Concepts in clinical outcomes nursing essay

Avedis Donabedians model presents an all-inclusive model of the relationship between variables that contribute to quality of care, healthcare costs and health status. Donabedian's (1988) classical approach to the assessment of the quality of patient care within a hospitalization setting is comprised of three components, which include: structure, process, and outcome. The first two variables, structure and process, are labeled indirect variables by Dr. Tim Postema, because of their overall significance and contribution to the third variable, outcome (2005). To better understand Donabedian's model, a brief overview of each variable will follow. The structural component is defined by the setting, which includes the " attributes of material resources (such as facilities, equipment, and money), of human resources (such as the number and qualifications of personnel), and of organizational structure (such as medical staff organization, methods of peer review, and methods of reimbursement)" (Donabedian, 1988, pg. 1745). Examples of structural component may include but is not limited to the physical working environment itself, staffing mix and ratios of patients to nurse, and the organizational culture itself (institutional policies). The structural component of the model emphasizes characteristics of nurses involved in each patient's care, certain characteristics of the patient as well as the organizational structure of the hospital in which the patient care was received (Duffy & Hoskins, 2002). The second variable of consideration in Donabedian's model (1988) the process component, which he defines as " giving and receiving care" (pg. 1745) is the specific intervention or interventions that are applied, which includes patient and provider participation. Finally, the third component of Donabedian's model (1988) for assessing the quality of care is the outcome component of the model which is defined as " the effects of

care on the health status of patients and populations" (pg. 1745). Now that the significant variables have been defined, a discussion of their relationship and how they apply to the assessment of patient quality of care will follow.

Donabedian's model attempts to explain health care quality in terms of outcomes that are measurable by the interrelationship between the structure, process and other attributable variables such as the improvement in a patients' health status and satisfaction (1988). Donabedian's model plays a significant role in the assessment of quality of care from the patient's perception and is a high priority in the " pay for performance" reform that has occurred within the past decade (Wachter, Foster, & Dudley, 2008), specifically from the Centers for Medicare and Medicaid Services (CMS).

There is a lot of evidence to support Donabedian's theory relative to the interrelationship between the process components, such as the care provided, and the outcome of the patient's health leading up to their discharge from the hospital (Duffy & Hoskins, 2003). Research posits that the three-part approach to the assessment of a patient's quality of care is legitimately rooted in the relationship among the variables set forth by Donabedian: structure, process, and outcome (Duffy & Hoskins, 2002). Donabedian proposed that " good structure increases the chances of good process, and good process increases the chances of good outcomes" (Donabedian, 1988, pg. 1745). Additional researchers substantiate this further in their research (Duffy & Hoskins, 2002 and Postema, 2005). The findings of these researchers substantiated Donabedian's framework through a variety of methodological approaches, yet were able to find the overarching correlations between factors of structure to produce positive

outcome measures among patients. Thus, it can be concluded that utilization of Donabedian's approach to the assessment of quality of care among hospitalized patients can assist in producing higher quality outcome measures, such as the problem facing many institutions relative to the number of medication errors.

Donabedian's model of structure, process, and outcome will be used to facilitate my endeavors in decreasing medication errors on the Psych-Med Unit (PMU) at St. Mary's Health Care System. A detailed discussion of the appropriate variables will follow to provide a more thorough understanding of how the application of this theory will assist in the decreasing the number of medication errors

Structure component

Nurse characteristics

The combination of higher education and years of experience in nursing improves health care outcomes, which include decreased medication errors, lower fall rates, and reducing mortality rates (Tourangeau et. al., 2006; Blegen, Vaughn & Goode, 2001). Literature has identified studies that confirm that these certain nurse characteristics (higher education and experience) are related to better patient outcomes (Aiken, Clarke, Sloane, & Silber, 2003; Tourangeau, Cranley & Jeffs, 2006). Tourangeau et. al.'s research (2006) found that more years in nursing experience has a significant and beneficial effect on patient health specifically on 30-day mortality rates in hospitals. Aiken et. al. (2003) found a statistically significant effect which postulates that with an increase in baccalaureate nurses in staffing – which is associated with an increased awareness of the

culture of safety, there was a decrease in mortality of patients within 30 days of admission. Nursing units with experienced nurses had lower medication error rates (Blegen, Vaughn & Goode, 2001).

Patient characteristics

Patient characteristics include polypharmacy and multiple diagnoses, including both medical and psychiatric diagnoses. Comorbid diagnosis are associated with the need for the patient to take more medication to manage symptoms and in turn, increases the risk of drug interactions, potential side effects and thus, the need for more medications, errors in the administration of medication, as well as difficulties with compliance upon discharge from the hospital (World Health Organization, 2011). According to the Joint Commission on Accreditation of Healthcare Organizations (JACHO), polypharmacy can cause an increased risk for falls, hospitalizations and confusion and/or disorientation (2008, pg. 8). Dr. Joseph Parks, a director for comprehensive psychiatric services for the Missouri Department of Mental Health, commented that, " polypharmacy issues within psychiatry occur because one provider does not know what the other provider is prescribing" and is a significant factor that diminishes the overall patient's quality of care based on potential side effects and adverse interactions (JACHO, 2008, pg. 9). Literature has identified that with multiple physicians prescribing medications for one patient, there is increase in chance for medication errors and thereby, diminishing the patient's overall quality of care. (Tamblyn, McLeod, Abrahamowicz & Laprise, 1996). This issue is reliant upon patient report, as well as doctor inquiry and thus, the burden falls upon both parties in order to ensure high quality of care.

Organization characteristics

The organizational structure characteristics including staffing ratios, staffing mixes, hospital's policy on medication administration and the organizational culture itself can influence the outcomes of care (Duffy & Hoskins, 2003). Throughout the years numerous studies have been conducted that show that a " higher registered nurse mix was related to lower mortality" because that demonstrates the professionalism and integrity of registered nurses (Tourangeau et. al, 2006, pg. 5). Studies have shown that an increase in nursing staff providing care resulted in decreased mortality (Tourangeau et. al., 2006), which supports the necessity of higher ratio of registered nurses mix in staffing patterns. The Robert Wood Johnson Foundation (2008), whose mission is to improve health and healthcare for Americans, found that hospitals and health systems across the country have been working to achieve the culture of their organizations to develop supportive work environments that encourage nursing retention and improved quality of patient care. With a keen awareness of culture of safety often attributed to nursing professionals with higher educational degrees, there is an enhanced awareness that the safety of patients is the utmost priority and is highly valued on an organizational level. Because of the value placed on the culture of safety by health organizations and hospitals each year, staff and other health professionals need to continue to focus on improving their precision and skills utilized while caring for patients. In doing this, they become not only aware of potential medication errors, but also avenues to implement interventions to eliminate the tendency of potential risk all together (ISMP, 2006).

Process component

Bar code scanning

As stated previously, process components is " the giving and receiving of care" (Donabedian, 1988). Relative to the ascribed problem outlined in this paper, the solution that has proven to improve medication administration and thus decrease medication errors is with barcode scanning systems for dosing and medication administration (ISMP, 2002). The ISMP (2002) asserts their confidence in the barcode scanning system by encouraging the use of the technology in any setting which medications are administered. The Institute of Medicine released a report in 2001 that suggested ways to use information technology to come through with a safer, more efficient way to prevent medication errors and improve healthcare quality with the automation of patient-specific clinical information (pg. 5). Medication administration errors are responsible for one-third of the errors (ISMP, 2002). According to the ISMP a bar coding and scanning system is a promising attempt at the reduction of errors in the stage of medication administration based on the accountability and accuracy of this technology (2002). At a patient's bedside, bar code scanning identifies the patient, lists the medications ordered, checks for allergies or alerts for medication interactions, and electronically signs the patient record for the nurse (ISMP, 2002).

Donabedian's Assessment of Patient Quality Care: St. Mary's Health Care System

St. Mary's in Grand Rapids already has this bar code scanning system. The issue on the PMU is the work arounds nursing professionals have

implemented to make their medication administration " easier". These " work arounds" are ways nurses can still administer medications without scanning the medication and/or patient's identification band; despite the benefits it provides to the staff, it raises a variety of risks for the patient and puts them at greater danger for adverse medication reactions, multiple dosing, incorrect dosing, and so forth. There are other issues reported by nurses that make the " work arounds" essential, such as the all-too-common issues faced with the use of technology, that being technological malfunctions, limited availability despite the demand for the equipment, and sometimes merely, the time it consumes to find the equipment making the use of such technology more " time consuming".

As a registered nurse for over nearly 30 years, I can see that the bar code system has proven advantageous and significant in the quality of patient care based on the mere assumption that under hospital care, the utmost elite care is to be provided – including medication administration. The bar code scanning procedure implementation enables nurses to look at the (medication/dosage) order, when it was last administered , the dosing, as well as if there are any potential medication interactions to be on the alert for, medication allergies, and whether there are any safety or physical maladies due to missed doses or inaccurate administration (ISMP, 2002). Finally, the technological advances provided for nursing professionals are implemented in order to better account for patient care and safety. The bar code and scanning system is computer-oriented and therefore, supplies a database and record for future use in the event there is any debate about

the procedure utilized while hospitalized or even during hospitalization at an alternate hospital.

Outcome component

Literature has identified that there is an alliance between professional nursing care and positive health outcomes (Duffy & Hoskins, 2003). Identifying ways to improve the process of medication administration can improve medication errors. Bar code scanning technology offers a productive way to avoid medications errors and increase patient safety (Begliomini, 2012). Measuring medication errors can be accomplished using many different processes; but with computer analysis of the patient's information, measurement becomes much easier and more capable and feasible than error reporting or reviewing charts for purposes of " accountability, prevention, and ongoing improvement of both process and clinical practice" (Classen & Metzger, 2003, pg. 41). In summary, the literature reinforces the idea that a decrease in patient medication errors is best accomplished by use of the bar code scanning for medication administration and therefore a responsibility for the nurse.