological symptoms as opposed to the emotional psychological needs of the dying (Gunhardsson, Svensson &Berteroe, 2008). Minimal research has been done to determine if the gap is the result of a lack of documentation on psychosocial care or psychosocial interventions are not being provided.

Nursing patient-outcomes are reflective of what precedes them. The predecessors of nursing patient-outcomes have been defined as nursing diagnoses, and interventions (Muller-

Staub et al., 2007; 2009), indicative of a feedback loop process. The feedback loop is evident as diagnoses precede and impact interventions, interventions precede and impact outcomes, and the overall outcomes precede and impact subsequent nursing diagnoses. This process is inter-related since poor performance in one area will directly impact subsequent areas. Analysis of this type of nursing documentation can help to assess the quality of care being received by Canadians at EOL, providing a benchmark of comparison for future research.

Several reasons prompt examining nursing documentation, a main one is to assess the quality of care provided to patients. Researchers have demonstrated that inadequate and inconsistent nursing documentation has been directly linked to poor patient outcomes, and hence questionable nursing care (Weld & Bibb, 2009; Cohen, 2006; Owen, 2005; Brooks, 1998; Carelock & Innerarity, 2001). Distress experienced by patients and families has been noted to be a poor outcome at EOL. Poor psychosocial support has been shown to result in poor patient outcomes (Igarashi et al., 2010). Documentation based on quality developed nursing diagnoses can reduce the frequency of these negative patient-outcomes (Muller-Staub et al., 2007; 2009). Conducting an exploratory study of the quality of nursing documentation within a palliative care unit was warranted in order to develop new knowledge about challenges to nursing practicesm specifically the ability of nurses to assess patients' psychosocial needs. With legislation from the Supreme Court of Canada, further research in psychosocial nursing is needed in EOL care to enhance the ability of nurses to better harmonize the accepted spirituality of death and promote positive patient outcomes.

Literature Review

For the purpose of this study, available literature related to psychosocial nursing care, palliative, and documentation was reviewed. The ProQuest: Nursing & Allied Health Source

database was accessed, providing the researcher with primary and secondary data sources. The majority of the research relevant to this study originated in Japan, with minimal in North American. The available data was filtered through use of Boolean search strings, and secondary data sources were accessed to clarify gaps noted throughout the literature.

Documentation and Psychosocial Nursing Interventions

Within the palliative setting, the need for quality psychosocial care has grown dramatically since 60% of Canadians are dying within the hospital setting (Collier, 2011). This growth and subsequent research has shown concern over the increasing number of negative death situations due to an absence of psychosocial support. Quality psychosocial nursing care and support involves communication, information and patient advocacy surrounding the aspects of the patient's and family's social life, requiring the nurse to assume a supportive role (Williams, 1998; Choi et al., 2012; Yoshioka & Moriyama, 2012).

Most studies surrounding psychosocial nursing interventions in EOL care have originated in Japan. Once recent study explored patient outcomes and end-of-life by comparing interventions and care received on a general ward, versus a specialized palliative care unit. Igarashi, Morita Miyashita, Kiyoha & Inoue (2010) found that only 6% of all deaths in 2006 occurred within a specialized palliative unit. This study also demonstrated individuals who died on a general ward experienced high levels of distress, due to inadequate symptom management and poor psychosocial support. Igarashi et al. (2010) found that patients and families in the palliative care unit required less additional support, as their psychosocial needs were addressed upon the patient's initial admission.

By dividing patients into four groups, Igarashi et al., assessed differences between wards in which EOL care was provided, attempting to control possible variables influencing

psychosocial care. However, Igarashi et al. (2010) noted that failure to investigate patient outcomes related to nursing interventions limited their study, as it failed to recognize and address the nursing feedback loop between nursing diagnoses, interventions and outcomes. A second limitation was the inability to generalize the results as the study took place in an Asian dominated country in which Westernized medicine is secondary to traditional medicine (Yamakawa, Motto, Moriya, Ogawa Uenishi et al., 2013). Thus cultural underpinning is of critical importance when conducting similar studies in Canadian palliative care settings.

Psychosocial nursing care prepares patients and their families for a more comfortable and less frightening death experience. Analysis of various nursing interventions across different settings was noted by Evans (2012) as a future direction of research. Evans (2012) centered on the process of developing quality nursing interventions to promote positive EOL experiences for all patients and family members. With a growing demand for accessing EOL care, the links between quality nursing documentation and psychosocial management becomes critical to improve quality assurance standards (Williams, 1998; Brunoro-Kadash & Kadash, 2013; Evans, 2012). These can be developed through the documentation process in searching for key elements between documentation and patient outcomes.

Muller-Staub et al. (2007; 2009) concluded that positive patient outcomes are directly related to the quality of documented nursing diagnoses and interventions. With the loop established between nursing documentation and patient outcomes, inadequate documentation suggests that no nursing interventions were provided, more from an absence of priority rather than neglect. This reasoning was demonstrated in the Brooks' (1998) review of a study conducted by Davis and associates in 1994. This review sought to explore the effects a process-based charting format had on nursing documentations, three to four years after implementation.

The results of the study demonstrated that nursing care in this format emphasized biomedical issues, but failed to assess a patient's psychosocial needs. Brooks (1998) was able to connect the lack of documented psychosocial nursing interventions to the provision of inadequate psychosocial care. However, the study failed to assess if the streamlined process-based system contributed to the poor documentation.

Documentation and Impact on Patient Outcomes

If nurses are unable to complete adequate documentation, overall patient safety is compromised. Good documentation describes the information given to the patient and their response, as well as follow-up in the next steps of the patient's care process (Canadian Medical Protective Association, 2012). The negative implications of poor documentation are directly dependent on the overall integrity of the patients' records and how clearly and consistently information is being recorded by different professionals (Stonham, 2012). Adequately written representation of nursing diagnoses, interventions and outcomes is also directly linked to the level of care provided as it reflects the nurse's professional skill (Owen, 2005; Blair & Smith, 2012; Carelock & Innerarity, 2001; Showers, 2000; Weld, Bibb & Garmon, 2009; Wrelding & Thorell-Ekstrand, 2008). Other benefits of documentation have been noted to include promotion of education, prevention of future errors, development of professional standards and professional growth (Muller-Staube et al., 2007; Blair & Smith, 2012; Owen, 2005; Carlock & Innerarity, 2001; Scotes, Fishman & McAdam, 1996; Stonham, 2012; Wagner, Capezuti, Taylor, Sattin & Ouslander, 2005; Brooks, 1998; Wainwright, Stehly & Wittman-Price, 2008).

Blair and Smith (2012) reported one of the few studies that acknowledged the importance of nursing documentation and its impact on patient outcomes. The results showed significant variation in the documentation of a patient's chest pain, in terms of pain characteristics,

preceding events and applied interventions to manage the pain. Blair and Smith provided insight into the current occurrences of the variance in nursing documentation regarding similar scenarios. However, they failed to recognize the quality and consistency of nursing documentation surrounding psychosocial nursing interventions for pain.

Blair and Smith (2012) and Eder et al. (2003) analyzed the quality of nursing documentation regarding nursing diagnoses, interventions and outcomes surrounding pain through utilization of a numeric rating system to determine patient outcomes. Both studies however failed to take into account how psychosocial factors, i.e. anxiety, coping strategies, patient support systems (Gunhardsson, Svensson & Berteroe, 2008; Collier, 2001; Choi et al., 2012; Yoshioka & Moriyama, 2012), influence pain reduction. Pain is a common physiological characteristic experienced across all healthcare situations (Blair & Smith, 2012; Eder et al., 2003; Gunhardsson, Svensson & Berteroe, 2008), however most studies focused on EOL failed to consider the influence psychosocial interventions have on positive EOL experiences.

Previous research has demonstrated that in Canada, 44% of nursing diagnoses did not evolve from etiological factors, despite the hospital setting standards for development of nursing diagnoses and interventions (Muller-Staub et al., 2007). This was demonstrated in a study by Eder et al. (2003), which reported that documentation of chest pain in a controlled setting such as an Emergency Department varied greatly between nurses. Eder et al. (2003) recommended that analysis of nursing documentation is one way to track implementation of predetermined professional and organizational standards. With a large number of nurses unable to develop adequate diagnoses, and inconsistences in documenting pain, an exploratory analysis of psychosocial documentation is warranted.

Poor patient outcomes in documentation are termed as “malpractice” and “negligence”, and create frequent complications for nurses. Weld and Bibb (2009) highlighted the difference between these two terms. Negligence is based on perception requiring a complaint to be filed if the patient perceived poor care. Malpractice is professional misconduct or unreasonable lack of skill. Throughout the literature, negligence is identified as the predecessor to malpractice (Weld, Bibb & Garmon, 2009; Showers, 2000). Poor documentation has been found to be a predecessor for lawsuits from patients (Weld, Bibb & Garmon, 2009; Cohen, 2006, p.95-103; Showers, 2000; Bjorvell, Wrelding & Thorell-Ekstrand, 2003), but these malpractice lawsuits provide an opportunity to enhance nursing competency at the individual and organizational levels (Carelock & Innerarity, 2001; Blair & Smith, 2012). Owen (2005) made mention of the annual report of the Nursing Midwifery Council of Britain, which demonstrated that 30% of all charges against nurses were related to failure to keep accurate records in terms of patient assessments and care.

Documentation: Variation in Forms and Formats

Recent research has demonstrated that nurses spend approximately 25-30 percent of their shift on documentation (Stonham, 2012). Scoates, Fishman & McAdam (1996), showed reduction in the time spent documenting with the implementation of flow sheets. However, portions of narrative (written) documentation were still required to ensure adequate description of events. Narrative documentation occurs in a written format, outside of pre-determined documentation forms (i.e. flow sheets) to allow the nurse to address a patient health topic through descriptive information in one specific area of documentation (Scoates, Fishman & McAdam, 1996; Blair & Smith, 2012). In pre-determined electronic documentation forms there are multiple areas to address one issue, making it difficult to separate and assess documentation

regarding diagnoses, interventions and outcomes (Scoates, Fishman & McAdam, 1996; Blair & Smith, 2012; Muller-Staub et al., 2007; 2009).

Although narrative documentation provides benefits to patient care, it has its own potential negative implications. Common themes emerging in the literature related to negative aspects of written documentation indicated that the large commitment of time often yields insufficient data about the event (Wagner et al., 2005; Blair & Smith, 2012; Stonham, 2012, Carelock & Innerarity, 2001). Howse and Bailey (1992), in Blair and Smith (2012) demonstrated that narrative documentation with Canadian hospitals failed to identify adequate accounts of patient care due to difficulty in articulating the specifics of nursing practice. Despite the noted drawbacks of written documentation it is still widely utilized, and is an accepted form of documentation from The College of Nurses of Ontario (Blair & Smith, 2012).

Recent studies have shown that there are two types of narratives that increase the risk of inadequacy. The two types include documentation based on "intuition" and documentation indicative of "attitudes" (Carelock & Innerarity, 2001). "Intuition" documentation is described as documentation occurring based on an instinct of the clinician, and fails to clearly describe patient situations in a logical format, connecting nursing diagnoses, intervention and outcomes (Carelock & Innerarity, 2001). This results in a larger number of legal cases of malpractice. The second frequent inadequacy is a bias in pointing to the writer's "attitudes" in which the nurse imposes his/her judgement on the patient, through the use of terms such as "whining" and "uncooperative" to describe patient behaviors (Carelock & Innerarity, 2001). Intuitive and judgmental documentation has also been related to the lack of a common distinct nursing language (Brooks, 1998; Carelock & Innerarity, 2001; Blair & Smith, 2012; Owen, 2005).

The absence of a distinct nursing language confuses classification of patient problems, promotes uncertainty, impairs information exchange and curtails patient care (Brooks, 1998; Carelock & Innerarity, 2001; Owen, 2005; Bjorvell, Wredling & Thorell – Ekstrand, 2003). There are a large number of frameworks guiding both narrative and electronic documentation making the language gap a source of ambiguity. These include use of the frameworks such as SOAP, SOAPIE, VIP, FACT etc. (Blair & Smith, 2012; Owen, 2005). In addition, multiple frameworks for documentation have been found to restrict nurses' accounts of patient encounters (Brooks, 1998; Bjorvell, Wredling & Thorell-Ekstrand, 2003) and tend to disconnect documented nursing diagnoses, interventions and outcomes (Muller-Staub et., al, 2007; 2009, Brooks, 1998; Carelock & Innerarity, 2001). The frameworks available promote inconsistencies in documentation on specific types of interventions, and within current research there has been a minimal focus on the impacts these frameworks have on quality of psychosocial documentation.

A recent study by Wainwright, Stehly & Witmann-Price (2008) sought to introduce a distinct nursing language using a flow sheet within an Emergency Department setting. The flow sheet reduced mistakes and omissions by 21% (Wainwright, Stehly, & Wittman-Price, 2008), demonstrating the high potential for errors related to narrative documentation. This reduction enhances quality assurance as well as patient care (Weld, Bibb & Garmon, 2009; Guth & Kleiner, 2005; Clarkson & Challis, 2003). With these positive impacts, analysis of documentation has been found to better identify medical needs.

Documentation and Measurement Tools

Quality nursing documentation provides a measurement of the quality of care received by a patient and the nurse's performance in providing this care (Muller-Staub et al., 2009). Previous measures have focused only on the nursing process and have failed to address the other quality

features such as nursing diagnoses, interventions and outcomes (Muller-Staub et al., 2009; Brooks, 1998). Quality nursing documentation permits nurses to link developed diagnoses, implemented and actual patient outcomes (Muller-Staub et al., 2009). Brooks (1998) reported this inability, as nurses in the study implied they did not have the language to document patient behaviours or non-physical concerns. The majority of the documentation analyzed in the Brooks' (1998) review, revealed only objective focused assessments and the lack of psychosocial focus with comments such as:

> "I don't know when I've ever seen a note by a nurse address death and dying, we don't address spiritual issues…a million things never show up in FOCUS charting" (Brooks, 1998, pg. 192).

A major limitation of the current literature is that few research findings have examined the connection between nursing diagnoses, interventions and outcomes. Nursing diagnoses are clinical judgements made about a patient's response to actual health problems and life processes, and provide the basis of selection for nursing interventions (Muller-Staub et al., 2009). Nursing interventions are nursing treatments which are based on the clinical judgments of the diagnoses and are carried out by nurses to improve patient outcomes (Muller-Staub et al., 2009). Finally, patient outcomes are the changes in a patient's health status as a result of the interventions (Muller-Staub et al., 2009). An example of these areas related to psychosocial care would be recognition of a patient's anxieties towards dying, managing this with coping strategies, and an overall reduction of anxiety experienced by the patient. These three areas are indicative of the nursing loop, demonstrating how inadequate documentation in one area influences all subsequent areas.

In order to measure consistency between these three areas, Muller- Staub et al. developed a research based instrument known as the Quality of Documentation of Nursing Diagnoses, Interventions and Outcomes (Q-DIO). Previous application of the Q-DIO has occurred in a pre-test, post-test format to assess knowledge gained from educational sessions on quality documentation. After intervening with educational sessions, the quality of documentation significantly improved (Muller-Staub et al., 2007). The Q-DIO was developed to promote a standardized process-based model to analyze documentation, and has been previously implemented in the area of acute medicine (Muller-Staub et al., 2007; 2009). Application within this area demonstrates that lack of analysis of quality nursing documentation surrounding psychosocial care at EOL.

Summary

The major findings that emerged from the literature reviewed included minimal research on psychosocial nursing care and documentation practice at EOL in Canada, and the effects of streamlined documentation formats on psychosocial documentation. Current research has fallen short on addressing the consistency and quality of nursing diagnoses, interventions and outcomes on the quality of psychosocial documentation, failing to recognize the fragility of the nursing loop. Previous reliable application of the Q-DIO demonstrating increased patient satisfaction in combination with the increasing number of people experiencing anxiety at EOL, indicates the need to assess psychosocial nursing documentation through a process-based model.

With the increasing demand on nurses to reduce time spent documenting, and the shift towards streamlined documentation practices, it is imperative to assess Canadian psychosocial nursing documentation to develop a baseline benchmark for comparison. With the growing number of patients requiring EOL care in Canada and materialization of legislation surrounding

EOL, a case study to assess overall quality of documentation is necessary. This case study can assist to bridge the gaps in current literature, and provide insight into current praxis and quality care issues within a Canadian palliative care setting.

Theoretical Framework

For the purpose of this study, nursing documentation is conceptualized as a process or series of actions as described by nursing diagnoses, interventions and outcomes, indicative of the nursing feedback loop. The conceptualizing of this loop was proposed in 1998 by Irvine, Sidani and Hall, through their development of the Nursing Role Effectiveness Model (NREM). The way nursing roles are operationalized impacts both patient and cost related outcomes. The NREM has been used to guide the conduction of this study through application of the underlying process-based component.

Irvine, Sidani & Hall (1998) outlined three areas of analysis: dependent, independent and inter-dependent nursing roles, all of which interact to affect patient outcomes. In this model, "roles" are defined as positions in the organization that have an attached set of behaviors (i.e. assessment, diagnoses, interventions, follow-up care), and are partially dependent on collaboration with other healthcare providers (Irvine, Sidani & Hall, 1998). For example, the implementation of a physician's order to provide medication to an anxious patient would be indicative of a dependent role (Irvine, Sidani & Hall, 1998). In regards to the same anxious patient, a nurse who promotes coping assistance by encouraging self-exploration, based on scientific rationale is engaging in an independent nursing role (Irvine, Sidani & Hall, 1998). Finally, the inter-dependent role would include the nurse monitoring and reporting changes in the patient's health conditions based on the application of the dependent and independent roles (Irvine, Sidani & Hall, 1998).

The connection between the three roles is believed to be demonstrated through factual, timely and accurate documentation of patient interactions (Irvine, Sidani & Hall, 1998). This indicates that a process-based analysis of documentation should yield a current level of the quality of documentation. The application of the NREM to determine the current quality of psychosocial nursing documentation provides a good proxy to the level of care received, as the NREM demonstrates the feedback loop between nursing diagnoses, interventions and patient outcomes. The NREM guided this study's application of the Q-DIO for data analysis.

The Q-DIO was developed by Muller-Staub et al., (2007, 2009) to assess the quality of nursing documentation. It is centered on the perception that nursing diagnoses, interventions and outcomes are interrelated, as identified in the NREM. Within this model nursing diagnoses are clinical judgements related to a patient's health status, nursing interventions are treatments based on those clinic judgements, and outcomes are changes to the patient's health status (Muller-Staub et al., 2007, 2009), all of which mimic the "roles" outlined in the NREM. The previous applications of the Q-DIO indicated that higher scores throughout all areas of assessment was representative of higher quality nursing documentation, linking the "roles" outlined in the NREM. It was apparent that documentation provided concrete evidence of the nurse's proficiency in providing quality care, demonstrating how the NREM process-based outcome component can be used to monitor the overall quality of nursing interventions.

CHAPTER TWO

Methodology

Study Objective

The primary objective of this study was to explore and assess the level of quality in documentation surrounding psychosocial nursing care within a hospital based palliative care setting. The study addressed two key questions. Did the documentation of psychosocial care provided by nurses reflect the process-based model suggested in the Nursing Role Effectiveness Model and Quality of Documentation of Nursing Diagnosis, Interventions and Outcomes (Q-DIO)? Were elements defined by the Q-DIO observed and recorded rigorously and consistently throughout nursing documentation in the palliative care setting?

Design

A case study research design was used to conduct a retrospective chart review of the Powerchart documentation database, for adults admitted with a diagnosis needing comfort measures or end-of-life (EOL) care. This design was chosen as it explores single entities, and provides a wealth of information in examining relationships among different phenomena (Polit & Beck, 2012). The prime entity in this study was the quality of documented psychosocial nursing care at EOL. Quality documentation surrounding psychosocial care addresses communication between patient and the nurse, provides information, and aids inpatient advocacy along with the sensitive and supportive role played by the nurses (Williams, 1998). These represent the elements in the four subsections of the Q-DIO (nursing diagnoses as product, nursing diagnoses as process, nursing interventions, and nursing-sensitive patient outcomes) (Muller-Staub et al., 2007; 2009). Similarly, the documentation of psychosocial nursing care derived from the

Powerchart database was examined to verify relationships between the four subsections of the Q-DIO.

Sampling Strategy

The nursing documentation from the Oncology and Palliative Care Unit at a medium sized urban teaching hospital was utilized for the purpose of this study. This unit is not a specialized palliative care unit. The unit also provides care to individuals undergoing cancer care treatment, as well as medical issues outside the areas of the palliative and cancer care. Approximately 30 inpatients are admitted at any given time.

On average, approximately 3% of the 30 inpatients on this unit are admitted for EOL care. Due to the small number of admissions for EOL, the sample represented the total population. All charts for patients admitted to the palliative care unit for comfort measures or EOL care between January 1st and December 31st, 2014, were assessed. Charts in which patients had a length of stay of one week or greater were utilized. Utilization of charts with admission lengths of one week or greater provides greater opportunity for nursing reassessment and documented changes in patient status was included. Fifty charts met the specified inclusion criterion, forming the study sample. This sample was similar to previous studies surrounding psychosocial nursing interventions which utilized sample sizes of 50-80 charts for analysis of specific palliative wards (Hudson, 2005).

Charts from the palliative care and oncology area were sampled as nurses working in these areas tend to be more familiar with EOL care than other nursing wards (Mahon & McAuley, 2010). EOL care nurses provide:

> "patient and family-centered care that optimizes quality of life by anticipating, preventing and treating suffering… addressing… intellectual, emotional, social and spiritual needs

and facilitating patient autonomy…" (National Quality Forum, 2006, p. V1 as cited in Mahon & McAuley, 2010, pg. E141).

Data Collection

The data was obtained from the electronic documentation database utilized by a medium-sized urban teaching hospital in Canada. The database, Powerchart, was accessed to collect data pertaining to psychosocial care issues. This included patient coping mechanisms, anxieties, fears, dealing with the actual illness, significant others and beliefs and attitudes about life. Within this database there were three different types of forms: communication notes, ADHOC forms and structured forms. Documentation was assessed through the three format types, however not each chart assessed utilized all three types of forms. Communication notes had no specific format for documentation, but provided an avenue for communication between healthcare providers (i.e. a nurse notifying the physician of a change in a patient's anxiety level). These forms appeared to be used by the nurses for transferring non-urgent information to other healthcare providers. The documentation format was in the form of written notes between other healthcare providers.

The second, structured documentation forms, included forms such as the Admission History Form, General Assessment Form etc. These forms allowed nurses to select predetermined elements for documentation, such as the respiratory system all within the General Assessment form, and enabled nurses to chart specific indicators related to the condition of the patient. For example, under the General Assessment Form, the nurse was asked to describe psychosocial information such as the patient's social support system and options including patient's spouse, children, friends were available for documenting. In order to complete documentation, the nurse had to place a checkmark beside the specific support systems available to the patient. The third form, the ADHOC form, utilized the process of SBAR documentation, in

which the nurse subjectively documented the situation, background, assessment and recommendations of interactions between the nurse and patient that fell outside of the scope of the structured forms. ADHOC forms were completed through narrative documentation by the nurse. The many preselected documentation fields allowed for specific analysis of both predetermined data, along with subjective nursing assessment findings.

Measurement Instrument. The Quality of Documented Nursing Diagnoses, Interventions and Outcomes (Q-DIO) is a reliable and valid tool for measuring twenty-nine (29) elements (Appendix A) affecting the scope of this sort of inquiry (Muller-Staub et al., 2009). Of the twenty-nine elements, only nineteen (19) pertained to the study, and with the author's permission and input, a modified Q-DIO with nineteen elements (Appendix B), was included. With a more focused analysis, the data was sorted into categories making for easier and clearer comparisons amongst the patient charts in the sample.

The Likert Scale utilized in the original Q-DIO was disregarded for this study as review of the overall quality of documentation was of greater importance than possible variances in the quality of a specific Q-DIO element. Documentation was assessed for specific elements under the four subsections of nursing diagnoses as process, nursing diagnoses as product, nursing interventions, and nursing-sensitive patient outcomes pertaining strictly to EOL care. Within these subsections, the documentation of the elements was scored as categorical data. "Yes" indicated if the element was documented on and "no" indicated if the element was absent from documentation. The modified data collection tool is included in Appendix C.

The original Q-DIO scored data on 3 point and 5 point Likert Scale, which classified nursing documentation based on overall comprehension. For example, documentation for nursing diagnoses as a process was scored on a scale of zero to two. A score of two was awarded for

documentation representative of multiple elements within the subsection. A score of one was awarded for 1 indicator being represented, and a score of zero was assigned to documentation in which none of the elements were mentioned (Muller-Staub, 2008). For the purpose of this study, classification of data into a "yes/no" categorical state reduced the chance of an element being underrepresented in a specific sub-section of the Q-DIO, an issue Muller-Staub (2009) thought possible due to differences in the Likert Scales between the various subsections. Categorization of data into a "yes/no" system also ensured consistency in the measurement of the quality of documentation between subsections, and assured interrater reliability. The authors also suggested that in order to further validate the Q-DIO, application within a different care area would be necessary.

Data Analysis

Due to the study's exploratory nature, analysis of the data was guided by questions reflecting the study objective. These questions included: How many charts clearly documented a definitive portion of the elements as it related to psychosocial nursing care? Were there specific subsections of the Q-DIO omitted in documentation? Was there a difference in quality documentation between structured nursing documentation forms and narrative ADHOC forms? Did the nursing documentation of psychosocial care reflect the process-based model proposed in the Q-DIO, demonstrating application of the tool in an area in addition to acute medicine?

Creating data categories. The data was categorized into a "yes / no" division based on numerical values. If an element of the Q-DIO was represented in documentation a score of one (1) was assigned and it was viewed as a "yes" element. A score of zero was accorded to elements designated "no" in omissions of an element. For example, a nurse documenting "…the patient felt they needed assistance with coping skills, referral to chaplaincy services made"; would have

been categorized as a "yes" element, and rendered a score of 1. This example demonstrates the nurse's ability to document on the Q-DIO element "coping in the actual situation with illness" under the Nursing Diagnoses as Process subsection.

Comparison of Q-DIO total scores. Total score possible was nineteen. Higher scores were interpreted to present higher quality of nursing documentation. The range of scores went from a total of zero to nineteen (19). Total scores were then divided into three classifications: low, medium and high. The rationale of 19 items being divided into 3 groups blurs the score as being definitive but enables continuity and balancing of scores, searching for clarity in a subjective analysis.

The scores in these three categories were established using the definitions of "high" and "low" developed by Muller-Staub et al. In testing their tool, Muller-Staub et al. (2009), utilized charts from both a "high stratum" and "low stratum" data to assess the quality of documentation. "High stratum" charts were represented as charts in which documentation had a standardized language (i.e. electronic documentation with guided assessments) and "low stratum" charts were represented by charts in which documentation lacked standardized language (i.e. narrative based documentation) (Muller-Staub et al., 2008). Since documentation in this study was derived from an electronic source containing both structured assessment forms and narrative documentation, classification of data into the Muller-Staub et al stratums was not applicable. However, Muller-Staub et al., (2007; 2008; 2009) demonstrated that the higher the overall Q-DIO scores, the higher the quality of documentation. With these principles of classifying data into high and low groupings based on quality, and the analysis of both "high stratum" and "low stratum" documentation concurrently, adding a third, middle strata enabled an interim stage without altering the order of the responses.

Low or poor quality documentation included charts with overall Q-DIO scores of 0-5, medium quality documentation included charts with overall Q-DIO scores of 6-12, and finally high level quality of documentation included charts with overall Q-DIO scores of 13-19. Once catergorized into the three levels, the overall percentage of charts in each group was calculated to demonstrate and represent the distribution of quality.

Comparison of Q-DIO subsection scores. Sub-totals for the subsections nursing diagnoses as process, nursing diagnoses as product, nursing interventions and nursing-sensitive outcomes were calculated to determine if a variance in the quality of documentation occurred. Mean scores were calculated to statistically test if there was a significant difference in the levels of quality of documentation represented by each subsection. The mean scores were calculated by adding together the scores for each subsection of each chart, and dividing by the total number of charts. For example, the total scores for each chart under the subsection nursing diagnoses as process were added together to show a total of 104. This number was divided by 50 (the number of charts) to provide a mean score of 2.08 for this subsection.

The mean scores for each of the subsections were calculated and a t-test was applied to establish if the sample was congruent with the larger unknown population. The t-test was applied as it allows for comparison of two different groups with different mean values (Polit & Beck, 2012). The "groups" were the four subsections of the Q-DIO (nursing diagnoses as process, nursing diagnoses as product, nursing interventions and nursing sensitive patient outcomes). For the purpose of this study a probability p-value of <0.05 showed significance.

Comparison of documentation forms. In order to analyze differences in nursing documentation recorded in the three different formats, categorization into "yes/no" divisions was again applied. The forms were given a score of 1 if it was utilized in documentation, and a score

of zero if the type of form was not noted in the documentation. If the form was utilized once within a subsection of the Q-DIO it was recognized by assigning a score of 1 point. Subsequent points were not assigned even if the type of form was used to document more than 1 element in the subsection.

Assigning overall scores for each of the subsections, versus subsequently awarding points for each element within the subsection, made for ease of comparisons between overall mean scores. The mean scores, for each form type, were determined by adding up the scores of each chart for each separate subsection and dividing by the total number of charts. This process was completed for the three different types of forms for each subsection of the Q-DIO. Once the mean scores were calculated, multiple t-tests were again preformed to determine if the samples were congruent for statistical significance. Again, a probability p-value of <0.05 was determined to be significant.

Score seasonality. On May 1st, 2014, the hospital implemented a new section covering psychosocial nursing documentation to their structured general assessment nursing form. A Mann-Whitney test was utilized to determine if the distribution of Nursing diagnoses as a process, Nursing Diagnoses as a product, Nursing interventions, and Nursing Sensitive – patient outcomes between the charts pre-psychosocial form and post-psychosocial form implementation were equal. This test was utilized as it is designed to test whether observations in one population (pre-psychosocial form) tend to have higher values then those of another population (post-psychosocial form). Patient charts pre-psychosocial form and post-psychosocial form implementation were compared. Descriptive statistics including frequencies and percentages were used to characterize study variables. All analyses were 1-sided, and a P value of <0.05 was

considered statistically significant. Version 24.0 of SPSS (SPSS Inc, Chicago, IL) was utilized to complete the Mann-Whitney test.

This form prompted the researcher to determine if seasonal effects on overall Q-DIO scores occurred. Mean scores were calculated for the overall Q-DIO scores, and each Q-DIO subsection for specific seasonal time periods. The "seasons" were arbitrarily assigned by the researcher, and included January 1st to March 31st, April 1st to June 30th, July 1st to September 30th and October 1st to December 31st. These seasons also allowed for further analysis of quality demonstrated in the psychosocial form. The following were addressed: Did the quality of documentation improve in the months prior to implementation? And did the quality of documentation remain at a higher level 4-6 months' post implementation?

Specific Q-DIO elements. Analysis of the data proceeded with further in-depth comparison of the quality of the documentation using the elements within each subsection of the Q-DIO. Again, data was categorized and the "yes / no" options were scored one point for each element noted in the nursing documentation. Comparison of the elements was then completed through calculation of mean scores.

Common themes. Final analysis was completed by determining common themes emerging from the study of each subsection of the Q-DIO. An inductive analysis identified themes to allow "research findings to emerge from frequent, dominant and significant themes inherent to raw data" (Thomas, 2003, pg. 2). During analysis of the charts, it was apparent that key psychosocial issues appeared more frequently. These data were coded into specific headings, such as "anxiety", and "social support" and was further analyzed to determine if nursing responses and interventions appeared more frequently throughout the patient charts specific to the themes. For example, in the nursing diagnoses as process subsection, when the nurse

documented on patients' "anxiety and worries related to hospitalization, expectations and desires about hospitalization" were specific interventions such as referral to chaplaincy services that were noted?

Ethics

Ethical approval was sought and obtained from the hospital's Research Ethics Board (REB) and the Program/ Division Directors of the Oncology and Palliative Care Unit.

Patients health records are the property of the institution in which the documentation was filed. No human subjects were involved in this study. Data anonymity was maintained using a coded number corresponding to the patient specific MRN (chart identification number) creating a coding sheet. These were locked at the hospital and destroyed after the raw data collection was completed. Data collection forms and data were accessible only to the researcher, and the thesis supervisor. It was agreed with the REB that raw data collection would be securely stored for two years upon completion of the study to allow for future publication of the research findings, then appropriately destroyed.

CHAPTER THREE

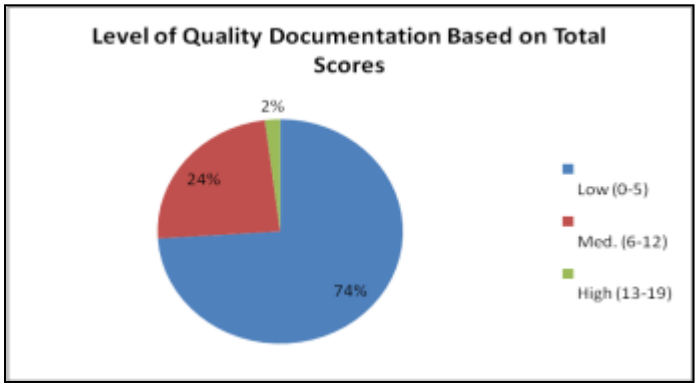
Results

The quality of documentation pertaining to the psychosocial care provided appears to vary throughout all areas of the Q-DIO. The results of the study demonstrate an overall poor quality of documentation. The poor quality resulting from each subsection of the Q-DIO is demonstrated as the overall low Q-DIO scores.

Documentation Quality and Elements of the Q-DIO

Overall quality of documentation. The patient charts were classified into three different groups based on their overall Q-DIO scores. The higher the overall score of a possible 19, the higher the quality of nursing documentation. Scores out of 19 demonstrated the 19 elements outlined in the modified Q-DIO. The three groups utilized for classification were low, medium and high. Low quality documentation was represented by overall Q-DIO scores of 0-5, medium quality by scores of 6-12, and finally high quality by scores of 13-19. Of the 50 charts analyzed for quality of psychosocial documentation, significant variation in total Q-DIO scores are displayed in Figure 1.

Figure 1: Level of Quality Documentation Based on Total Scores



As noted in the above figure, 74%, or 37/50 charts scored an overall low quality of documentation. Medium quality documentation represented 24%, or 12/50 charts. Finally, high quality documentation was represented by 2%, or 1/50 charts. The exception was the chart of highest quality documentation completed by the Palliative Care Team Clinical Nurse Specialist.

Frequency of specific elements in Q-DIO Subsections. For each of the four Q-DIO subsections, the mean scores for each specific element were calculated.

Nursing diagnoses as process. The highest quality documentation in this section of the Q-DIO was directly related to the presence of family members. The indicator of "significant others" was documented on most frequently, with a mean score of 0.800. Despite 0.800 being a relatively low score based on the study sample size, it was the element with the highest score, demonstrating a higher quality of documentation. The indicator "coping in the actual illness" was second highest in regards to quality with a mean score of 0.460. The final elements were all represented with mean scores of < 0.400. The indicator with the lowest quality of documentation was "social situation and living environment / circumstances" with a mean score of 0.160.

Nursing diagnoses as product. The element "nursing problem / nursing diagnosis is documented" demonstrated the highest quality documentation with a mean score of 0.440. At the low end of the quality spectrum, the element "the nursing goal is achievable" ranked last with a mean score of 0.040. It is important to note to mention the equal mean scores of 0.120 for both elements "signs and symptoms are correctly related to the nursing diagnosis" and "the nursing goal related / corresponds to the nursing intervention". In this section of the Q-DIO, it is again apparent that the overall level of quality of documentation remains poor, corresponding to 74% of the charts falling into the classification of low quality of documentation.

Nursing interventions. In terms of Nursing Interventions, the highest quality of documentation was noted in the element "concrete, clearly named nursing interventions are planned (what will be done, how, how often, who does it?)" with a mean score of 0.300. The remaining elements in the section "the nursing interventions effect the aetiology of the nursing diagnosis" and "nursing interventions effect the aetiology of the nursing diagnosis" were found to depict the same quality of nursing documentation with mean scores of 0.140. Similar to the previous subsections of the Q-DIO, the results of this section correspond to the overall result of 74% of charts falling into the low quality stratum.

Nursing-sensitive patient outcomes. This subsection of the Q-DIO demonstrated the largest variance in the quality of nursing documentation. Mean scores ranged from 0.260 to zero (0.000). The indicator with the highest quality of psychosocial documentation was "the nursing diagnosis is reformulated". The indicator with the lowest quality was "nursing diagnoses and outcomes are internally rotated". It is also of note to mention the equally poor quality of documentation for the elements "there is a relationship between nursing-sensitive outcomes and nursing interventions" and "the nursing outcome is documented", with mean scores of 0.040. These results, demonstrating the consistency and quality of documentation related to Q-DIO elements are presented in Table 1.

Table 1: Prevalence of Elements in Q-DIO Subsections

Subsection Of Q-DIO	Elements	Mean Score
Nursing Dx as process	A) Anxiety and worries related to hospitalization, expectations and desires about hospitalization	0.400
	B) Social situation and living environment / circumstances	0.160
	C) Coping in the actual illness	0.460
	D) Beliefs and attitudes about life (related to hospitalization)	0.280
	E) Significant other (contact persons)	0.80
Nursing Dx as product	A) Nursing problem/ nursing dx is documented	0.440
	B) Signs and Symptoms are formulated	0.000
	C) Signs and symptoms are correctly related to the nursing diagnoses	0.120
	D) The nursing goal related / corresponds to the nursing dx	0.120
	E) The nursing goal is achievable through nursing intervention	0.040
Nursing intervention	A) Concrete, clearly names nursing interventions are planned (what will be done, how, how often, who does it?)	0.300
	B) The nursing interventions effect the aetiology of the nursing diagnosis	0.140
	C) Nursing interventions carried out are documented (what was done, how, how often, who did it?)	0.140
Nursing sensitive patient outcomes	A) Acute, changing dx are assessed daily	0.220
	B) The nursing dx is reformulated	0.260
	C) The nursing outcome is documented	0.040
	D) The nursing outcomes shows: i) Improvement in patient's symptoms ii) Improvement of patient's knowledge state iii) Improvement of patient's coping strategies iv) Improvement of self-care abilities v) Improvement in functional status	0.060
	E) There is a relationship between nursing-sensitive outcomes and nursing interventions	0.040
	F) Nursing outcomes and nursing diagnoses are internally rotated	0.00

Common themes in narrative documentation. Within the ADHOC, communication notes, and structured documentation forms, nurses were presented with the opportunity to

document through narration. Inductive analysis was applied to the narrative documentation to determine if there was evidence of specific themes. This analysis sought to determine if specific elements of the Q-DIO were represented through specific themes in narrative documentation. The results demonstrated "anxiety" to be the largest aspect of psychosocial care documented on by nurses. When documented, the topic of anxiety was mentioned throughout all four subsections of the Q-DIO. Although nurses were documenting on the patient's level of anxiety, the majority of quality nursing documentation was related to the anxieties experienced by the patient's family members. The documentation demonstrated that nurses were able to identify "anxiety" however they failed to intervene with nursing-specific interventions. The most common nursing action was to refer the patient / family members to Chaplaincy Services. Nursing documentation lacked concrete examples of interventions and outcomes, with the majority utilizing terms such as "psychosocial support given", "referred to chaplaincy services". This brief type of documentation impacted the overall quality of psychosocial documentation from a nursing standpoint.

Q-DIO Subsection Quality Documentation related to psychosocial care

Subsection Q-DIO scores. In order to compare quality of documentation between each of the four subsections of the Q-DIO; nursing diagnoses as process, nursing diagnoses as product, nursing interventions and nursing-sensitive patient outcomes, mean scores (x) were calculated. Mean scores were utilized as each section contained a different number of elements. The higher the number of elements documented on, the higher the mean score (x), resulting in a higher quality of psychosocial documentation. The subsection with the highest quality of psychosocial documentation was Nursing Diagnoses as Process, with a mean score of 2.080. The second subsection demonstrating quality of psychosocial documentation was the Nursing

Diagnoses as Product, with a mean score of 0.900. The third section was Nursing-Sensitive Patient Outcomes with a mean score of 0.620. Finally, the lowest quality of psychosocial documentation occurred in the Nursing Interventions section with a mean score of 0.580. Results of this analysis are demonstrated in Table 2.

Table 2: Total Mean Scores for Q-DIO Subsections

Subsection of Q-DIO	Mean Score
Nursing Dx as Process (x_1)	2.080
Nursing Dx as Product (x_2)	0.900
Nursing Interventions (x_3)	0.580
Nursing-Sensitive Patient Outcomes (x_4)	0.620

Comparison of Q-DIO subsection mean scores. The mean scores of each subsection where then analyzed using a t-test, with a probability p-value of <0.05 indicating statistical significance. In terms of nursing diagnoses as process and nursing diagnoses as product the t-test value was 9.670, and the p value was 0.000, demonstrating a statistical difference in the quality of documentation. The t-test results for nursing diagnoses as a product compared to both nursing interventions and nursing-sensitive patient outcomes resulted in p-values (<0.006 and <0.006 respectively) of significant value. Therefore, there was a statistical significance in the quality of documentation between nursing diagnoses as process and all other sub-sections of the Q-DIO. There was no significant difference in the quality of nursing documentation between nursing interventions and nursing-sensitive outcomes. The t-test for this comparison was -0.312, and the p-value was 0.756, greater than the designated significant p-value <0.050. The results of these tests are demonstrated in Table 3.

Table 3: Comparison of Scores for Q-DIO Subsections

Q-DIO Subsection Mean Scores				
Subsections	t	df	Significance (2-tailed) (p-value)	Mean Squared Difference
Nursing dx as process Nursing dx as product	9.670	98	0.000*	0.442
Nursing dx as process Nursing interventions	9.790	98	0.000*	0.766
Nursing dx as process Nursing-sensitive patient outcomes	9.890	98	0.000*	0.136
Nursing dx as product Nursing Interventions	3.563	98	0.001*	0.449
Nursing dx as product Nursing-sensitive patient outcomes	2.80	98	0.006	0.500
Nursing interventions Nursing-sensitive patient outcomes	-0.312	98	0.756	0.640

*Indicated significance as $p < 0.005$

Documentation Forms

Comparison of the quality of documentation in different types of forms was determined by calculating mean scores. These were calculated for the three different types of forms available to nurses to complete their documentation. On average the structured assessment forms available to nursing staff within the Powerchart documentation system were accessed more frequently than the ADHOC and communication forms. The overall mean scores were as follows: structured form $x_3 = 0.510$, communication note $x_2 = 0.080$, and ADHOC forms $x_1 = 0.045$, as demonstrated in Table 4. Further analysis based on form type was completed by calculating the mean scores for each of the Q-DIO subsections, as seen in Table 5.

Table 4: Total Mean Scores for Type of Form

Documentation Form Type	Overall Mean Score
Adhoc (x_1)	0.045
Communication Note (x_2)	0.080
Structured (x_3)	0.530

Table 5: Q-DIO Subsection Mean Scores for Type of Form

Subsection of Q-DIO	Adhoc Form (Mean Score) (x_1)	Communication Note (Mean Score) (x_2)	Structured Form (Mean Score) (x_3)
Nursing Dx as process	0.140	0.220	0.800
Nursing Dx as product	0.020	0.060	0.440
Nursing interventions	0.020	0.020	0.420
Nursing-sensitive patient outcomes	0.00	0.020	0.380

Structured forms also maintained the highest mean scores when form type for each sub-section was analyzed independently. The mean scores for Nursing Diagnoses as Process were as follows; ADHOC $x_1 = 0.140$, communication note $x_2 = 0.220$, and structured form $x_3 = 0.800$. The mean scores for Nursing Diagnosis as Product were as follows; ADHOC x1 = 0.020, communication note x2 = 0.060, and structured form $x_3 = 0.440$. For Nursing Interventions, the mean scores were ADHOC $x_1 = 0.020$, communication note $x_2 = 0.020$, and structured form $x_3 = 0.420$, respectively. Finally, the mean scores for Nursing-Sensitive Patient Outcomes were ADHOC $x_1 = 0.000$, communication note $x_3 = 0.020$, and structured form $x_3 = 0.380$.

Overall, the structured forms, accessible through the basic admissions history and assessment forms provided the highest quality of nursing documentation surrounding

psychosocial care. The poorest quality of documentation was demonstrated through the use of ADHOC forms, forms in which nurses had to self-determine use of application.

The mean scores were then subjected to multiple t-tests to determine if there was a statistical significance in the quality of documentation dependent on the form used. A probability p-value of <0.05 was utilized to determine statistical significance. When comparing structured forms with both the communication notes (p-value 0.000) and ADHOC forms (p-value 0.004), a statistical significance was noted in the quality of documentation. It was also found that a statistically significant difference in quality also occurred between the use of the ADHOC note compared to the communication note (p-value 0.0337).

Table 6: Comparison of Scores for Type of Form

Comparison of Scores of Different Types of Forms				
Type of Form	t	df	Significance (2-tailed) (p-value)	Mean Squared Difference
Adhoc Communication Note	-2.153	98	0.034	0.009
Adhoc Structured	-2.988	98	0.004*	0.605
Communication Note Structured	-5.89	98	0.000*	0.133

*Indicated significance as p<0.005

Scores pre & post psychosocial form. The Mann-Whitney test was used to test the hypothesis that the distribution of the four Q-DIO subsection elements documented in the patient chart between the pre-psychosocial form and post-psychosocial form period was equal. The difference were tested by (1) the number of different forms where documentation was included (process SUM documented, product SUM documented, intervention SUM documented and

outcomes SUM documented) and (2) the number of items documented from the modified Q-DIO (Nsg dx process SUM, Nrsg dx product SUM, Nrsg int. SUM, Nsg outcomes SUM, Total Q-DIo scores).

A statistically significant difference in distribution of documentation within the nursing diagnoses as a process subsection amongst the three different forms was noted. The pre-psychosocial group had 9.1% of charts documenting nursing diagnoses as a process in all three forms (ADHOC, communication note and structured form), whereas the post-psychosocial form group did not have any charts documenting nursing diagnoses as a process in all three forms ($U = 165$, $p<0.001$).

A statistically significant difference was also noted in the distribution of the number of nursing intervention elements documented. Nursing intervention elements comprised of three items: 1) Concrete, clearly named nursing interventions are planned (what will be done, how, how often, who does it?); (2) The nursing interventions effect the aetiology of the nursing diagnosis; and (3) Nursing interventions carried out, are documented (what was done, how, how often, who did it?). The pre-psychosocial form group had 45.5% of charts without any of the three items of nursing intervention documented, whereas the post-psychosocial form had 71.4% of charts without any of the three items documented ($U=232.5$, $p=0.047$).

Finally, a statistically significant difference in distribution of total Q-DIO scores was found, with the pre-psychosocial form group having a greater proportion of charts having higher total Q-DIO scores when compared to the post-psychosocial form group ($U=211.5$, $p<0.029$). These results are demonstrated in Table 7.

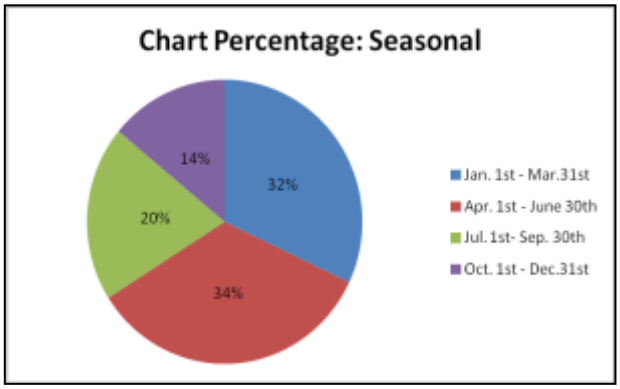
Table 7: Mann-Whitney Scores for Form Type and Q-DIO Subsections

Mann - Whitney Scores for Form Type and Q-DIO Subsections			
	Mann-Whitney U	Exact Significance (1-tailed) (p-value)	Point Probability
Process SUM documented	165.000	0.000*	0.000
Product SUM documented	240.000	0.800	0.027
Interventions SUM documented	228.000	0.058	0.043
Outcomes SUM documented	262.500	0.182	0.077
Nsg dx process SUM	225.500	0.050	0.002
Nsg dx product SUM	232.000	0.051	0.003
Nsg Interventions SUM	232.500	0.047*	0.006
Nsg Outcomes SUM	265.00	0.174	0.011
Total Scores Q-DIO (total of 19 - how many elements got 1 point)	211.500	0.029*	0.001

*Indicated significance as $p<0.005$

Seasons and Q-DIO scores. A percentage was calculated to determine the number of charts that fell into each of the specified time periods. In order to fall into the specified time period, the documentation analyzed had to fall within the pre-set time frames of January 1st – March 31st (Winter), April 1st – June 30th (Spring), July 1st – September 30th (Summer), and October 1st – December 31st (Fall). 66% of the charts under analysis contained documentation occurring in the first half of the year 2014 (January 1st – June 30th), and 34% in the second half of the year 2014 (July 1st – December 31st). These time periods were created to further analyze the possible differences in documentation pre and post implementation of the specific psychosocial documentation form. Distribution of charts based on season is in Figure 2.

Figure 2: Percentage of Charts by Season



The mean scores for each of the Q-DIO subsections were calculated to determine if a difference in the quality of psychosocial nursing documentation occurred at various times during the year. The results of these scores are demonstrated in Table 8. The mean scores of each subsection between the time periods outlined above demonstrated inconsistencies in the quality of documentation. The highest scores, and therefore higher quality of documentation in all sections occurred between January 1st – March 31st, and the lowest scores occurred between October 1st – December 31st. For example, the mean score for Nursing Diagnoses as a Product for January 1st – March 31st was 1.375, compared to the mean scores of 0.000 from October 1st – December 31st. These results are displayed in Table 8.

Table 8: Mean Scores for Q-DIO Subsections Related to Seasons

Seasons	Seasons total mean score	Nsg. dx as process mean score	Nsg. Dx as product mean score	Nsg. Int mean score	Nsg. Outcomes mean score
Jan. 1st - Mar. 31st	5.188	2.438	1.375	0.625	0.813
Apr. 1st - June 30th	5.176	2.353	1.059	1.059	0.706
Jul. 1st - Sept. 30th	2.300	1.400	0.400	0.100	0.400
Oct. 1 -Dec 31st	1.857	1.570	0.000	0.00	0.286

Overall the results demonstrated the highest scores occurring in the Nursing Diagnoses as a Process (x_1), and the lowest scores occurring in the Nursing Intervention (x_3) section. The total mean scores for the Nursing Diagnoses as a Process (x_1) compared to Nursing Interventions (x_3) were as follows; January 1st to March 31st x_1= 2.438, x_3 =0.625; April 1st – June 30th x_1 = 2.353, x_3 = 1.059; July 1st – September 30th x_1 = 1.400, x_3 = 0.100 and October 1st – December 31st x_1 = 1.570; x_3 = 0.000. Therefore, higher quality documentation occurred in the Nursing Diagnoses as a Process section, regardless of the time period within the year. The poorest quality of documentation was noted in the Nursing Intervention section, regardless of the time period within the year.

Through comparison of the mean scores it was noted that similar levels in the quality of documentation occurred between Nursing Diagnoses as a Product and Nursing-Sensitive Patient outcomes. The comparison pattern based on mean scores demonstrated highest quality of documentation occurring in the time period of January 1st – March 31st, with a steady decline throughout the subsequent time periods in the year. The lowest quality of documentation in these two sections occurred in the time period of October 1st – December 31st. This comparison demonstrates that the quality of documentation decreased in quality throughout the year. There was no evidence of a quality pattern between any of the other subsections throughout the specified time periods.

CHAPTER FOUR

Discussion

Q-DIO and Psychosocial Nursing Documentation

The results of this study suggests that the process-based model of the NREM and Q-DIO, can provide detailed information about nurses' ability to document quality psychosocial care of patients in a palliative care setting. Overall, the results showed consistently poor levels of quality throughout all subsections of the Q-DIO, indicating that nurses had difficulty in applying a process-based approach to documentation of care provided to patients. Nursing diagnoses as a product with a mean score of 2.08 demonstrated the ability of the nurses to document a specific diagnosis. However, mean scores of 0.58, and 0.62 for nursing interventions and nursing-sensitive patient outcomes represent the nurses' inability to link diagnoses, interventions and outcomes. This finding is consistent with previous evaluation studies examining the implementation of standardized nursing language which has shown "documentation deficiencies where nursing diagnosis are not coherently linked with nursing interventions and outcomes (Muller-Staub et al., 2006, p.1028)

Quality documentation depends upon the nurse's ability to make accurate judgments about the patient's needs using an information feedback loop. Difficulties with this process may be explained by the differences in psychosocial elements. Tangible (objective) information that needs to be documented has been shown to be more prevalent in psychosocial nursing documentation then intangible (subjective) information throughout nursing documentation (Brooks, 1998; Blair & Smith, 2012; Evans, 2012; Scoates, Fishman & McAdam, 1996). In this study, under the nursing diagnoses as a product subsection, the element with highest quality was "presence of significant others" (mean score 0.80), which is objective information. Nurses in this

study were able to visualize the presence of family members at a patient's bedside making this information tangible The elements with lowest quality were "beliefs and attitudes about life (related to hospitalization)" (mean score 0.28), and "social situation and living environment / circumstances" (mean score 0.16). These two elements are subjective information. Nurses were less able to visualize, or were not aware of the importance of a patient's social situation or attitudes about life, making this information intangible.

Nurses within this study were able to recognize and identify a key EOL issue (Gunhardsson, Svensson & Berteroe, 2008; Collier, 2001; Choi et al., 2012). Despite the poor quality in documenting subjective psychosocial issues, the element of anxiety, when documented was consistent and of quality. They were however unable to connect interventions pertaining to anxiety to overall patient outcomes. Although poor quality of psychosocial documentation of responses of patient anxiety does not necessarily indicate that patients had higher levels of anxiety at EOL. Nevertheless, the lack of internal coherence between the three stages of the process suggests that care may be inadequate.

Previous research reports that nurses have been unable to adequately address psychosocial needs in documentation due to the lack of an accepted nursing language within a streamlined process (Brooks, 1998). The results of this study support these findings since there was a failure to to document on nursing specific interventions provided to patients expressing spiritual needs. This study demonstrates that nurses were limited in their ability to identify spiritual needs, as demonstrated by a mean score of 0.28 for "beliefs and attitudes about life". Despite being able to identify these needs, they failed to indicate interventions as demonstrated by a mean score of 0.14 for "nursing interventions effects the aetiology of the nursing diagnosis". Of the charts reviewed, only 50% indicated a connection between the diagnoses,

interventions and outcomes was demonstrated throughout all available types of forms utilized to complete documentation.

Potential Factors Affecting Quality of Documentation

An unexpected result was the significant impact the different types of documentation formats had on quality documentation. The negative implicat of streamlined documentation processes was evident as scores for quality decreased after implementation of a structured psychosocial form within the Powerchart database. Prior to the implementation of this form, the psychosocial documentation under analysis was found in the narrative formats of ADHOC and communication notes. Once this streamlined structured form was implemented, there was a statistical significance in the quality of documentation ($U= 211.500$, $p <0.029$).

With fewer patients requiring EOL care (34 admitted between July 1st and December 31st), in combination with a structured streamlined forms, nurses would have more time to conduct quality documentation. The scores were expected to enhance but this was not the case. This significant finding supports previous research studies which identified a limitation with streamlined documentation processes because they do not allow for the nurse to record subjective findings such as "beliefs and attitudes about life" (Scoates, Fishman & McAdam, 1996; Blair & Smith, 2012). Although this form was designed to minimize documenting time, it failed to recognize the importance of providing a process which included narrative documentation in order to describe psychosocial care. The increased redundancy in documentation practices, in combination with the lack of standardized nursing language to describe psychosocial care appeared to negatively affect the quality of documentation.

Exploring the effects that educational sessions regarding psychosocial documentation via a structured form has on overall quality is warranted, as previous studies have noted the positive

impacts of education on quality documentation. Furthermore, it may be advantageous to collaborate with an organization to create and implement an educational session regarding the process-based Q-DIO and its implications related to patient outcomes. The educational session could be provided to nursing students and nurses in the palliative care setting to again assess the difference of educational backgrounds on quality documentation.

In summary, this study demonstrated the application of the process-based Nursing Role Effectiveness Model (NREM) and Quality of Documentation of Nursing Diagnoses, Interventions and Outcomes (Q-DIO) in an area outside of acute medicine. Application of these models, in conjunction with each other, demonstrated that poor quality of psychosocial documentation may be occurring within a specialized Canadian palliative care setting. Specific issues such as cumbersome charting formats, implementation of structured forms, lack of familiarity with standardized nursing language, and the inability to link nursing diagnoses, interventions and outcomes, may have impacted the overall quality of documentation. This study demonstrated that poor quality in one area or element of documentation (i.e. nursing diagnoses) can negatively influence subsequent areas and illustrates the importance of applying the nursing feedback loop in documentation.

Limitations

Several limitations of this study are noted. The study was completed using a modified Q-DIO, analyzing only specific elements within each subsection of the Q-DIO. A more complex coding format could have been used to allow of a more in depth analysis of the overall Q-DIO scores. Also, a larger sample size or multiple site study would have increased generalizability of the results outside of the palliative care setting. The inclusion of confounding variables such as demographic factors (patient gender, age, diagnoses, co-morbidities), and educational levels of

the nurses (registered practical nurse versus registered nurse) could have been assessed to assist in explaining the overall results of the study.

Implications for Further Research

Further research to examine for differences in the type of documentation forms utilized is warranted, as it may lead to development of a streamlined psychosocial documentation process and standardized nursing language. As this study demonstrated it is imperative to evaluate the impact of newly implemented tools (such as structured documentation forms related to psychosocial care) to determine where issues in documentation are occurring. For example, are the issues occurring at the bedside in terms of the patient actually reporting psychosocial symptoms, or did the nurse fail to assess for such? As well, future research should include patient specific elements, such as age, gender and diagnoses at time of care, to determine if quality documentation is more prevalent in specific patient situations. More research is needed to develop and test standardized nursing process language and assess its application in a variety of practice settings.

Although this study did not directly assess the influence of nurses' education levels on the quality of documentation, it did however demonstrate the impact educational levels may have on quality psychosocial documentation. Exploring nursing knowledge and education levels may help to explain the decline in quality after implementation of a designated psychosocial form, as noted in this study. Furthermore, inclusion of nursing designation based on educational levels obtained, may denote that education is directly related to quality of documentation. Inclusion of this type of variable may help to explain any differences in quality of documentation not attributed to the overall type of form utilized. As well, future research regarding quality psychosocial documentation should include patient specific elements, such as age, gender and

diagnoses at time of care, to determine if quality documentation is more prevalent in specific patient situations.

Conclusion

Exploring the current quality of psychosocial nursing documentation at EOL in a Canadian palliative care setting has illustrated the importance of applying a nursing process feedback loop which connects nursing diagnoses, interventions and outcomes. It is apparent from these results that utilizing a process-based framework is a valid technique to assess the quality of nursing documentation which in turn provides insights into the psychosocial care provided to patients. Based on the results of the study, nurses experience challenges in using a process model and therefore further research is needed to identify strategies to promote higher levels of nursing documentation.

Future contributions to nursing research should be centered on establishing Canadian benchmarks in psychosocial nursing documentation at EOL. In order to establish baseline benchmarks, this study recommends the continued analysis of psychosocial documentation to determine overall quality and further evaluation of the process-based NREM and Q-DIO within various Canadian palliative care settings to determine variances in documentation.

Continuing to utilize a process-based model, such as the Q-DIO and nursing feedback loop, to analyze nursing documentation will provide organizations with measureable targets of quality documentation. Prior to implementing newer streamlined documentation models current trends in documentation must be assessed since this study illustrated that it may have a significant impact. If inadequate documentation is occurring, it can guide future developments in nursing documentation protocols to enhance overall patient outcomes. Once these targets have been established, and alterations to organizational nursing documentation practices are

implemented, psychosocial nursing care received by Canadians at end-of-life will be positively impacted.

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Appendix A

Quality of Documentation of Nursing Diagnosis, Interventions and Outcomes (Q-DIO)

Nursing Diagnoses as process

Information is documented about

1) Actual situation, leading to hospitalization
2) Anxiety and worries related to hospitalization, expectations and desires about hospitalization
3) Social situation and living environment/circumstances
4) Coping in the actual situation with illness
5) Beliefs and attitudes about life (related to hospitalization)
6) Information of the patient and relatives/significant others about the situation
7) Intimacy, being female/male
8) Hobbies, activities for leisure
9) Significant others (contact persons)
10) Activities of daily living
11) Relevant nursing priorities according to the assessment

    * (11 items, maximum score 22, mean = 2) (3 point scale)

Nursing diagnoses as product

12) Nursing problem/nursing diagnosis label is documented
13) Nursing diagnosis label is formulated according to NANDA and numbered
14) The aetiology (E) is documented
15) The aetiology (E) is correct, related to the nursing diagnosis (P)
16) Signs and symptoms are formulated
17) Signs and symptoms (S) are correctly related to the nursing diagnosis (P)
18) The nursing goal relates/corresponds to the nursing diagnosis
19) The nursing goal is achievable through nursing intervention

    * (8 items, maximum score = 32, mean = 4) (5 point scale)

Nursing interventions

20) Concrete, clearly named nursing interventions are planned (what will be done, how, how often, who does it?)
21) The nursing interventions effect the aetiology of the nursing diagnosis
22) Nursing interventions carried out, are documented (what was done, how, how often, who did it?)

    * (3 items, maximum score = 12, mean = 4) (5 point scale)

Nursing-sensitive patient outcomes

23) Acute, changing diagnoses are assessed daily or from shift to shift
24) The nursing diagnosis is reformulated
25) The nursing outcome is documented
26) The nursing outcome is observably/measurably

27) The nursing outcome shows
    a. Improvement in patient's symptoms
    b. Improvement of patient's knowledge state
    c. Improvement of patient's coping strategies
    d. Improvement of self-care abilities
    e. Improvement in functional status
28) There is a relationship between nursing-sensitive patient outcomes and nursing interventions
29) Nursing outcomes and nursing diagnoses are internally related

* (7 items, maximum score = 28, mean = 4) (5 point scale)

Muller-Staub, M., Lunney, M., Odenbreit, M., Needham, I., Lavin, M. & van Achterberg. (2007). Improved quality of nursing documentation: results of a nursing diagnoses, interventions and outcomes implementation study. *International Journal of Nursing Terminologies and Classifications. 18(1).* 5-17.

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Appendix B

Modified Quality of Documentation of Nursing Diagnosis, Interventions and Outcomes (Q-DIO)

Nursing Diagnoses as process

Information is documented about

1) Anxiety and worries related to hospitalization, expectations and desires about hospitalization
2) Social situation and living environment/circumstances
3) Coping in the actual situation with illness
4) Beliefs and attitudes about life (related to hospitalization)
5) Significant others (contact persons)

Nursing diagnoses as product

6) Nursing problem/nursing diagnosis label is documented
7) Signs and symptoms are formulated
8) Signs and symptoms (S) are correctly related to the nursing diagnosis (P)
9) The nursing goal relates/corresponds to the nursing diagnosis
10) The nursing goal is achievable through nursing intervention

Nursing interventions

11) Concrete, clearly named nursing interventions are planned (what will be done, how, how often, who does it?)
12) The nursing interventions effect the aetiology of the nursing diagnosis
13) Nursing interventions carried out, are documented (what was done, how, how often, who did it?)

Nursing-sensitive patient outcomes

14) Acute, changing diagnoses are assessed daily or from shift to shift
15) The nursing diagnosis is reformulated
16) The nursing outcome is documented
17) The nursing outcome shows
    a. Improvement in patient's symptoms
    b. Improvement of patient's knowledge state
    c. Improvement of patient's coping strategies
    d. Improvement of self-care abilities
    e. Improvement in functional status
18) There is a relationship between nursing-sensitive patient outcomes and nursing interventions
19) Nursing outcomes and nursing diagnoses are internally related

This tool has been adapted from the original 29-item Q-DIO developed by Muller-Staub et al., (2007, 2009) to allow for usability in other care areas, such as Palliative Care.

Muller-Staub, M., Lunney, M., Odenbreit, M., Needham, I., Lavin, M. & van Achterberg. (2007). Improved quality of nursing documentation: results of a nursing diagnoses, interventions and outcomes implementation study. *International Journal of Nursing Terminologies and Classifications. 18(1).* 5-17.

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Appendix C

Q-DIO Reference # _____

Modified Quality of Documentation of Nursing Diagnosis, Interventions and Outcomes (Q-DIO): Data Collection Tool

Nursing Diagnoses as process

Information	***Yes***	***No***	***Form Type*** ***(Adhoc / form)***
Anxiety and worries related to hospitalization, expectations and desires about hospitalization			
Social situation and living environment/circumstances			
Coping in the actual situation with illness			
Belies and attitudes about life (related to hospitalization)			
Significant others (contact persons)			

Nursing diagnoses as product

Information	***Yes***	***No***	***Form Type*** ***(Adhoc / form)***
Nursing problem / nursing dx is documented			
Signs and symptoms are formulated			
Signs and symptoms (S) are correctly related to the nursing diagnoses (P)			
The nursing goal related / corresponds to the nursing dx			
The nursing goal is achievable through nursing intervention			

Nursing interventions

Information	***Yes***	***No***	***Form Type*** ***(Adhoc / form)***
Concrete, clearly named nursing interventions are planned (what will be done, how, how often, who does it?)			
The nursing interventions effect the aetiology of the nursing diagnosis			
Nursing interventions carried out, are documented (what was done, how, how often, who did it?)			

Nursing-sensitive patient outcomes

Information	***Yes***	***No***	***Form Type*** ***(Adhoc / form)***
Acute, changing dx are assessed daily from shift to shift			
The nursing dx is reformulated			
The nursing outcome is documented			
The nursing outcome shows a. Improvement in patient's symptoms b. Improvement of patient's knowledge state c. Improvement of patient's coping strategies d. Improvement of self-care abilities e. Improvement in functional status			
There is a relationship between nursing-sensitive patient outcomes and nursing interventions			
Nursing outcomes and nursing diagnoses are internally related			

This tool has been adapted from the original 29-item Q-DIO developed by Muller-Staub et al., (2007, 2009) to allow for usability in other care areas, such as Palliative Care.

Muller-Staub, M., Lunney, M., Odenbreit, M., Needham, I., Lavin, M. & van Achterberg. (2007). Improved quality of nursing documentation: results of a nursing diagnoses, interventions and outcomes implementation study. *International Journal of Nursing Terminologies and Classifications. 18(1).* 5-17.

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