Essay on how information systems can change work processes in healthcare

The use of information and communication technology in healthcare is a growing area of concern in many countries and especially in the United States. From 1999, Campbell (2014, p. 1) asserts that the US government began to embrace health information technology (HIT) and in particular the use of electronic health records (EHRs) with the sole aim of improving health care. The government began to pay particular attention to the impact of HIT on patient care, time management, and safety especially on obstetrics. According to Campbell (2014, p. 2) the benefits that accrue from the exploitation of HIT include physician and patient satisfaction as a result of fast access to medical records, reduction in the prescription and issuance of medication which happens electronically hence overcoming misreading and misinterpretations. The use of HIT has greatly enhanced compliance to clinical guidelines especially because HIT systems align themselves to pre-set clinical guidelines and work processes.

These benefits lead to an even larger benefit on huge risk reduction on both the patient and the physician. NCBI (2005) describes the computerized physician order entry system (CPOE) as a tool for ordering drugs, tests, or any other procedure. The CPOE reduces transcription errors and results in improved patient safety. Clinical decision support (CDS) (Campbell (2014, p. 2), decision support tools, and digital sources of knowledge (NCBI, 2005) all dramatically improve work processes by providing intelligent tools that help doctors arrive at reasonable decisions with minimum effort and time. The enhanced compliance to clinical guidelines, the fast availability to clinical records, and reduction in errors in medication, promote patient diagnosis and treatment, and helps to alleviate complications that could adversely

affect physicians such as lawsuits. The net effect of this is that it encourages adoption and compliance to the use of HIT in the work processes especially by medical staff.

According to Campbell (2014, p. 1) HIT eases and streamlines record documentation. The task of maintaining and updating manual clinical records can be a daunting task especially in large hospitals. Access to these records is not a desirable activity. Medical staff will have to abandon more productive clinical duties to peruse through piles of old and dusty files. The use of HIT and especially EHRs results to legible, well-organized and more complete medical records, which become accessible at the click of a button, as opposed to searching through filing cabinets and folders. This further streamlines work processes, and improves personnel productivity. Physicians have instant access to clear data, and other medical staff can devote their time and effort to the more important clinical duties. HIT again supports most of these duties hence enhancing work efficiency and improving personnel productivity, for example, developing patient progress charts (Campbell (2014, p. 2) and statistical analysis (Campbell (2014, p. 5).

The NCBI (2005) exposes a fundamental shift in the process of patient reference and medical records sharing. The use of EHRs and HIT has evolved into a national health information infrastructure. In many ways, this has transformed information flows and sharing. The system provides a central pool of data and resources where both the patient and the physician access patient's medical records collected over time and from different medical facilities. The patient has exclusive rights to how doctors use this data. A patient may get remote access to this data and also benefit from remote

consultation through this system thus removing the need for physical visits to the doctor's office. Again, a doctor who begins dealing with a referral patient will have all the medical history including treatments, imagery, and prescriptions at his or her disposal thus does not have to start from scratch or use disjointed records. Furthermore, the national system incorporates many important stakeholders such as insurance companies. Patients can view their bills and pass them over for payment to insurance companies through this system.

The processes of manually maintaining an inventory of hospital property, and especially drugs, medical equipment and accessories are confusing, tedious and time-consuming. At the same time, supplies may run out or reach critically-low levels before the store clerk has noticed. The process of re-ordering sometimes suffers at the altar of bureaucracy. Campbell (2014, p. 2) asserts that HIT provides efficient inventory maintenance. It provides alerts when stocks reach pre-set levels ensuring that there is sufficient stock always. When the store receives new stocks, when the store or the pharmacy issues out drugs, the system performs automatic updating. The system also produces stock-taking reports that supervisors use to prevent pilfering.

There exist obstacles to the implementation of the changes in the work process. Campbell (2014, p. 2) exposes some of these obstacles which include the high costs in the acquisition of the hardware, software and technical expertise needed to adapt work processes to HIT. Medpaq (2004) argues that HIT competes with other priorities. It's unlikely that medical institutions will forego serious priorities such as staff shortage, for HIT. The other obstacle is the fear of technology failure. Many people and especially

those who have not used technology before approach it with trepidation because they fear the consequences of failure in the system especially if they have totally abandoned the manual system. This again leads to the expectation of new kinds of errors, which are inevitable with a system change from manual to computerized processes.

According to Medpac (2005, p. 167), a key challenge lies in the integration of the new IT system with the existing system. Making the new system integrate with existing systems is a complex process that challenges the HIT implementation.

The most notable obstacle is resistance from staff. New computer systems face stiff resistance from staff especially due to the fear of the unknown. Again, new systems bring the inevitable disruption of practice, leading to lower clinical productivity.

References

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