Optimizing the Transfer of Patient Care Information Among Nurses and Members of the Multidisciplinary Team in a Regional Hospital in Northwestern Ontario

by

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ABSTRACT

This study was designed to examine the current methods and content of shift report at a hospital in Northwestern Ontario. It also examined the potential of a computer-generated method of shift report to improve communication and transfer of patient information in shift report. The objectives were to enhance standardized communication between nurses and other members of the multidisciplinary team (MT), provide efficient and effective coordination of communication between nurses and other members of the MT, and examine factors that impact on patient safety through audits and personal observation. Action-oriented research was the framework of the study and the methodology. Questionnaires were developed using evidence based-practice literature to obtain data about patient documentation and information transfer, and comments from the participants regarding shift report. Other data collection processes included focus group sessions as well as nonparticipatory observation, documentation audits and audiotaped handover audits to assess the content transferred in shift report, along with content located in patient charts. The target population was 105 participants, an affiliation of registered nurse (RNs), registered practical nurses (RPNs), and members of the MT from three units at the hospital. Of the 105 potential participants, 62 nurses (RNs & RPNs) and 11 MT members participated in the study, providing a sample of 73 individuals. The findings indicated that with the new computer-generated shift summaries, the transfer of patient care information has improved among nursing staff and the MT members. The findings showed that with the new system, there is a decrease in communication among nursing staff but an increase in communication between MT members and nursing staff. The findings indicated areas within the new system that can be enhanced to improve

communication and patient information transfer. Recommendations to improve communication between nursing staff and members of the MT include use of wireless systems to replace current hard-standing computers which would increase the time spent with patients and decrease the number of errors with documentation through point-of-care documentation. As well, use of the phone system as a method of shift report would allow nurses to record their patient data when convenient for them, without having to be at a stationary computer. It also would allow other members of the MT to access the patient reports through the phone system and levels of passwords.

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CHAPTER 1: INTRODUCTION TO THE STUDY

Introduction

Communication is essential to all healthcare professionals. According to the Joint Commission International Center for Patient Safety (JCICPS; Dr. Darlene Steven, personal communication, September 2007), to be effective, communication must be complete, accurate, timely, unambiguous, and understood. According to the Joint Commission on Accreditation of Healthcare Organizations (JCAHO, 2006), approximately 65% of problems associated with serious adverse patient safety are related to communication problems (Canadian Patient Safety Institute [CPSI], 2007). The JCAHO declared that the enhancement of efficient and effective communication among members of the multidisciplinary team (MT) is a major national safety goal.

Statement of Purpose

To examine the transfer of patient care information among registered nurses (RNs) and members of the MT on a medical unit, a surgical unit, and a pediatric unit at a regional hospital in Northwestern Ontario (NWO).

Objectives

1. To enhance standardized communication between nurses and other members of the MT.
2. To provide efficient and effective coordination of communication between nurses and other members of the MT.
3. To examine the factors that impact patient safety through audits and personal observation.

Conceptual Framework

Action-oriented research was chosen as the conceptual framework for this study because it helped to explain the cyclic nature of the research process that was utilized, assisted in identifying issues and problems, and enabled the formulation of solutions to identified problems. Action-oriented research has been utilized in research that "enhances the effectiveness of [the health professionals] work in many different contexts" (Stringer & Genat, 2004, p. 1). These contexts include projects that assist clients in improving their health outcomes through the development of care plans, assists clients in experiencing new ways of living with chronic disease, and assists communities in addressing public health issues (Stringer & Genat). Therefore, action-oriented research was suitable for this study's investigation into improving the transfer of patient care information among nurses and members of the MT in a regional hospital.

Action-oriented research is often associated with the work of social psychologist Kurt Lewin, "who viewed action research as a cyclical, dynamic, and collaborative process in which people addressed social issues affecting their lives" (Stringer & Genat, 2004, p. 5). This form of research was used to address various problems and issues, such as assimilation, segregation, discrimination, and it assisted people in resolving issues. The key to using action-oriented research is that it is a systematic and participatory approach that "seeks local understandings that are specifically relevant to the particular context of a study" (Stringer & Genat, p. 4).

Stringer and Genat (2004) described the nature of action-oriented research as the following:

> The systematic processes of inquiry available through action research extend the professional capacities of health practitioners, providing methods that improve the

effectiveness of interventions and augment professional practice in ways that enhance outcomes for clients. (p. 1)

They also described action-oriented research as having the following key elements:

1. Study design
    - Exploring and refining the issue to examined, establishing the research question(s), utilizing the systematic process of inquiry, and verifying the ethics and validity of the study
2. Data collection
    - Gathering data and information from a variety of sources
3. Data analysis
    - Identifying any key issues and features of the issue being examined
4. Communication
    - Relaying the study outcomes and any relevant information to appropriate audiences
5. Taking action
    - To rectify and resolve the identified and examined issue.

These elements and process of action research are continuously cycled through by the researcher as the researcher works toward identifying solutions. Therefore, action research can often be referred to as a cycle (see Figure 1).

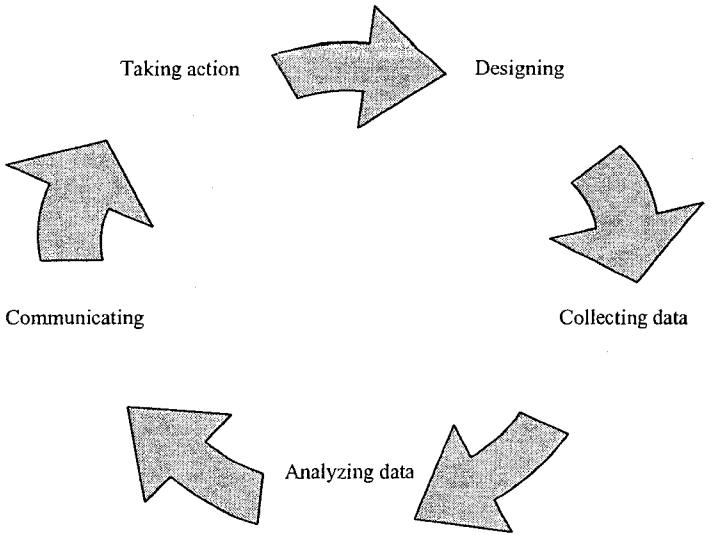

Figure 1. Action research cycle.
Note. From *Action Research in Health* (p. 5), by E. Stringer & W. J. Genat, 2004, Upper Saddle River, NJ: Pearson Education.

These foundations and principles were used by Hardy, Howarth, Ryan, and Henderson (2002) to explore the need for changes in nursing handover in Australia. They employed a two-case study design and an action-oriented research methodology. The study was conducted on two wards of a tertiary hospital, and data were obtained from focus group interviews, audiotaped handovers, nonparticipatory observations, patient interviews, and documentation audits. The main foci of the study were to describe current handover practices, describe communication processes that impact the handover, and develop a pilot that would implement and evaluate a new handover model. The current study followed similar objectives; therefore, is the researcher felt that the same principles and foundations applied to and directed this study. Hardy et al. also utilized the following principles of action research:

> Action research incorporates a cyclic approach that involves building a picture; gathering information; interpreting and explaining what is happening and how it is happening, followed by resolving issues, concerns and problems. (p. 23)

Hardy et al. (2002) utilized the action research cycle in the form of a helix, which is a variation of Stringer's (1996) action research helix (see Figure 2). This aids in explaining the cyclical nature of the research process, indicating that the phases of the research process are repeated continuously over time. This model incorporates the five key elements of the action research cycle:

1. First 'Look'
    - Looking at the problem and clarifying the nature of the problem
2. 'Think'
    - Time to reflect about the identified problem and determine who the problem affects
3. 'Act'
    - Decide what actions need to be carried out
4. 'Look' again
    - Time to review the actions that were taken
5. 'Think'
    - Reflect on the actions taken and evaluate their effectiveness
6. 'Act'
    - Improving or enhancing the actions taken (Stringer & Genat, 2004).

These principles and steps are followed until a solution has been reached that is effective for the problem being examined.

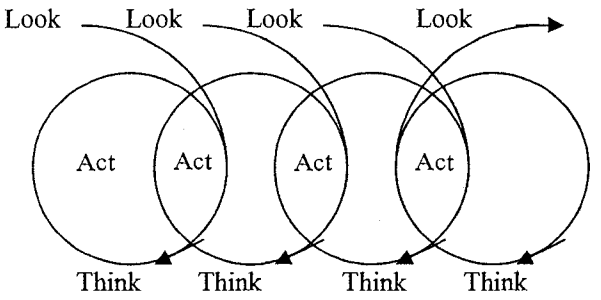

Figure 2. A variation of Stringer's (1996) action research helix.
Note. "Exploring the need for change in nursing handover, using action research and case study methodology: A report on work in progress," by J. L. Hardy, T. Howarth, K. Ryan, & K. Henderson, 2002, *St. Vincent's Health Care Campus Nursing Monograph*, p. 2.

Action-oriented research was the foundation of this study because it allowed the researcher to design a study that was appropriate for the issue being examined, namely, improving the transfer of patient care information among nurses and members of the MT. It also provided the researcher with guidance in the research process through designing the study, collecting the required data, analyzing the collected data, communicating it to the appropriate individuals, and taking action to rectify the identified problem.

CHAPTER 2: LITERATURE REVIEW

Introduction

In this chapter, current literature on patient information transfer and shift report is critically examined, providing a knowledge base for the study. A definition of shift report is presented. An overview of shift report is presented, with an emphasis on its functions, process, length, and content. Communication is discussed, with specific attention to breakdowns in communication and legal and professional issues with communication. Patient safety also is discussed and examined. Technology related to shift report and health care is examined, with specific attention to types of shift report and new technology in health care.

Definition

Shift report "is defined primarily as a communication process between two shifts of nurses to convey patient information and to facilitate the continuity of patient care" (Strople & Ottani, 2006, p. 197). Several terms are used to describe this transfer of information, including end-of-shift report, intershift report, shift handover, patient care transfer, bedside reporting, and transfer of accountability.

An MT is a "team of providers who perform specific tasks" (Narasimhan, Eisen, Mahoney, Acerra, & Rosen, 2006, p. 217). The MT members include, but are not limited to, physicians, physiotherapists, dietitians, occupational therapists, social workers, community workers, and many others.

Overview of Shift Report

Shift report is conducted approximately two or three times a day on a single unit, seven times a week, 365 days a year, providing patients with 24-hour care. The

importance of this seemingly routine practice is often overlooked by nursing staff and MT members. It is important to note that nurses are not simply changing personnel during shift report; they are exchanging critical patient information that is central to the creation of continuity of care and treatment for patients (Buus, 2006). Therefore, it is important to understand the functions and intent of shift report if shift report is to be of significance.

Shift report holds a variety of social and organizational functions for nurses and MT members. When performed properly, the shift report allows nurses to share "essential information about patients with colleagues who'll be accepting responsibility for them" (Schroeder, 2006, p.22). Shift report also is essential in the promotion of patient safety and best practices through communication (Caruso, 2007). Teaching, team building, socialization, group cohesion, and the moulding of new nurses into their professional role are achieved through shift report (Payne, Hardey, & Coleman, 2000). The shift report can provide staff with a safe environment for the exchange of personal information and ideas, allowing nurses to manage their emotions prior to seeing their patients or heading home (Hopkinson, 2002).

In addition, shift report can provide the oncoming nurse with baseline medical information as well as the findings from nursing assessments, and it can draw the nurses' attention to specific patient needs that require nursing intervention during the next shift (Priest & Holmberg, 2000). Because of the reliance on other nurses' information regarding patients' condition, it provides an environment for validating and expressing the value of the offgoing nurses' work (Philpin, 2006). Shift report can serve as part of the discharge planning through the discussion of various goals that need to be met prior

to discharge and what services will be required upon discharge, such as home care visits or outpatient appointments. However, the most important of all the functions of shift report is communication between nurses and members of the MT.

Although shift report holds many functions, it follows a process that is independent of the individual. Kerr (2002) completed a qualitative study examining the shift handover practice to gain a better understanding of the process and its functions. Kerr utilized multiple and opportunistic methods to gain data from two different pediatric wards. One ward was an oncology and haematology specialty, and the second was specialized in three types of surgery: ear, nose, and throat. Both wards had approximately an equal number of staff (23 qualified nursing staff and approximately 10 unqualified support workers, students, and ward assistants). Interviews with offgoing and oncoming staff, shadowing of oncoming staff during the report process, and engagement in activities around the nurses' station provided the required information. The findings showed that the handover can be divided into three different phases: a prehandover, an intershift meeting, and a posthandover. The prehandover refers to the activities that offgoing staff perform in preparation for the intershift meeting. The intershift meeting is analogous to the report, whereas "other activities during any shift overlap and the uptake of nursing care by the new shift form the post-handover" (Kerr, p. 129).

Although all staff proceed through the same process of handover, the time it takes for nurses to convey all information varies, and excess time can have significant effects on patient care. In most cases, the length of report is determined by the time of day the report is pertaining to. Lamond (2000) conducted a study that examined how the nature of shift report content assisted nurses in processing information and, subsequently,

planning care. The study involved two district general hospitals in England where 60 patient reports, including the kardex, care plans, and all nursing notes, were used as the source of information for the study. The results showed that the average time for a report was 34 minutes, with a range of 15 to 54 minutes. In addition, reports between night shift and early morning shift were the shortest, and early (lasting morning to afternoon) to late (lasting afternoon to night) shift were the longest.

Alvarado et al. (2006) found that length of report varies, lasting from as little as 1 to 2 minutes per patient to as long as 6 or more minutes, and this was dependent on care area (i.e., longer reports were observed in areas such as intensive care). Also, further details and more lengthy reports were given if the oncoming nurses appeared to be attentive (Philpin, 2006). Although it is important to transfer all necessary information, lengthy reports increase the likelihood of information overload for oncoming nurses and decrease the amount of time spent with patients (Kassean & Jagoo, 2005). Excess time spent by nurses for preparation and delivery of shift report results in numerous problems such as excessive overtime, inadequate reports, and an inability to meet patients' needs during the change of shift (Hopkinson, 2002).

A significant number of resources are expended during shift changes. The complexity of patients, changes in staff members during the first few minutes of a shift, departmental emergencies, and a lack of organizational skills may prolong the report process, which ultimately can be a costly endeavour (Hansten, 2003). Therefore, in order to transfer all necessary information while maintaining shorter report documentation, sources need to be kept up to date with current patient information, and the content should be clear and concise. Through the efficient use of nursing time, that is, by

increasing the quality of information exchanged and decreasing the time spent on report, shorter reports can be achieved. This would allow nurses to spend additional time reading the necessary and essential information instead of spending time in report (Sexton et al., 2004).

If nurses are to spend less time in report, it is necessary to ensure that all pertinent and relevant information is transferred because oncoming nurses require current patient information to ensure continuity of care and to effectively implement an appropriate plan of care. Because modern nursing is extremely fluid and there is a high turnover of staff members and patients, the accuracy of shift report content becomes even more important (Currie, 2002). There are no guidelines or formal structure to guide shift report, so the information presented may be irrelevant, repetitive, or speculative, or it may be contained in other documented sources (Sexton et al., 2004). Sexton et al. conducted a study that examined the content of verbal report compared to existing patient documentation on a general 30 bed medical ward. Two researchers observed and audiotaped 23 handovers on the ward covering all shifts, and they later performed qualitative data analysis. Their findings indicated that the majority of information (93.5%) discussed during handovers is available or should be available in the patients' charts. The findings also showed that because there is no consistency in shift report structure, some handovers only promote confusion regarding patient status, treatments, or management.

Although there is no formal structure for shift report, trends regarding the information transferred have been identified. Lamond (2000) found that the majority of nurses began their handover with the same three pieces of information regarding a patient: name, age, and consulting doctor. It also has been identified that shift reports

focus on communication, moving, elimination, medication, and medical treatment. Currie (2002) conducted a study to identify areas of handover that should receive the highest priority in an emergency environment through the use of a questionnaire. The questionnaire was a content checklist that the author had used in previous study (Currie, 2000, as cited in Currie) and which had encompassed many topics of report that emergency room nurses were to select from. The results identified the following six areas as the highest priority during the handover:

- "Patient's reason for admission,
- Treatment patient has received,
- Patient's name and age,
- Present restrictions on the patient,
- Plan of care for the patient, and
- Patient's relevant past medical history." (Currie, p. 25)

An unexpected finding was that "the patient's social details are not prioritized, especially as social aspects are often the cause of delays in discharge" (Currie, 2002, p. 25). Information such as living or financial circumstances is omitted, as well as any family issues, which can have an impact on the patients discharge readiness.

Payne et al. (2000) also identified that a patient's resuscitation status is considered important because it is written in the patient's kardex and transferred in report. It also has been recognized that nurses tend to include general statements regarding a patient's condition, treatment, and processes within the report. These statements, referred to as global judgments, are generally defined as "the assimilation of objective patient data which in turn, generates subjective statements" (Strople & Ottani, 2006, p. 199).

Statements such as a patient is doing "better" or a patient had a "good" night are vague in nature and do not provide adequate information. Therefore, it is important when giving report to avoid general statements because they can lead to confusion or misunderstanding by the oncoming nurses. Moreover, it is important to note that when perceptions of patients are affected to a large extent by subjective data, the therapeutic effect of hospitalization can be lost (Priest & Holmberg, 2000). Consequently, effective and efficient communication must be utilized in order to transfer all relevant patient data.

Communication

Effective communication is perhaps the most important attribute of successful nursing. Because shift report has been identified as a "highly complex communication event," it is even more important that effective communication be utilized during the handover (Kerr, 2002, p. 131). It is important that effective communication be utilized not only during handover but also during any staff interaction. "Staff interaction and coordination are critical factors in preventing mortality [as] unwanted or ineffective care occur when the goals of care are not expressed effectively, increasing costs and the likelihood of medical errors" (Narasimhan et al., 2006, p. 217). Therefore, communication is important not only between nursing staff but also between MT members and nurses.

Narasimhan et al. (2006) conducted a study aimed at improving nurse-physician communication in the intensive care unit (ICU) through the use of a daily worksheet. The study involved a 16-bed ICU unit at Beth Israel Medical Center that had 1 fellow, 4 internal medicine residents, 4 medical interns, a nurse manager, a medical director, and staffing by RNs. A daily worksheet was designed with input from all participants, and the

staff were asked to utilize the worksheet for their daily rounds. A questionnaire was utilized to assess the participants' satisfaction levels regarding communication and staff interaction. The results showed that through the use of a standardized worksheet, nurses had a better understanding of the goals for the patients for that day, both the physicians and nurses indicated an improvement in communication with each other, and the mean length of stay of patients in the ICU had declined. Therefore, through the use of a simple worksheet, communication among different members of the health care team and patient outcomes were improved.

Although communication between nursing staff and members of the MT can be improved and become more effective, there are factors that influence its effectiveness. One factor is the interaction between and among nurses, which plays a vital role in the effectiveness of communication. Information transfer and communication in shift report encompasses relationships, so staff interaction is fundamental to positive nursing outcomes, accurate information, and satisfaction (Hays, 2002). However, Hays found that "mutual respect and approval of the other seem to be lacking in shift report" (p. 3).

Hays's (2002) study was aimed at exploring the effect of supportive communication on nurses during shift report, including verbal and nonverbal forms. It involved observing the interaction of 4 charge nurses and 13 staff nurses during report and making note of any supportive behavior during this interaction. Even though report is a setting to promote social cohesion and teamwork, the results showed that no supportive behaviour/interaction occurred during the observed reports. The study depicted that report is a place where criticism is more evident than praise. The lack of positive and supporting interactions by nurses and members of the MT may be attributed to factors

such as insufficient knowledge of the effect of verbal and nonverbal communication. This includes tone of voice (passive vs. active voice), speed of speech, posture, and facial expression (Hays). It also may stem from the lack of guidelines that are in place for delivering handover.

Moreover, communication "is dependent on the nurse's ability to listen, assimilate, interpret, discriminate, gather, and share information in constantly changing systems made up of many disciplines and hierarchies" (Manning, 2006, p. 268). Therefore, communication skills and working relationships are important for nursing staff and members of the MT. Ultimately, shift report should not separate the nursing staff and multidisciplinary team into separate groups; rather, it should enforce the idea of working as team to attain a common goal.

The lack of verbal and nonverbal communication skills affects shift report in additional ways other than support, such as the ability of nurses to exchange information effectively during report. Nonverbal communication in the written format, such as patients' health records, progress notes, medication charts, and nursing care plans, form the basis of communication between and among other health disciplines, whereas the nursing handover plays an important role in nurse-to-nurse communication (Sexton et al. 2004). By incorporating more nonverbal communication during nursing handovers, facts and statements that nurses make to oncoming nurses regarding patients will be supported by documented information.

In addition, because nurses and members of the MT experience a high turnover of patients, they do not get an opportunity to become very well acquainted with the conditions of their patients. Therefore, they must rely on written documents and

statements when reporting to other staff members. As well, "written communication combined with verbal communication enhances the hand off" (Crum, 2006, p. 1060). Hence, the accuracy and timeliness of documentation regarding patient care is vital for appropriate communication.

Additional factors were acknowledged in a study conducted by Bruce and Suserud (2005), who examined the handover and triage process in an emergency setting. It focused on how a sample of nurses in the emergency department experienced handover following the arrival of patients via ambulance. Six emergency room nurses were interviewed regarding their experiences. The findings identified what nurses considered an ideal handover: They created a holistic picture of the patient that informs the oncoming nurse of care required. The participants also described a nonideal handover as occurring when there are problems forming a holistic picture of the patient. This results when the patient presents with symptoms that are ambiguous and hard to define. The conclusions of the study suggested that the nonideal handover has the potential to create a lack of interest by the staff member receiving the patient because it does not portray the patient's needs effectively (Bruce & Suserud). Ultimately, communication is fundamental to providing the appropriate information to the oncoming nurse, allowing for an accurate transfer of information.

In addition to the factors that affect communication in the emergency department, communication can be affected in other locations where handover is given. Manias and Street (2000) concluded that the bedside handover can ultimately hinder communication between nurses. They suggested that the bedside handover can be considered a time and place where nurses can "examine each others' activities according to an idealized norm

regarding expectations of nursing care" (p. 380). The examination of others raises the issue of "the tyranny of tidiness," causing nurses to be concerned with the patients presentation during shift report (Manias & Street, p. 377). In addition, the examination of others' work at the bedside appears to include the need to communicate accurate patient information in front of the patient. As a result, nurses express fear and anxiety during the report, suggesting that "nurses need to consider how their verbal and non-verbal communications affect their interactions" (Manias & Street, p. 380).

This contention was supported by Caruso (2007), who conducted a study to introduce nurse-to-nurse bedside reporting on a medical-surgical cardiology unit. The RNs on the unit assisted in developing a template for the information that was to be transferred during the bedside report to ensure a consistent report format. A report process also was discussed and determined by the participants. One month following the implementation of the pilot, the participants met to discuss nurse-to-nurse bedside reporting. The outcomes identified that the nurses felt uneasy talking in front of their patients. The findings also identified that the nurses reported frustration because the patients would have to repeatedly listen to their histories at every shift change. Caruso suggested that "the uneasiness [may be] due to a lack of knowledge in effective communication techniques" (p. 21).

An additional factor that can be encountered during the communication process of the shift report is the labelling and stereotyping of patients. Priest and Holmberg (2000) suggested that by describing the patients' specific behaviours and avoiding global judgements, stereotyping and labelling can be eliminated. Family stereotyping and judgements also have been identified as problems. Often when caregivers' stress or

methods of coping are subjected to judgements by staff, these judgements are passed in reports (Ryan & Steinmiller, 2004). These researchers explored and analyzed, in the literature, methods that promote positive socialization and communication enhancing family-centered care. They asserted that judgements and stereotypes can be formed when there is a power struggle between family members and staff members regarding patient care. Without attempting to explore family requests and changes regarding care, staff members can create further stress and tension. This can hinder the way that nursing staff approach a family member and, ultimately, affect patient care. Stereotypes also can affect the way that family members view nursing staff, affecting the information transfer among patient, family, and nursing staff.

Among the several factors that influence communication, there are instances when communication pathways between individuals are broken and ineffective, resulting in patient care being affected. Communication breakdowns can occur because of the physical isolation of the staff from one another, which may be the result of both the geography of the modern hospital and to staff shortages (Payne et al., 2000). Breakdowns in communication can occur because of the various forms of shift report. Canadian hospitals do not have a policy or set standards for shift report, so different forms of handover exist, and each form varies within different institutions and settings (Alvarado et al., 2006). The lack of consistency in shift report can ultimately have negative effects on communication and continuity of patient care, as well as patient safety.

Patient Safety

The handover is fundamental to the professional activities that follow the report, with communication being at the forefront (Alvarado et al., 2006). Because communication is a key element, it is important to communicate thorough and accurate information during the report. "Failures in communication can have serious consequences for a patient and can result in liability for nurses" (Aiken, 2004, p. 168). Liability is a legal responsibility that needs to be adhered to. According to the JCAHO, "Communication issues were a root cause of approximately 65% of the 2,966 sentinel events reported from 1995 to 2004 and nearly 70% of 582 sentinel events reported in 2005" (as cited in Crum, 2006, p. 1059). A lack of significant communication between nursing staff and other health care providers can result in the omission of information, misinterpretation, misdirection, or missed actions, ultimately resulting in a negative outcome (Crum). In addition, nurses are required to communicate information as part of their professional nursing standards. When nurses fail to meet this standard, they can become legally responsible for any harm that results to the patient (Aiken). There have been instances where "nurses have faced professional misconduct disciplinary actions pertaining to client communications as well as to inappropriate communication with other staff regarding the client" (Canadian Nurses Protective Society, 2006, p. 2).

Patient safety can become an issue in any institution, particularly if the institution has no standardized method of handover. Alvarado et al. (2006) examined and implemented a guideline for the transfer of accountability during shift report in a regional hospital. Their study involved a 1,000-bed hospital that employs more than 3,400 RNs and registered practical nurses (RPNs). An assessment of current practices was

conducted, followed by the development and implementation of the transfer of accountability guidelines. The researchers identified that patient safety issues arose when the process for the transfer varied between settings or healthcare providers, resulting in an increased risk of missed or incorrect information. They also noted that differences in the content of information exchanged during report raised additional concerns. These concerns raised the issue of "the usefulness of the information and congruence between the report and the patient condition" (Alvarado et al., p. 76). Therefore, the accuracy of the information transferred to the oncoming nurse is fundamental. Strople and Ottani (2006) supported this fact:

> Nurses rely on the accuracy of shift reports to make appropriate clinical decisions and to prioritize and plan patient care. Shift communications that are inaccurate, misinterpreted, omitted, incomplete, or biased may misdirect nursing surveillance, leading to failures in recognizing and preventing serious patient complications. (p. 197)

To support the need for standardized handover, the JCAHO's (2006) national safety goal requires health care settings to "implement a standardized approach to hand-off communications, including an opportunity to ask and respond to questions" (n.p.). Therefore, patient safety is a fundamental goal during report and can be compromised when there is inconsistency in handover and confusion regarding appropriate information. Payne et al. (2000) conducted a study that focused on the interactions between and among nurses within the context of handovers to determine the influence of communication on the delivery of care. The study consisted of nonparticipant observation, semistructured interviews, audiotaped recordings of handovers, and documented data conducted in a general hospital in England. Payne et al. concluded that a "considerable amount of qualified nurses' time is devoted to the production of written

reports" (p .283). This becomes a patient safety issue because excess time is spent preparing the written report, which takes time away from patient care. Patient safety is also compromised with audiotaped report because it draws the majority of the incoming staff into the office and away from patients at the start of shift (Clemow, 2006). This prevents nurses from providing care to patients prior to shift change, and the patients may go some time before receiving attention or the desired medication.

Payne et al. (2000) examined the use of nursing records during the handover. The results indicated that there appear to be three levels of records and information available to nurses. The first level includes the kardex and computerized care plans, which are considered to have legal status. These also are regarded as "formal public documents" (p. 282). Therefore, any information recorded in these areas can be accessed and used if incidences arise. The other two levels of records, namely, ward diaries and nurses' personal notes, have no legal status.

The study revealed that nurses rely heavily on personal notes and they view them as the most important source of written information (Payne et al., 2000). This demonstrated that nurses prefer to use documents that are not of legal status, perhaps because it allows the nurses to record and document statements that may seem "inappropriate" to be charted yet are important enough to be transferred to the oncoming staff. Sabir, Yentis, and Holdcroft (2006) suggested that "guidelines would be useful, and that a formalized documented process would strengthen defence against complaint or legal action" (p. 379).

Professionalism guides nurses in their actions, especially those relating to confidentiality. Because patients share personal medical information with nurses so that

they may plan appropriate care, the patients should feel assured that that information will not be used for any other reason (Bruce & Suserud, 2005). Therefore, the handover must be completed with the transfer of pertinent patient information in a professional manner, ensuring that all patient information remain confidential. This means that the information is exchanged in an area where other patients or families cannot overhear the information. It also includes the proper disposal of the nurses' scrap notes from their shift into a confidential shredding bin. Nurses or members of the MT must be aware of all of the other areas that patient information is kept, such as the patient chart or the computer, ensuring that charts are not left in the open and computer screens are not open with patient information. This is important to note because there are many forms of handover and patient documentation that need to be kept confidential.

Technology

Advances in technology are evident in the health care field and not only through major diagnostic machines or research endeavors. There also have been advances in the way that nurses transfer information in the form of the handover. However, just because there have been advances in this area, not all institutions and units are moving forward with the advances. Alvarado et al. (2006) identified that within one organization, nine different forms of shift report were being utilized. These included a combination of written, verbal, and taped methods.

Written methods of report that have been identified include generic computer-based forms or a unique form that has been developed by the nurse. Nurses chose to modify the written report to suit the particular needs of their unit as well as their own personal needs of organization. These modifications prove to be more useful and

beneficial to nurses than a generic form (Alvarado et al., 2006). However, even though nurses continue to utilize a written form of shift report, they still make individual changes that take away from a standardized shift report. Clemow (2006) identified that written report does not address the traditional functions of shift report, particularly those pertaining to socialization. The study was conducted to identify nurses' experience and perceptions of using care plans and documentation as a new system of handover. Audits were completed at 1, 3, and 6 months following the implementation of the new system through self-report questionnaires by 24 staff. An additional independent audit was completed that involved comparative analysis of the patients documentation on 12 units. The audit was used to identify whether patient problems were identified through the use of the care plan through an analysis of patient documentation (i.e., chart, medical notes). Advantages to written report were recognized from this study: The new process challenged the usual practice, encouraged reflective practice, prevented office dwelling, improved time management, and increased nurse/patient contact time. Nevertheless, the written shift report took on many different forms and resulted in the ineffective transfer of information.

A method of verbal reporting, that is, bedside reporting, is used. Its main focus is to encourage patient collaboration in the development of care, with a concentration on the individual needs of the patient (Hopkinson, 2002). Kassean and Jagoo (2005) conducted a study that focused on the implementation of a new bedside handover system. The study followed the three-step model of unfreezing, moving, and refreezing on a 28-bed gynecological ward involving 21 nurses. The study identified that the bedside handover

places the patients central to all care activities, combining the key principle of patients' involvement and participation.

However, there are many instances where the patient is excluded from participating in report. Timonen and Sihvonen (2000) were able to identify reasons for the lack of patient participation. They conducted a study involving the examination of patient participation during the bedside report, including the perspectives of nurses and patients about the process. The results indicated that for the patients to participate, the patients require appropriate information so that they may gain a positive benefit from the report. It was interesting to note that the patients believed the information being transferred was meant only for nurses, so they did not feel any need to participate. In addition, the nurses' use of medical jargon during report makes it difficult for the patients to participate. Hence, "if the intention is that both patients and nurses gain information, it must be given so that all can understand it" (Timonen & Sihvonen, p. 547). Moreover, the researchers found that the bedside reports did not provide useful information to nurses. They concluded that having to stand and handle papers during the report proved difficult for nurses.

Another method of verbal reporting, face-to-face report, involves the transfer of patient information through oral communication between oncoming and offgoing staff. It is considered a process of oral communication that is based on the assumption of immediacy and spontaneity, and it has been found to be dependent on the location and environment of where it takes place. It usually is conducted at a place that is away from the patients, typically in the nurses' station or a conference room on the ward (Hopkinson, 2002). Also, verbal report has been identified as not being very effective for

information recall. Dowding (2001) found that a limited amount of nurses, only 27%, could accurately recall information they heard during verbal report, suggesting that verbal report is an ineffective way of communicating vital patient information between and among nurses and MT members.

Audiotaped report is similar to verbal report, except that instead of the real-time transfer of information, the data are recorded by the offgoing staff and later listened to by the oncoming staff (Strople & Ottani, 2006). Strople and Ottani conducted a study that examined various shift report methods through a thorough literature review and identified various aspects of report. There were no participants in the study. Through their examination of the literature, they identified that audiotaped report lacks accuracy and timeliness and that it depersonalizes the patient population. There is no patient involvement during this form of handover, and there is a reduction in face-to-face interaction between the staff. Strople and Ottani also identified that there is no opportunity to seek clarification of ambiguous or unclear information that is heard during report because the communication is one way. Conversely, the study did recognize that audiotaped report is more cost effective and results in fewer interruptions during report and work flow. However, "one of the hidden consequences of the introduction of these more cost-effective, in terms of nursing time, handovers might be the undermining of an important emotional support" (Hopkinson, 2002, p. 174). It appears that emotional support is fundamental to shift report, as has been evident through all of the research, and should be included.

It has been evident through the research that shift report takes on many different forms. Manias and Street (2000), who completed a study aimed at considering how

communication impacts the shift handover and nursing interactions, found reasons the report took different forms. Their study involved a comprehensive analysis of a critical care unit, focusing on the experiences provided by 6 RNs. Professional journaling, participant observation, and focus group interviews were used as the sources of information. The results indicated that the handovers took various forms and several different purposes, depending on the spatial location in which the report was communicated and the individual for whom the handover was intended. Different information was presented during the bedside handover in the presence of the patient than during an audiotaped report that was away from the patient. Supporting this finding was Crum's (2006) assertion that "the handoff process for each situation and the patient's needs will vary and will require different levels of communication" (p. 1059). These studies provided insight into the types of report and explained why certain information is exchanged and other information is omitted.

Although nurses have been utilizing pen-and-paper, as well at audiotaped, methods of shift report, they have been advancing in technology. Therefore, the next step is to take full advantage of computer technology and incorporate it with shift report (Strople & Ottani, 2006). Strople and Ottani found that nurses make constant notes on personal notes or scraps during their shift and that this is the information that is exchanged during handover. Because the information is already being recorded manually, the use of handheld technology, available as personal digital assistants (PDAs), would be a logical next step (Hardwick, Pulido, & Adelson, 2007). Erdley (2006) asserted:

> Personal digital assistants are handheld mobile devices originally designed for business professional to track expenses, contacts and scheduling. Primarily designed to be personal information managers, these devices are finding a solid niche in health care and nursing. [PDA's] are well suited to health care because

> they are small, fast, and mobile computers that are able to run many software applications. (p.157)

PDAs have been implemented in different institutions, providing benefits to the staff members. Howard (2003) explored the development of a new and affordable system for shift report at Tufts-New England Medical Center and identified positive uses to PDAs. At the medical center, respiratory therapists developed an affordable system that provides them with the ability to "electronically capture, store, chart, and analyze data that previously was entered on flow paper sheets" (Howard, p.131). The use of PDAs provided the users with satisfaction in point-of-care documentation and was found to be accurate and convenient. It also reduced data-entry time (compared to the pen-and-paper method) and resulted in a more professional looking end-of-shift report. Physicians also provided favourable feedback regarding the use of PDAs. The use of PDAs could remedy the problem of illegible transcription because much of the information would be typed into the PDA instead of being handwritten. However, Howard pointed out that even though there are many medical applications and benefits in health care for PDAs, they are primarily used as "tools for accessing point-of-care literature, drug referencing, critical care formula calculation, and drug dosage" (p. 131).

The use of a wireless connectivity function/wireless computing has also become a possibility in health care. Wireless connectivity in PDAs would free nurses and members of the MT from stationary computers and allow for point-of-care documentation and technology (Erdley, 2006). It also would assist in minimizing communication errors and the omission of information that has to be transcribed (Strople & Ottani, 2006). It has been found that through the use of PDAs in acute clinical settings, the amount of time

that nurses spend on documentation activities has decreased by nearly 2 hours (Strople & Ottani).

Moreover, point-of-care technology would allow for time-sensitive data collection and real-time documentation of defined patient observations, allowing nurses to record patient information quickly and efficiently (Hardwick et al., 2007). Hardwick et al. examined literature about the use of handheld technology in healthcare care, particularly in nursing practice. They identified various implications for the future use of PDAs for nursing practice, home health services, use in orthopedics and orthopedic pain management, and security issues. The use of handheld devices with wireless connectivity would "allow nurses to access not only clinical resources but also their patients and colleagues by voice and text messages" (Hardwick et al., p. 251). This would promote team cohesion and peer support because of the accessibility to one another. Handheld devices have enhanced the potential for home services. Through the use of PDAs, home care nurses would have portable tools to gather and transfer patient information, as well as have peer and decision-making support (Hardwick et al.).

Wireless computing, as defined in Erdley's (2006) study, "involves sending and receiving information between a computer and a network without using wires to connect" (p. 158). This can be done through the use of laptops or portable computers that are configured with wireless capabilities or a wireless card. This would enable nurses to be closer to patients when documenting care, resulting in point-of-care documentation, as with PDAs. Results from Erdley's study indicated that this would allow for greater timeliness of information retrieval, resulting in improved decision making by the nurse. As with PDAs, this form of technology reduces the risk of documentation error and

omission. However, there is the issue involving electric interference and security of information. Although many wireless devices do not impact other electric devices, "the user is prudent to consult with the institution biomedical engineering department before using such devices" (Erdley, p. 160). For the purpose of security reasons, Erdley stated that the Health Insurance Portability and Accountability Act of 1996 (HIPAA) would have to be examined to ensure that the wireless technology falls within the mandated provisions.

As with wireless computing, the main concern about using PDAs for documenting is that of security. The HIPAA has privacy provisions that apply to "health information that is created or maintained by health care providers who engage in certain electronic transactions, health plans, and health care clearinghouses" (as cited in Howard, 2003, p. 137). The problem is that "records within the PDA's [*sic*] are not part of transactions covered by HIPAA regulations" (Howard, p. 137). However, reasonable methods that can protect the security of the stored data exist, such as having the database protected and maintained behind the hospital's main computer system, programming the PDA with several levels of passwords, encrypting information used for the synchronization of medical information, and purging data from the PDA daily (Hardwick et al., 2007).

As with other forms of documentation and shift report, there are limitations to utilizing PDAs for point-of-care documentation. Erdley (2006) explored the use of PDAs, wireless computing, smart cards, and biometrics in health through a thorough literature review. He examined current and future information technology (IT) for health care, focusing on perinatal and women's health. Erdley asserted that PDAs may not be suitable for the clinical workplace, where they may be dropped and damaged while performing

certain tasks, even if they are protected by a case. The PDA also presents problems with data entry. The screen size on PDAs can make the information difficult to read because of the small font size, and it can limit the amount of information that can be displayed at one time. Therefore, although there are many potential uses for PDAs, the limitations can hinder acceptance of the device in clinical practice.

A medical center in the United States has identified another form of shift report that is a result of advancing technology called OptiVox (Brown, 2007). The medical center integrated its data center into a phone system rather than a standalone tape recorder. This allowed for prompts to be inputted into the system to maintain consistency in report. To access the system, unit nurses were given a PIN number and the system access code. The nurse would dial the appropriate number, use their PIN numbers to gain access to the system, and then initiate their reports. Through the initiation of this system, report time for a RN caring for five to six patients was decreased from 60 to 90 minutes to just 15 minutes (Brown). Another benefit to using this system is that nurses can prepare shift reports when it is convenient for them, freeing them from hard-standing computers and increasing patient care.

Summary

The shift handover is generally defined as a communication process with exchange of information between nursing staff at shift change to convey pertinent patient information (Alvarado et al., 2006; Kerr, 2002; Sabir et al., 2006; Strople & Ottani, 2006). It involves the following characteristics: It is formulaic, it is given at high speed, it uses abbreviations and medical/nursing jargon, it requires socialized knowledge to decode, it presents patients as bodies to be processed, and it is presented in the passive

voice as a collective and impersonal account for others (Payne et al., 2000). Many of the issues that arise from the shift report result from the unstructured method of shift documentation and delivery, resulting in loss of information, decreased memory recall by nurses, and inappropriate/inadequate documentation of patient information. Through the development and use of a structured reporting tool, many of these issues can be eliminated.

It is necessary that the handover become a tool for communicating patient information not only between and among nurses but also among nurses, patients, and the MT. The emphasis should be more on multidisciplinary care rather than on medical interventions, while ensuring that the patients are part of the process (Kelly, 2005). Because of continual change in the way health care is delivered and the advances that are arising in the health care field, IT is becoming more accessible and geared toward health care. Eventually, user demands will drive the acceptance of IT and its use for shift report and documentation.

CHAPTER 3: NEEDS ASSESSMENT

Introduction

A needs assessment was completed for the Thunder Bay district, an area located in NWO (see Figure 3). The needs assessment was divided into social forces (i.e., demographic and population trends, patient trends, environmental forces, and hospital under study), and political forces (i.e., physician and specialists rates).

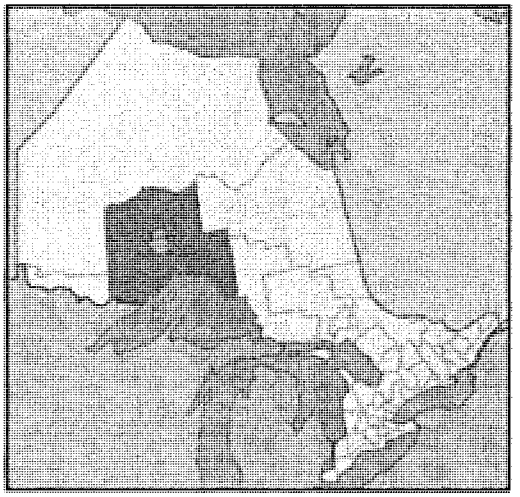

Figure 3. Thunder Bay district.
Note. From http://en.wikipedia.org/wiki/Image:Map_of_Ontario_THUNDER_BAY.svg

Social Forces

Demographic and Population Trends

The Thunder Bay District is located in NWO along the western shore of Lake Superior. It is comprised of 16 First Nations reserves, 10 townships, 3 municipalities, 1 town, and 1 city. Thunder Bay District holds the city of Thunder Bay, the largest city in NWO, with a population of over 100,000. According to Statistics Canada (2006), the population of the Thunder Bay District is 149,063, where approximately 80% of the districts population resides in the city of Thunder Bay. The population's mean age for the district is slightly above, the average for Ontario, with a difference of 2.7 years. Also, the

district has a higher Aboriginal population (10.5%) than Ontario (2.0%; Statistics Canada).

According to Statistics Canada (2001), 16.9% of the Thunder Bay District population ages 20 to 34 have less than a high school diploma or graduate certificate compared to only 13.2% of the Ontario population. However, Thunder Bay District has a larger population of individuals who hold a trades diploma or certificate. The age group 20 to 34 represents 10.4% and 7.9% of the population for Thunder Bay District and Ontario, respectively. In the age group 35 to 44, the percentages are 16.7% and 11.5%; for the age group 46 to 64, the percentages are 16.4% and 11.6% for Thunder Bay District and Ontario, respectively. This difference may be attributed to the type of workforce that is common to the area. Many of the towns/communities and Thunder Bay are industrial and blue-collar labourers. According to Statistics Canada, the average income for an individual over the age of 15 in the Thunder Bay District is $23,755, whereas the average income of Ontario is only slightly higher at $24,816. However, the district obtains a larger percentage of its income from government transfers, at 12.9%, compared to 9.8% for Ontario.

Patient Trends

The population of the Thunder Bay District do not rate their health as high as Ontario. According to Statistics Canada (2001), only 54.1% rate their health status as either excellent or very good, compared to 60.8% of Ontario. The district also presents with a more obese population, with 21.8% having a body mass index (BMI) over 30, compared to only 15.1% with a similar BMI in Ontario. When comparing health determinants, an increased proportion of Thunder Bay District residents (73%) feel a

stronger sense of community, compared to only 63.4% of Ontario. Thunder Bay District also has a higher rate of current smokers (26.6%) than Ontario (20.7%). However, rates of physical activity are higher in Thunder Bay District, with 57.7% of the population claiming to perform moderate physical activity, compared to 51.3% of Ontario (Statistics Canada).

Statistics Canada (2001) reported that fewer individuals in the Thunder Bay District have a family physician (87.7%) compared to Ontario (91.1%). This may be attributed to the demographic and geographic nature of district of Thunder Bay (see Table 1).

Table 1

Demographics for Thunder Bay District and the Province of Ontario

	Thunder Bay District (CD)			Province of Ontario		
Characteristics	Total	Male	Female	Total	Male	Female
Population (2006)	149,063	73,305	75,755	12,160,282	5,930,700	6,229,580
Population change 2001 to 2006 (%)	-1.2	--	--	6.6	--	--
Population density (per square km)	1.4	--	--	13.4	--	--
Land area (square km)	103,706.27	--	--	907,573.82	--	--
Mean age of population	41.7	41.1	42.3	39.0	38.1	39.9
% of population ages 15 and over	83.2	82.5	83.9	81.8	80.9	82.7
Aboriginal identity population	15,495	7,425	8,070	242,490	117,585	124,900
Average annual income for persons 15 years or older ($)	23,755	--	--	24,816	--	--
Unemployment rate	8.1	9.5	6.7	6.4	6.0	6.8
Adult obesity	21.8	24.4	19.2	15.1	16.3	13.9
Smoker	26.6	24.5	28.6	20.7	23.3	18.2
Physically active	57.7	61.1	54.3	51.3	54.5	48.2
Sense of community	73.0	74.0	72.0	63.4	62.1	64.6
Has a regular doctor	87.7	85.9	89.6	91.1	89.1	93.1

Environmental Forces

Being situated in NWO, the Thunder Bay District presents residents in the area with a unique environment. Because of the vast land area of the region, many communities are scattered and isolated. Many residents have to travel fair distances in order to receive services. Along with the vast land area, the temperatures in the region can range from -40°C to +40°C, resulting in extreme weather conditions in the winter, further isolating residents. The result is that limited home care services are available to individuals, particularly the elderly.

Hospital Under Study

The hospital under study is a new state-of-the-art acute health care facility. It serves the Thunder Bay District, as well as NWO. The facility has 375 acute care beds, including 12 operating room theatres, 28 postanesthetic care beds, 40 day surgery beds, an emergency department, and a regional cancer care centre. The emergency department has 52 designated stretcher spots for patients, including an additional 15 spots in the hallways of the department. It has approximately 95,000 annual visits, with approximately 260 to 360 visits daily. The emergency department continues with paper documentation because there is a high patient turnover. The other hospital units use electronic patient documentation.

The hospital, even with 375 acute care beds, is continually in "Code Gridlock." This occurs when the influx of patients exceeds the hospital's resources and bed capacity. Many individuals who do not have regular family physicians visit the emergency department for care, increasing patient influx. In addition, with the limited number of long-term care beds and home services available in the community, many of the

hospital's acute care beds are being held by alternate level of care (ALC) patients and patients awaiting placement in a long-term care home (LTC). Hence, approximately 20% of the acute medical and surgical care beds are occupied by ALC and LTC patients.

Three of the units at the hospital were part of this research. The first unit, pediatrics, was the smallest unit under study, with 16 beds for inpatients. Numerous MT members are designated to this unit: 1 child life specialist; 1 social worker; 1 psychometrist (shared by several programs); 1 dietitian (shared between the neonatal intensive care unit [NICU] and the pediatrics outpatient department [POP]); 4 pediatricians; 1 pharmacist (shared by several programs); 28 full-time and part-time RNs; 1 ward secretary; and 1 coordinator (shared among pediatrics inpatient, POP, and NICU). Pediatrics is the only unit with just a RN staffing mix.

The second unit, medical, was the largest unit under study, with 36 beds for inpatients and the potential to increase to 40 patients. As with pediatrics, there are many MT members designated to the unit: 1 utilization coordinator, 1 Community Care Access Centre worker [CCAC] shared with another unit), 1 social worker, 1 occupational therapist, 1 physiotherapist, several RNs and RPNs, 1 dietitian, and 1 speech language pathologist are assigned to floor. There also are physician assistants and nurse practitioners working with hospitalists assigned to patients. The medical unit has the largest number of ALC/LTC patients of the three units that were studied.

The third unit, surgical, has 24 beds for inpatients. The MT members consist of 1 occupational therapist, 1 physiotherapist, 1 pharmacist (shared by other units), 1 dietitian and 1 speech language pathologist assigned to the floor, 1 social worker, 1 CCAC

worker, and 1 utilization coordinator. In addition, there are 25 RNs, including casuals, and 12 RPNs (with casuals) for the floor.

Political Forces

Physician and Specialist Rates

According to the CIHI (2004), the rate of physicians for the Thunder Bay District is 93/100,000, and the rate of specialists is 66/100,000. Many factors influence the rate of physicians and specialists in an area, such as the distribution and location of the physicians/specialists within the area/region/province; the physician type (family medicine or specialist); the level of service provided in the area; physician age and gender; the population's access to health care facilities, such as hospitals, clinics, and other health care providers. Because of the geographic nature of the hospital under study, many locums are brought to the region for intensive care, angioplasty, neurology, and other specialized areas of medicine. There are a limited number of specialists and MT members in the region, resulting in patients seeking specialized health care elsewhere.

CHAPTER 4: METHOD

Research Questions

1. What are the current methods and content of shift report at the hospital?
2. Can a computer-generated method of shift report improve communication and the transfer of information in shift report?

Research Design

The study involved a participatory (action research) methodology. This methodology was well suited for this study, whose focus is to seek change in society. In the participatory methodology, the researcher studies a particular setting and identifies problems or issues that can be corrected in order to improve practice. Following the identification of these areas, possible solutions are identified, and action is taken to implement changes. To ensure that the changes are producing the desired effect, the process is continually evaluated and examined. Because of the methodology, collaboration with the participants during the study is required, along with a focus on the practical problems and solutions for a particular setting (Cohen & Cameron, 2005).

The study was qualitative and quantitative in nature and utilized a quasi-experimental design because full experimental control was not possible. This design was acceptable because it allowed the researcher to introduce an experimental treatment (new form of shift report), even though some characteristics of a true experiment were lacking (Sullivan-Bolyai, Grey, Singh, 2005). The characteristic that was lacking in the research was that of control. Control was not possible because randomization of the study participants was not feasible. As well, there was no control group in the study. Therefore, because only one group was available to the researcher, the quasi-experimental design

utilized a pretest and posttest design with data collection over a longer period of time (Sullivan-Bolyai et al.). A descriptive exploratory survey was utilized to obtain the required pretest and posttest data.

> Descriptive, exploratory, or comparative surveys collect detailed descriptions of existing variables and use the data to justify and assess current conditions and practices or to make more plans for improving health care practices...Investigators may use a descriptive or exploratory survey design to search for accurate information about the characteristics of particular subjects, groups, institutions, or situations, or about the frequency of a phenomenon's occurrence, particularly when little is known about the phenomenon. (LoBiondo-Wood, Haber & Singh, 2005, p. 268)

To answer the research questions, the study was divided into three sections pertaining to different timeframes of the study; presurvey, implementation, and postsurvey. The presurvey and postsurvey timeframes and data collection were analogous to pretest and posttest data collection. During the presurvey, the commencement of the study, the researcher gathered information through various data collection methods from the three participating units. Ideas and suggestions were taken from the data and were utilized in the development of a new computer-generated form of shift report. Following the development, the new shift summaries were introduced to the three participating units. During implementation, the new form of shift report was implemented on the three participating units, and the old method of shift report (audiotaped shift report) was removed. At this time, information posters were placed in various areas of the three participating units to educate the staff about the new computer-generated shift summaries. The unit managers and researcher also were available to assist staff with the transition. During the postsurvey, 1 month following the introduction and implementation of the new shift summaries, the researcher began postsurvey data collection. Data were again collected from various methods from the three participating units.

Setting

Three units, namely, medical, surgical, and pediatrics, at a regional acute care hospital participated in the study. Staff members, including nursing staff and medical staff, from the three units were asked to participate in the study.

Sample

A convenience sample was utilized. A convenience sample is based on participants who are easily available and accessible to the researcher. The sample may be chosen as part or in whole to suit the needs of the study and research design. During the selection process, the researcher does not attempt to represent a larger population (Haber & Singh, 2005). There were 105 potential participants available for the study. This number was based on the affiliation of nurses and health care providers working on three units at the hospital. The participants included males and females of various ages.

The participants were recruited for the study through a possible incentive, which was a final draw, from all of the participants who signed a consent form, for a day at a local spa. Once a participant had completed and returned the required questionnaire, a coded number that corresponded to the participant was placed into the draw. At the end of the postsurvey data collection, a winner was chosen randomly from all possible entrants. The use of a spa day incentive may have increased the response rate for the study.

Data Collection

Before any research and data collection took place, approval was granted to the researcher by Lakehead University and the participating hospital. Prior to data collection, the potential participants were notified of the study and were provided with a consent

form (see Appendix A) and a letter (see Appendix B). To improve the validity of the study, all data collected has an audit trail. The data were collected from a variety of sources. Following is a description of each source:

Focus group sessions. Discussion sessions were conducted with nurses, physiotherapists, nutritionists, occupational therapists and other members of the MT in the hospital. Two sessions were held on each unit, one prior to the implementation of the computer-generated shift summary (presurvey) and again 1 month following the implementation (postsurvey). The focus group sessions were conducted by the researcher with the assistance of Rhonda Kirk-Gardner, professor in Lakehead University's School of Nursing, to improve reliability. The sessions were tape- recorded, and a summary of the discussion was transcribed. Notes were also taken during the sessions. Both methods improved the reliability of the information collected.

The presurvey focus group session asked the participants various questions regarding the handover. Separate questions were posed to nursing staff and members of the MT members. Nursing staff were asked to describe the handover in general and the content that they feel is discussed during the transfer of information. They also were asked to comment on patient documentation and communication. Finally, the nursing staff were asked for their input regarding content that was to be included in the new computer-generated shift summaries. MT members were asked similar questions regarding patient documentation and communication. Their input also was solicited regarding content areas for the new shift summaries. Questions posed during the presurvey focus group session are in Appendix C.

The postsurvey focus group session asked the participants various questions regarding the new computer-generated shift summaries. As with the presurvey focus group session, separate questions were posed to the nursing staff and members of the MT. The nursing staff were asked about changes regarding patient care since the new shift summaries were introduced. They also were asked to comment on what aspects of the new shift summaries they liked. Questions regarding patient documentation and communication also were asked, as in the presurvey focus group sessions. Members of the MT members were asked similar questions regarding changes in patient care since the new shift summaries were introduced. In addition, questions about patient documentation and communication were asked. Questions posed in the postsurvey are in Appendix D.

Audiotaped handovers. Audiotaped handovers were examined because this form of handover was being utilized on the three participating units at the commencement of the study. The researcher was present at shift change and recorded the material, effectiveness, and length of the report. This data also were examined and compared to information that was recorded in the patient charts. Each report was tape-recorded by the researcher and was later listened to by the researcher a second time to ensure that no information was omitted. After the second listening, the data were erased from the recorder to ensure confidentiality. Also, the researcher felt that the information transferred during audiotaped handovers would provide a depth and breadth of information regarding what is discussed during shift report. The researcher also recorded the staff members present, the length of time for the report, and the type of interruptions that occurred during report. The audit form utilized for the type of information transferred in handover is attached in Appendix E.

Nonparticipatory observations. It was important that the nurses were observed during the shift report; therefore, the researcher was present prior to and immediately following shift report on the three participating units. It was important to observe the nurses and their interactions with one another, particularly their communication activities. The researcher took note of the actions and activities that the nurse performed prior to the start of the shift (i.e. gather patient charts) as well following shift report (i.e. did the nurse immediately go to see the patient, or did the nurse sit in the conference room). A summary of the field notes was transcribed immediately following the observation, including observations prior to and following shift report. This followed a similar framework as the audits, with the focus being to observe and document how nurses transfer and gather information during report.

Documentation audits. Patient charts were examined for type of information present and recorded in the chart. The collected data were then compared to the data collected from the audiotaped shift report to examine commonalities and differences. The data were collected by the researcher and Rhonda Kirk-Gardner. Once collected, the researcher entered the data into a database. To improve interrater reliability, both the researcher and Kirk-Gardner examined the audit form that was utilized prior to the start of the data collection. To improve validity, the researcher and Kirk-Gardner examined the same the chart simultaneously to ensure that no information was omitted.

The same audit form was utilized as for the audiotaped handovers. The audit form consisted of a checklist fashion, where the researcher and Kirk-Gardner marked each information component as it was identified within the chart. The form was divided into type of information (i.e. general information, physical information, etc.), and in those

sections were headings that pertained to that type of information. For example, under general information, the headings included age, diagnosis, doctor, medical history, and so on. Although many aspects of information were covered, no personal information was recorded on the form. The audit form did not provide any personal identification marks, such as patient name, specific age, or date of birth written out, to ensure confidentiality.

Incident reports. Incident reports were examined, focusing on incidents that occurred 1 hour prior to and 1 hour following shift report. The incidents were examined to see if there was any correlation between the time spent in/on report and the number of patient incidents on the three participating units. Information regarding the number of incidents was obtained from the participating hospital, which kept records of all incidents recorded and reported. No patient data were collected to ensure confidentiality.

Nursing and MT members' questionnaires. A paper questionnaire was utilized for the study. The researcher distributed two questionnaires to each potential participant, one prior to the implementation of the computer-generated shift summary and again 1 month following implementation. Each questionnaire was numbered, and the number corresponded to the participant's name that was in the researcher's possession. Completed questionnaires were placed in a sealed box and were collected by the researcher following a set amount of time.

The presurvey and postsurvey questionnaires were developed by the researcher with assistance from Dr. Darlene Steven, professor in Lakehead University's School of Nursing and Master of Public Health Program. To improve validity, the questionnaires were reviewed by the ethics committee at the participating hospital and Lakehead University, as well as experts in nursing informatics worldwide. The questionnaires were

based on evidence-based practice from other surveys utilized to generate information about shift handover.

Separate presurvey questionnaires were utilized for nursing staff (see Appendix F) and members of the MT (see Appendix G); however, much of the information and questions obtained were similar. The first part of the presurvey questionnaire for both nursing staff and members of the MT pertained primarily to demographics, including gender; age; unit of employment (pediatric, medical or surgical); registration status (RN, RPN, physician, etc.); education level; experience in nursing/profession; and continuing education through in-services at the hospital. Additional questions for the nursing staff included questions regarding the type of shift report that was currently utilized on their floor and the amount of time spent on shift report. The second portion of the questionnaires dealt with information transferred in report, as perceived by the participant. Both groups were asked to prioritize the information that they felt is the most important to provide quality care to patients. The nursing staff were asked an additional question, namely, to specify the type of information that is given to them in shift report in the form of a yes/no answer. Finally, the third section presented participants in both groups with open-ended questions relating to changes that they would like to see in the present system and identification of priority areas for the new shift summary.

As with the presurvey, separate questionnaires were utilized for nursing staff (see Appendix H) and members of the MT (see Appendix I) for the postsurvey questionnaire. The first part of the postsurvey questionnaires for both nursing staff and members of the MT was analogous to the presurvey, expect that the participants also were asked whether they attended the focus group sessions for the study. Also, the nursing staff were not

asked questions regarding type of report utilized on the floor or length of time spent on shift report. Similar to the presurvey, the second portion of the postsurvey questionnaires dealt with information transferred in report, as perceived by the participant. Again, both groups were asked to prioritize what information they felt is the most important to provide quality care to patients. However, the nursing staff were not asked to specify the type of information that is given to them in shift report in the form of a yes/no answer, as in the presurvey. Finally, the third section presented the participants in both groups with open-ended questions asking for further changes that they would like to see in the new system, how the new system has affected their quality of patient care, and the affect of the new system on their communication with other health care providers. .

All data were collected between September 2007 and December 2007. The presurvey data were collected from the beginning of September 2007 to mid-October 2007. The new computer-generated shift summaries were implemented on the three participating units on October 29, 2007. Postsurvey data collection began in late November 2007. All data collection was done prior to mid-December 2007.

Statistical Analysis

The data were both qualitative and quantitative in nature. The data were taken from the various data collection methods utilized in the study. Comments from the questionnaires were utilized to obtain the thoughts and opinions of the participants regarding the new-computer generated shift summary. They were examined for negative, neutral, and positive attitudes and opinions toward the new shift summaries. In addition, the questionnaires were examined for information transferred in report and the prioritization of information from the participants' perspective. Focus group sessions

provided the researcher with additional qualitative data from the participants about the shift summary. The data from the focus group sessions were compared to the data retrieved through the questionnaires, and they were examined for commonality in attitudes and opinions. Documentation audits also were examined for commonality of patient information present in patient charts with the information transferred in audiotaped report by nursing staff.

The quantitative data that were collected were entered into a database by the researcher and were analyzed using SPSS software. The program was used to compute descriptive statistics for demographic data and frequency of responses. To determine differences before and after, paired *t* tests (for interval level data) and independent *t* tests were conducted, and ANOVA was utilized. Means and standard deviations also were examined and computed.

CHAPTER 5: RESULTS

Introduction

Seventy-three (73) individuals completed and returned questionnaires, including presurvey and postsurvey questionnaires for nursing staff (62) and the MT (11). According to the managers and their unit distribution list, 105 staff members, including RNs and RPNs, were employed and available during the study. A few staff members on each unit who were on leave, either sick or maternal, did not receive a questionnaire because they would not be present during the implementation process of the shift summaries. Therefore, of the 105 possible participants, 73 chose to participate, making the response rate 70%.

A total of 105 presurvey questionnaires were distributed, and of these, 68 completed presurvey questionnaires were returned, making the response rate for the presurvey questionnaires 65%. A total of 105 postsurvey questionnaires were disturbed to the same participants 1 month following the implementation of the new shift summary, and of these, only 41 completed postsurvey questionnaires were returned, making the response rate for the postsurvey questionnaires 39%. The low response rate for the postsurvey questionnaires can be attributed to the timeframe in which the data were collected. The postsurvey questionnaires were distributed in late November and were collected in mid-December. During this time, staff were unavailable because of booked vacation times. Although the response rate for the postsurvey questionnaires was low, additional data were collected through postsurvey focus group sessions that supported the information gathered through the surveys. The rest of the results are discussed according to the units that participated in the study: pediatrics, medical, and surgical.

Demographics

Pediatrics

Pediatrics provided 19 (26%) of the total respondents for the study. The pediatric unit had 28 staff members available for the study, so the response rate was 68%. Of the 19 respondents, 14 were RNs. There were no RPNs because pediatrics has an RN staffing mix exclusively. Five members of the MT affiliated with pediatrics also participated in the study. The ages of the staff members on the unit varied, but a majority of the participants were over the age of 40 (12, 66.6%). It should be noted that 1 member did not specify age. In addition, all of the respondents were female. Eight of the RNs had an RN diploma, and 6 had an RN baccalaureate. The MT members comprised of the following educational levels: three diplomas specific to the occupation, 1 degree specific to the occupation, and 1 medical degree. It should be noted that 1 member did not report education level.

Pediatrics has the largest number of full-time workers, as determined through the questionnaire, with 13 (68.4%) respondents. The remainder of the respondents indicated part-time employment status (6, 31.6%). A majority of the respondents (13, 68%) had more than 10 years experience in nursing or their profession at the time the nursing questionnaire was completed. Of the 13 respondents who indicated more than 10 years experience, 9 have been in their present position.

Medical

The medical unit provided 23 (31.5%) of the total respondents for the study. The medical unit had the most staff members (46) employed and available during the study and provided a response rate of 50%. Of the 23 respondents, 16 were RNs, and 5 were

RPNs. There were also 2 members of the MT. The majority of the participants on the medical unit are over the age of 40 (16, 69.5%). This represents an older working population. Once again, all of the respondents were female. Of the 16 RNs on the medical unit, 10 hold an RN diploma, and 6 hold an RN baccalaureate. The MT members hold 1 diploma and 1 degree that are specific to the occupation.

The main employment status indicated by the respondents is full time (15, 65.2%). The remainder of the respondents indicated part-time employment (7, 30.4%) or casual (1, .04%). A majority of the respondents (16, 69.5%) indicated more than 10 years experience in nursing or their profession. It should be noted that 1 participant did not indicate number of years of experience in nursing or other profession. Of the 16 respondents who indicated more than 10 years of experience, 9 respondents have been in their present positions for that time.

Surgical

The surgical unit provided 31 (42.5%) of the total participants for the study. The surgical unit had 31 staff members available for the study, thus providing a 100% response rate. Of the 31 respondents, 19 were RNs, 8 were RPNs, and 4 were MT members. Only 16 (51.6%) of the participants were over the age of 40. This is lower than the other two participating units, which indicated a slightly younger working population on the unit. As with pediatrics and medical, all respondents were female. Of the 19 RNs, 13 hold an RN diploma, and 6 hold an RN baccalaureate. The MT members hold one diploma and three degrees specific to the occupation.

The majority of the respondents indicated working full time (19, 61.2%). The remainder had part-time employment (12, 38.7%). Compared to the other two

participating units, only 17 (54.8%) of the respondents indicated more than 10 years of experience in nursing or other profession. This could have been attributed to the younger working population on the unit. Of the 17 who indicated more than 10 years of experience, 11 have been in their present positions (see Table 2).

Table 2

Demographics of Respondents by Unit

	Pediatrics	Medical	Surgical
Number of respondents	19 (26%)	23 (31.5%)	31 (42.5%)
Registration status			
Number of RNs	14	16	19
Number of RPNs	0	5	8
Number of MT	5	2	4
Education level			
RPN diploma	0	5	8
RN diploma	8	10	13
RN baccalaureate	6	6	6
Diploma (for specific occupation)	3	1	1
Degree (for specific occupation)	1	1	3
Medical degree	1	0	0
Age (in years)			
18-24	1	4	3
25-30	1	0	5
31-35	2	1	3
36-40	2	2	4
41-45	5	5	2
46-50	1	4	4
Over 50	6	7	10
Employment status			
Full time	13	15	19
Part time	6	7	12
Casual	0	1	0
Experience in nursing/profession			
Under 1 year	1	4	4
1-2 years	1	0	4
3-5 years	2	0	5
6-10 years	2	2	1
11-20 years	5	5	7
21-30 years	6	8	4
Over 30 years	2	3	6

Table 2 cont'd

Experience in present position			
Under 1 year	3	5	5
1-2 years	2	1	6
3-5 years	3	5	5
6-10 years	2	3	4
11-20 years	4	3	8
21-30 years	4	4	2
Over 30 years	1	2	1

$N = 73$
$n = 18$ for age frequencies for pediatrics
$n = 18$ for education level for pediatrics
$n = 22$ for experience in nursing/profession for medical

Tests of Difference

An ANOVA was conducted to determine if there was any difference between the means for the demographic data: age, registration status, education level, employment status, experience in nursing/profession, and experience in present position. The only significant difference occurred in the education levels between groups, $F(2, 70) = 3.769$, $p = 0.028$, indicating that staff on the pediatric unit indicated higher levels of education (nursing degree or medical degree; $M = 2.53$, $SD = 1.982$) compared to the medical unit ($M = 1.35$, $SD = 1.229$) and the surgical unit ($M = 1.42$, $SD = 1.478$).

Shift Report Assessment/Handover

Attended Focus Groups

Of the 73 individuals who completed a questionnaire, 14 (19.2%) indicated that they attended the focus group sessions. This number did not include the individuals who attended the focus group session but did not complete the questionnaires.

The focus group sessions were held in the conference room located on each participating unit. The times for the sessions were arranged with the unit manager and the researcher, providing enough time for the unit manager to notify staff members in advance. The sessions were held in the afternoon, approximately around 2 p.m., when the units were quieter, according to the unit managers. Staff members did not receive any

extra compensation for attending the focus group sessions, so the only members who attended were staff members already working on the unit. However, everyone was invited to attend the sessions. Even though the sessions were held directly on the units, it was difficult to gather all of the staff because of patient acuity and needs at the time. This resulted in a limited number of participants attending the focus group sessions.

Type of Handover Utilized on Floor Prior to Study

In the presurvey questionnaire, the respondents were asked to identify the type of handover used on their unit prior to the implementation of the shift summary. The majority of the respondents (55, 75.3%), from all three participating units indicated that their units do verbal (tape recorded with all staff present) shift reports (see Table 3).

Table 3

Type of Shift Report Utilized by Each Unit

Type of shift report	Pediatrics	Medical	Surgical
Verbal (one to one)	5	3	2
Verbal (tape recorded with all staff present)	12	19	24
Written (no verbal contact with oncoming staff)	0	1	0
Computer generated	2	1	1

$n = 55$

Time Spent on Shift Report

In the presurvey questionnaire that was distributed to all nursing staff, the participants were asked to specify the amount of time they spend in shift report. On the pediatric unit, an equal number of participants (4) indicated that they spent 5 to 10 minutes and 21 to 30 minutes on report. In comparison, on the medical unit, the majority of the participants (6) indicated that they spent 21 to 30 minutes on report. On the surgical unit, as on the medical unit, the majority of the participants (8) indicated spending 21 to 30 minutes on report. However, 7 participants indicated that they spent 5

to 10 minutes on report. It was not indicated in the question if this time included preparing for shift report (individual taping of information), listening to report, or both. Additionally, 25 of the participants did not state how much time they spent on report (see Table 4).

Table 4

Time Spent on Shift Report on Each Unit

Time (in minutes)	Pediatrics	Medical	Surgical
Under 5 minutes	0	0	1
5-10 minutes	4	3	7
11-15 minutes	1	3	1
16-20 minutes	0	3	3
21-30 minutes	4	6	8
31-60 minutes	1	1	2
Over 60 minutes	0	0	0

$n = 48$

An ANOVA was conducted to determine if there was a difference in the means for time spent in shift report as indicated by the participants. No significant differences were found.

During the audiotaped handover audits, the researcher was present to document the amount of time spent listening to report by the nursing staff in the conference room. The researcher attended six various reports on each of the participating units. Each unit had either 8-hour or 12-hour shifts, or both, with shift report at 7:30 a.m., 3:30 p.m., 7:30 p.m., and 11:30 p.m. Pediatrics had shift report at 7:30 a.m., 3:30 p.m., and 7:30 p.m. The medical unit held shift report at 7:30 a.m., 3:30 p.m., and 11:30 p.m. The surgical unit held shift report at 7:30 a.m., 3:30 p.m., and 7:30 p.m. The researcher randomly attended two 7:30 a.m. shift reports, two 3:30 p.m., and either two 7:30 p.m. or 11:30 p.m. shift reports on each unit. Shift report on the pediatric unit took the least amount of time, with an average of 14 minutes. The shortest shift report was 7 minutes, and this report took

place between two nurses (verbal one-to-one report) at 3:30 p.m. The longest report was 25 minutes, occurring at 7:30 a.m. Shift report on the medical unit was considerably longer than on pediatrics. The average amount of time spent on the medical unit for shift report was 38 minutes. The shortest report was 33 minutes, occurring during the 7:30 a.m. shift report. The longest report was 47 minutes occurring during the 11:30 p.m. shift report. All of the reports observed on the medical unit were audiotaped handovers. Shift report on the surgical unit was also longer than the pediatric unit; however, it was shorter than on the medical unit with an average report time of 30 minutes. The shortest report on the surgical unit took only 10 minutes, and it occurred during the 3:30 p.m. shift report, while the longest report was 52 minutes during the 7:30 a.m. report. All of the reports observed on the surgical unit were audiotaped reports. It should be noted that during the 3:30 p.m. shift report, a complete change over of staff did not always occur. Some of the nursing staff worked the 12-hour shift, and half worked the 8-hour shift. Therefore, during the 3:30 p.m. report, only half of the nursing staff were performing shift report, and only half of the patients were reviewed. In comparison, during the 7:30 a.m. shift report, a complete change over of staff occurred; therefore, each patient was reviewed, and all nursing staff for the first 8 hours were present (see Table 5).

Table 5

Time Spent on Shift Report as Observed by the Researcher

	Time spent on shift report (in minutes)					
	7:30 a.m. report		3:30 p.m. report		7:30 p.m. or 11:30 p.m. report	
Pediatrics	15	15	7	10	9	25
Medical	33	37	40	35	47	37
Surgical	43	52	13	10	14	15

Information Given in Report

The participants were asked to specify the type of information given to them during shift report, checking all that applied on a checklist. This question was asked in the presurvey questionnaire distributed to the nursing staff. A descriptive analysis was completed to analyze the data.

Pediatrics. The data showed that there were 17 pieces of information that over 70% of the respondents from the pediatric unit transfer during shift report: name, age, physician, diagnosis, surgical information, plans for care, pain management, sleeping, vomiting, eating, pulse, confusion, wound management, plan for medical care, respiratory function, skin integrity, and fluid output.

The patient's name, age, physician, and diagnosis are all identifying pieces of information that allow the nurse to become familiar with the patient. By providing surgical information during report, the oncoming nurse receives pertinent patient history, especially if the patient's diagnosis is surgically related. Transferring the plan of care during report allows the oncoming nurse to identify areas that still require attention prior to the patient's discharge. It also provides information regarding any pending procedures and treatments that the patient is awaiting. All of that information allows the oncoming nurse to prepare for the day. The remainder of the information transferred in report gives direction for care and prioritization of work, areas that continually change with regard to patient care.

Medical. The data showed 14 pieces of information that over 70% of the respondents from the medical unit transfer in report: name, age, physician, diagnosis,

resuscitation status, plan for care, pain management, vomiting, eating, confusion, mobility, wound management, respiratory function, and fluid output.

As on the pediatric unit, the first 4 pieces of information that are transferred set the tone and familiarized the nurse to the patient. However, in comparison to the pediatric unit, more of the nursing staff on the medical unit transfer the patient's resuscitation status. This may be because the general population on the medical unit are older and are at higher risk for cardiac arrest because of age or medical condition. On the pediatric unit, the nurses are dealing with children, and the risk of cardiac arrest is significantly lower. The plan of care is transferred to allow the nurse to prepare for any upcoming procedures and treatments. As on the pediatric unit, the remainder of the information that is transferred gives the nurse direction and notification of any acute changes in the patient's status and need for care. However, unlike the pediatric unit, the patient's mobility is transferred in report. This is because the older patient population on the unit, unlike children, may be more debilitated in their mobility.

Surgical. The data showed 20 pieces of information that over 70% of the respondents from the surgical unit transfer in report: name, age, physician, diagnosis, surgical information, medical history, resuscitation status, investigations, plan for care, patient care needs, pain management, vomiting, eating, confusion, mobility, wound management, plan for medical care, plan for nursing care, respiratory function, and fluid output. A larger amount of information is transferred by more than 70% of the respondents compared to the other two units, which may be attributed to the larger sample from the unit.

As on the other two units, the surgical unit also transfers patient identifying data in report. Because it is a surgical unit, it became evident why more than 70% of the respondents indicated that they transfer surgical information and medical history. This information is necessary to appropriately plan for the patients' care and needs. As on the medical unit, the general population on the unit are older, so patients' resuscitation status and mobility are transferred in report. Mobility is particularly important to transfer, especially in postsurgical patients, because it makes the oncoming nurse aware of the patient's medical/postsurgical status and recovery. By including the plans for medical and nursing care, the nurse can appropriately plan for the patient care needs and/or discharge. The remainder of the information, as on the other two units, provides guidance and direction to the oncoming nurse.

The reader should note that approximately 25% of the surveys were incompletely filled; therefore, the figures presented in Table 6 may underestimate the true values.

Table 6

Frequency of Information Given in Report

Information category	Pediatrics ($n = 14$)	Medical ($n = 21$)	Surgical ($n = 27$)
(1) Name	12*	19*	25*
(2) Age	11*	18*	25*
(3) Physician/Consultant	12*	19*	25*
(4) Diagnosis	12*	19*	25*
(5) Date of Admission	8	3	17
(6) Surgical Information (if applicable)	12*	9	25*
(7) Medical history	6	12	20*
(8) Medications	5	4	7
(9) Resuscitation status	2	19*	23*
(10) Investigations	9	14	22*
(11) Plans for care	10*	16*	19*
(12) Patient care needs	9	11	19*
(13) Judgement about care	5	7	8
(14) Pain management	11*	16*	23*
(15) Equipment	4	5	15
(16) Sleeping	10*	12	16
(17) General management	4	12	13
(18) Judgment about patient's condition	9	11	14

Table 6 cont'd

(19) Vomiting	11*	19*	22*
(20) Eating	11*	15*	20*
(21) Washing/dressing	3	5	10
(22) Pulse	10*	10	15
(23) Confusion	11*	19*	23*
(24) Psychological judgement	9	11	14
(25) Next of kin	2	0	1
(26) Mobility	8	16*	22*
(27) Wound management	10*	17*	25*
(28) Plan for medical care	10*	12	19*
(29) Plan for nursing care	8	11	19*
(30) Respiratory function	11*	15*	23*
(31) Skin integrity	11*	12	18
(32) Fluid output	11*	16*	25*
(33) Moving patients	5	6	15

$N = 62$
*greater than 70%

Priority of Information Required to Provide Quality Patient Care

The respondents were asked to prioritize what they felt is the most important information required to provide quality care to their patient. The same question was asked in the presurvey questionnaires and the postsurvey questionnaires. The priorities from the presurvey were then compared to the postsurvey to see if there was a change following the implementation of the new shift summary. The question involved the use of a Likert scale that pertained to the prioritization of the information, as perceived by the participant. The following scale was utilized: 1 = *very important*, 2 = *important*, 3 = *somewhat important*, and 4 = *not important*. Each participant was asked to rate each category of information. The information collected from the presurvey and postsurvey questionnaires would identify areas of improvement in communication between the nursing staff about patient information. A paired *t* test analysis was conducted to compare the data.

Pediatrics. The paired *t* test results indicated a significant change in one information category, equipment ($p = .021$) at $p \leq .05$, as identified by the participants on the pediatric unit. This indicated an improvement in the amount of information

transferred in shift report following the implementation of the new computer-generated shift summaries. Nurses increased the priority of the information, so they transferred that information in report, decreasing the chance and amount of omitted information. This, in turn, has had positive effects on patients because the nurses are more aware of the patients' conditions and status, thus preparing them to better meet the patients' needs. The positive change also indicated that nurses are more conscious of the information that needs to be transferred in order to provide quality care (see Table 7).

Table 7

Paired t Test Results for Pediatric Unit: Priority of Information

Information category	Presurvey *M*	Postsurvey *M*	*df*	Significance (2-tailed)
Name	1.62	1.12	7	.227
Age	1.50	1.38	7	.785
Physician/Consultant	1.75	1.38	7	.351
Diagnosis	1.50	1.12	7	.351
Date of Admission	2.62	2.12	7	.170
Surgical Information (if applicable)	1.75	1.62	7	.785
Medical history	2.25	1.88	7	.442
Medications	2.38	1.38	7	.068
Resuscitation status	2.38	2.25	7	.836
Investigations	2.50	2.12	7	.402
Plans for care	2.25	1.75	7	.316
Patient care needs	2.00	1.80	7	.844
Judgement about care	3.00	2.57	6	.200
Pain management	2.00	1.75	7	.516
Equipment	3.38	2.50	7	.021*
Sleeping	2.86	2.43	6	.078
General management	2.25	2.38	7	.785
Judgement about patient's condition	2.12	2.38	7	.563
Vomiting	1.75	2.00	7	.598
Eating	1.62	2.25	7	.180
Washing/dressing	2.71	3.00	6	.522
Pulse	2.12	1.88	7	.563
Confusion	1.75	2.00	7	.351
Psychological judgement	1.75	1.50	7	.451
Next of kin	2.25	2.38	7	.732
Mobility	2.75	2.50	7	.626
Wound management	2.25	2.00	7	.516
Plan for medical care	2.25	1.75	7	.407
Plan for nursing care	2.00	1.62	7	.528
Respiratory function	1.75	1.75	7	1.000
Skin integrity	2.00	1.86	6	.689
Fluid output	2.25	2.00	7	.351
Moving patients	2.86	2.57	6	.569

* $p \leq .05$

Medical. The paired *t* test results indicated a significant change in one information category, medications ($p = .034$) at $p \leq .05$, as identified by the participants on the medical unit. As on the pediatric unit, this indicated an improvement in the amount of information transferred in shift report following the implementation of the new computer-generated shift summaries. The fact that the nurses have an increased awareness for the need to transfer information regarding patient medications is important because many

patient safety issues arise from medication errors. As a result, future medication errors may be omitted because the proper information is being transferred to the oncoming nurse (see Table 8).

Table 8

Paired t Test Results for Medical Unit: Priority of Information

Information category	Presurvey *M*	Postsurvey *M*	*df*	Significance (2-tailed)
Name	1.00	1.00		**
Age	2.80	2.00	4	.405
Physician/Consultant	2.80	2.00	4	.242
Diagnosis	1.80	1.20	4	.374
Date of Admission	3.60	3.40	3	.374
Surgical Information (if applicable)	2.50	2.00	4	.495
Medical history	2.20	1.40	4	.099
Medications	3.00	2.00	4	.034*
Resuscitation status	2.00	1.40	4	.070
Investigations	2.20	1.80	4	.374
Plans for care	1.60	1.20	4	.477
Patient care needs	1.80	1.60	4	.621
Judgement about care	3.00	3.00	4	1.000
Pain management	1.20	1.60	4	.477
Equipment	3.40	3.00	4	.477
Sleeping	3.00	3.00	4	1.000
General management	2.40	2.20	3	.621
Judgement about patient's condition	2.50	3.00	4	.638
Vomiting	1.80	1.20	4	.208
Eating	2.80	2.60	4	.749
Washing/Dressing	3.00	2.80	4	.778
Pulse	2.00	1.80	4	.749
Confusion	1.40	1.20	3	.374
Psychological judgement	2.25	2.50	4	.718
Next of kin	3.80	3.00	4	.242
Mobility	2.20	1.80	4	.178
Wound management	1.60	2.20	4	.305
Plan for medical care	2.20	1.60	4	.305
Plan for nursing care	1.40	1.60	4	.621
Respiratory function	1.40	1.60	4	.374
Skin integrity	2.40	2.20	4	.704
Fluid output	1.80	2.20	3	.477
Moving patients	3.25	2.50	4	.444

* $p \leq .05$

** The *t* test could not be calculated because the standard error of difference was 0.

Surgical. The paired *t* test results indicated a significant change in two information categories, washing/dressing ($p = .022$) and fluid output ($p = .041$) at $p \leq .05$, as identified by the participants on the surgical unit. However, one change was in the

negative direction, showing a decline in the priority and amount of information transferred since the implementation of the new shift summaries. The presurvey mean for fluid output was 1.59, compared to a postsurvey mean of 2.06. Because 1 = *very important* and 5 = *not important* on the Likert scale were utilized, the increase in mean indicated a decrease of the information's priority to be transferred. Fluid output can be a sign of patient improvement or decline, and if nurses are not transferring the appropriate information, a patient's condition and needs may go unnoticed. In comparison, washing and dressing displayed a positive change, indicating the nurses' conscious awareness about the information that needs to be transferred in order to provide quality care (see Table 9).

Table 9

Paired t Test Results for Surgical Unit: Priority of Information

Information category	Presurvey *M*	Postsurvey *M*	*df*	Significance (2-tailed)
Name	1.24	1.47	16	.332
Age	1.94	1.82	16	.651
Physician/Consultant	1.47	1.76	16	.311
Diagnosis	1.24	1.53	16	.236
Date of Admission	2.35	2.65	16	.264
Surgical Information (if applicable)	1.47	1.71	16	.163
Medical history	2.24	2.00	16	.260
Medications	2.53	2.12	16	.130
Resuscitation status	1.59	1.59	16	1.000
Investigations	1.76	1.76	16	1.000
Plans for care	1.82	1.76	16	.750
Patient care needs	1.76	1.82	16	.805
Judgement about care	2.69	2.77	12	.673
Pain management	1.47	1.76	16	.096
Equipment	2.41	2.24	16	.422
Sleeping	3.00	2.77	12	.427
General management	2.29	2.18	16	.496
Judgement about patient's condition	2.24	2.41	16	.269
Vomiting	1.82	2.00	16	.382
Eating	2.24	2.06	16	.382
Washing/dressing	3.31	2.62	12	.022*
Pulse	2.00	1.59	16	.069
Confusion	1.29	1.53	16	.104
Psychological judgement	1.94	1.88	16	.791

Table 9 cont'd

Next of kin	3.06	2.76	16	.236
Mobility	1.82	1.71	16	.608
Wound management	1.82	1.76	16	.773
Plan for medical care	2.29	2.00	16	.206
Plan for nursing care	2.12	2.06	16	.773
Respiratory function	1.82	1.76	16	.773
Skin integrity	2.15	2.05	12	.808
Fluid output	1.59	2.06	16	.041*
Moving patients	2.50	2.00	9	.213

*$p \leq .05$

Responses to Open-Ended Questions from Questionnaires

Presurvey Questionnaire

The open-ended questions from the presurvey questionnaires were used as a guide to develop the new computer-generated shift summary. Participants were asked to specify what change they would like to see to the present system (audiotaped report).

Pediatrics. Nursing staff members on the pediatric unit indicated that they want a report that is brief and concise. Also, they want a report that is shorter and takes less time to complete. They also indicated that they want a report that follows a standard template to ensure consistency of information exchanged. MT members stated that they wanted a report that provides quick access to any important event changes in medical condition issues that have risen in shift.

Medical. Nursing members on the medical unit indicated that they also want a report that is shorter and takes less time to complete. They indicated that unnecessary information does not need to be transferred in report, such as reason for admission, because this information is available on the patient's chart. They felt that this takes time away from patient care. However, even though the majority of the nurses were willing to try a new form of shift report, 1 nurse indicated that she does not want to see a change occur. She likes the taped report and commented that too many things can happen that need to be addressed that cannot be ticked off on a sheet. MT members indicated that

they want the shift report to occur on a system where everyone can have access, including the physicians.

Surgical. As on the other two units, members of the nursing staff on the surgical unit indicated that they want a more concise and shorter report. They also stated that the reports need to be more succinct and that too much information is included in the present report (e.g., patient history, medications, personal opinions, irrelevant information). They had also indicated that they want a report that is structured and free-text to allow them to include data they consider necessary. Members of the MT indicated that they want a computerized report as well as a report that increases communication between the discipline and the nursing staff.

The participants were asked to identify the priority areas for the new summary sheet. Nursing staff from all three units provided copious suggestions regarding what needs to be included in the summary sheet. The following list represents the consensus from all of the nursing staff:

- Name.
- Age.
- Diagnosis.
- Doctor.
- Vital signs.
- Any abnormal assessment findings.
- Status of diagnostic tests.
- Discharge planning.
- Plan for patient.

- Surgical information.
- Present condition.
- Pain management and medications.
- Dressings and wound management.
- Drains.
- Intake/output.
- Intravenous - solution and rate.

All of the suggestions for priority areas were taken into consideration when developing the new computer-generated shift summary (see Appendix J). Ultimately, the shift summary included the following heading areas: pain, vital signs, cardiovascular, gastrointestinal (GI), genitourinary (GU), respiratory, neuro, psychological/social, dressing/wound/integumentary, drains, glucoscan, intravenous (IV), pending/abnormal tests, pending consults, discharge plans, and comments. The headings of name, age, diagnosis, and doctor were not included in the shift summary because nurses would have this information available when accessing patients' computerized records. This information also is available in the patient's kardex. The other comments presented in the presurvey open-ended questions are found in Appendix K.

Postsurvey Questionnaire

The open-ended questions in the postsurvey questionnaires were used to examine the attitudes of the nursing staff and MT members regarding the new shift summaries. The comments were examined for negative, neutral, and positive outlooks regarding shift summaries and whether there was an increase or decrease in time spent on patient care.

Pediatrics. All of the nursing staff on the pediatric unit presented negative or neutral opinions regarding shift summaries. A total of 15 postsurvey questionnaires from pediatrics were returned to the researcher; of these 15 surveys, 9 (60%) presented negative attitudes, and 4 (26%) presented neutral attitudes. The remaining 2 questionnaires were from members of the MT, who presented positive attitudes toward the new shift summaries.

Although the nurses responded that they did not like the shift summaries, they did provide suggestions for improvement. When asked to specify further changes that they would like to see in the new system, the nurses commented that they find the shift summary difficult to read because the headings are too close together. They also commented that more information is required on the shift summary so that oncoming nurses can have a better sense of the patients' status. They stated that they would like more education and follow-up about the new system and that a review of the necessary components should be mentioned in the shift report. However, although some of the nursing staff presented suggestions for improvement, others did not. Some nurses commented that they do not like the shift report and that they want to go back to the taped report. MT members did not provide any comments/suggestions in this area.

When asked to specify how the new system affects the quality of care delivered to patients, many of the nurses commented that they do not feel that the quality of care has changed. However, many of the nurses commented that they do not know what is happening on the rest of the unit. They stated that during taped report, they had an idea of what is occurring on the floor, but with shift summaries, they do not. As well, although

the quality of care is not affected, all of the nursing staff perceives difficulty in knowing about other patients on the unit other than the ones that are assigned to them.

Other comments from the nurses were related to time management and charting. They mentioned that it takes longer to get report and that while sitting at the computer, they have to deal with many distractions (phone, bells, etc.). They also commented that trying to get report from the computer is time-consuming and that people feel that the nurse is free to answer bells and phone calls during that time. MT members presented only positive comments in this area, stating that with the shift summaries, it is as though everyone is "on the same page" regarding patient plans and discharge.

The staff also were asked to specify how the new system has affected their communication with other nurses/MT members. The nursing staff noticed that there is little communication between shifts and that communication has not improved among the nursing staff. However, they did notice that the communication between nursing staff and other disciplines has improved and that there is enhanced sharing of information with other members of the team. Once again, the nursing staff commented that they do not get a good sense of the patients on the floor and that they feel like less of a team with the new shift summaries. One nurse commented, "I miss the report time, feel like we just do our own patients, not the 'togetherness' feeling." Members of the MT only had positive comments to make again, stating that the shift summaries have improved communication with the nursing staff. As well, they found that messages are getting passed on more effectively.

Medical. Five postsurvey questionnaires were returned from nursing staff on the medical unit. Of the 5 questionnaires, 2 (40%) presented positive outlooks toward the

shift summaries, 2 (40%) were neutral, and 1 (20%) was negative. None of the returned postsurvey questionnaires was from members of the MT.

When asked to specify further changes the staff would like to see in the new system, the nursing staff presented suggestions for improvement. One nurse commented that she would like to see an edema heading. Charting edema in shift summary seems to be missed, and others do not place it under the cardiovascular or integument heading. As well, the nurses commented that they would like further inservicing on the unit to ensure that everyone is completing the shift summaries correctly.

As on the pediatric unit, when asked to specify how the new system has affected the quality of care delivered to patients, the nurses found that there has been no change. Still, comments related to time management were evident. They commented that is takes longer for report, especially giving report at the end of the shift. However, some nurses found the shift summaries to be quicker. They commented that they obtain their information quicker and that they are not in report for more than 1 hour. As on the pediatric unit, they commented on getting interruptions while being on the computer and trying to obtain report.

When asked to specify how the new system has affected communication with other nurses/MT members, the nurses commented that they still communicate. They did not state whether communication has improved. One nurse commented that if done correctly, the information transfer is good. As well, nursing staff commented that the shift summaries are good for knowing discharge plans and pending patient consults and tests. This is similar to what members of the MT on the pediatric unit noticed, namely, that more individuals are on board with the patient plans.

However, as on the pediatric unit, the nurses commented that they do not know what is happening on the remainder of the floor, especially with the patients of the RPNs that the RNs are working with. The nurses stated that because it takes too long to read summaries for their patients and the RPNs' patients, when covering on breaks, they have less knowledge about the patients. An interesting comment/observation was presented by 1 of the nurses, who stated that the medical floor, at the time of the study, was over half long-term care patients and that this situation has an effect on the complexity of patient care. When it changes and becomes more acute, there will be a change in reading and giving report.

Surgical. The majority of the staff from the surgical floor presented positive opinions regarding shift summaries. Twenty-one postsurvey questionnaires were returned, and of this number, 12 (57%), 8 from nursing staff and 4 from MT members, presented positive opinions. Of the remainder, all from the nursing staff, 5 (23%) presented negative opinions, and 4 (19%) were neutral.

When asked to specify further changes the staff would like to see in the new system, nursing staff, as on the other two units, provided suggestions for improvement. The nurses commented that they would like to see an activity and neurovascular heading in the shift summary. As well, stat blood work or upcoming tests should be mentioned in the shift summary to alert the oncoming nurses of immediate procedures. As with the nurses on the other two units, the issue of time management was apparent. The nurses commented that the shift summaries take far too long to complete, especially on night shifts. The suggestion was made to possibly have a cut-and-paste option so that information can easily be transferred if nothing about a patient's status has changed.

Also, the nurses identified that they feel less of team since the implementation of the shift summaries. One nurse commented that shift summaries make "it feel like less of a team effort; everyone does their own thing. Not knowing other staff members workload/patients makes staff not want to help." Members of the MT indicated that they would like to see more collaboration among the MT members to discuss quality patient care.

The staff were asked to specify how the new system has affected the quality of care delivered to the patients. The nurses commented that they feel that the shift summaries have not affected the quality of care that they give to their patients, but 1 nurse commented that it has increased the quality because she spends less time in report. Another nurse commented that the shift summaries are "much more appropriate. Can go to bedside right away to see patient and assess." However, once again, issues about time management were evident. The nurses commented that the shift summaries take too long to complete, especially on night shifts when each nurse has approximately eight patients. They mentioned that they find it difficult to complete the shift summaries because patients are calling for help while they are trying to complete charting. In the mornings, more often than not, the shift summaries are not completed by the time the oncoming staff arrive. The nurses also commented that they find that it takes much longer to read about the patient on the computer because they are interrupted a fair amount.

However, some nurses felt that the shift summaries are quicker and that they allow the nurses to see their patients much easier at the start of the shift. The nurses commented that it makes the start of shift a lot smoother. Members of the MT provided only positive comments in this area, stating that the shift summaries are an excellent

source of information to see how the patients did overnight. One MT member commented, "It is good to know what other disciplines think of the patient's care plan as it helps me to think of more informative decisions for the patient's care plan."

The staff also were asked to specify how the new system has affected communication with other nurses/members of the MT. The main opinion presented by nursing staff was that of decreased communication and a feeling of decreased team cohesion. One nurse commented that communication has decreased among staff nurses. They no long know what is happening on the floor, and they seem to be keeping to themselves. Another nurse commented that it is "slightly more segregated. We don't know if a person has a heavy section unless they ask for help. Therefore, [it] decreases team cohesion." Another nurse mentioned that the shift summary provides the required pertinent information, but she feels that everyone is distanced from each other in a way. She feels that she has little knowledge about the remainder of the floor, whereas in taped report, everyone heard information about all of the patients.

However, some nurses commented that they spend less time on report since the new shift summaries were implemented. They can start their care sooner, and they can assess the patients sooner. One nurse commented that she feels that the "team seems to get more information from shift summary." Members of the MT noticed that shift summaries have facilitated more open communication among the disciplines. In addition, they provide an easier overview of patients' conditions and treatment, pending tests, and discharge information. The remainder of the responses from the post survey open-ended questions can be found in Appendix L.

Information Presented in Report and in Patient Charts

Chart audits were completed to obtain information about what information is present in patients' charts. These data were then compared with the information that the researcher obtained during audiotaped handover audits.

Pediatrics. The results demonstrated that patient information is more frequently reported in patients' charts rather than being transferred in report (see Table 10). However, there are categories where a significant amount of information is transferred during report as well as reported in the patients' charts. These categories include general information, physical measures, functional, medical treatment, and global judgement. These categories contain information that is continually changing with the patients and can alert the oncoming nurses to areas of immediate concern. In addition, this is the information that allows the nurses to gauge the work that may be required for particular patients. Information such as age, diagnosis, consultant, and so on, provide patient identification to the oncoming nurses.

There also are categories of information that are more frequently documented in patients' charts and are seldom transferred in report. Information regarding any social issues (e.g., housing, living arrangements, religion, etc.) and management issues are rarely, if at all, transferred in report. This information is located in the patients' charts, and because it is not continually changing day to day, it is not transferred in report. The patients' charts act as permanent records for the patients, so information that is not constantly changing and requiring nursing intervention or action is more often reported in the charts. It is interesting to note that on the pediatric unit, information regarding family

(e.g., visiting, coping, needs, etc.) is more frequently transferred in report than on the other two units studied.

There are five areas of information that over 70% of the nursing staff transfer during report: age (86.7%), diagnosis (86.7%), GP/consultant (86.7%), equipment (73.3%), and medications (86.7%). The first three areas are patient identification information; the remaining two areas indicate patients' needs and changes in physicians' orders of medications. The results also indicated that information not documented in patient charts is mentioned in report. For example, nasogastric secretions, care, and discharges were not documented (0%) in any of the patient charts that this researcher observed; however, they were mentioned during report (3.3%, 16.7%, and 13.3%, respectively). Additional information was less frequently documented in patients' charts than was mentioned during report, including urine (20% in chart vs. 53.3% in report), equipment (60% vs. 73.3%), and medications (70% vs. 86.7%). All of these results demonstrated an inconsistency in patient care and documentation, issues that may have legal and liable implications for nurses or other health care providers.

Table 10

Information in Patient Charts and Report: Pediatrics

Type of information	Present in chart/notes (n = 10)	Present in report (n = 30)
General information		
(1) Age	10 (100%)	26 (86.7%)
(2) Diagnosis	10 (100%)	26 (86.7%)
(3) GP/Consultant	10 (100%)	26 (86.7%)
(4) Medical history	10 (100%)	9 (30.0%)
(5) Allergy	9 (90.0%)	1 (3.3%)
(6) Resuscitation status	3 (30.0%)	0 (0%)
(7) Date of admission	10 (100%)	3 (10.0%)
(8) Date of birth	10 (100%)	0 (0%)
Physical information		
(9) Appearance	4 (40.0%)	0 (0%)
(10) Colour	3 (30.0%)	1 (3.3%)
(11) Respiratory function	10 (100%)	7 (23.3%)
(12) Consciousness	9 (90.0%)	1 (3.3%) Table 10 cont'd

(13) Pain assessment	6 (60.0%)	16 (53.3%)
(14) Fatigue	2 (20.0%)	1 (3.3%)
(15) Sight	10 (100%)	0 (0%)
(16) Hearing	9 (90.0%)	0 (0%)
(17) Edema	3 (30.0%)	0 (0%)
(18) Diet	9 (90.0%)	9 (30.0%)
(19) Nasogastric secretions	0 (0%)	1 (3.3%)
(20) Vomiting	4 (40.0%)	3 (10.0%)
(21) Bleeding	4 (40.0%)	6 (20.0%)
(22) Sputum	6 (60.0%)	1 (3.3%)
(23) Bowels	10 (100%)	5 (16.7%)
(24) Care needs	5 (50.0%)	0 (0%)
(25) Urine	7 (20.0%)	16 (53.3%)
(26) Wound	2 (20.0%)	3 (10.0%)
(27) Mouth/Skin	10 (100%)	5 (16.7%)
Physical measures		
(28) Pulse	10 (100%)	14 (46.7%)
(29) Equipment	6 (60.0%)	22 (73.3%)
(30) Blood pressure	9 (90.0%)	12 (40.0%)
(31) Temperature	10 (100%)	18 (60.0%)
(32) Respiration	9 (90.0%)	13 (43.3%)
(33) Blood sugar	3 (30.0%)	0 (0%)
(34) Fluid input	6 (60.0%)	10 (33.3%)
(35) Blood tests	7 (70.0%)	8 (26.7%)
(36) Weight	10 (100%)	0 (0 %)
(37) Peak flows	0 (0%)	0 (0 %)
(38) Oxygen saturation	9 (90.0%)	14 (46.7%)
Functional		
(39) Sleeping	9 (90.0%)	8 (26.7%)
(40) Talking	4 (40.0%)	2 (6.7%)
(41) Reading	0 (0%)	1 (3.3%)
(42) Drinking	7 (70.0%)	19 (63.3%)
(43) Eating	9 (90.0%)	13 (43.3%)
(44) Washing/Dressing	6 (60.0%)	2 (6.7%)
(45) Mobility	9 (90.0%)	11 (36.7%)
(46) Continence	6 (60.0%)	11 (36.7%)
Psychological		
(47) Mood	7 (70.0%)	7 (23.3%)
(48) Nonverbal cues	5 (50.0%)	0 (0%)
(49) Motivation	2 (20.0%)	2 (6.7%)
(50) Self-management	0 (0%)	0 (0%)
(51) Level of self-knowledge	0 (0%)	0 (0%)
(52) Coping strategy	2 (20.0%)	2 (6.7%)
(53) Verbal response	3 (30.0%)	3 (10.0%)
(54) Distress	1 (10.0%)	0 (0%)
(55) Behaviour	8 (80.0%)	10 (33.3%)
(56) Confusion	1 (10.0%)	0 (0%)
Social		
(57) Occupation	4 (40.0%)	0 (0%)
(58) Marital status	10 (100%)	0 (0%)
(59) Next of kin	10 (100%)	0 (0%)
(60) Religion	6 (60.0%)	0 (0%)
(61) Home facilities	0 (0%)	0 (0%)
(62) Lives alone	0 (0%)	0 (0%)
(63) Lives with family	10 (100%)	0 (0%) Table 10 cont'd

(64) Support	10 (100%)	10 (33.3%)
Family		
(65) Ability to visit	10 (100%)	11 (36.7%)
(66) Coping strategy	1 (10.0%)	1 (3.3%)
(67) Care needs	3 (30.0%)	4 (13.3%)
(68) Support network	10 (100%)	7 (23.3%)
(69) Understanding	4 (40.0%)	5 (16.7%)
Nursing intervention		
(70) Patient care needs	7 (70.0%)	3 (10.0%)
(71) Plans for care	9 (90.0%)	13 (43.3%)
Medical treatment		
(72) Consultant	9 (90.0%)	16 (53.3%)
(73) Medications	7 (70.0%)	26 (86.7%)
(74) Surgical interventions	3 (30.0%)	8 (26.7%)
(75) Plan for medical care	9 (90.0%)	7 (23.3%)
(76) Physician orders	10 (100%)	9 (30.0%)
Global judgement		
(77) Patient condition	6 (60.0%)	13 (43.3%)
(78) Psychological/Personality	2 (20.0%)	4 (13.3%)
(79) Care	0 (0%)	5 (16.7%)
Management issues		
(80) Moving patients	0 (0%)	0 (0%)
(81) Admissions	0 (0%)	0 (0%)
(82) Empty beds	0 (0%)	0 (0%)
(83) Discharges	0 (0%)	4 (13.3%)
(84) General	0 (0%)	0 (0%)

Medical. As on the pediatric unit, the results demonstrated that more information is reported in patient charts than is transferred in report (see Table 11). As well, there are categories where information is both documented and transferred in report. These categories include general information, physical measures, nursing intervention, and medical treatment. These categories contain patient information that is continually changing as well as information that provides the oncoming nurses with guidance and direction for work. Compared to the pediatric unit, general information about the patient (age, diagnosis, GP/consultant, etc.) and family (ability to visit, coping, etc.) are less frequently transferred in report. General information may be less frequently transferred because of the slower patient turnover on the medical unit. The general population on the medical unit are elderly and awaiting placement in nursing homes; therefore, staff have the opportunity to become familiar with the patients over an extended period of time. On

the pediatric unit, the patients' stays are significantly shorter, and the staff experience a higher patient turnover. This results in the need to transfer patient identifying information more frequently. However, information regarding physical measures, nursing interventions, and medical treatments are more frequently transferred in report on the medical unit than on the pediatric unit. Information that is located on the patients' charts and is not continually changing is seldom transferred in report. This includes information regarding patients' social issues.

Compared to the pediatric unit, there are only two areas of information that over 70% of the nursing staff on the medical unit transfer in report: the patients' GP/consultant (80.0%) and blood tests (70.0%). This low figure may mean that nursing staff are not transferring the required information during report. One nurse on the medical unit commented that she did not receive any pertinent information during report, supporting the assumption that appropriate information is not being transferred during report. The results also indicated that two areas of information are less frequently documented in patient charts than are mentioned during report. Information regarding admissions and discharges are less frequently documented than are transferred (0% vs. 3.3% and 30.0% vs. 33.3%, respectively). Compared to the pediatric unit, these areas deal more with management issues of the patients and the unit, so they may not be required to be documented in specific patients' charts.

Table 11

Information in Patient Charts and Report: Medical

Type of information	Present in chart/notes (n = 10)	Present in report (n = 30)
General information		
(1) Age	10 (100%)	17 (56.7%)
(2) Diagnosis	10 (100%)	18 (60.0%)
(3) GP/Consultant	10 (100%)	24 (80.0%)
(4) Medical history	10 (100%)	2 (6.7%)
(5) Allergy	10 (100%)	1 (3.3%)
(6) Resuscitation status	7 (70.0%)	5 (16.7%)
(7) Date of admission	10 (100%)	3 (10.0%)
(8) Date of birth	10 (100%)	0 (0%)
Physical information		
(9) Appearance	6 (60.0%)	0 (0%)
(10) Colour	5 (50.0%)	0 (0%)
(11) Respiratory function	10 (100%)	6 (20.0%)
(12) Consciousness	8 (80.0%)	0 (0%)
(13) Pain assessment	8 (80.0%)	8 (26.7%)
(14) Fatigue	5 (50.0%)	0 (0%)
(15) Sight	6 (60.0%)	0 (0%)
(16) Hearing	5 (50.0%)	0 (0%)
(17) Edema	6 (60.0%)	3 (10.0%)
(18) Diet	10 (100%)	8 (26.7%)
(19) Nasogastric secretions	0 (0%)	0 (0%)
(20) Vomiting	4 (40.0%)	0 (0%)
(21) Bleeding	4 (40.0%)	2 (6.7%)
(22) Sputum	3 (30.0%)	1 (3.3%)
(23) Bowels	10 (100%)	11 (36.7%)
(24) Care needs	3 (30.0%)	0 (0%)
(25) Urine	8 (80.0%)	8 (26.7%)
(26) Wound	5 (50.0%)	3 (10.0%)
(27) Mouth/Skin	7 (70.0%)	3 (10.0%)
Physical measures		
(28) Pulse	10 (100%)	7 (23.3%)
(29) Equipment	8 (80.0%)	9 (30.0%)
(30) Blood pressure	10 (100%)	11 (36.7%)
(31) Temperature	10 (100%)	3 (10.0%)
(32) Respiration	10 (100%)	2 (6.7%)
(33) Blood sugar	10 (100%)	6 (20.0%)
(34) Fluid input	4 (40.0%)	2 (6.7%)
(35) Blood tests	10 (100%)	21 (70.0%)
(36) Weight	6 (60.0%)	2 (6.7%)
(37) Peak flows	1 (10.0%)	1 (3.3%)
(38) Oxygen saturation	10 (100%)	6 (20.0%)
Functional		
(39) Sleeping	8 (80.0%)	4 (13.3%)
(40) Talking	7 (70.0%)	0 (0%)
(41) Reading	0 (0%)	0 (0%)
(42) Drinking	10 (100%)	3 (10.0%)
(43) Eating	10 (100%)	3 (10.0%)
(44) Washing/Dressing	9 (90.0%)	0 (0%)
(45) Mobility	10 (100%)	7 (23.3%)
(46) Continence	9 (90.0%)	6 (20.0%)

Table 11 cont'd

Psychological		
(47) Mood	4 (40.0%)	3 (10.0%)
(48) Nonverbal cues	0 (0%)	0 (0%)
(49) Motivation	3 (30.0%)	0 (0%)
(50) Self-management	6 (60.0%)	0 (0%)
(51) Level of self-knowledge	8 (80.0%)	1 (3.3%)
(52) Coping strategy	4 (40.0%)	0 (0%)
(53) Verbal response	7 (70.0%)	2 (6.7%)
(54) Distress	6 (60.0%)	0 (0%)
(55) Behaviour	9 (90.0%)	8 (26.7%)
(56) Confusion	8 (80.0%)	4 (13.3%)
Social		
(57) Occupation	2 (20.0%)	0 (0%)
(58) Marital status	10 (100%)	0 (0%)
(59) Next of kin	10 (100%)	0 (0%)
(60) Religion	8 (80.0%)	0 (0%)
(61) Home facilities	7 (70.0%)	0 (0%)
(62) Lives alone	5 (50.0%)	0 (0%)
(63) Lives with family	4 (40.0%)	0 (0%)
(64) Support	9 (90.0%)	2 (6.7%)
Family		
(65) Ability to visit	5 (50.0%)	2 (6.7%)
(66) Coping strategy	5 (50.0%)	0 (0%)
(67) Care needs	4 (40.0%)	0 (0%)
(68) Support network	7 (70.0%)	2 (6.7%)
(69) Understanding	8 (80.0%)	0 (0%)
Nursing intervention		
(70) Patient care needs	9 (90.0%)	7 (23.3%)
(71) Plans for care	9 (90.0%)	11 (36.7%)
Medical treatment		
(72) Consultant	10 (100%)	12 (40.0%)
(73) Medications	10 (100%)	18 (60.0%)
(74) Surgical interventions	4 (40.0%)	0 (0%)
(75) Plan for medical care	9 (90.0%)	12 (40.0%)
(76) Physician orders	10 (100%)	4 (13.3%)
Global judgement		
(77) Patient condition	5 (50.0%)	6 (20.0%)
(78) Psychological/Personality	7 (70.0%)	1 (3.3%)
(79) Care	2 (20.0%)	1 (3.3%)
Management issues		
(80) Moving patients	2 (20.0%)	0 (0%)
(81) Admissions	0 (0%)	1 (3.3%)
(82) Empty beds	0 (0%)	0 (0%)
(83) Discharges	3 (30.0%)	10 (33.3%)
(84) General	0 (0%)	0 (0%)

Surgical. As on the other two units that were studied, the results showed that patient information is more frequently documented in patient charts than it is transferred in report (see Table 12). Some categories of information are more frequently documented and transferred in report, including general information, physical measures, nursing

interventions, and medical treatments. As with the other two units, these categories contain information that is continually changing and can provide the oncoming nurses with direction for patient care and needs. Compared to the medical unit, general information is more frequently transferred in report on the surgical unit. This may be because of the patient population on the floor and the increase in patient turnover compared to the medical unit. This results in nursing staff transferring patient identifying information more frequently. As well, information regarding family issues is more frequently transferred in report on the surgical unit than on the medical unit. However, it is less frequently transferred than on the pediatric unit.

Compared to the other two units, on this unit, there are four areas of information that over 70% of the nursing staff transfer in report: patient age (90.0%), diagnosis (90.0%), GP/consultant (96.7%), and medications (86.7%). The first three pieces of information are identifying information for the oncoming nurses. The fourth, medications, alerts the nurses of any changes in physicians' orders for patient medications. The results also indicated that some areas of information not documented in any of the patients' charts that were observed were mentioned during report. For example, fatigue, admissions, and discharges were not documented (0%) in patients' charts; however, they were mentioned in report (3.3%, 3.3%, and 20.0%, respectively). In addition, information regarding nasogastric secretions was documented less frequently (10%) in patients' charts than during report (13.3%). As on the pediatric unit, the results showed inconsistency in patient care and documentation for fatigue and nasogastric secretions. This could result in legal and liable issues for the nursing staff. As on the medical unit, information regarding admissions and discharges deal with management

issues of the patients and the unit, so they may not be required to be documented in patient charts.

Table 12

Information in Patient Charts and Report: Surgical

Type of information	Present in chart/notes (n = 10)	Present in report (n = 30)
General information		
(1) Age	10 (100%)	27 (90.0%)
(2) Diagnosis	10 (100%)	27 (90.0%)
(3) GP/Consultant	10 (100%)	29 (96.7%)
(4) Medical history	10 (100%)	15 (50.0%)
(5) Allergy	10 (100%)	1 (3.3%)
(6) Resuscitation status	7 (70.0%)	0 (0%)
(7) Date of admission	10 (100%)	9 (30.0%)
(8) Date of birth	10 (100%)	1 (3.3%)
Physical information		
(9) Appearance	3 (30.0%)	0 (0%)
(10) Colour	2 (20.0%)	0 (0%)
(11) Respiratory function	9 (90.0%)	15 (50.0%)
(12) Consciousness	9 (90.0%)	0 (0%)
(13) Pain assessment	9 (90.0%)	20 (66.7%)
(14) Fatigue	0 (0%)	1 (3.3%)
(15) Sight	1 (10.0%)	0 (0%)
(16) Hearing	1 (10.0%)	0 (0%)
(17) Edema	6 (60.0%)	4 (13.3%)
(18) Diet	10 (100%)	14 (46.7%)
(19) Nasogastric secretions	1 (10.0%)	4 (13.3%)
(20) Vomiting	4 (40.0%)	1 (3.3%)
(21) Bleeding	1 (10.0%)	1 (3.3%)
(22) Sputum	2 (20.0%)	2 (6.7%)
(23) Bowels	10 (100%)	20 (66.7%)
(24) Care needs	7 (70.0%)	0 (0%)
(25) Urine	9 (90.0%)	18 (60.0%)
(26) Wound	7 (70.0%)	15 (50.0%)
(27) Mouth/skin	7 (70.0%)	6 (20.0%)
Physical measures		
(28) Pulse	10 (100%)	0 (0%)
(29) Equipment	10 (100%)	20 (66.7%)
(30) Blood pressure	10 (100%)	5 (16.7%)
(31) Temperature	10 (100%)	5 (16.7%)
(32) Respiration	10 (100%)	0 (0%)
(33) Blood sugar	8 (80.0%)	6 (20.0%)
(34) Fluid input	10 (100%)	1 (3.3%)
(35) Blood tests	10 (100%)	15 (50.0%)
(36) Weight	9 (90.0%)	3 (10.0%)
(37) Peak flows	1 (10.0%)	0 (0%)
(38) Oxygen saturation	10 (100%)	3 (10.0%)
Functional		
(39) Sleeping	7 (70.0%)	2 (6.76%)
(40) Talking	9 (90.0%)	0 (0%)
(41) Reading	0 (0%)	0 (0%) Table 12 cont'd

(42) Drinking	9 (90.0%)	1 (3.3%)
(43) Eating	10 (100%)	5 (16.7%)
(44) Washing/Dressing	9 (90.0%)	1 (3.3%)
(45) Mobility	10 (100%)	17 (56.7%)
(46) Continence	9 (90.0%)	1 (3.3%)
Psychological		
(47) Mood	9 (90.0%)	4 (13.3%)
(48) Nonverbal cues	2 (20.0%)	0 (0%)
(49) Motivation	0 (0%)	0 (0%)
(50) Self-management	1 (10.0%)	0 (0%)
(51) Level of self-knowledge	4 (40.0%)	0 (0%)
(52) Coping strategy	2 (20.0%)	1 (3.3%)
(53) Verbal response	9 (90.0%)	0 (0%)
(54) Distress	5 (50.0%)	0 (0%)
(55) Behaviour	8 (80.0%)	3 (10.0%)
(56) Confusion	6 (60.0%)	1 (3.3%)
Social		
(57) Occupation	5 (50.0%)	0 (0%)
(58) Marital status	10 (100%)	0 (0%)
(59) Next of kin	10 (100%)	0 (0%)
(60) Religion	8 (80.0%)	0 (0%)
(61) Home facilities	4 (40.0%)	1 (3.3%)
(62) Lives alone	2 (20.0%)	0 (0%)
(63) Lives with family	4 (40.0%)	0 (0%)
(64) Support	6 (60.0%)	2 (6.7%)
Family		
(65) Ability to visit	2 (20.0%)	5 (16.7%)
(66) Coping strategy	3 (30.0%)	1 (3.3%)
(67) Care needs	2 (20.0%)	1 (3.3%)
(68) Support network	2 (20.0%)	5 (16.7%)
(69) Understanding	1 (10.0%)	1 (3.3%)
Nursing intervention		
(70) Patient care needs	8 (80.0%)	15 (50.0%)
(71) Plans for care	9 (90.0%)	18 (60.0%)
Medical treatment		
(72) Consultant	10 (100%)	14 (46.7%)
(73) Medications	10 (100%)	26 (86.7%)
(74) Surgical interventions	7 (70.0%)	11 (36.7%)
(75) Plan for medical care	9 (90.0%)	12 (40.0%)
(76) Physician orders	10 (100%)	5 (16.7%)
Global judgement		
(77) Patient condition	7 (70.0%)	6 (20.0%)
(78) Psychological/Personality	4 (40.0%)	4 (13.3%)
(79) Care	1 (10.0%)	1 (3.3%)
Management issues		
(80) Moving patients	1 (10.0%)	0 (0%)
(81) Admissions	0 (0%)	1 (3.3%)
(82) Empty beds	0 (0%)	0 (0%)
(83) Discharges	0 (0%)	6 (20.0%)
(84) General	0 (0%)	0 (0%)

Tests of Difference

Patient charts. An ANOVA was conducted to determine if there is a difference in the information that is reported in patients' charts among the units studied. The results showed several areas that are significantly different (see Table 13). The results also demonstrated that the differences occur within various information categories, indicating that each unit views and documents patient information differently.

Table 13

ANOVA for Information in Patient Charts

Information Variable	*df*	*F*	Significance ($p \leq .05$)	*M* and *SD* for pediatrics	*M* and *SD* for medical	*M* and *SD* for surgical
Physical information						
Fatigue	2, 27	4.171	0.026	*M* = .20 *SD* = .422	*M* = .50 *SD* = .527	*M* = .00 *SD* = .000
Sight	2, 27	16.636	0.000	*M* = 1.00 *SD* = .000	*M* = .60 *SD* = .516	*M* = .10 *SD* = .316
Hearing	2, 27	10.047	0.001	*M* = .90 *SD* = .316	*M* = .50 *SD* = .527	*M* = .10 *SD* = .316
Physical measures						
Blood sugar	2, 27	9.486	0.001	*M* = .30 *SD* = .483	*M* = 1.00 *SD* = .000	*M* = .80 *SD* = .422
Fluid In	2, 27	5.250	0.012	*M* = .60 *SD* = .516	*M* = .40 *SD* = .516	*M* = 1.00 *SD* = .000
Blood tests	2, 27	3.857	0.034	*M* = .70 *SD* = .483	*M* = 1.00 *SD* = .000	*M* = 1.00 *SD* = .000
Weight	2, 27	3.545	0.043	*M* = 1.00 *SD* = .000	*M* = .60 *SD* = .516	*M* = .90 *SD* = .316
Psychological						
Nonverbal cues	2, 27	4.171	0.026	*M* = .50 *SD* = .527	*M* = .00 *SD* = .000	*M* = .20 *SD* = .422
Self-management	2, 27	8.455	0.001	*M* = .00 *SD* = .000	*M* = .60 *SD* = .516	*M* = .10 *SD* = .316
Level of knowledge	2, 27	10.800	0.000	*M* = .00 *SD* = .000	*M* = .80 *SD* = .422	*M* = .40 *SD* = .516
Verbal response	2, 27	4.941	0.015	*M* = .30 *SD* = .483	*M* = .70 *SD* = .483	*M* = .90 *SD* = .316
Confusion	2, 27	7.163	0.003	*M* = .10 *SD* = .516	*M* = .80 *SD* = .422	*M* = .60 *SD* = .516
Social						
Home facilities	2, 27	7.400	0.003	*M* = .00 *SD* = .000	*M* = .70 *SD* = .483	*M* = .40 *SD* = .516
Lives alone	2, 27	4.171	0.026	*M* = .00 *SD* = .000	*M* = .50 *SD* = .527	*M* = .20 *SD* = .422
Lives with family	2, 27	6.750	0.004	*M* = 1.00 *SD* = .000	*M* = .40 *SD* = .516	*M* = .40 *SD* = .516

Table 13 cont'd

Support	2, 27	3.545	0.043	$M = 1.00$ $SD = .000$	$M = .90$ $SD = .316$	$M = .60$ $SD = .516$
Family						
Ability to visit	2, 27	10.756	0.000	$M = 1.00$ $SD = .000$	$M = .50$ $SD = .527$	$M = .20$ $SD = .422$
Support network	2, 27	11.919	0.000	$M = 1.00$ $SD = .000$	$M = .70$ $SD = .483$	$M = .20$ $SD = .422$
Understanding	2, 27	6.796	0.004	$M = .40$ $SD = .516$	$M = .80$ $SD = .422$	$M = .10$ $SD = .316$
Medical treatment						
Medications	2, 27	3.857	0.034	$M = .70$ $SD = .483$	$M = 1.00$ $SD = .000$	$M = 1.00$ $SD = .000$
Management issues						
Discharge	2, 27	3.857	0.034	$M = .00$ $SD = .000$	$M = .30$ $SD = .483$	$M = .00$ $SD = .000$

Report. An ANOVA was conducted to determine if there are any significant differences in the information that is transferred in report among the three units studied. The results showed several areas of information transfer that differ among the units (see Table 14). As with the differences and variations in patient documentation, these differences indicated that each unit transfers information that it considers pertinent to the unit and the patients.

Table 14

ANOVA for Information Transferred in Report

Information variable	*df*	*F*	Significance ($p \leq .05$)	*M* and *SD* for pediatrics	*M* and *SD* for medical	*M* and *SD* for surgical
General information						
Age	2, 87	6.500	0.002	$M = .87$ $SD = .346$	$M = .57$ $SD = .504$	$M = .90$ $SD = .305$
Diagnosis	2, 87	5.279	0.007	$M = .87$ $SD = .346$	$M = .60$ $SD = .498$	$M = .90$ $SD = .305$
Medical history	2, 87	7.836	0.001	$M = .50$ $SD = .509$	$M = .07$ $SD = .254$	$M = .50$ $SD = .509$
Resuscitation	2, 87	5.800	0.004	$M = .00$ $SD = .000$	$M = .17$ $SD = .379$	$M = .00$ $SD = .000$
Physical information						
Respiratory function	2, 87	3.994	0.022	$M = .23$ $SD = .430$	$M = .20$ $SD = .407$	$M = .50$ $SD = .509$
Pain	2, 87	5.413	0.006	$M = .53$ $SD = .507$	$M = .27$ $SD = .450$	$M = .67$ $SD = .479$
Bowels	2, 87	9.287	0.000	$M = .17$ $SD = .379$	$M = .37$ $SD = .490$	$M = .67$ $SD = .479$
Urine	2, 87	3.955	0.023	$M = .53$	$M = .27$	$M = .60$

				SD = .507	*SD* = .450	*SD* = .498
Wound	2, 87	10.791	0.000	*M* = .50 *SD* = .509	*M* = .10 *SD* = .305	*M* = .50 *SD* = .509
Physical measures						
Pulse	2, 87	11.073	0.000	*M* = .47 *SD* = .507	*M* = .23 *SD* = .430	*M* = .00 *SD* = .000
Equipment	2, 87	7.545	0.001	*M* = .73 *SD* = .450	*M* = .30 *SD* = .466	*M* = .67 *SD* = .479
Temperature	2, 87	13.675	0.000	*M* = .60 *SD* = .498	*M* = .10 *SD* = .305	*M* = .17 *SD* = .379
Blood sugar	2, 87	3.625	0.031	*M* = .00 *SD* = .000	*M* = .20 *SD* = .407	*M* = .20 *SD* = .407
Respirations	2, 87	15.390	0.000	*M* = .43 *SD* = .504	*M* = .07 *SD* = .254	*M* = .00 *SD* = .000
Fluid in	2, 87	7.428	0.001	*M* = .33 *SD* = .479	*M* = .07 *SD* = .254	*M* = .03 *SD* = .183
Blood tests	2, 87	6.242	0.003	*M* = .27 *SD* = .450	*M* = .70 *SD* = .466	*M* = .50 *SD* = .509
Oxygen	2, 87	6.037	0.004	*M* = .10 *SD* = .310	*M* = .20 *SD* = .407	*M* = .10 *SD* = .310
Functional						
Drinking	2, 87	26.545	0.000	*M* = .63 *SD* = .490	*M* = .10 *SD* = .305	*M* = .03 *SD* = .183
Eating	2, 87	5.705	0.005	*M* = .43 *SD* = .504	*M* = .10 *SD* = .305	*M* = .17 *SD* = .379
Mobility	2, 87	3.729	0.028	*M* = .37 *SD* = .490	*M* = .23 *SD* = .430	*M* = .57 *SD* = .504
Continence	2, 87	5.694	0.005	*M* = .37 *SD* = .490	*M* = .20 *SD* = .407	*M* = .03 *SD* = .183
Social Support	2, 87	5.949	0.004	*M* = .33 *SD* = .479	*M* = .07 *SD* = .254	*M* = .07 *SD* = .254
Family						
Ability to visit	2, 87	4.685	0.012	*M* = .37 *SD* = .490	*M* = .07 *SD* = .254	*M* = .17 *SD* = .379
Understanding	2, 87	3.955	0.002	*M* = .17 *SD* = .379	*M* = .00 *SD* = .000	*M* = .03 *SD* = .183
Medical treatment						
Medications	2, 87	4.377	0.015	*M* = .87 *SD* = .346	*M* = .60 *SD* = .498	*M* = .87 *SD* = .346
Surgical interventions	2, 87	7.306	0.001	*M* = .27 *SD* = .450	*M* = .00 *SD* = .000	*M* = .37 *SD* = .490

Patient charts and report. A *t* test was conducted to determine if there is a difference in means in the information documented in patient charts and the information that is transferred in report. The results demonstrated that there is a significant difference for the majority of the information, meaning that more information is documented in patient charts than is transferred in report. It also indicated that potentially pertinent and

relevant patient information is not transferred in report and is omitted, which can potentially lead to negative patient outcomes (see Table 15).

Table 15

T Test for Information in Patient Charts and Report

Type of information	*t* test	*df*	Significance (*p*)	*M* and *SD* for charts	*M* and *SD* for report
General information					
(1) Age	2.903	118	.004*	*M* = 1.00 *SD* = .000	*M* = .78 *SD* = .418
(2) Diagnosis	2.810	118	.006*	*M* = 1.00 *SD* = .000	*M* = .79 *SD* = .410
(3) GP/Consultant	2.027	118	.045*	*M* = 1.00 *SD* = .000	*M* = .88 *SD* = .329
(4) Medical history	8.521	118	.000*	*M* = 1.00 *SD* = .000	*M* = .29 *SD* = .456
(5) Allergy	24.457	118	.000*	*M* = .97 *SD* = .183	*M* = .03 *SD* = .181
(6) Resuscitation status	7.575	118	.000*	*M* = .57 *SD* = .504	*M* = .06 *SD* = .230
(7) Date of admission	12.145	118	.000*	*M* = 1.00 *SD* = .000	*M* = .17 *SD* = .375
(8) Date of birth	51.240	118	.000*	*M* = 1.00 *SD* = .000	*M* = .01 *SD* = .105
Physical information					
(9) Appearance	8.227	118	.000*	*M* = .43 *SD* = .504	*M* = .00 *SD* = .000
(10) Colour	6.001	118	.000*	*M* = .33 *SD* = .479	*M* = .01 *SD* =.105
(11) Respiratory function	7.505	118	.000*	*M* = .97 *SD* = .183	*M* = .31 *SD* = .466
(12) Consciousness	20.885	118	.000*	*M* = .87 *SD* = .346	*M* = .01 *SD* = .105
(13) Pain assessment	2.712	118	.008*	*M* = .77 *SD* = .430	*M* = .49 *SD* = .503
(14) Fatigue	4.020	118	.000*	*M* = .23 *SD* = .430	*M* = .02 *SD* = .148
(15) Sight	10.758	118	.000*	*M* = .57 *SD* = .504	*M* = .00 *SD* = .000
(16) Hearing	9.407	118	.000*	*M* = .50 *SD* = .509	*M* = .00 *SD* = .000
(17) Edema	5.824	118	.000*	*M* = .50 *SD* = .509	*M* = .08 *SD* = .269
(18) Diet	6.949	118	.000*	*M* = .97 *SD* = .183	*M* = .34 *SD* = .478
(19) Nasogastric secretions	-.480	118	.632	*M* = .03 *SD* = .183	*M* = .06 *SD* = .230
(20) Vomiting	5.518	118	.000*	*M* = .40 *SD* = .498	*M* = .04 *SD* = .207
(21) Bleeding	2.716	118	.008*	*M* = .30 *SD* = .466	*M* = .10 *SD* = .302

(22) Sputum	5.055	118	.000*	$M = .37$ $SD = .490$	$M = .04$ $SD = .207$
(23) Bowels	6.652	118	.000*	$M = 1.00$ $SD = .000$	$M = .40$ $SD = .493$
(24) Care needs	9.407	118	.000*	$M = .50$ $SD = .509$	$M = .00$ $SD = .000$
(25) Urine	3.293	118	.001*	$M = .80$ $SD = .407$	$M = .47$ $SD = .502$
(26) Wound	2.477	118	.015*	$M = .47$ $SD = .507$	$M = .23$ $SD = .425$
(27) Mouth/skin	8.145	118	.000*	$M = .80$ $SD = .407$	$M = .16$ $SD = .364$
Physical measures					
(28) Pulse	9.845	118	.000*	$M = 1.00$ $SD = .000$	$M = .23$ $SD = .425$
(29) Equipment	2.318	118	.022*	$M = .80$ $SD = .407$	$M = .57$ $SD = .498$
(30) Blood pressure	7.505	118	.000*	$M = .97$ $SD = .183$	$M = .31$ $SD = .466$
(31) Temperature	8.521	118	.000*	$M = 1.00$ $SD = .000$	$M = .29$ $SD = .456$
(32) Respiration	11.233	118	.000*	$M = .97$ $SD = .183$	$M = .17$ $SD = .375$
(33) Blood sugar	7.145	118	.000*	$M = .70$ $SD = .466$	$M = .13$ $SD = .342$
(34) Fluid input	6.380	118	.000*	$M = .67$ $SD = .479$	$M = .14$ $SD = .354$
(35) Blood tests	4.221	118	.000*	$M = .90$ $SD = .305$	$M = .49$ $SD = .503$
(36) Weight	13.442	118	.000*	$M = .83$ $SD = .379$	$M = .06$ $SD = .230$
(37) Peak flows	1.694	118	.093	$M = .07$ $SD = .254$	$M = .01$ $SD = .105$
(38) Oxygen saturation	8.548	117	.000*	$M = .97$ $SD = .183$	$M = .26$ $SD = .440$
Functional					
(39) Sleeping	8.145	118	.000*	$M = .80$ $SD = .407$	$M = .16$ $SD = .364$
(40) Talking	11.309	118	.000*	$M = .67$ $SD = .479$	$M = .02$ $SD = .148$
(41) Reading	-.576	118	.566	$M = .00$ $SD = .000$	$M = .01$ $SD = .105$
(42) Drinking	6.940	118	.000*	$M = .87$ $SD = .346$	$M = .26$ $SD = .439$
(43) Eating	9.147	118	.000*	$M = .97$ $SD = .183$	$M = .23$ $SD = .425$
(44) Washing/dressing	14.236	118	.000*	$M = .80$ $SD = .407$	$M = .03$ $SD = .181$
(45) Mobility	6.297	118	.000*	$M = .97$ $SD = .183$	$M = .39$ $SD = .490$
(46) Continence	7.056	118	.000*	$M = .80$ $SD = .407$	$M = .20$ $SD = .402$
Psychological					
(47) Mood	6.125	118	.000*	$M = .67$ $SD = .479$	$M = .16$ $SD = .364$
(48) Nonverbal cues	5.190	118	.000*	$M = .23$	$M = .00$

				SD = .430	*SD* = .000
(49) Motivation	3.008	118	.003*	*M* = .17 *SD* = .379	*M* = .02 *SD* = .148
(50) Self-management	5.190	118	.000*	*M* = .23 *SD* = .430	*M* = .00 *SD* = .000
(51) Level of self-knowledge	7.002	118	.000*	*M* = .40 *SD* = .498	*M* = .01 *SD* = .105
(52) Coping strategy	4.061	118	.000*	*M* = .27 *SD* = .450	*M* = .03 *SD* = .181
(53) Verbal response	8.708	118	.000*	*M* = .63 *SD* = .490	*M* = .06 *SD* = .230
(54) Distress	7.681	118	.000*	*M* = .40 *SD* = .498	*M* = .00 *SD* = .000
(55) Behaviour	6.867	118	.000*	*M* = .83 *SD* = .379	*M* = .23 *SD* = .425
(56) Confusion	6.551	118	.000*	*M* = .50 *SD* = .509	*M* = .06 *SD* = .230
Social					
(57) Occupation	7.158	118	.000*	*M* = .37 *SD* = .490	*M* = .00 *SD* = .000
(58) Marital status	**			*M* = 1.00 *SD* = .000	*M* = .00 *SD* = .000
(59) Next of kin	**			*M* = 1.00 *SD* = .000	*M* = .00 *SD* = .000
(60) Religion	15.600	118	.000*	*M* = .73 *SD* = .450	*M* = .00 *SD* = .000
(61) Home facilities	6.495	118	.000*	*M* = .37 *SD* = .490	*M* = .01 *SD* = .105
(62) Lives alone	5.190	118	.000*	*M* = .23 *SD* = .430	*M* = .00 *SD* = .000
(63) Lives with family	11.522	118	.000*	*M* = .60 *SD* = .498	*M* = .00 *SD* = .000
(64) Support	8.734	118	.000*	*M* = .83 *SD* = .379	*M* = .16 *SD* = .364
Family					
(65) Ability to visit	4.050	118	.000*	*M* = .57 *SD* = .504	*M* = .20 *SD* = .402
(66) Coping strategy	4.981	118	.000*	*M* = .30 *SD* = .466	*M* = .02 *SD* = .148
(67) Care needs	3.794	118	.000*	*M* = .30 *SD* = .466	*M* = .06 *SD* = .230
(68) Support network	5.679	118	.000*	*M* = .63 *SD* = .490	*M* = .16 *SD* = .364
(69) Understanding	5.247	118	.000*	*M* = .43 *SD* = .504	*M* = .07 *SD* = .251
Nursing intervention					
(70) Patient care needs	5.628	118	.000*	*M* = .80 *SD* = .407	*M* = .28 *SD* = .450
(71) Plans for care	4.457	118	.000*	*M* = .90 *SD* = .305	*M* = .47 *SD* = .502
Medical treatment					
(72) Consultant	5.330	118	.000*	*M* = .97 *SD* = .183	*M* = .47 *SD* = .502
(73) Medications	1.474	118	.143	*M* = .90 *SD* = .305	*M* = .78 *SD* = .418

(74) Surgical interventions	2.779	118	.006*	$M = .47$ $SD = .507$	$M = .21$ $SD = .410$
(75) Plan for medical care	5.966	118	.000*	$M = .90$ $SD = .305$	$M = .34$ $SD = .478$
(76) Physician orders	10.863	118	.000*	$M = 1.00$ $SD = .000$	$M = .20$ $SD = .402$
Global judgement					
(77) Patient condition	3.304	118	.001*	$M = .60$ $SD = .498$	$M = .28$ $SD = .450$
(78) Psychological /Personality	4.367	118	.000*	$M = .43$ $SD = .504$	$M = .10$ $SD = .302$
(79) Care	.378	118	.706	$M = .10$ $SD = .305$	$M = .08$ $SD = .269$
Management issues					
(80) Moving patients	3.136	118	.002*	$M = .10$ $SD = .305$	$M = .00$ $SD = .000$
(81) Admissions	-.819	118	.415	$M = .00$ $SD = .000$	$M = .02$ $SD = .148$
(82) Empty beds	**			$M = .00$ $SD = .000$	$M = .00$ $SD = .000$
(83) Discharges	-1.474	118	.143	$M = .10$ $SD = .305$	$M = .22$ $SD = .418$
(84) General	**			$M = .00$ $SD = .000$	$M = .00$ $SD = .000$

*$p \leq .05$
**A t test could not be computed because the standard deviations of both groups were 0.

Focus Group Sessions

Presurvey Focus Group Sessions

Numerous valuable comments and suggestions regarding shift summaries were obtained during the presurvey focus group sessions with all three participating units. The researcher and an assistant from Lakehead University's School of Nursing were present at all focus group sessions.

Pediatrics. During the presurvey focus group session on the pediatric unit, 2 RNs and 5 members of the MT were present. Nurses and members of the MT raised concerns regarding the shift summaries and nurses spending extra time on the computer. There were concerns that there would be delays in using a computer, particularly in the morning. Another concern raised by the nursing staff involved nursing students. Prior to the implementation of the shift summaries, students sat in and listened to report with all

of the nurses. The clinical instructor also was present. With the implementation of the computer-generated shift summaries, the students and the clinical instructor will not be able to listen to all of the patients. Instead, they will have to wait for a computer to be free and start their morning routine at that point, causing a delay in the morning. Nurses also questioned what would happen when they are the unit leader (nurse in charge). Concerns were raised that the unit leader will not have an overall picture of the floor because she/he would not be sitting in on everyone's report. Members of the MT mentioned that they still want to have some face-to-face contact, especially when they are dealing with a difficult case. Consistency and the use of a standard template was brought up by both groups. Both stated that there needs to be a standard template implemented to ensure that everyone is documenting the required information.

Both groups also provided many suggestions for the shift summary template. Suggestions included priority areas that staff want to see on the template, such as systems assessments; depression/eating disorder; consults; pending tests; dietary; behaviour; area for patient risks (i.e., running away); discharge plan; family concerns; and health professional visits. The staff also want the template to be free-text so that they may input information that they feel is necessary. All of the comments and suggestions provided from the pediatric unit were utilized in the design of the shift summary template.

Medical. During the presurvey focus group session on the medical unit, 4 nurses and 2 MT members were present. During the session, the nurses raised concerns about the number of patients that the nurses have and having to complete a shift summary for each, especially on night shift. The nursing staff were concerned that they will not have enough time to complete the shift summaries. In addition, they questioned when they will

have time to complete all of the necessary charting plus the shift summaries. As on the pediatric unit, concerns were raised regarding having enough computers on the unit for everyone to use. The nursing staff also presented concerns about liability. They felt that shift summaries will be a double charting of information that is already available in the physical assessment intervention. This may lead to inconsistency in the information presented in both areas. It also may lead to transcribing issues and may increase the risk of documenting incorrect information. Members of the MT also presented concerns regarding time management, stating that the shift summaries may be more time-consuming for the nursing staff to complete. However, they mentioned that the shift summaries will provide everyone with a picture of the patients' progress, showing whether they are acute or improved.

Both the nursing staff and members of the MT provided suggestions regarding areas to be included in the shift summary: any upcoming tests; discharge planning; consults and with whom; any incidences (i.e., fall during shift); and blood work results. Members of the MT indicated that they want to see an area for mobility so that they can see whether a patient can get up, or not. All of these suggestions were combined with the suggestions from the presurvey questionnaires and suggestions from other units to design the shift summary template.

Surgical. During the presurvey focus group session on the surgical floor, 7 nurses, the nurse manager, and 4 MT members were present. During the session, as on the other two units, the nurses were concerned that the new system will be more time-consuming than the present reporting system. The nursing staff hoped that the new system will be shorter and quicker, yet they felt that they will spend more time charting and on report.

The nurses also were concerned with double charting. There are many areas where patients' intake and output are already documented; therefore, the nurses felt that it does not need to be entered in the shift summary. Nurses questioned whether the new system will provide the last set of documented vital signs and blood work on the shift summaries so that they will not have to be reentered on the report. However, many realized that the current computer system is not suitable to perform such actions. Members of the MT noted that they have worked on floors that use free-text shift summaries, and they have found that the system works and is beneficial to everyone.

Suggestions were brought up by the nursing staff regarding areas that they want to see included in the shift summary: systems assessments to include only abnormal findings, any critical blood work values, and any events that have occurred in the last 24 hours. They also stated that they want to see the system as free text to facilitate the quick typing in of information that is pertinent to the patients. These suggestions were combined with other data previously collected to design the shift summary template (see Appendix M).

Postsurvey Focus Group Sessions

The postsurvey focus group sessions on the three participating units provided the researcher with suggestions for improvement of the new system. Any issues that the nursing staff and members of the MT had also were discussed. As with the presurvey focus group session, the researcher and an assistant from Lakehead University's School of Nursing were present at all sessions.

Pediatrics. During the postsurvey focus group session, 3 RNs and 2 MT members were present. The nurses stated that they find the new shift summaries take longer to

complete and read, particularly in the morning because shift summaries from the night shift are usually incomplete. However, the nurses felt that more pertinent information is transferred through the shift summaries than in taped report. The nurses also found that because they start their morning off at the computer reading shift summaries, they review other patients' issues and reports on the electronic record at the same time. Therefore, they felt that they are gathering more information regarding patients than in taped report. Members of the MT also found that there is more future planning regarding patients' treatment and discharge plans. They indicated that the information is clear and that everyone is onboard with the patients' plans.

Nursing staff also provided suggestions to improve the new system. They noticed that physicians do not read the shift summaries, so they are continually asking questions of the nursing staff. Hence, they feel that the new system is not being utilized as effectively as it could be in regard to communication. The nurses also indicated that they would like further inservicing or clarification about the information that is to be included in the shift summaries. MT members like the system as it is, and they felt that it does not require any changes.

Medical. During the postsurvey focus group session held on the medical unit, 5 nurses and 1 MT member were present. Throughout the session, the nurses commented that they spend more time at the computers with the new system because they find that the computers are slow. Although they found that they spend more time on the computer when they are ending their shift, they spend less time in the morning on report. The nurses also commented that some individuals who are "finger typers" experience difficulty completing the shift summaries on time. Another concern was raised regarding

individuals who use abbreviations in the shift summaries that are unfamiliar to the other staff, so the oncoming staff cannot gather all of the pertinent information. However, the staff did mention that they like the free-text ability of the shift summaries because it does not limit the amount of information that they can provide.

The nursing staff also provided areas for improvement of the new system. As on the pediatric unit, nursing staff noticed that the physicians do not read the shift summaries. They felt that the physicians should utilize the shift summaries because they can benefit from them. The nurses want to have a way of knowing what is occurring on the remainder of the floor. They felt that they know only their own patients, but no one else on the floor. The MT member did not provide any input during the session.

Surgical. The postsurvey focus group session on the surgical unit had 3 nurses and 5 MT members present. Since the implementation of the new system, the nursing staff have noticed a decrease in communication among staff. The concern is that they no longer know what is occurring on the rest of the floor. This is similar to the concern of the nursing staff on the medical unit. The staff also found that although they spend more time on the computer doing their charting, they spend an equal amount of time on report. However, there are instances where receiving report is quicker, less than 5 minutes, with the new system. In addition, the staff noticed that they spend more time on the shift summaries at the end of the night shift than they do on day shift. This can be attributed to the increased patient load on night shift. Members of the MT stated that the shift summaries facilitate care and discharge planning. The shift summary provides a quick snapshot of patients, making reports more concise. The new system also allows for enough pertinent information to be transferred to appropriately plan patient care.

The nursing staff offered suggestions for areas for improvement with the new system. As on the other two units, the nurses noticed that the physicians do not read the shift summaries; therefore, the staff feel that they need to chart in multiple areas to ensure that the physicians see the assessment findings. The nurses also found that there is not enough information on the shift summary when patients are newly admitted to the floor to provide patient care safely. Patient information is incomplete, which forces the nurses to do further investigations to determine why some patients are in the hospital. MT members noticed inconsistencies in the charting, commenting that some nurses include information, but others do not. A possible solution is to have a blank printout of the shift summary that can be used as a worksheet. This way nurses can complete the form throughout the day, minimizing the information that is omitted (see Appendix N).

Audiotaped Handovers and Nonparticipatory Observation

During audiotaped shift report on the three participating units, the researcher was present to make observations on the type of material transferred in shift report, the number of staff members present, the length and time taken for shift report, and the type of interruptions that occurred. The material was recorded using the same audit tool that was used for the chart audits.

Pediatrics. During shift report on the pediatric unit, an average of 2 to 4 RNs, nursing students, and their clinical instructor were present. Compared to the medical and surgical units, no RPNs were present. Pediatrics has an RN staff mix only.

Prior to the start of the shift report, the nurses were preparing their worksheet, reviewing the assignment board, reviewing the patients' kardexes, reviewing medication times for their patient, talking with the clinical instructor to determine which student had

which patient, and having personal conversations with nurses from the previous shift. Also, the nurses were collecting patient charts and reviewing physicians' orders.

The material transferred varied from report to report, as well as from nurse to nurse. However, if a patient had been on the unit for an extended period of time, the nurse would generally say, "You know this patient. There is nothing new." This was particularly evident following a night shift, when the nurse would also comment, "Had a good night," or "Slept all night." This information also was transferred if the patient was familiar to the oncoming staff, for example, if that nurse had had this patient for the past 2 days.

More detailed information was transferred when the patient was a new admission to the floor and the oncoming nurse was not familiar with the patient. The report generally started off with the room number, the patient's name and age, reason for admission/diagnosis, and most responsible physician. Following that data, the information focused on reason for admission. For example, if the patient came in with abdominal pain, the data transferred in report focused more on the gastrointestinal assessment rather than other systems and assessments. The patient's vital signs were not mentioned unless they were abnormal; otherwise, the nurse would state, "Vital signs unremarkable." The same occurred with blood work results. The nurses only mentioned results if they were in the abnormal range. Unlike the other two units, more information regarding family issues and concerns was transferred during report on pediatrics. The nurses would comment on the family dynamics and living situations, as well as any current custody issues.

Following report, the nurses remained in the conference room and continued to review patients' charts, medication times, and physicians' orders. As well, the nurses spent some of this time socializing with other staff. They also discussed patient loads with the clinical instructor, determining which student had which patient. They spent approximately 10 to 15 minutes in the conference room following report. However, there were a few instances when nurses left the conference room immediately following report and went to assess their patients.

Medical. During shift report on the medical unit, an average of 4 RNs, 3 to 4 RPNs, nursing students, a clinical instructor, and the floor manager were present. Prior to the start of shift report, as on the pediatric unit, the nurses were collecting patients' charts; reviewing the charts, kardexes, and medication times for their patients; and preparing their worksheets. As well, they were having personal conversations with nurses from the previous shifts. In one instance prior to shift report, a nurse was still in the conference room taping her report while the oncoming staff were starting to gather for their report. In addition, a nurse from the previous shift was informing the oncoming nurse about an acutely ill patient and doctor consultations that were made. Because of the staff mix of RNs and RPN on the medical floor, oncoming nurses were discussing patients and their level of acuity to determine if some patients were suitable for RPNs.

As on the pediatric unit, the material transferred in shift report varied with each report. Because of the general population of the patients on the medical floor, namely, elderly patients and those awaiting long-term care, many of them have been on the unit for an extended period of time. During the report of these patients, the nurse would generally state, "You know this patient; he/she has been here since...nothing new." As on

pediatrics, this form of report also was given if the nurse had had the patient previously and was familiar with him/her. In a few reports, only the patient's room number, name, and comment of "Nothing new" was given in report. A more detailed report was given when the patient was new to the floor and the oncoming nurse was not familiar with the patient.

As on the pediatric unit, the report started with the following information: patient's room number, patient's name and age, reason for admission/diagnosis, and most responsible physician. Following that information, a brief history was given providing background information about admission and a review of all of the systems (gastrointestinal, genitourinary, head, eyes, ears, nose, throat, musculoskeletal, and integument). However, more attention and details were given to any abnormal assessment that the nurse had found. Compared to the pediatric unit, little, if any, family information was presented during report. Vital signs usually were not mentioned in the report unless they were abnormal. This was the same for blood work results.

Following report, as on the pediatric unit, the nurses remained in the conference room reviewing charts, medications, and orders, and socializing with one another. During this time, the nurses discussed being short staffed and their upcoming work schedules. They spent approximately 15 to 20 minutes in the conference room following report. There was one instance on the medical unit where following report, a nurse stated that she had "received no pertinent information" from the previous shift.

Surgical. During the observed shift reports on the surgical unit, an average of 2 to 4 RNs, 2 to 3 RPNs, and 4th-year nursing students were present. Prior to the start of shift report, as on the other two units, nurses were checking the assignment board to determine

which patient load was theirs. They were preparing their worksheets with the information that was available in the kardexes. They were collecting patient charts and reviewing them, and they were reviewing the medication times for their patients. They also were having personal conversations with nurses from the oncoming shift and the previous shift. As on the medical unit, because of the staffing mix on the floor, some of the oncoming nurses were discussing patients and their level of acuity to determine if some patients were suitable for RPNs.

As on the other two units, the material that was transferred in report on the surgical unit varied with each report. However, there were instances where the report was brief and the nurse would say, "She/he's been here for a while, you know them, and there is nothing new." This form of report was given when the patient had been on the unit for an extended period of time or the patient was familiar to the oncoming staff. Similar to the medical unit, there were instances when only the patient's room number, name, and comment about "nothing new" were transferred during report.

As with the other two units, a more detailed report was given if the patient was a new admission or was unfamiliar to the staff. The detailed report generally began with the patient's room number, patient's name and age, reason for admission, and most responsible physician. Following these identifying factors, the nurse provided a brief history regarding the patient, including further details regarding the patient's admission and a review of all of the systems (gastrointestinal, genitourinary, head, eyes, ears, nose, throat, musculoskeletal and integument). Once again, more attention and detail were given to any abnormal assessment. As on the other two units, vitals signs and blood work results were mentioned only if they were abnormal.

Following report, as on the other two units, the nurses remained in the conference room reviewing charts, medication times, and orders, and socializing with one another. They also discussed staff shortages and staff schedules, and they asked each other about their schedules. As on the medical unit, nurses spent approximately 15 to 20 minutes in the conference room following report.

All three units experienced the same interruptions during their shift report:

- Nurses asking other nurses in the room about their assignment and asking who has which patient.
- Nurses coming into the conference room to say goodbye before they leave the floor.
- Students coming in late and trying to find a place in the conference room.
- Students dropping items.
- Telephone calls.
- Shuffling of papers and kardexes.
- Nurses leaving the room when their assignment/report was complete.
- Nurses from the previous shift informing oncoming nurses of telephone calls.
- Patient call bells.
- Nurses talking about patients' conditions during someone else's report, resulting in rewinding the tape and relistening to that portion of report.
- Specific to the medical and surgical units, nurses were questioning a patient's resuscitation status.

- Specific to the medical unit, a patient was attempting to leave the floor, and the nurse had to leave report to go after the patient.
- Specific to the surgical unit, a nurse came into the conference room to notify another nurse of a patient's condition and medication given right at shift change.
- Specific to the surgical unit, a nurse was speaking too fast on the tape, and the oncoming nurses were commenting about how it was difficult to understand and obtain any information.

Incident Reports

Incident reports were examined 1 hour prior to and 1 hour following shift report on the three participating units. The results indicated that there was a general increase in incidents during the implementation period of the computer-generated shift summaries (see Tables 16 & 17). The incidents increased from a total of 10 for all three units to 18 for all three units. Incidents included falls, medication errors, treatment/procedural errors, equipment/supply issues, and other.

Pediatrics. One month prior to the implementation of the shift summaries, pediatrics did not observe any incidences. During the first month after implementation of the new system, pediatrics observed one incident. The incidence was categorized as Other, and it dealt with one-to-one patient care.

Medical. Prior to the implementation of the new system, the medical unit had observed four incidences. Medication errors were the most common, with two incidences reported. The remainder of the incidences included one fall and one equipment failure. During the implementation of the shift summary, the medical unit had the highest number

(13) of reported incidences. The largest increase was seen in falls, which increased to a total of 5. It should be noted that the general population of this unit are elderly individuals who are awaiting long-term care. Therefore, the chance of falls is increased. An increase also was noted in treatment/procedural errors, which increased to 3 from zero; medication errors, which increased from 2 to 3; and other events, which increased from zero to 1.

Surgical. Prior to the implementation of the shift summaries, the surgical unit had six reported incidences. Falls were the most common, with three reported cases. The remainder included two medication errors and one treatment/procedural error. Following the implementation of the new system, compared to the other units, the surgical unit saw a decrease in the observed incidences, with only four cases. The number of falls remained the same, but there was a decrease in the medication errors (2 down to 1), and treatment/procedure (1 down to zero).

Table 16

One Month Prior to Implementation of Shift Summaries

Unit	Fall	Medication error	Treatment/Procedure	Equipment/Supplies	Other
Pediatric	0	0	0	0	0
Medical	1	2	0	1	0
Surgical	3	2	1	0	0

Table 17

During Implementation of Shift Summaries

Unit	Fall	Medication error	Treatment/Procedure	Equipment/Supplies	Other
Pediatric	0	0	0	0	1
Medical	5	3	3	1	1
Surgical	3	1	0	0	0

No statistical analysis could be made with this data because the data sets were small. The range of values (incidents) was from zero to 5. Therefore, no statistical tests were done with this particular data set.

CHAPTER 6: DISCUSSION

Summary

The findings indicated that the new computer-generated shift summaries have improved the transfer of patient care information among nursing staff and MT members. However, the findings also indicated that the new system also had resulted in a decrease in communication among nursing staff. Conversely, there has been an increase in communication between MT members and nursing staff. The findings also indicated that areas within the new system can be still be enhanced to further improve communication and patient information transfer.

From the presurvey questionnaire, it was determined that various methods of shift report were being utilized at the hospital prior to the implementation of the new shift summaries. These methods included audiotaped, verbal, and computer-generated handovers. The various methods of shift report increased the potential for patient safety issues because information could be omitted and not transferred to the oncoming nurses, resulting in negative patient outcomes. "More than 60% of sentinel events are caused by poor communication, [suggesting] that current communication methods used by health care providers, including nurses, are inadequate" (Hohenhaus, Powell, & Hohenhaus, 2006, p. 72A). With the implementation of the new shift summaries, the handover method will be standardized within the hospital. This also may enhance the nurses' working environment. For example, if nurses happen to work on more than one unit at the hospital, they will be familiar with the reporting system on every unit. This decreases the potential for information to be lost.

The presurvey questionnaire also presented what the nursing staff and members of the MT were hoping would occur with the new system, namely, a report that would be faster than the current method of reporting. The MT members stated that they wanted a report that they could have quick access to. Prior to the implementation of the shift summaries, members of the MT did not participate in the handover process. They were not present during the audiotaped report and did not obtain relevant and up-to-date patient information. However, with the shift summaries, members of the MT can now have access to each patient's daily report, providing them with a quick view of the patient's day or night. This has improved the transfer of patient information between nursing staff and members of the MT. The same topics were brought up during the presurvey focus group session with the participating units. Staff members stated that they wanted a report that would decrease the amount of time spent on report while providing an overview of the patient's status.

The presurvey questionnaire also asked the nursing staff to indicate the amount of time that they perceive they spend on shift report. It was interesting to note the difference between the perceived amount of time spent on report by the nurses and the observed, or actual, time spent. In the presurvey questionnaire, an equal number of nurses from the pediatric unit commented that they spend approximately 5 to 10 or 21 to 30 minutes on report. During the audiotaped handovers that the researcher was present for, the average time spent on report on the pediatric unit was 14 minutes. The longest report observed was 25 minutes. The nurses were able to identify the amount of time that they spend in report, signifying that they were aware how much time they are not spending with their patients.

In contrast, the majority of the nursing staff on the medical unit noted that they spend approximately 21 to 30 minutes on report. In reality, the average time was 38 minutes, with the longest report taking 47 minutes. This indicated that the nurses on the medical unit may be unaware of the amount of time they actually spend on report. The same trend was noticed on the surgical unit. During the presurvey questionnaire, the majority of the nurses noted that they spend approximately 21 to 30 minutes on report. During the observed audiotaped handovers, the average time for report was 30 minutes, with the longest report taking 52 minutes. Having the nurses in report for such an extended period of time increases the likelihood of a patient incidence. This was evident in the patient incidences that were reported prior to and during the implementation of the shift summaries.

An interesting finding was related to the number of incidences on each unit prior to and during the implementation of the shift summaries. As noted previously, an increase in the amount of time spent in shift can increase the number of incidents that occur. Shift report on the pediatric unit was the shortest, and the unit had no incidents prior to the implementation of the new system. On the other hand, on the medical and surgical units, where report was significantly longer, a larger number of incidents were observed prior to the new system. However, an increase in incidences also was observed during the implementation of the new system. The pediatric unit increased from zero incidents to 1, and the medical unit increased from 4 incidences to 13. The surgical unit was the only unit to observe a decrease in the reported incidences, that is, from 6 to 4.

The increase of incidences on the two units may have indicated that report is now taking the nurses a longer time to complete. However, many other contributing factors

may be attributed to the increase in incidents. One factor that may have had a significant impact on these results is that during the implementation of the new shift summaries on the participating units, a new electronic safety documentation system also was being implemented. The new system requires that any event impacting patient safety has to be documented. This includes near misses, where a patient could have fallen if an intervention had not been done at the time, as well as actual incidents, such as when the patient is found on the floor following a fall. Because the system was being introduced to the floors, the nurses may have been more inclined to chart all incidents because of the increased monitoring of patient safety. Also, because education and supervision for compliance were being conducted during the same time that shift summaries were being implemented, staff may have been more inclined to report incidents.

Another factor could have been the number of patients in the hospital and the hospital's constant status in "Code Gridlock" (patient influx exceeds resources). During Code Gridlock, the nursing staff would experience an increased patient load, increasing the time spent away from each patient. This adds additional stress to nursing staff and patients, thus increasing the potential for incidents to occur. It should be noted that "mistakes that threaten patient safety are rarely the fault of an individual; rather, errors are often related to factors linked to inadequate or faulty systems" (Hohenhaus et al., p. 72A). It is important to note that although there was an increase in incidents on two of the units, there was a decrease on the surgical unit. This indicated that the increase in incidences may not have been the fault of the new system entirely. Consideration of other factors as well as further research, including increasing the number of reports observed and incidences monitored, are required to deduce the cause of patient incidents.

During the presurvey questionnaire, nursing staff were asked to identify the information that they perceived they obtain during report from other nurses. Once again, it was interesting to note the difference between perceived and actual data transferred during report. There were 17 areas of information that over 70% of nurses on the pediatric unit stated they received during report, including patient's name, age, physician, and diagnosis; surgical information; plans for care; pain management; sleeping, vomiting, and eating; pulse; confusion; wound management; plans for medical treatment; respiratory function; mouth/skin; and fluid output. However, during the observed audiotaped handovers, only 5 areas of patient information were transferred by more than 70% of the nurses: age, diagnosis, physician, equipment, and medications.

The same trend was observed on the other two units. On the medical unit, there were 14 pieces of information that over 70% of nurses stated they receive during report, but in reality, only 2 areas of information were transferred by more than 70%. On the surgical unit, there were 20 areas of information that over 70% of the nurses stated they receive during report. During the observed reports, only 4 areas were transferred by more than 70%.

These results demonstrated that nurses may be unaware of the information that they are transferring or omitting during report. This can lead to negative patient outcomes because information is not being transferred in report. These results also indicated a need for a standardized template for shift report to ensure consistency in the information being transferred. A standardized template would reduce the information that is omitted, and it would potentially enhance the amount and type of information transferred. In addition,

"uniform order of information is achieved by following a template in a consistent manner; it simplifies communication for both giver and receiver" (Wilson, 2007, p. 204).

Inconsistency in the information transferred during report was evident during the observed audiotaped handovers. The findings showed that the content for report varied with each shift and with each nurse. However, it was noted that the information that was transferred appeared to coincide with patient acuity. The more acutely ill a patient was, the more detailed was the information being transferred during report. On the other hand, for patients who have been on the unit for some time, the reports were brief and only general statements were made regarding them. Vague statements such as, "You know this patient, he's been here for while," or "Nothing new with this patient," were transferred in report. General information such as this does not provide the oncoming nurses with any relevant patient information.

Following such reports, the oncoming nurses are unaware of patients' conditions or medical status. This may force the oncoming nurses to do further investigations prior to assessing and seeing patients. As well, this leads to inconsistent information transferred during report. This was supported by Fenton (2006), who stated that "the actual content of the information handed over is inconsistent, with insufficient and non-specific detail. Information is often subjective" (p. 32). This decreases the amount of time that nurses spend with their patients. There is a clear need for a standardized method of report to ensure that adequate and sufficient information is transferred.

Further inconsistencies were noted during the observed reports. When the information that was transferred during the observed reports was compared to the information that was documented in patient charts, it was noted that some information

was not being documented. Although information was transferred during the audiotaped report, the same information was not documented in the patients' charts. This situation could potentially lead to legal and liability issues for nurses or health care providers. Omitting to document information could be construed as providing evidence that the action or the patient care did not occur. Therefore, if a patient or a patient's family were to claim neglect/malpractice, the nurses or health care providers would not be able to provide substantial proof of care. Such a scenario stresses the importance of proper patient documentation. In addition, if nurses or health care providers do not document information adequately, anyone who is not present during the audiotaped report will be unaware of the information. This hinders the transfer of patient information between nurses and MT members.

The postsurvey questionnaire was utilized to assess the attitudes and opinions of participants regarding the new system. Based on the responses to the open-ended questions, it was evident that the staff on the pediatric unit were not satisfied with the new system. Of the 15 returned postsurvey questionnaires, 60% presented negative attitudes/ideas toward the new system, and 26% presented neutral. None of the nursing staff presented positive opinions toward the new system. Only the MT presented positive opinions. The main comments from the nursing staff indicated that they felt that they spend more time on report and charting with the new system. They did not feel that their quality of patient care has improved.

This was contrary to the information obtained during the postsurvey focus group with the pediatric unit. Although the nursing staff, once again, commented on spending more time on report and charting, they did present positives regarding the new system.

They indicated that with the new system, more pertinent information is transferred during report, and they obtain more information regarding their patients as they start their day off on the computer. Because they are on the computer, they investigate other patient reports and documentation on the electronic records. This provides the nurses with pertinent and relevant patient information. It also provides the nurses and MT members with the opportunity to discuss future discharge planning through assessments and comments made by the nursing staff.

Staff on the medical unit provided mixed results regarding their attitudes and opinions toward shift summaries. Of the five returned postsurvey questionnaires, 40% presented positive, 40% presented negative, and 20% presented neutral opinions/ideas. As on the pediatric unit, nursing staff did not notice a change in the quality of care that they provide. As well, the nursing staff commented that the new system increases the amount of time they spend on the computer on report and charting. In contrast, during the postsurvey focus group session with the medical unit, nursing staff indicated that they now spend less time on report in the mornings. This indicated that they new system has decreased the amount of time nurses spend away from their patients in the morning.

Compared to the other two units studied, the majority of the staff presented positive opinions and attitudes toward shift summaries on the postsurvey questionnaire. Of the 21 returned postsurvey questionnaires 57% presented positive, 23% presented negative and 19% presented neutral attitudes/opinions. Although a majority of the nursing staff did not notice a change in the quality of care they give to their patients, one nurse commented that she noticed an increase in quality. Members of the MT commented that communication has improved between nursing staff and the other disciplines through

the new system. In addition, the shift summary provides a quick overview of the patients, providing relevant patient data. In contrast, during the postsurvey focus group session on the surgical unit, the MT members noticed inconsistencies in reports from nurse to nurse. This gave the MT members mixed patient information, making it difficult for them to plan or assess the patients' care plans. Also, nursing staff commented that with new system, they are receiving report in less than 5 minutes. The variance in information presented in the postsurvey questionnaires and the postsurvey group sessions may be attributed to the fact that the staff members who attended the focus group session did not fill out the questionnaire, so they provided mixed opinions and views from the data collections.

Although there was evidence through the postsurvey questionnaires and focus group sessions that communication has improved between nursing staff and some members of the MT, there also was evidence that communication has decreased between the staff nurses. In the postsurvey questionnaire and the postsurvey focus group sessions, the nurses commented that communication between them has decreased because each nurse's report is now available on the computer. The nurses commented that there has been less of a team feeling among them since the new system was implemented. In addition, many feel "in the dark" because they do not know what is occurring on the rest of the unit. In the audiotaped report, each nurse would hear a little bit of information about each patient. Now, each nurse revealed that she investigates only her patients and is unaware of the other patients on the unit. This deters nurses from helping each other because they are unfamiliar with the other nurses' patient loads, and it hinders positive communication among the nursing staff.

A common point raised by the participants from the three units was that physicians are not utilizing the shift summaries to their fullest potential. The nursing staff asserted that the physicians are not reading the shift summaries, which defeats the purpose of the shift summary as a tool to communicate more effectively and efficiently with all members of the MT, including the physicians. The physicians still ask the nursing staff questions rather than read the patient summaries. This may be attributed to "varied training approaches, nurses tend to be very descriptive and detailed in their communications, whereas physicians tend to use brief statements summarizing salient patient information" (Haig, Sutton & Whittington, 2006, p. 168). These researchers also noted that "differences in communication styles between nurses and physicians are also a major contributing factor" to being a barrier to communication (p.168).

Shift report is necessary to transfer patient information and, more importantly, patient care from one shift to the next. The information that is transferred during report will assist the oncoming nurses in prioritizing their work. As well, it will identify key areas that need immediate attention, such as patient care needs. The shift summary also is beneficial to members of the MT who are not present during report, allowing them to view and access relevant and pertinent patient information quickly. The shift summary was designed to assist staff in formulating reports that contain pertinent information about patients, but without personal opinions and judgements from health care providers. Optimistically, with the implementation of the new shift summaries, the transfer of patient information will improve, general statements about patients will decrease, more pertinent data will be transferred, and communication will improve among all members of the various health care disciplines.

Applicability of Action-Oriented Research

Action-oriented research has been used to develop resolutions for and understandings of problems at the local level rather than for a generalized population. Key characteristics of this framework are its cyclic, dynamic, and collaborative process in which issues affecting individuals are addressed (Stringer & Genat, 2004). The procedure for this study followed a similar procedure utilized by Hardy, Howarth, Ryan, and Henderson (2002):

1. Build the picture and gather information: Information was gathered using a variety of methods, including focus group sessions, audiotaped handovers, nonparticipatory observation, questionnaires, documentation audits, and incident reports. During the data collection process, the researcher attempted to gain a better understanding of the nursing handover.
2. Interpret the picture and develop a plan of action: A framework was required to provide the researcher with a mechanism to synthesize the information in an effort to identify differences between perceptions and expectations of handover and documentation. Analyses of the information were conducted to interpret the picture and offer suggestions and solutions for problem areas that were identified.

This process focused the direction of the study, ultimately resulting in the production of the computer-generated shift summary that was implemented in the hospital.

Validity and Reliability

Because of the nature of the study, care was taken to ensure that validity and reliability were maintained. Because "qualitative research is easily open to sloppy, biased processes that merely reinscribe the biases and perspectives of those in control of the research process" (Stringer & Genat, 2004, p.50) the following were used as a guide to conduct the study and minimize bias and error:

1. The researcher spent adequate time at the place of study, thus prolonging the engagement.
2. The researcher invested "sufficient time to achieve a relatively sophisticated understanding of a context: to learn the intricacies of cultural knowledge and meaning that sustain people's actions and activities in a setting" (Stringer & Genat, p. 50). By recording the time spent in the research context, the researcher added to the credibility of the study.
3. Through persistent observation, the researcher was not only present in the study setting but also continually engaged the participants. Therefore, to increase the creditability of the study, the number and duration of observations and interviews with participants were recorded.
4. Through the use of multiple sources, the researcher was able to obtain an appropriate base of understanding and knowledge to work toward the final outcome of the study. Also, because two individuals collected the data, namely, the researcher and Professor Kirk-Gardner from Lakehead University's School of Nursing, interrater reliability was applied and maintained. Both the researcher and Professor Kirk-Gardner examined

forms that were utilized prior to the start of the data collection to ensure both understood the material and information to be collected.

5. All questionnaires and questions were developed from evidence-based research from previous studies. As well, they were reviewed by experts in the field of public health prior to implementation.

6. Diverse case analysis (among the three units) was necessary "to ensure that other interpretations of the data [were] fully explored" (Stringer & Genat, p. 51). This step ensured that all participants' perspectives were taken into account and that the interpretations of powerful, significant, or important individuals did not override other participants' views. The inclusion of all perspectives affecting the study enhances its credibility.

7. The researcher wanted to ensure that transferability of the study dealt with being able to apply a qualitative study to another institution, thus enabling others to take advantage of the knowledge acquired through the process (Stringer & Genat). Therefore, detailed reports were provided from the study, including the context and participants so that if required, another setting could apply the research. This also allows others to fully understand the nature of the study.

8. Maintaining confirmability involved an "audit trail," which requires the researcher to retain all required recorded data pertaining to the study (Stringer & Genat). In this study, the audit trail included information collected prior to, during, and after the study: field notes, original and annotated documents, and audiotaped interviews. All of these data will

enable others to confirm that the research was accurately and adequately represented.

Limitations

Although this study revealed important information about communication between nurses and members of the MT, it did have some limitations. The postsurvey questionnaire did not ask, "Please specify the type of information given to you during shift report. Please check all that are applicable," as in the presurvey questionnaire. This did not allow the researcher to compare whether the same amount or type of information was transferred in report from the participants' perspective. This would have presented the researcher with a clearer view of whether the computer-generated shift report has made a significant difference in the information transferred.

In addition, the time allotted for the implementation of the shift summary should have been longer than the time provided during the study. More time was initially allotted for the implementation of the shift summary on the participating units, but unforeseen setbacks with information technology at the hospital allowed for only 1 month of implementation before the data had to be collected to make the study feasible and allow for completion.

Recommendations

- Replicate the study to support any causal assertions that were developed throughout the study.
- Ensure that a standard guideline/template is formalized and that it is utilized by all to strengthen any defence against complaints or legal action.

- Ensure that all staff are complying and completing the shift summaries through tracking or audits of patient information.
- Continually seek improvements to the shift summary to increase its effectiveness and ease of use. This can be completed by circulating more surveys, holding sessions on the unit and asking for staff input, or by informally questioning staff about the shift summaries.
- Examine ways to improve communication among nursing staff, MT members, and physicians.
- Inquire about the possible use of wireless systems in the hospital to replace hard-standing computers. This will increase the time spent with patients and decrease the number of errors with documentation through point-of-care documentation.
- Inquire about the possible use of the phone system as a method of shift report. This would allow each to nurse to record patient data at a more convenient time without having to be at a stationary computer. It also would allow for other members of the MT to access patient reports through the phone system and levels of passwords.
- Ensure that any new technology that is introduced at the hospital follows the appropriate guidelines and recommendations. This is particularly important when dealing with sensitive patient information.
- Perform a follow-up with the three participating units in approximately 6 months. Use the data collected from the follow-up and compare them with the data obtained through this study. Following the analysis and

comparison of the information, make any additional changes to the shift summary.

- Monitor patient incidents. Perform a follow-up on patient incidents and compare the findings to the data obtained from this study. Use those findings to gain a better understanding of patient incidents and their relationship, or lack thereof, to shift summaries.

Implications for Further Research

- To conduct further research at the hospital about documentation and content of shift report that is further analyzed with content analysis and multidimensional scalogram analysis.
- To conduct further research at the hospital examining the effect of the shift summaries at 6 months and 1 year postimplementation on the number of patient incidents and communication between nurses and members of the MT.
- To conduct further research at the hospital to determine areas of improvement in communication and the transfer of patient care information between nurses and members of the MT.

Conclusion

This study was designed to examine the current methods and content of shift report at a hospital in NWO. It also examined if a computer-generated method of shift report could improve communication and the transfer of patient information in shift report. The objectives were to enhance standardized communication between nurses and other members of the MT, provide efficient and effective coordination of communication

between nurses and other members of the MT, and identify through audits and personal observation the factors that impact patient safety. Action-oriented research provided the framework and the methodology for the study. Questionnaires were developed to obtain data about patient documentation and information prioritization, and provide the researcher with comments from the participants regarding shift report. Focus group sessions were held and provided the researcher with personal opinions and suggestions from the participants. Nonparticipatory observation, documentation audits, and audiotaped handover audits all assessed the content that is transferred during shift report.

A total of 105 individuals, an affiliation of RNs, RPNs, and members of the MT from three units at the hospital, were eligible to participate in the study. Of the 105 potential participants, 62 nurses (RNs and RPNs) and 11 MT members participated. The findings indicated that with the new computer-generated shift summaries, the transfer of patient care information has improved among nursing staff and MT members. However, the findings also indicated that the new system has resulted in a decrease in communication among the nursing staff. Conversely, there has been an increase in communication between MT members and nursing staff. The findings also indicated that areas within the new system can be enhanced to further improve communication and the transfer of patient information. Many recommendations were made that may improve the handover process at the hospital and assist in improving communication between nursing staff and members of the MT.

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APPENDIX A: CONSENT FORM

Optimizing the Transfer of Patient Care Information among Nurses and Members of the Multidisciplinary Team

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Consent to Participate

I have read the information letter attached to this form regarding the purpose of this study and the expectations of myself as a participant.

I have been informed by the researcher of this project of my right to voluntarily participate in this study.

I have been informed of my right to confidentiality of my personal information. I understand that I may with draw from this study at any time without penalty.

I understand that there is no potential risk of harm, physiological or psychological, that can occur to me as a result of my participation in this study.

I am aware that the data collected in this project will be securely stored as per Lakehead University policy.

My signature below indicates that I am a willing participant in the study.

Signature of Participant	**Date**
Signature of Witness	**Date**

APPENDIX B: LETTER TO POTENTIAL PARTICIPANT

Dear Potential Participant:

We would like to invite you to participate in a study that is being conducted at this hospital titled, **"Optimizing the Transfer of Patient Care Information among Nurses and Members of the Multidisciplinary Team"**. Communication is essential to all health professionals. According to the Joint Commission on Accreditation of Health Care Organizations (JCAHO, 2003) almost all sentinel events (unexpected occurrence involving serious physical or psychological injury) were caused by a breakdown in communication. In an effort to enhance communication and to minimize efficient communication the hospital is striving to develop a clear, concise shift summary into the electronic medical record supported with a brief face to face verbal report on a Surgical, Medical, and Pediatric unit.

The overall purpose of this study is to examine transfer of patient information among RNs and members of the multidisciplinary team at the hospital and their regional partners. The objectives of the study are:

1. To enhance standardized communication between nurses and other members of the multidisciplinary team.
2. To provide efficient and effective coordination of communication between nurses and other members of the multidisciplinary team.
3. To examine factors which impact on patient safety through audits, personal observation.

To accomplish this, the study will proceed as follows:

1. Pre-survey

Focus group sessions will be held on each of the units and you will be asked to provide input in regard to major content areas for sharing information, types of information needed to ensure quality of patient care, and information regarding content areas that need to be included in the summary sheet. The focus group sessions will be tape recorded and later transcribed. This is to ensure that no information mentioned in the sessions is missed.

A questionnaire has also been developed to ask questions related to the type of information that is shared during shift report and your personal ideas as to what should be on the summary sheet. It should take approximately 15 minutes to complete the survey and time will be allocated during the time you are at the hospital. The survey will be conducted separate from the focus group sessions. Anonymity can not be assured for the focus group sessions because of the nature of the data collection. Others will be present during the focus group sessions, and therefore anonymity can not be assured. However, we do ask your respect in confidentiality even though it can not be guaranteed. In

addition information will be collected by the researcher from attendance at shift handover, audits/incident reports.

2. Development of Standardized Summary Sheets and Education

You will be given an opportunity to provide feedback in regard to the summary sheet you feel is appropriate for the unit. Once this tool is developed, an education poster will be available on the new system.

3. Post-Survey

Once again, focus group sessions will be held and you will be given an opportunity to provide input into your overall satisfaction with the revised system as well as changes that you would like to see occur. These focus group sessions will also be tape recorded and later transcribed as to not omit any valuable information.

A questionnaire has also been developed to ask questions related to whether you feel that the new system meets your needs and enhances patient safety. It should take approximately 15 minutes to complete the survey and time will be allocated during the time you are at the hospital. This will be completed separate from the focus group sessions. Anonymity can not be assured for the focus group sessions because of the nature of the data collection. Others will be present during the focus group sessions, and therefore anonymity can not be assured. However, we do ask your respect in confidentiality even though it can not be guaranteed. In addition information will be collected by the researcher from audits/incident reports.

Your participation in this study is voluntary and you may withdraw from the study at any time. You may also choose not to answer any question that is asked of you. There is no risk of physical or psychological harm.

All information you provide will be confidential and according to university regulations all data will be securely stored at Lakehead University for seven years and then shredded. Information shared within the focus group sessions can not be guaranteed to be confidential and anonymous as others will be present during that time. We do ask that you respect confidentially.

The findings of this study will be made available to you at upon the completion of the study by sessions at the hospital and in the published thesis which will be available in the library.

If you have any questions or concerns, please do not hesitate to contact me at (807) 625-6582, or kagagalo@lakeheadu.ca. You may also contact my supervisor Dr. Darlene Steven at (807) 343-8643 or darlene.steven@lakeheadu.ca. You can also contact the Lakehead University Research Ethics Board at (807) 343-8283 regarding ethical approval for the study. If you have any questions related to your rights as research participant, you

may contact Heather Poulter, part of the hospitals Research Ethics Team, Secretary at (807) 684-6422.

Thank you for your willingness to partake in this study.

Sincerely

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APPENDIX C: PRESURVEY FOCUS GROUP QUESTIONS

Nursing Staff

1. What do you see as the function of the handover?

2. What are the major content areas discussed during handover?

3. What processes do you follow to ensure the sharing of information about patients that has been generated by other health professionals, i.e., physicians, physiotherapist, nutritionists, pharmacists?

4. What do you consider are the major sources and types of information needed by you to deliver high quality patient care?

5. What and where do you record the information about patients?

6. Are their additional aspects of nursing handover and communication processes that you would like to discuss?

7. What major content areas should be included in the summary sheet?

Physicians and Other Members of the Multidisciplinary Team

1. What do you consider are the major sources and types of information needed by you to deliver high quality patient care?

2. What processes do you follow to ensure the sharing of information about patients that has been generated by other health professionals, i.e., nurses and other members of the multidisciplinary team?

3. What and where do you record the information about patients?

4. What major content areas should be included in the summary sheet?

5. Are there additional aspects of communication between other health professionals that you would like to discuss?

APPENDIX D: POSTSURVEY FOCUS GROUP QUESTIONS

Nursing Staff

1. What aspects have changed since the new system was introduced (i.e., quality of care, more time spent with patients).

2. What aspects do you like about the new summary sheets?

3. What changes do you feel should be made to the new system to enhance communication?

4. What processes do you follow to ensure the sharing of information about patients that has been generated by other health professionals, i.e., physicians, physiotherapist, nutritionists, pharmacists?

5. Are their additional aspects of communication processes that you would like to discuss?

Physicians and Other Members of the Multidisciplinary Team

1. What aspects have changed since the new system was introduced (i.e., more accurate information shared between members of the multidisciplinary team}?

2. What aspects do you like about the new summary sheets?

3. What changes do you feel should be made to the new system to enhance communication?

4. What processes do you follow to ensure the sharing of information about patients that has been generated by other health professionals, i.e., nurses and other members of the multidisciplinary team?

5. Are there additional aspects of communication between other health professionals that you would like to discuss?

APPENDIX E: AUDIT FORM FOR HANDOVERS/DOCUMENTATION

Unit: [ ] Surgical [ ] Medical [ ] Pediatric

Type of information	Components	Checklist
General information	Age	
	Diagnosis	
	GP/Consultant	
	Medical history	
	Allergy	
	Resuscitation status	
	Date of admission	
	Date of birth	
Physical information	Appearance	
	Colour	
	Respiratory Function	
	Consciousness	
	Pain assessment	
	Fatigue	
	Sight	
	Hearing	
	Edema	
	Diet	
	Nasogastric secretions	
	Vomiting	
	Bleeding	
	Sputum	
	Bowels	
	Care needs	
	Urine	
	Wound	
	Mouth/skin	
Physical measures	Pulse	
	Equipment	
	Blood pressure	
	Temperature	
	Respiration	
	Blood sugar	
	Fluid input	
	Blood tests	
	Weight	
	Peak flows	
	Oxygen saturation	
Functional	Sleeping	
	Talking	
	Reading	
	Drinking	
	Eating	
	Washing/dressing	
	Mobility	

Type of information	Components	Checklist
	Continence	
Psychological	Mood	
	Nonverbal cues	
	Motivation	
	Self-management	
	Level of self-knowledge	
	Coping strategy	
	Verbal response	
	Distress	
	Behaviour	
	Confusion	
Social	Occupation	
	Marital status	
	Next of kin	
	Religion	
	Home facilities	
	Lives alone	
	Lives with family	
	Support	
Family	Ability to visit	
	Coping strategy	
	Care needs	
	Support network	
	Understanding	
Nursing intervention	Patient care needs	
	Plans for care	
Medical treatment	Consultant	
	Medications	
	Surgical interventions	
	Plan for medical care	
	Physician orders	
Global judgements	Patient condition	
	Psychological/Personality	
	Care	
Management issues	Moving patients	
	Admissions	
	Empty beds	
	Discharges	
	General	

From: Lamond, D. (2000). The information content of the nurse change of shift report: A comparative study. *Journal of Advanced Nursing, 31*(4), 794-804.

APPENDIX F: PRESURVEY QUESTIONNAIRE FOR NURSING STAFF

Unit: [ ] Surgical [ ] Medical [ ] Pediatric

1. Demographic data

Sex:

[ ] Male
[ ] Female

Age:

[ ] 18-24
[ ] 25-30
[ ] 31-35
[ ] 36-40
[ ] 41-45
[ ] 46-50
[ ] over 50

Registration Status

[ ] RN
[ ] RPN
[ ] Other: Please specify_____

Education

[ ] RPN diploma
[ ] RN diploma
[ ] RN baccalaureate
[ ] Other: Please specify _____

Employment Status

[ ] Full-time
[ ] Part-time
[ ] Casual

Experience in Nursing (total number of years):

[ ] Under 1 year
[ ] 1-2 years
[ ] 3-5 years
[ ] 6-10 years
[ ] 11-20 years

[ ] 21-30 years
[ ] Over 30 years

Experience in Present Position (total number of years):

[ ] Under 1 year
[ ] 1-2 years
[ ] 3-5 years
[ ] 6-10 years
[ ] 11-20 years
[ ] 21-30 years
[ ] Over 30 years

Educational Sessions Attended in Last Year at hospital (Check all that apply)

[ ] CPR
[ ] Documentation
[ ] Other: Please specify_____

Specify the number of Educational Sessions Attended in Last Year at hospital

[ ] 1-2
[ ] 3-4
[ ] 5 or Over

Please relate the methods you use to keep current regarding practice (Check all that apply)

[ ] Attend conferences
[ ] Read journal articles related to patient condition
[ ] Consult current textbooks
[ ] Videos
[ ] Web sites: Please specify_____
[ ] Other: Please specify_____

2. Shift Report Assessment/Handover

What type of shift report is presently being used on your unit (Check all that apply)

[ ] Verbal (one to one)
[ ] Verbal (tape recorded with all staff present)
[ ] Written (no verbal contact with oncoming staff)
[ ] Computer generated
[ ] Other: Please specify_____

Please specify the amount of time you spend on shift report?

[ ] Under 5 minutes
[ ] 5-10 minutes
[ ] 11-15 minutes
[ ] 16-20 minutes
[ ] 21-30 minutes
[ ] 31-60 minutes
[ ] over 60 minutes

Please specify the type of information given to you during shift report. Please check all that are applicable.

Information category	Yes	No
Name		
Age		
Physician/Consultant		
Diagnosis		
Date of admission		
Surgical Information (if applicable)		
Medical history		
Medications		
Resuscitation status		
Investigations		
Plans for care		
Patient care needs		
Judgement about care		
Pain Management		
Equipment		
Sleeping		
General management		
Judgement about patient's condition		
Vomiting		
Eating		
Washing/Dressing		
Pulse		
Confusion		
Psychological judgement		
Next of kin		
Mobility		
Wound management		
Plan for medical care		
Plan for nursing care		
Respiratory function		
Skin integrity		
Fluid output		
Moving patients		
Other: Please specify		

In the following list please prioritize what you feel is the most important information you require to provide quality of care to the patient (1 = very important, 2 = important, 3 = somewhat important, 4 = not important).

Information category	Priority
Name	
Age	
Physician/Consultant	
Diagnosis	
Date of admission	
Surgical information (if applicable)	
Medical history	
Medications	
Resuscitation status	
Investigations	
Plans for care	
Patient care needs	
Judgement about care	
Pain management	
Equipment	
Sleeping	
General management	
Judgement about patient's condition	
Vomiting	
Eating	
Washing/Dressing	
Pulse	
Confusion	
Psychological judgement	
Next of kin	
Mobility	
Wound management	
Plan for medical care	
Plan for nursing care	
Respiratory function	
Skin integrity	
Fluid output	
Moving patients	
Other: Please specify	

Please specify changes that you would like to see in the present system:

What are the priority areas for a summary sheet?

What types of educational sessions would you like if the handover system were to be changed to electronic documentation?

[ ] Web based
[ ] Power point presentation on line
[ ] Orientation session given by staff
[ ] Other: Please specify_____

Other comments:

_____

_____

_____

Thank you for your willingness to participate in this survey. If you have any questions please contact Karina Gagalo at 625-6582 or kagagalo@lakeheadu.ca or Dr. D. Steven at 983-2824.

APPENDIX G: PRESURVEY QUESTIONNAIRE FOR MEDICAL STAFF AND MT MEMBERS

Unit: [ ] Surgical [ ] Medical [ ] Pediatric

1. Demographic data

Sex:

[ ] Male
[ ] Female

Age:

[ ] 18-24
[ ] 25-30
[ ] 31-35
[ ] 36-40
[ ] 41-45
[ ] 46-50
[ ] Over 50

Registration Status

[ ] MD
[ ] Specialist: Please specify_____
[ ] Physiotherapist
[ ] Nutritionist
[ ] Pharmacist
[ ] Respiratory therapist
[ ] Other: Please specify_____

Education

[ ] Diploma
[ ] Degree
[ ] MD
[ ] Other: Please specify _____

Employment Status

[ ] Full-time
[ ] Part-time
[ ] Casual

Experience in Profession (total number of years)

[ ] Under 1 year
[ ] 1-2 years
[ ] 3-5 years
[ ] 6-10 years
[ ] 11-20 years
[ ] 21-30 years
[ ] Over 30 years

Experience in Present Position (total number of years)

[ ] Under 1 year
[ ] 1-2 years
[ ] 3-5 years
[ ] 6-10 years
[ ] 11-20 years
[ ] 21-30 years
[ ] Over 30 years

Educational Sessions Attended in Last Year at hospital (Check all that apply)

[ ] CPR
[ ] Documentation
[ ] Other: Please specify_____

Specify the number of Educational Sessions Attended in Last Year at hospital (Check all that apply)

[ ] 1-2
[ ] 3-4
[ ] 5 or Over

Please relate the methods you use to keep current regarding practice (Check all that apply)

[ ] Attend conferences
[ ] Read journal articles related to patient condition
[ ] Consult current textbooks
[ ] Videos
[ ] Other: Please specify_____

2. Patient Documentation

In the following list please prioritize what you feel is the most important information you require to provide quality of care to the patient (1 = very important, 2 = important, 3 = somewhat important, 4 = not important).

Information category	Priority
Name	
Age	
Physician/Consultant	
Diagnosis	
Date of admission	
Surgical Information (if applicable)	
Medical history	
Medications	
Resuscitation status	
Investigations	
Plans for care	
Patient care needs	
Pain Management	
Equipment	
General management	
Judgement about patient's condition	
Vomiting	
Eating	
Pulse	
Confusion	
Psychological judgement	
Next of kin	
Mobility	
Wound management	
Plan for medical care	
Plan for nursing care	
Respiratory function	
Fluid output	
Other: Please specify	

Please specify changes that you would like to see in the present system:

What are the priority areas for a summary sheet?

Other comments:

Thank you for your willingness to participate in this survey. If you have any questions please contact Karina Gagalo at 625-6582 or kagagalo@lakeheadu.ca or Dr. D. Steven at 983-2824.

APPENDIX H: POSTSURVEY QUESTIONNAIRE FOR NURSING STAFF

Unit: [ ] Surgical [ ] Medical [ ] Pediatric

1. Demographic data

Sex:

[ ] Male
[ ] Female

Age:

[ ] 18-24
[ ] 25-30
[ ] 31-35
[ ] 36-40
[ ] 41-45
[ ] 46-50
[ ] Over 50

Registration Status

[ ] RN
[ ] RPN
[ ] Other: Please specify_____

Education

[ ] RPN diploma
[ ] RN diploma
[ ] RN baccalaureate
[ ] Other: Please specify _____

Employment Status

[ ] Full-time
[ ] Part-time
[ ] Casual

Experience in Nursing (total number of years)

[ ] Under 1 year
[ ] 1-2 years
[ ] 3-5 years
[ ] 6-10 years
[ ] 11-20 years

[ ] 21-30 years
[ ] Over 30 years

Experience in Present Position (total number of years):

[ ] Under 1 year
[ ] 1-2 years
[ ] 3-5 years
[ ] 6-10 years
[ ] 11-20 years
[ ] 21-30 years
[ ] Over 30 years

Specify the number of Educational Sessions Attended in Last Year at hospital

[ ] 1-2
[ ] 3-4
[ ] 5 or Over

Did you participate in focus groups/educational session re the new system?

[ ] Yes
[ ] No

Please relate the methods you use to keep current regarding practice (Check all that apply):

[ ] Attend conferences
[ ] Read journal articles related to patient condition
[ ] Consult current textbooks
[ ] Videos
[ ] Web sites: Please specify_____
[ ] Other: Please specify_____

Comments:

2. Patient Documentation

Since the inception of the new system please prioritize what you feel is the most important information you require to provide quality of care to the patient (1 = very important, 2 = important, 3 = somewhat important, 4 = not important).

Information Category	Priority
Name	
Age	
Physician/Consultant	
Diagnosis	
Date of Admission	
Surgical Information (if applicable)	
Medical history	
Medications	
Resuscitation status	
Investigations	
Plans for care	
Patient care needs	
Judgement about care	
Pain management	
Equipment	
Sleeping	
General management	
Judgement about patient's condition	
Vomiting	
Eating	
Washing/Dressing	
Pulse	
Confusion	
Psychological judgement	
Next of kin	
Mobility	
Wound management	
Plan for medical care	
Plan for nursing care	
Respiratory function	
Skin integrity	
Fluid output	
Moving patients	
Other: Please specify	

Please specify further changes that you would like to see in the new system:

Please specify how the new system has affected your quality of care delivered to patients.

Please specify how the new system has affected your communication with other members of the multidisciplinary team.

Other comments:

Thank you for your willingness to participate in this survey. If you have any questions please contact Karina Gagalo at 625-6582 or kagagalo@lakeheadu.ca or Dr. D. Steven at 983-2824.

APPENDIX I: POSTSURVEY QUESTIONNAIRE FOR MEDICAL STAFF AND MT MEMBERS

Unit: [ ] Surgical [ ] Medical [ ] Pediatric

1. Demographic data

Sex:

[ ] Male
[ ] Female

Age:

[ ] 18-24
[ ] 25-30
[ ] 31-35
[ ] 36-40
[ ] 41-45
[ ] 46-50
[ ] Over 50

Registration Status

[ ] MD
[ ] Specialist: Please specify_____
[ ] Physiotherapist
[ ] Nutritionist
[ ] Respiratory therapist
[ ] Pharmacist
[ ] Other: Please specify_____

Education

[ ] Diploma
[ ] Degree
[ ] MD
[ ] Other: Please specify _____

Employment Status

[ ] Full-time
[ ] Part-time
[ ] Casual

Experience in Profession (total number of years)

[ ] Under 1 year
[ ] 1-2 years
[ ] 3-5 years
[ ] 6-10 years
[ ] 11-20 years
[ ] 21-30 years
[ ] Over 30 years

Experience in Present Position (total number of years)

[ ] Under 1 year
[ ] 1-2 years
[ ] 3-5 years
[ ] 6-10 years
[ ] 11-20 years
[ ] 21-30 years
[ ] Over 30 years

Please relate the methods you use to keep current regarding practice (Check all that apply)

[ ] Attend conferences
[ ] Read journal articles related to patient condition
[ ] Consult current textbooks
[ ] Videos
[ ] Other: Please specify_____

Did you participate in focus groups/educational session re the new system?

[ ] Yes
[ ] No

Comments:

2. Patient Documentation

Since the inception of the new system, please prioritize what you feel is the most important information you require to provide quality of care to the patient (1 = very important, 2 = important, 3 = somewhat important, 4 = not important).

Information Category	Priority
Name	
Age	
Physician/Consultant	
Diagnosis	
Date of Admission	
Surgical Information (if applicable)	
Medical history	
Medications	
Resuscitation status	
Investigations	
Plans for care	
Patient care needs	
Pain Management	
Equipment	
General management	
Judgement about patient's condition	
Vomiting	
Eating	
Pulse	
Confusion	
Psychological judgement	
Next of kin	
Mobility	
Wound management	
Plan for medical care	
Plan for nursing care	
Respiratory function	
Fluid output	
Other: Please specify	

Please specify further changes that you would like to see in the new system:

Please specify how the new system has affected your quality of care delivered to patients.

Please specify how the new system has affected your communication with other members of the multidisciplinary team.

Other comments:

Thank you for your willingness to participate in this survey. If you have any questions please contact Karina Gagalo at 625-6582 or kagagalo@lakeheadu.ca or Dr. D. Steven at 983-2824.

APPENDIX J: SHIFT SUMMARY TEMPLATE

Shift Summary for (UNIT):
Pain:
Vital Signs/SPO2:
Cardiovascular:
G.I.:
G.U.:
Respiratory:
Neuro:
Psyc/Social:
Drsg/Wound/Integumentary:
Drains:
Glucoscan:
I.V.:
Pending/Abnormal Tests:
Pending Consults:
Discharge Plans:
Comments:

APPENDIX K: RESPONSES TO OPEN-ENDED QUESTIONS FROM PRESURVEY QUESTIONNAIRES

Pediatric Unit

Please specify changes that you would like to see in the present system:

- Brief, concise, information not repeated on kardex (i.e. why patient admitted).
- I would like to be aware of the condition and report of all patients on unit, because we help and cover each other's patients frequently on our shift and this information is critical to all staff for patient safety.
- Enhanced, efficient shift report. Standard template to ensure consistency of information exchanged. Better use of kardex, kept up to date.
- More efficient charting by exception.
- Shorter time.
- Some taped reports too long. Only need pertinent information. Report by systems.
- Shorter reports
- (MT) Quick access of any important event changes in medical condition issues that have risen in shift.
- (MT) Assurance that communication re: feeds formula does not go unnoticed, and that there is no confusion over goals/guidelines – that the correct information is passed on.
- (MT) More psychological, behavioural.
- (MT) Adolescent, psych, overnight summary. EMR – admission record, RN summary.

What are the priority areas for a summary sheet?

- Intake and output (3)
- Abnormal results (lab) (2)
- Plan of care (2)
- Vital signs (3)
- Systems (2)
- IV status
- Notes
- Wound assessment (2)
- Diabetic status
- Diet
- Social
- Template
- Pain management
- Pending tests/results
- Education regarding how to use and communicate effectively
- Psych/social
- Plan for discharge
- Patient status
- Surgery status
- Respiratory status
- System
- More structure

- Condition related to diagnosis
- Communication between doctors
- Health status (intake and output, response to medications, dressings, etc)
- Vital signs not needed to be reported on patient if they have not been abnormal.
- (MT) Overall medical status (any change).
- (MT) Any significant events that happened in that shift.
- (MT) Ensuring patient safety, pertinent overview but also reflecting current status.
- (MT) Behaviours – sleep, pacing, etc. Mental status. Incident that brought them in.
- (MT) Plan of care. Appointments for following day.
- (MT) Patient's health/treatment. Patient's coping/emotional status.

Other comments:
- I feel that some of my "learning" is lost due to transfer. Group report allowed opportunity to discuss patient prognosis and problem solve together on various issues. Nurses were able to comment on variety of matter that would come up in report.

Medical Unit
Please specify changes that you would like to see in the present system:
- I like taped report – too many things happen that need to be addressed that you can't tick off on a sheet.
- Change to computer or less information given on tape.
- On computer, type report or have checklist on computer with word boxes for extra information.
- If giving verbals, pay previous shift 15min extra.
- Not as long reports such complete details of chart, blood work, letting us know each shift for 24hrs when this is all on the computer. Should be informed of changes, or problems, not lengthy versions or duplicated. This takes too much time away from caring for the patient.
- Shorter reports.
- After patient has been here for extended period of time age, diagnosis doesn't need to be said on tape.
- Shorter reports, less unimportant information.
- Shorter. Information on kardex does not need to be past on, therefore kardex needs to be accurate. Normal lab values and test results don't need to be discussed. Abnormal values that have been addressed don't need to be repeated.
- Specific to patient and to the point. Investigations done, results of those investigations and what was done about them.
- Shorter reports with only the pertinent information that is not available on kardex or chart.
- Less unnecessary information not pertinent to immediate patient care/condition.
- Only report abnormal blood work if applicable to my shift (I have to action it).
- More information, less opinion.
- Computer generated shift report – this way all areas are covered, nothing gets missed.
- Discharge plans included in summary.

- Tape report – no need to state diagnosis/age/doctor – already noted by person taking report. Pertinent information only – at times too lengthy.
- (MT) Alternate EMR system – some system than all read: physician included.
- (MT) More staff, therefore better care. Hospitalists program improved with more doctors decreased patient load.
- (MT) Documentation – shift summaries – staff need time to complete. All hospitalists and other doctors writing summaries weekly on progress and plans for patient.

What are the priority areas for a summary sheet?

- Name (5)
- Age (2)
- Doctor
- Diagnosis (6)
- Current diagnosis (active diagnosis not admission diagnosis)
- Room number
- Mobility
- Care needs
- Output and intake (2)
- Left in flask (LIF) (3)
- Dressings/wounds
- Eating
- BM (Bowel movement)
- Plan for care/discharge (2)
- Unusual incidences
- Code status
- Glucoscan
- Mental status
- PRN medications given
- Abnormal events/vitals/assessments (4)
- System (abnormal only)
- Physical assessment (2)
- Tests/OR planned (3)
- Abnormal blood work (3)
- IV/tube feeds/saline locks (4)
- Plan for patient
- Problems of the patient
- Anything different from 'norm'
- Tests and preps need to be done
- Tests pending
- Investigations done, resulted and what was done about them
- Investigations pending that I have to do something about
- Care needs that I have to do something about
- General condition (2)
- Anything to pass on to next shift
- Pain medications given

- Call out to doctor
- Notes
- Discharge plans – if in the near future (2)
- Patient condition and immediate plan of care (2)
- Pertinent investigations and clinical information
- List systems (as ICU summary) – if any problems to each system can chart.
- (MT) Not to make it more complicated for nursing.
- (MT) Present condition, change in status and plans if applicable.

Other comments:
- Would like to see what other floors would suggest re: electronic documentation and what they liked or disliked since this way of charting could get lengthy too.
- Thanks!

Surgical Unit
Please specify changes that you would like to see in the present system:
- Shift summaries
- Only pertinent information
- Keep information concise and to the point. Don't need to know vital signs if they are stable, don't need to know medications – they are on the MAR and we check with doctor's orders anyway.
- Listen only to your own patients tape recorded report and for the RPN section you cover/work with.
- I would like to see more clear concise reports with less repetition of information.
- Quicker report. Takes 30 minutes to listen to report at present.
- Would like shorter report time.
- Shorter report – more to the point. Taped report on small unit effective. Individual reports do not encourage team work cooperation – the next person does not know your load or your patient's needs.
- Reports need to be more succinct. Too much information being included (patient history, medications, personal opinions, irrelevant information).
- Worked shifts on a floor with computer report; amazing – all pertinent information there, everyone checks their own, no need to wait for staff to be finished work for report.
- Shorten verbal report system to either one on one reporting, computer reporting. Evaluation of verbal reporting (specifically tapes) on a regular basis re: clarity of speech – often hard to understand.
- Shorter reports. Less time spent on non important information i.e. normal labs, vital signs, past medical history (only if pertinent).
- More structured.
- Faster way of doing things. Free text.
- Muffled sounding tape recorder – people need to talk clearer and also louder (for some people).
- No need to say lab values – can be viewed in EMR.
- Computer print out (shift end report).
- Less amount of time spent in report.

- Because we only have 24 beds present system works o.k.
- Everyone listen at the same time to taped report. Ward clerk could write down any messages that come up and give to nurse when report is done. Too many interruptions.
- If abnormal values can it be automatically flagged.
- If a certain system – i.e. respiratory is normal, there is no need to comment. Only areas of concern.
- Shift summary augmented with verbal report 1:1 as required.
- (MT) Computerized shift summary.
- (MT) More communication between social worker and patients RN re: patient's status.

What are the priority areas for a summary sheet?

- Name (5)
- Age (3)
- Diagnosis (7)
- Doctor (3)
- DNR (Do not resuscitate) status
- IV LIF/fluids (Intravenous left in flask) (11)
- Abnormal bloodwork (4)
- Fluid intake/output (if any) (8)
- Test times
- Fasting
- Wound management (5)
- Dressings (4)
- Drains/tubes (JP [Jackson Pratt], Hemovac, foleys, etc) (5)
- Vital signs (3)
- Respirations
- Gastrointestinal
- Genitourinary
- Patient stability – RN versus RPN
- Nursing plan of care
- Outstanding tests/treatments (in particular for next day) (4)
- Medical or surgical information (type and when) (4)
- Any changes in patient condition (3)
- Unusual occurrences
- Investigations
- Patient care needs
- Pain medications/pain (9)
- Vomiting and eating
- Discharge planning
- Health status
- Any abnormal assessment findings (6)
- Abnormal vital signs
- Any unusual condition and status
- Abnormal interventions (i.e. blood products for decreased hemoglobin)

- Refusing care
- Behaviour
- Confusion
- Waist restraints
- Personal data
- Patients condition
- Status of diagnostic tests – pending, complete
- Specific interventions for that patient
- Present condition and recent history (changes in patient condition etc.)
- Brief summary of plan – tests, pending labs, etc. (2)
- Pertinent information only
- Surgery done or awaiting surgery – on call medications, NPO (2)
- Any information that I would not be able to access readily from EMR.
- Free text – assessments are done throughout shift, as well as vital signs etc. Need to give a free text synopsis of events during the shift: areas/items for concern etc.
- (MT) General systems check, discharge plans, mobility status.
- (MT) Patient's capability, plan for care.

Other Comments:

- Do not think tape recorded report should change, police/correctional officers also do a shift "muster". These are lives, not dollar signs. Don't fix what isn't broken; don't take time away from the wrong nursing tasks. Hire more nurses!
- Time to actually practice this in computer lab and understand same.
- Far too many surveys. Shift summary already being done on another surgical unit. If working well, other units should be orientated too.

(MT) = Multidisciplinary team member

APPENDIX L: RESPONSES TO OPEN-ENDED QUESTIONS FROM POSTSURVEY QUESTIONNAIRES

Pediatric Unit

Please specify further changes that you would like to see in the new system:

- More information on shift summaries to get a better sense of the patient status. Have a specific place for kardex at shift change.
- Go back to taped report. Our staff had a much better picture of what was going on (our patients and the entire floor).
- Everything seems to blend together, how about the systems being in colour and our report in black.
- Specific shift summary for psych patient. I find the format difficult to read. The headings are very close together. Be able to view previous shift summary while doing the shift summary for our shift.
- Go back to old system. Hold meeting – if we continue with this system changes need to be made.
- I don't really like no verbal report. I feel I'm in the dark. There are many bits of info that will not be relayed to next shift.
- Try to get rid of repeated flow sheets. For example, the diet is on patient's kardex and ordered in computer so why check if off every meal time. Some flow sheet should have comment area. Especially the respiratory assessment. This would save having to do a note related to respiration flow sheet.
- Need to know the overall picture on the whole unit especially if you are in charge.
- Possible mini taped report to stop missing items of importance.
- More education and follow up regarding new system. Review components of what is necessary (key components) for shift summary.
- I believe that a lot of information gets missed. Also, by sitting around nursing station there are many distractions and it consistently takes 1 hour to get a full report and check orders (i.e. phone, parents, patients, etc.).

Please specify how the new system has affected your quality of care delivered to patients:

- It takes longer to get report. When sitting at computer, many distractions (phone, bells, etc.). It seems that I don't get a good perspective on the patient. I end up asking the patient and parents more questions. Still give verbals – feels like waste of time.
- Too much time is spent doing report and receiving report. I felt that before we started shift summary and more so now. I feel that I need to read all shift summaries to get a clear picture. In taped report, we had an idea of all patients on the floor. Not now!
- Do not feel the quality has changed but I find trying to get our report from the computer time consuming, people feel we are then free to answer bells, phone etc., constant interruptions. Also find we do not get the overall picture of what our floor is like, i.e.: how ill are our co-workers patients.
- Difficult to know about what's happening with other patients on ward. It takes a long time some mornings to read shift summaries because of interruptions by patients, parents and the phone – we don't have a ward clerk until 0900. At times we have to wait for previous shift to finish their charting.

- Less time with patient, takes more time to input and to read. Also not aware of what is going on with other patients and at time we are quickly called to a room and know nothing about patient.
- Some staff only arrive right at 1930/0730. Verbal messages still being given. Takes longer to get report – more interruptions. Don't see the whole picture. Do not know what is going on with the whole floor. When busy, staff from previous shift unable to complete report before shift change. Do not get the entire clinical picture.
- I think the patient will have to repeat things and consistency may be missing.
- Too much time charting and if you get called away too much time trying to see where you left off or checking what is done.
- Overall care seems disjointed. No one has an overall perspective of the unit.
- Has not affected quality of care, however, all nursing staff perceive difficulty in knowing about other patients on the unit besides patients assigned to them.
- I feel that we get pulled away for various reasons. Distraction extends getting a detailed report and we're often providing care before knowing someone's full history. Also information isn't being consistently carried forward in shift summaries and we need to read summaries often back a few days which is also more time consuming.
- (MT) Improvement in inter-disciplinary communication. Improved scheduling because now aware of patient appointments etc.
- (MT) Feel everyone is more "on the same page" with regard to planning.

Please specify how the new system has affected your communication with other members of the multidisciplinary team:

- There is little communication between shifts. More detailed reports between nurses at break times. I feel like I don't have a good sense of the patients on the floor. Feel like less of a team.
- A lot of time, a verbal is given at the end of my shift because I didn't have enough time to do charting and complete a shift summary before the next team arrived.
- I miss the report time, feel like we just do our own patients, not the "togetherness" feeling. I also miss the brief "social time" we had when we all sat together around the table! I feel not hearing or reading everyone's report especially being Team leader makes for an uncomfortable feeling. It's an adjustment that will take time to reach a comfort level, to know we still will know enough to give proper care.
- Less verbal communication.
- Not getting the input from other staff in report – during tape report other staff sometimes had information re: family dynamics etc. to offer and this information was sometimes very helpful.
- Need to increase communication. Other staff does not know what is going on with other patients (which is unsafe – can result in minor irritation re: parents' frustrated if primary nurse unavailable).
- We still communicate between each other. Especially with the psych patients.
- With shift summary you sometimes don't know what else is happening on unit until you're on a few days or something arises. Can't always pass on concerns about certain things i.e. may question a treatment and want clarification.
- Improved with social work, dietary etc., but less so with other members of nursing staff re: the overall picture on the unit.

- No communication except on break times.
- Enhanced sharing of information to other members. Some nursing staff are not well organized and shift summaries are not completed by end of shift this is leading to delays in giving reports/transferring care.
- Our nursing station is very busy in terms of patients, family members, visitors such as workers from outside agencies as well as internal. We often are asked things or required to do things for patients for patients that we have no knowledge of. Taped reports gave us a general understanding of everyone before starting the shift. I believe that computer charting may be better for interdisciplinary members in terms of knowing how nursing care is going, but not good for nursing care itself. Also, nurses would sit and brainstorm about patient issues and help each other out. Tape report was an excellent time to learn as well.
- You don't get a real sense of how the patient and family are. Patient stressed? Family stressed, anxious?
- (MT) More aware of social issues through social work notes. Assists in co-coordinating with occupation therapy.
- (MT) Shift reports are read daily. Tells me how evening/night went.
- (MT) Improved communication with nursing staff. Messages keep getting passed from nurse to nurse even more effectively.

Other comments:
- I dislike the shift summary on notes.
- This new system puts all staff on the computer more – this takes away from patient care or overtime to complete charting.
- Searching for the MARS was an issue – we now put them on the front of charts which keeps staff not leaving on time – shift summary not done at change of shift is an issue.
- Not getting the full picture.
- Shift summaries not completed by shift change when busy. Things are getting missed (i.e. time for D.I., doctors' comments on plan of care, parental attitudes, and staff's personal judgment on acuity). Very difficult on first day (of consecutive shifts) to understand what is going on with rest of unit.
- Unit leader needs a clear idea of all going on, on the floor. Possibly a report for her individually.
- Staff compliance and full reporting is questionable. Shift report looks disjointed at times – maybe too early to evaluate, only 3 weeks in.

Medical Unit
Please specify further changes that you would like to see in the new system:
- An edema heading. Charting edema in shift summary has seem to be missed sometimes and not placed under cardiovascular or integument heading. Having shift summary as possible intervention, so editing is easier. Delete headings not used and typing in CAPS makes summary easier to read.
- More computers especially in conference room where nursing staff have better access especially from 1400 – 1600.
- Need in-servicing on unit to ensure all doing correctly and answer questions.

Please specify how the new system has affected your quality of care delivered to patients:
- Quicker to obtain report. Sometimes longer to give report at end of shift. Not very personal.
- Not able to get POD partners report especially if we're busy.
- Takes too much time.
- No change except get interruptions during your computer report time. Before ½ the floor was out to help while the other ½ were in report.
- Nurses not in report >1hour.

Please specify how the new system has affected your communication with other members of the multidisciplinary team:
- Good for knowing discharge plans and pending consults/tests. Do not know what is going on with patients of RN working with others on floor. Takes too long to read summaries from own and RPN's patients. When covering on breaks, less knowledge is known about other nurse's patients.
- Fair.
- We still communicate.
- If done correctly, information transfer is good.

Other comments:
- I do like it.
- Waste of time.
- The floor right now is over half LTC [Long term care] which has an effect on the complexity of patient care and when it becomes more acute we will see a change in reading report and giving report.

Surgical Unit
Please specify further changes that you would like to see in the new system:
- Something easier to deal with repetitiveness of shift summaries. Takes far too much time as it is (especially on night). Possibly cut and paste from one to another if nothing has changed. Something has to be dealt with for time management.
- Activity, neurovascular.
- Making it feel like less of a team effort; everyone does their own thing. Not knowing other staff members workload/patients makes staff not want to help.
- If any stat blood work or tests done or upcoming please list. Same method of knowing if you're the U.L. [unit leader] of any problems or an over all picture of unit.
- Double charting – please eliminate.
- Activity added.
- None.
- POD meeting to discuss each patient.
- Zero changes.
- (MT) More collaboration between the multidisciplinary members to discuss quality patient care.

Please specify how the new system has affected your quality of care delivered to patients:

- Poorly. Now in morning I'm frantically trying to get charting done. When patient calls it's stressful and could influence patient care. When patients from another section call, we're less prepared to help them as we don't know what's going on.
- I find it takes much longer to read about the patient on computer; you're interrupted a fair amount. I feel pretty much all alone with my patients (everyone's so busy), must come to work at least ½ hr or more to review charts etc.
- I am often unit leader – I have no clue what is going on with the rest of the unit. It takes me ½ + to prepare for the day. A lot of staff come in early to get information and plan for day.
- I feel like I give equal care to my patients as before.
- Not knowing what's going on with other patients especially when picking up or switch patient around during shift. Double charting.
- Much more appropriate. Can go to bedside right away to see patient and assess. Not as busy/rushed with the patient when have extra time.
- Get out on floor sooner, but feel very isolated like there are 6 little units on 3C, no cohesiveness.
- Makes start of shift a lot smoother. Able to get to patients quicker at beginning of shift.
- Too much time – night shifts have "8" patients – takes at least one hour for shift summary alone. Don't forget patients are calling you for help while trying to do your charting.
- If shift end summary is available when I start my shift I can begin patient care sooner. But more often then not the shift end summary hasn't been entered in the computer yet.
- None.
- Quicker.
- Allows me to see my patients much easier at start of shift.
- Now have more time for my patient care! Quality increased.
- Less time listening to report. More time for patient care when coming on shift. More time required at end of shift to do shift summary rather than tape report.
- It hasn't, I just get to start sooner.
- (MT) Excellent source of information to see how patient did over night etc.
- (MT) It is good to know what other disciplines think of the patient's care plan as it helps me to think of more informative decisions for the patients care plan.

Please specify how the new system has affected your communication with other members of the multidisciplinary team:

- Slightly more segregated. We don't know if a person has a heavy section unless they ask for help. Therefore decreased team cohesion.
- Virtually no communication with other patients. No idea about other patient's (their diagnosis) if answering a call bell. Sometimes shift summary not very complete.
- Very poor. I am not able to answer all their questions as summary brief and often staff not charting everything we need to know.
- I feel I don't know what is going on with other patients on floor.
- I feel I don't know what's going on with all the other patients.

- Work at your own corner, not helping each other. Poor quality care. When doing shift summary in am, with call bell, early doctor rounds etc. you'll never finish on time.
- Has decreased communication between staff nurses. We no longer know what is happening on the floor; everyone seems to keep to themselves.
- No change.
- Pertinent information is readily available by feels we are distanced from each other in a way. Don't know anything about other patients that we don't read up on whereas in taped report we had to hear about other patients.
- Less time spent on report. Able to start patients care sooner. Able to assess your patient sooner.
- Haven't noticed a difference.
- Poor.
- It hasn't.
- Team seems to get more information from shift summary.
- Sometimes not much is said in the shift summary and the comment section is not used as much as it should be for things outside of the categories.
- It lacks person-person contact. Each staff member has a discerned opinion as to what needs to be put in computer shift summary report. Important information may get missed.
- (MT) No change
- (MT) It has allowed for more open communication between the members of the multidisciplinary team.
- (MT) Easier overview of client's condition and treatment, pending tests or discharge planning information.

Other comments:
- I have been approximately ½ hour to 45 minutes late coming off nights since shift summary charting has started.
- If I have to do another survey, I'll send you a bill.
- Please stop with the surveys, or limit to once a year. Thank you.

(MT) = Multidisciplinary team member

APPENDIX M: RESPONSES TO PRESURVEY FOCUS GROUPS SESSIONS

Pediatric Unit
Present: 2 Nurses, 5 Multidisciplinary Team Members

1. What do you see as the function of the handover (nursing only)?
- Next shift know child if proper communication between shifts
- Preparing oncoming shift for patient care – all particulars, recent changes (medications, orders), basic assessment, eating
- Provides key pieces of information – adequate to assume care

2. What are the major content areas discussed during handover (nursing only)?
- System check
- Focus on why child has psych-social issue regarding potential care concerns
- Items to ask doctor (i.e., more orders)
- Mixture of subject and objective data
- Name, age, diagnosis, location
- Depends on systems affected

3. What processes do you follow to ensure the sharing of information about patients that has been generated by other health professionals?
- Verbal
- RN charts – other members not there at shift change
- RN has information – kardex
- Plenty of face to face communication between disciplines – when charted there are some good notes and some bad
- Key pieces need to be on kardex – problem is that it is not always up to date
- (MT) Verbal and documentation – verbal best
- (MT) Rounds once a day or phone
- (MT) Nurses not always at rounds – feel that they should be
- (MT) Interviews should be documented
- (MT) Verbalize major issues to RNs (i.e., safety)
- (MT) Plenty of informal communication

4. What do consider are the major sources and types of information needed by you to deliver high quality patient care?
- Unusual findings (i.e., charting by exception – abnormal values)
- Need guidelines – pertinent information, items on kardex do not need to be repeated
- All information on system affected, plus other systems that may be affected
- Issues (i.e., family)
- Pain
- (MT) Coping, including family coping
- (MT) EMR, no MHAT - provides diagnosis only with no information on why patient is there (i.e., psych issues)
- (MT) No area for involvement (i.e., community agencies, CAS)
- (MT) Need information on behaviour
- (MT) Any previous admission history, family history

5. What and where do you record the information about patients?

- Primary nurses report sheet – pertinent info on worksheet
- Chart in computer – the information that is on the worksheet
- Record everything (vital signs, fluid intake, diet, coping) – all on electronic record, flow sheet, medication on medication administration record (MARS)
- Chart on paper chart only on doctors order sheet on progress notes side
- Do not use paper charting anymore
- Feel that everyone looks at doctor order sheet, progress section
- (MT) Chart in progress notes on paper chart – especially important information
- (MT) EMR – no paper charts
- (MT) Notes or other reports – focus summary, check sheet online
- (MT) Hope nurse reads the report, find that doctors do not read them, they just skim through them
- (MT) Possibly easier if had a laptop
- (MT) Problems with EMR – location of report?
- (MT) Writing report on paper chart and online charting take same amount of time
- (MT) Not proofed, has happened that can be on wrong chart

6. Are there additional aspects of nursing handover and communication processes that you would like to discuss?

- Need good communication – verbal
- Find that some do not look at progress side or kardex, some always do
- Complex cases require case conferences
- Will experience delays in getting to computer
- Students will need to wait until primary nurse has used computer (i.e., nurse takes 30 minutes to check computer, that puts the nursing student 30 minutes behind) – computer delays at report time
- In regards to unit leader – since each nurse charts on computer, the UL will not know each patient therefore think verbal report is better
- When report off at coffee time – trade off nurse will not know information about patient
- Inconsistency in nurses, need documentation on patient type, stress level, quality that does not change from shift to shift
- Possible template
- Students listen to tape recording
- Easier for clinical instructor to listen to tape report – get full picture of all patients
- (MT) Prefer verbal report
- (MT) Will star important information on progress side of chart
- (MT) Possible duplication for communication/charting
- (MT) Possible for other communication mode
- (MT) Possible area for suicidal intent – check box needed and specific plan
- (MT) Need some face to face communication
- (MT) Need access to other professional notes
- (MT) There is no standard template – quality/quantity/patient acuity/ stress – it all varies
- (MT) Report daily changes
- (MT) Would like three templates – mental health, eating disorders, medical-surgical (head to toe)

7. What major content areas should be included in the summary sheet?
- Systems – more structured (i.e., vital signs, in/out, wound care)
- Feel that items will be missed (i.e., custody, doctor issue)
- Problems for newer staff
- Possibly a more efficient way – can foresee things being missed
- Need area for family issues, assessment, ADL, socializing, actively programming
- Depression/eating disorder – need more assessment
- Children/infants – usually have one affected system at a time, no complex health issues therefore the charting is limited to one system/area only
- Areas for free-text for comments
- Being able to input N/A for areas that are not pertinent (i.e., wounds)
- Area for consults, tests pending
- Possible template on back side of worksheet so can slowly fill out during day
- Find that there is difficulty amending data with Meditech program
- Possible to print off report?
- (MT) Need dietary avenues in systems
- (MT) In regards to behaviour – area for possible interventions (i.e., call parent if child becomes aggressive)
- (MT) Area for patient risks (i.e., running away, cutting), discharge plan, appointments
- (MT) Area for health professional visit – social work often confused with psychometrist
- (MT) Possible area for family concerns, including coping

Medical Unit
Present: 4 Nurses, 2 Multidisciplinary Team Members

8. What do you see as the function of the handover (nursing only)?
- The transfer of information
- To fill in the missing link to patient information

9. What are the major content areas discussed during handover (nursing only)?
- Physical assessments – the most important
- Any lab results
- Outstanding social issues (i.e., family meeting)
- New orders
- Pain medications
- Patient behaviour
- Everything is dependent on patient diagnosis and reason for hospitalization

10. What processes do you follow to ensure the sharing of information about patients that has been generated by other health professionals?
- Look on progress section on charts
- Find that doctors do not check the charts – they do not notice suggestions written by nurse just above their orders/writing
- Difference between locums and patient population – find that they do not understand the geographical area and community (i.e., sending a patient that lives in a remote area who may require services, no access and not feasible

- (MT) Check EMR, kardex, medical record chart, verbally tell staff information
- (MT) Find there are too many areas to chart in – double charting (i.e., kardex, chart, report off, paper and electronic)
- (MT) Feel there should be one interdisciplinary note on chart

11. What do consider are the major sources and types of information needed by you to deliver high quality patient care?

- Physical assessments from previous shifts to use as comparisons
- Any upcoming tests
- Need a template that would include systems
- The template should be like a big worksheet
- Include areas such as IV, PT, OT, consults, test results, patient needs, mobility
- (MT) Area for appointments
- (MT) Area for social issues input – find that medical is more important
- (MT) Feels that some things need to be corrected

12. What and where do you record the information about patients?

- In nursing notes
- Intervention lists – however they do not say whether patient is getting better or worse
- Find that there are either too many options (that some staff do not even know what the options mean) or that there is not enough options (system does not have the option that staff wishes to check, or an other section)
- (MT) Find there are multiple areas to chart and check for information
- (MT) Electronic referrals
- (MT) Other disciplines
- (MT) Find that no one reads the EMR, too many areas to check

13. Are there additional aspects of nursing handover and communication processes that you would like to discuss?

- There are too many patients, especially on night shift – it takes too long
- When will the shift summaries be done – time?
- Problem with availability of computers on floor
- Feel that shift summaries will not be practical on nights
- Feel that it will lead to strict verbal report because people will not have time to do them
- There may be liability issues – double charting and consistency between charting (i.e., between summary and physical assessment)
- Paper charting easier – all in one spot
- Can lead to transcribing issues – increasing risk of making error
- What if charted summary one hour prior to end of shift and new issues come up before shift is done – what is done?
- Difficulty in determining importance – what to include in summary
- Feel will experience interruptions when trying to type up shift summary
- (MT) Think that it is a good idea
- (MT) May be time consuming
- (MT) Will show how patient is progressing – acute or improving
- (MT) Gives time frame of when to start planning for discharge
- (MT) Will be able to pull up chart and see running summary of patient

14. What major content areas should be included in the summary sheet?
- Upcoming tests
- OT, PT, discharge planning
- Consults, including with who
- Incidence (i.e., fall)
- Lab values – normal/abnormal - there should be a check box that can be selected
- Lab values should not have to be transcribed as they are already in chart elsewhere – comment should say see abnormal lab tests
- (MT) Mobility – can patient get up

Surgical Unit
Present: 7 Nurses, Nurse Manager, 4 Multidisciplinary Team Members

15. What do you see as the function of the handover (nursing only)?
- Provides a thorough report from previous shift
- (MT) Communication process

16. What are the major content areas discussed during handover (nursing only)?
- Condition, age, doctor, diagnosis, abnormal assessments, lab, last analgesic
- Input/output
- Date and time of upcoming appointments/tests
- General well-being
- If the doctor has been around

17. What processes do you follow to ensure the sharing of information about patients that has been generated by other health professionals?
- See and talk with staff – with nurses taking care of that patient
- In the EMR, under care activity
- Progress side of physician's order sheet if needed
- (MT) Progress side – find that doctors do not go into the computer and read notes
- (MT) Need to read notes in EMR
- (MT) Read EMR, then chart, then talk to nurses (verbal report)

18. What do consider are the major sources and types of information needed by you to deliver high quality patient care?
- Condition of patient
- Previous shift events
- Pertinent data
- Any abnormalities
- Any outstanding tests that need to be completed
- Input and output
- Flowsheets from nurses should have a focus for discharge planning
- (MT) mobility – need for discharge planning, related to transfers

19. What and where do you record the information about patients?
- Pertinent data in the progress notes on chart
- Everything gets charted in the EMR
- Kardex is only used by nurses
- If information is very important, verbal report will be given in addition to charting information

- (MT) Feel it is easy to talk to nurse regarding any issues – easier to talk to nurse and inform of note in chart, asking them to look at it

20. Are there additional aspects of nursing handover and communication processes that you would like to discuss?

- Possibility of output/labs, last set of vital signs being dropped into summary sheet – program not suitable
- Hope that new program is shorter – feel will spend more time on the new system
- (MT) All shift summaries on 3B are using free text – feel that it works

21. What major content areas should be included in the summary sheet?

- Systems – to include only abnormal findings
- Critical lab values
- Any events that happened in the last 24 hours – also found in nurses notes – feel that there is information overload
- Do not want to double chart/report (i.e., output, vital signs) – there are many things that are already typed in elsewhere
- Free text should be available for any abnormal issues – quick writing in of information, summary (i.e., pain controlled, ambulating)

(MT) = Multidisciplinary Team Member

APPENDIX N: RESPONSES TO POSTSURVEY FOCUS GROUPS SESSIONS

Pediatric Unit
Present: 3 Nurses, 2 Multidisciplinary Team Members

1. What aspects have changed since the new system was introduced (i.e., quality of care, more time with patients, more accurate information)?
- Feel it takes longer but more pertinent information is passed on than in tape report
- Feel that more information is passed on to the next nurse – i.e. blood work
- Look into issues more often because are on the computer at the start of shift
- Takes longer in the morning – read more than one shift summary because information is missing from night shift report
- If there are same day admits – end up staying late to chart
- There are some nurses that do not charting until 0715, therefore the information is not ready for the on-coming nurse
- (MT) The discharge planning section provides plenty of information about who visited the patient
- (MT) There is more future planning
- (MT) More clear as to what information is being passed on
- (MT) Feel it takes the same amount of time

2. What aspects do you like about the new summary sheets?
- Feel that more pertinent information is passed on
- Find that know more about the patient, i.e. lab values
- Like the free text in the shift summary – are not limited in the answers that can be provided
- (MT) The discharge planning section
- (MT) Feel everyone is on the same page – clear on what happened day before

3. What changes do you feel should be made to the new system to enhance communication?
- Feel that doctors do not read the shift summaries – still ask numerous questions
- Feel that the system is not being utilized as effectively as it could be in regards to communication
- Would like it if you could see the previous shift summary to ensure that all information is passed on
- Do not have issues with the shift summary itself – but find there is repetition in other areas of charting which makes it seem that the shift summary is being repeated
- Need some clarification on what information should be charted in the shift summary
- (MT) No new changes are required – like the system as it is
- (MT) Find that there is repetition in the shift summaries – more than 24 hour period

4. What processes do you follow to ensure the sharing of information about patients that has been generated by other health professionals i.e., physicians, physiotherapists, nurses?
- (MT) Face to face for important information that needs action, or an update to the plan

- (MT) Telephone the staff on the floor if new information arises
- (MT) EMR

5. Are their additional aspects of communication processes that you would like to discuss?

- (MT) Clear, informative, easy to read and follow
- (MT) Find less staff are coming up and asking about what the plan is for the patient
- (MT) Remind all staff members about concerns regarding the patient, i.e. Form 1 being cancelled

Medical Unit

Present: 5 Nurses, 1 Multidisciplinary Team Member

6. What aspects have changed since the new system was introduced (i.e., quality of care, more time with patients, more accurate information)?

- Find spend more time on the computer – computers are very slow
- Find it is faster when you come on shift, but worse when leaving
- Individuals who are slow 'finger' typers experience difficulties
- Individuals use short-forms that many others do not understand, and spelling is an issue
- Night report is shorter – find you are out and seeing patients sooner
- Doctors can not get at the computer during shift change – too congested at the desk

7. What aspects do you like about the new summary sheets?

- Like that you can delete headings that you do not need
- Like the free-text – not limited in answers
- Possible to have headings in a different colour
- The shift summary depends on the nurse – some nurse's put too much information into the shift summary so it turns the on-coming nurse away from the shift summary, and some nurse's do not put enough information

8. What changes do you feel should be made to the new system to enhance communication?

- There should be a way knowing what is going on with the rest of the floor – feel that you know only your patients and no one else
- Need the doctors to read to read the shift summaries – it is there for their use as well

9. What processes do you follow to ensure the sharing of information about patients that has been generated by other health professionals i.e., physicians, physiotherapists, nurses?

- Shift summary
- Progress notes in patient charts
- Verbal report for information that requires immediate attention or action
- Many time will write in the shift summary 'see note', that way do not have to repeat what is already charted

10. Are their additional aspects of communication processes that you would like to discuss?

- Find there is no change in communication between nurses and physicians
- Find that there in no change for discharge plan with patient – still do not know what is to happen with a patient
- There is repetition – just need to know the basics
- Find that some are too long – need to be more concise

Surgical Unit
Present: 3 Nurses, 5 Multidisciplinary Team Members

11. What aspects have changed since the new system was introduced (i.e., quality of care, more time with patients, more accurate information)?
- Find there is a decrease in communication – do not know what is happening on the rest of the floor
- Spend more time charting, but spend a similar amount of time for report
- Find it takes longer on night shifts, but shorter on day shifts
- (MT) Experience better communication – more discharge planning
- (MT) Find it is easier to co-ordinate care
- (MT) Provides quick snapshot of the patient

12. What aspects do you like about the new summary sheets?
- It is quicker to receive report at the start of a shift – takes only about five minutes
- (MT) More concise
- (MT) Find enough information is passed on to plan care

13. What changes do you feel should be made to the new system to enhance communication?
- Find that when a patient is first admitted to the floor, not enough information is provided on the shift summary to safely provide care
- Find that there is missing information – not on kardex, need to look through patient histories and progress notes
- Feel that need to do more investigation on own to determine why patient is in hospital
- Individuals use short-forms that no one else knows – difficult to make out what the individual is saying
- Spelling is an issue
- Possible to have a blank print-out of shift summary so can fill it out during day – use almost like a worksheet
- (MT) Find that there is inconsistency in charting in regards to mobility – it is charted in many different places, error with repetition and between writers

14. What processes do you follow to ensure the sharing of information about patients that has been generated by other health professionals i.e., physicians, physiotherapists, nurses?
- Chart in the multiple assessments – find that doctors do not read/look at the EMR and shift summary
- Verbal consult for important information with nurse
- (MT) Information can be found in the care activity section
- (MT) Find that doctors do not read the notes/shift summaries – there is no effect in the amount and type of questions that doctors ask

- Progress notes on patients chart
- Find that there are more notes on the progress side on the chart – there is less verbalizing of 'Remind the doctor to …'

15. Are their additional aspects of communication processes that you would like to discuss?

- Possible to get 'pods' (floor is divided into pods or sections) together for huddle at the start of the shift to see what is happening with patients in their area – quick, only about five minutes
- Find that the tone of voice is missing – were able to tell patient acuity by the tone in the nurse's voice during taped report
- Possible to have a quick verbal report between previous staff and on-coming staff
- New staff may be missing information and details on their assessments – do not relay information from shift to shift

(MT) = Multidisciplinary team member