

Technology in nursing research paper example

[Technology](#), [Innovation](#)



Technology in nursing has been touted as a means for promoting the free exchange of information as it protects the privacy of patients and improves efficiency and quality of care (Agrawal, 2009). However, the potential benefits of technology have not yet been realized fully largely because of lack of adoption of standardized technology for creating the needed infrastructure for attaining these goals (Blumenthal & Tavenner, 2010). Some nurses have only seen the various technological changes in the nursing profession as just normal changes but have not utilized these changes for the benefit they come with (Carayon et al. 2010). The compelling reason to undertake a research on this issue is due to the perceived lack of utilization of technology that is known to have invaluable benefits of the health care system.

Preliminary Argument

Suppose that technology is broadly implemented in a meaningful manner, it would prove invaluable in addressing challenging and convoluted issues like the increased errors made by the nurses (Kelley et al. 2011). Use of technology in the nursing profession would be useful in reducing errors made by nurses at various levels of providing of care. Nurses signify the largest workforce within the system of health care delivery and ought to be at the front line on any redesigning of care based on the meaningful use of the novel technologies. Reduction of errors would be attained if technology is utilized in health care records and storage of medical data. It is crucial that as nurses rethink on how to record data and deliver care using health information technology (HIT), they should come up with processes which are more patient centered (McBride, Delaney, & Tietze, 2012). The objective is

not instituting technology for the sake of technology but the creation of a more effective and safe system of health care that gives nurses a chance to take care of the patients more efficiently ultimately reducing errors.

Main Argument

- Technology In Nursing Documentation

Since our Healthcare organizations have nowadays become more information intensive, it therefore becomes imperative for nurses in practice to embrace and utilize the available technology in the field. With the utilization of Electronic documentation systems, nurses will be able to document the care that they provide to the patients, creating efficiencies with the use templates by the use of various handheld devices such as laptops, tablets and PDA's (McBride, Delaney, & Tietze, 2012). However, the current available technologies in the electronic documentation system only allow for the importation of the bedside monitoring device data into the Electronic Health Records (EHR) through the verification from the nurse instead of nurse's transcription. By the use of these devices in place of a clipboard, it ultimately enables a nurse to directly enter the patient information at the bedside, transpose it later into paper and if the system is compatible, they can be able to upload the data into the EMR.

Prior to these technologies, individuals would only maintain paper-based records of their personal health information (PHR) but in the current context of these technological breakthroughs, PHR is defined as a set of computer based tools that enable individuals to access and coordinate their lifelong healthcare information and parts of it are available if the individual requires it (Agrawal, 2009). Therefore, it is evident that with technological

advancements especially in this section of documentation and personal health information, patients get engaged and empowered in their own medical care. In addition, it has been reported that by the use of these technological devices by the nurses has greatly reduced the amount of time nurses spent in the documentation process by more than two hours, it has also improved on the efficiency of patient care and consequently leading to a positive impact on the safety and the outcomes of patients (Blumenthal & Tavenner, 2010).

- Technology In Reducing Medication Errors

If there is one issue that nurses ought to be extra careful with, it must be the issue of administering medication to their patients. Just a single mistake of omission or confusion would eventually lead to grave consequences to the patients' health. Therefore, with the advent of advanced technology in our Healthcare facilities such as the Bar Code Medication Administering technology, nurses are able to prevent medication errors by double and counter checking a patient's medication by means of scanning before administering the medication (McBride, Delaney, & Tietze, 2012). Usually, the wristband that is worn by the patient is scanned and the information is verified by a set of verification system. This system then checks for accuracy of medication by confirming the identity of the patient, type of ailment, the right medication and dosage among other checks. The bar code technology therefore proves invaluable to both the healthcare staffs and to the patients in general since it adds an additional layer of safety in the administration of medication which was not available before the surfacing of EHRs.

In the quest to further reduce the rate of medication errors, technology plays

another important role to the nursing field through constant reminders of planned activities. Various applications such as timers and clocks are important in reminding the nurses about medication, treatment or any other activity that is important to the health care of the patient. In his article Medication errors: Prevention using information technology systems Abha Agrawal explains the role of Information technology in preventing errors of commission. He gives an example of how patients with heart failure due to left ventricular dysfunction can be assisted through the use of ' smart' electronic discharge which is designed to remind nurses and physicians to administer angiotensin-converting enzyme which are key in reducing rehospitalization and mortality. Through the pilot study that she explains in her article, it shows that embracing Information Technology has enabled the prescription rate to improve from 88 to 100%..

- Technology In Ensuring Patient Safety

It is through technology in our healthcare facilities that the patient safety can be ensured. Introduction and implementation of EMR systems are responsible in assisting with issues regarding patient safety. The utilization of computerized medical orders is intended to basically decrease transcriptional and ordering error and therefore avails additional information on prevention this error which are mostly associated with lack of drug knowledge. Numerous studies have shown that most of the medication errors are preventable especially with the adoption of IT. They concluded that after installing computerized ordering systems, the level of medication error reporting rapidly increased thereby causing a reduction in the in the level of harm probable to be falling a patient. The safety of the patients

ranges from the medication that they are being given, in term of accuracy to the privacy of their personal information. Unlike traditional storage of personal health information of patients in medical files and papers in cabinets making the level of safety of this information questionable, the current storage facilities are more advanced where the personal data can be stored in programs that allows for high levels of data encryption. Failing to protect a patient's personal health information can lead to misuse of that information by interested third parties such as advertising agencies and insurance companies. This careless handling of the personal information about a patient is against the law and contravenes the Health Insurance Portability and Accountability Act (HIPPA) which is designed to protect the personal information of the patient. In order for healthcare practitioners to avoid being at loggerheads with the law, it is advisable for them to adopt the relevant advanced technological systems that would create confidence in the handling of the patient personal information.

Technology Concerns And Problems

Although technology has proven to be vital in providing mechanisms that largely reduce medication errors, enhance efficiency and in general leading to better healthcare provision in our health facilities, there are still an array of issues of concerns that comes with the adoption of technology by the nursing practitioners. The first major concern is with the issue of confidentiality of patient information. When the nurses are using technology in the documentation process as I have explained above, the computers and the handheld devices should be fitted with passwords and various data encryption software that would make it practically impossible for

unauthorized persons to access the patient information. The second concern is in regard with to the prevention of medication errors. It should be understood that, prevention of medication errors does not solely depend on the Information technology that has been made available to the nurses but also its implementation. However, the medical Information standardization and certification program only largely focuses on the functionality of the IT systems in our medical facilities but fails in addressing the usability and implementation by Clinicians. This mostly leads to nurses and other health care providers especially the ones who had been accustomed to the previous old system in the nursing field that had not incorporated IT being passive to processes that requires their skills in IT related duties (Agrawal, 2009).

Another issue of concern is raised by the potential negative consequences that have been evident as a result of IT on the patient. Information Technology has been seen to generate more work to nurses thereby causing problems in the workflows leading to the generation of new kinds of errors. Therefore the IT systems in our healthcare facilities must be designed in a way that it is able to optimize the clinical outflow. This can be achieved by ensuring that the systems that are availed in the healthcare market have been tested , approved and certified by the relevant authorities. Through this certification, the health care facilities are assured that the technological systems acquired meet the minimum standards to ensure effective functionality.

Conclusion

Technology in nursing is essential in offering an array of benefits. This paper has touched on the roles and the major concerns that comes with the

adoption and implementation of technology in the nursing field. The role of technology in the documentation process has proven to have a link to the patients safety and outcomes. Through the implementation of technology, nurses are able to attend to a larger number of patients since a considerable amount of time is saved by the use of technology in the nursing field. In conclusion, this paper has proven that with the use of computers, handheld devices and other types of technological systems ultimately leads to the increase of efficiency, quality, accuracy and patient safety in the provision of nursing care.

References

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