Can Technology Improve Intershift Report? What the Research Reveals

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Shift report is a multifaceted process that serves to provide nurses with vital patient information to facilitate clinical decisions and patient care planning. A shift report also provides nurses with a forum for functions, such as patient problem solving and collaboration. The authors conducted a literature review, which indicates that current methodologies used to collect and convey patient information are ineffective and may contribute to negative patient outcomes. Data incongruence, legal implications, time constraints augmented by the nursing shortage, and the financial impact of shift report are also addressed. The literature reveals significant rationale for pioneering new and innovative methods of shift-to-shift communication. In the report *To Err is Human: Building a Safe Health System*, the Institute of Medicine attributes the deaths of up to 98,000 hospitalized Americans to medical errors, including communication failures [Institute of Medicine. (1999). *To err is human: Building a safe health system*. Report by the Committee on Quality of Health Care in America. Washington, DC: National Academy Press]. As a result, government policy makers and health care agencies have focused their attention on determining the root cause of errors to identify preventative measures, including the use of information technology [Institute of Medicine. (2004). *Keeping patients safe: Transforming the work environment of nurses*. Report by the Committee on Quality of Health Care in America. Washington, DC: National Academy Press]. Under these premises, the authors examined the process of nursing shift report and how it impacts patient outcomes. The use of computer technology and wireless modes of communication is explored as a means of improving the shift report process and, subsequently, health care outcomes and patient safety. (Index words: Shift report; Intershift report; Nursing documentation; Communication; Automated shift report; Computerized shift report) J Prof Nurs 22:197–204, 2006.

EVERYDAY IN AMERICA, nurses begin their day by participating in nursing shift reports. A shift report, also know as an intershift report or a report handover, is defined primarily as a communication process between two shifts of nurses to convey pertinent patient information and to facilitate the continuity of patient care (Eggland & Heinemann, 1994; Ekman & Segesten, 1995). Nurses rely on the content and 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 (Anthony & Preuss, 2002; Ebright, Patterson, Chalko, & Render, 2003; Institute of Medicine [IOM], 2004; Kirkley, 2004; Simpson, 2005). The Joint Commission on Accreditation of Health Care Organizations (JCAHO) has identified communication failures as the leading cause of sentinel events in the United States and lists shift report as a contributing factor (HealthCare Benchmarks and Quality Improvement [HBQI], 2002a, 2002b; JCAHO, 2000; Patton, 2004). For example, the root cause of more than 50% of fatal falls is communication breakdown, including failure to communicate information during nursing reports (JCAHO, 2000).

JCAHO Executive Director Richard Croteau reported, "When we look at all the sentinel events in our database (1,747 sentinel events) and at patterns of root causes, the most frequently identified cause is a breakdown in communication" (HBQI, 2002a, 2002b). As a result, JCAHO (2005) has included improvement

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in the effectiveness of "hands-off" communications in the *2006 Critical Access Hospital and Hospital National Patient Safety Goals*.

Purpose of Shift Report

Nurses have participated in shift reports for decades (Ekman & Segesten, 1995; Kerr, 2002). According to Ekman and Segesten, responsibility to and accountability for patients is transferred from one nurse to another during shift reports. The transfer of patient accountability and responsibility highlights an important function of shift reports, where the accuracy, completeness, and timeliness of information must be conveyed. In the current health care climate, which includes reduced length of stay (American Hospital Association, 2005) and the use of temporary and part-time staff, there is less time for nurses to become familiar with a patient's baseline status, which could ultimately affect nurses' ability to readily detect a change in condition (Ebright et al., 2003; IOM, 2004; Kramer & Schmalenberg, 2005; Rutherford, Lee, & Greiner, 2004).Therefore, if a nurse is to rely on a shift report as an informational foundation that is used as a basis for the provision of patient care, it is imperative that measures are taken to ensure that the information is congruent with patient status.

Researchers have implicated a variety of causes for the failure of a shift report to fulfill its intended purpose. Variables such as data collection tools, information content, report format, and methods used to transfer report data have all been studied in an attempt to improve the reporting process (Baldwin & McGinnis, 1994; Eggland & Heinemann 1994; Hopkinson, 2002; Kerr, 2002; Webster, 1999). Concerns related to inaccurate and dated information, omissions, and communication breakdowns potentiate serious consequences for both patients and staff (Anthony & Preuss, 2002; Currie, 2002). For example, the failure to communicate a patient's allergy can have a devastating outcome. One such case resulted in the death of a man who was given penicillin although he had informed the nurse of his allergy to penicillin. The nurse recorded the allergy but did not communicate it to other members of the health care team. The patient was given penicillin and died from an anaphylactic reaction (Hospital Hotline, 2003). The proliferation of computerized patient records makes the creation of an integrated shift report (comprising data "pulled" from existing multidisciplinary patient documentation) a seamless strategy for preventing such omissions (Baldwin & McGinnis, 1994; IOM, 2004; Kearns, 2000; Korpman, 1990).

Role of Shift Report

A shift report is multifunctional in acute care nursing; however, researchers have found that the process has not fulfilled its primary role as a communication vehicle (Baldwin & McGinnis, 1994; Cahill, 1998; Sherlock, 1995; Webster, 1999). Studies such as the one conducted by Payne, Hardey, and Coleman (2000) indicate that further work is needed to refine and improve the process. Results from their empirical study indicate that shift reports are: "formulaic, partial, cryptic, given at high speed, used abbreviations and jargon, required socialized knowledge to interpret, prioritized biomedical accounts, and emphasized physical aspects of care" (p. 277). This unflattering characterization, mirrored by a variety of other researchers, should serve as a significant impetus for change (Cahill, 1998; Ekman & Segesten, 1995; Lally, 1998; Patterson, Roth, Woods, Chow, & Gomes, 2004; Sherlock, 1995; Simpson, 2005; Taylor, 2002).

A nursing shift report also functions as a forum for educational, emotional, social, and organizational purposes among nurses (Kerr, 2002; Lally, 1998). Parker, Gardner, and Wiltshire (1992), in their study conducted in a large metropolitan hospital, found that nurses use shift reports as opportunities to validate nursing decisions, define their role, mentor novice nurses, demonstrate clinical expertise, cope with job-related stress, and shape team cohesiveness. These social, psychological, and educational factors are woven into the process of shift reports, and, as such, have become the accepted standard for practicing nurses. Therefore, any reorganization of the shift report process must consider a means of facilitating the continuation of these ancillary purposes (Lally, 1998; Parker et al., 1992).

Shift Report Methodologies

Data Collection Tools

Mechanisms used to collect and assimilate patient data in preparation for a shift report include the use of the components of paper charts and the use of computerized records and personalized report tools. Parker et al. (1992) also concluded that, in some cases, nurses rely solely on their memory as reservoirs of patient information.

Paper Chart The utilization of information contained in paper charts requires the nurse to retrieve information from the chart and to transcribe it onto a report sheet to allow for visual reference during reports. There is little consistency in this method of patient data collection, and the potential for transcription errors creates an invalid informational foundation on which nurses will base clinical decisions (Cahill, 1998; Eggland & Heinemann, 1994; Korpman, 1990; Payne et al., 2000; Sherlock, 1995). Furthermore, nurses are cautioned that data retrieved from patient records may not include the most current updates (Hopkinson, 2002; Patterson et al., 2004; Simpson, 2005).

Computerized Records Given that nurses have been on the forefront of technology for decades, a logical process would be to take full advantage of computer technology to facilitate shift reports (Kearns, 2000). A review of the literature failed to locate a shift report that was predominately technology-driven, with no reliance on handwritten tools or on manual data retrieval.