

**The effect of IT on healthcare quality and nursing practice**  
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## **Introduction:**

Finding ways to provide high-quality care in a way that is both efficient and cost-effective is a huge problem for nurses nowadays. The integration of technology into several parts of our lives is ongoing. The current trend in health care is the use of technology to lower costs while simultaneously improving the quality of care. Therefore, it is crucial to discover ways that can assist nurses in providing safe and effective care through the use of technology. Reducing healthcare errors is essential for reaching these lofty goals. Among these goals is the amelioration of "missed nursing care," defined here as the absence or substantial delay in the delivery of necessary nursing care. Negative patient outcomes can occur when necessary nursing care is either delayed or not provided at all. The most common types of neglected nursing care are ambulation, patient turning, feeding, and bathing, among others (Kruse et al.,2017).

Errors in healthcare are being mitigated by the use of technology. Clinical decision support systems (CDSS) are the technology that this study focuses on. In order to improve patient outcomes, nurses are increasingly turning to clinical decision support systems (CDSS), which were previously used by doctors. Patients report fewer instances of missed care when using electronic nursing care reminders, a form of clinical decision support system. The purpose of technology in nursing is to support, rather than supplant, nurses' clinical judgement. It is more probable that errors will reduce and quality and safety will improve when technology is combined with superior clinical reasoning (Piscotty Jr et al.,2015).

- **Care Reminders for Nurses via Electronic Means:**

Both Medicare and Medicaid now require healthcare providers to demonstrate meaningful use of healthcare information technology (HIT) in order to obtain full reimbursement (HealthIT.gov, n.d.). Quality and safety assurance, as well as better care management and communication, are goals of meaningful usage. Electronic health records (EHRs) have not been widely used as a tool for care delivery, despite meaningful use regulations. The adoption

of new technologies is frequently hindered when nurses perceive documentation as an oppressive and time-consuming chore. Another way to enhance adoption is to design the workflow with the nurse in mind. There are a number of features of the EHR that improve the provision of holistic nursing care. One of the specialised tools nurses have to offer quality care is a CDSS with nursing care reminders. To attest to the meaningful use of HIT, one must have this tool (Hessels et al.,2015).

No papers addressing electronic nursing care reminders were found in the present literature research. There is a lack of information regarding the CDSS that nurses use, find useful, or prefer during giving birth. Integrating CDSS with physiologic monitors increases the likelihood that intensive care unit (ICU) nurses will use it. On top of that, they mentioned that in order to boost adoption, the EHR needs to have all the essential care documents. Adoption of the EHR is contingent upon the integration of documentation that removes job duplication. To make sure electronic nursing care reminders are accurate and always getting better, there has to be more study and ongoing monitoring of them (Hessels et al.,2015).

- **Lack of Nursing Attention:**

Nursing care activities that are fundamental, such as feeding, washing, ambulating, turning, and cleanliness, are frequently neglected. Even though first-year nursing students learn the significance of fundamental nursing care, these tasks are among the most frequently left unfinished. Prompt administration of basic nursing care can avert a number of problems, including the development of pressure ulcers and pneumonia. A decline in patient quality of life and an increase in healthcare expenditures are possible outcomes of these problems. A shortage of personnel and resources, as well as a decline in communication with both coworkers and patients, are reasons why nurses do not carry out these tasks (Waneka et al.,2010).

Three studies have looked at potential answers to the problem of nursing care omission and how to fix it. Reports of missed nurse care are considerably reduced when there is effective

teamwork on the unit. Missed nursing care is less common when electronic health record (EHR) nursing care reminders are present. Nurses who use the electronic nursing care reminders more often report in the tests done (Waneka et al.,2010).

- **THE USES AND CONDITIONS OF TELEHEALTH:**

One use of telehealth that has been used successfully in recent years is video conferencing. It facilitates communication and collaboration among health researchers from around the world. Reportedly, this installation is cost-effective. The socioeconomic evaluation of telehealth implementations found that they improved health-related training opportunities and quality of life, facilitated access to health, and offered social support to both patients and carers. These implementations are carried out using various technological methods. Health care accessibility, financial return, care coordination, and care quality are all advantages of telehealth.

There are several restrictions to telehealth usage, despite the fact that it has produced favourable results in many sectors. According to studies, there are a lot of things standing in the way of widespread telehealth implementations, including questions about the long-term viability of these systems, concerns about funding and infrastructure, difficulties with certification and licensure, reimbursement issues, evaluation and results, a lack of understanding about these systems, and inadequate policies to promote their use. Additionally, telemedicine activities have been linked to ethical concerns. The failure to adequately convey information, breaches of patients' privacy, inadequate communication between doctors and patients, and failing to adequately preserve personal information are the most significant of these ethical concerns (Lavin et al.,2015).

In 2009, 700,000 patients in the US were served using telemedicine, despite the constraints. The usage of telehealth services is becoming increasingly important every day, given the rate of ageing and chronic health problems in Europe. Implementations in the Bosch Telehealth

System that are utilised in Europe aid in medical diagnosis and therapy by providing data regarding patients' health behaviours in addition to vital signs including blood pressure, glucose levels, and oxygen saturation. Patients are therefore given comprehensive evaluations and offered remote instruction and consultation to help them actively participate in their care. This strategy was utilised by numerous evidence-based investigations. Extensive research was carried out on older individuals suffering from COPD, diabetes, heart failure, and asthma. In addition, the studies showed that telehealth deployments were effective and yielded numerous favourable results. In 2006, the Ministry of Health devised and implemented a plan of action. In this project, telemedicine technologies were realised as one of the e-health decisions. Additionally, projects such as the electronic ID card, electronic referral system, electronic prescription, electronic prescription system, and central hospital appointment system will be launched as part of the action plan. In December 2007, the project's first stage was initiated. Accurate diagnosis and treatment operations, improved patient happiness, reduced cost, time, and labour losses, and guaranteed information-sharing among physicians were all aims of the telemedicine project (Lavin et al.,2015).

- **Implications for Evidence-Based Practice:**

Access to health services would be made easier with the use of technological appliances in the field of health, thanks to the rapid growth of technology. Patients who face barriers to care owing to location or other factors can receive the same high-quality treatment thanks to telehealth methods. In addition, they help with chronic illness monitoring and improve care quality by connecting healthcare providers in locations with limited technology with one another and offering advice.

More than 95% of the research showed improvements in carer outcomes; they were pleased with telehealth implementations and found it easier to use, according to a systematic review of telehealth services, which include video, web-based implementations, and remote monitoring. Patients with chronic conditions, those receiving home care, and those in hospice all benefited greatly from telehealth implementations, according to the review. Based on an analysis of 18 trials, a systematic review found

that tele-monitoring was helpful in helping people with heart disease. Patients with heart disease benefited from a shorter hospital stay, earlier detection of potential complications, and lower healthcare expenditures when they underwent tele-monitoring. Despite the positive effects of tele-monitoring on patient care, the study noted the necessity for additional randomised controlled trials. A study that involved tetraplegic patients found that the telecare method reduced gingival issues and oral hygiene deterioration in both the short and long term (6 months and 12 months, respectively) (Dykes et al.,2013). A number of studies in people with type 2 diabetes have demonstrated the efficacy of telecare methods in recent years. Patients with diabetes who were telemonitored showed improvements in glyceemic control, including lower levels of haemoglobin A1c and postprandial glucose. Adaptation for diabetes and other chronic diseases was enhanced through the use of telehealth practices. Prevention of hypothermia, skin sores, catheter-related complications, and falls during health care practices could be facilitated by the utilisation of computerised indicators in nursing initiatives. The use of these computer-aided tools allowed for the rapid collection of data (Dykes et al.,2013).

- **CONSULTANT-FREE NURSING:**

In the field of nursing, telenursing refers to the practice of providing, overseeing, and coordinating care and services through the use of telecommunications technology. Home care, medical offices, jails, hospitals, telehealth nursing call centres, and mobile units are all places where telehealth nursing is practiced. To improve patient care, telehealth nursing makes use of telecommunications technology, which includes electromagnetic channels including wires, radios, and optics. The most rapidly expanding uses are in home care, remote monitoring via telecare, and telephone triage. Through the use of remote physiological assessment tools, patient advice based on identified issues, and the provision of necessary care, tele-home care enables the efficient and cost-effective delivery of nursing services. This approach guarantees that people with health problems are sent to the appropriate resources in telephone triage systems. Patients' data can be collected, analysed, and directed to the appropriate health resources through telecare-remote monitoring technologies. Furthermore, these initiatives provide social care

services, which empower individuals to take charge of their own life and care for themselves. A number of benefits accrue to patients as a result of telehealth nursing deployments, including improved patient satisfaction, lower healthcare costs, easier performance evaluation, and the development of clinical guidelines and documentation (Huryk et al., 2010)

Telehealth nurses perform a wide range of duties, including programme planning, patient scheduling, equipment evaluation and preparation, assessment, presentation, documentation, public health, health coaching, tele-intensive care unit nursing, clinical telehealth coordinator, patient education, teleconsultations, teleconsultations, medical test and result interpretation, physical exam and assessment, and collaborating with other healthcare providers to implement treatment protocols and provide follow-up care (Kruse et al., 2018).

Technology is advancing at a rapid pace in the home care services sector, and people want to live long, healthy lives, so telehealth nursing implementations are becoming more important and necessary. Improved patient care is now within reach because to telehealth nursing's innovative use of telecommunication networks and health technologies. In addition to reducing the need for hospitalisation and applications, it helps with the treatment of chronic diseases, is cost-effective, and increases access to nursing care. Among the many benefits of telehealth nursing are the following: the ability to detect and treat patients' symptoms at an earlier stage, better occupational management for nurses and higher levels of patient satisfaction with carers, fewer unexpected events as a result of constant monitoring, and the encouragement of patient participation in their own healthcare (Hitt, 2005).

From this vantage point, telehealth nursing is utilised for the treatment of numerous diseases. Patients with cancer, for example, require multi-faceted treatment and monitoring from the moment of diagnosis onward. Disease, treatment, side effects, symptoms, and re-adaptation to social life are only a few of the many challenges they face. Patients who have their illnesses well-managed are better able to lead long, healthy lives, and telehealth nursing programmes

play an important role in this. The efficacy of telecare solutions in managing pain and depression in cancer patients was investigated in a randomised controlled trial. The study found that patients whose pain and depression were treated using telecare had an improved quality of life, and that costs were significantly reduced as a bonus (Hitt,2016).

**Conclusion:**

A few of the most basic advantages of information technology in nursing care include keeping track of patients' medical history, keeping tabs on their progress, tracking healthcare outcomes statistically, and analysing and sharing these findings with other medical experts. Improving health care's cost-effectiveness and bolstering professionals' and institutions' competences should, according to this report, be the top priorities going forward.



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