Example of research paper on interoperability issues in nursing schools

The application of information technology (IT) in healthcare is becoming a standard in practice. With the introduction of electronic health information systems, such as portable electronic point-of-care devices or electronic health records (EHRs), several issues were raised around interoperability issues. Without clear standards, different vendors and service providers cannot provide cross-platform compatibility, and that could place patient safety at stake, so the nurses have been consistently requesting the implementation of interoperability standards to improve sharing data across different systems (Bolton, Gassert, & Cipriano, 2008).

The lack of interoperability standards also impacts nursing education. Because using IT systems requires a significant amount of knowledge and competency, nursing schools are required to introduce IT curriculums. In order to learn how to use IT tools in healthcare properly, students need to practice with the same tools in the same context they are used in healthcare settings, so the lack of interoperability standards can impact the quality of their learning (Nelson & Staggers, 2013).

For example, in order to learn how to work with EHRs in clinical settings, the students need to work with academic versions of EHRs by using fictional scenarios. While some nursing schools already implemented the approach of learning through simulating real situation, it is possible to assume that interoperability issues prevent them from learning to collaborate with colleagues and coordinate care effectively. Because a lot of emphasis is placed on multidisciplinary approaches today, interoperability challenges can cause dynamic treatment planning and synchronization issues within different information systems used by other healthcare practices (O'Malley,

Cohen, Kemper, & Pham, 2010), so the students will fail to experience effective teamwork in clinical settings.

Another example of an interoperability challenge is the lack of evidence-based practices (EBP) and their integration into electronic system to ensure timely acquisition of materials required for treating patients. The level of evidence-based practice integration into educational institutions varies significantly across different medical professions (Nelson & Staggers, 2013). Because EBP is not equally integrated, systems designed for different healthcare practices can use different quality measurement standards, assessment reporting, and treatment recommendations. Therefore, semantic interoperability is not possible among systems designed for different practices because data may lose context or meaning when transferred. Without proper context or meaning, the nurses' education suffers because they may encounter false conclusions and lack of professional standards in treatment planning.

A nursing school can implement two strategies that will address those issues. First, while IT curriculums are required to help nurses become familiar with the use of IT tools in healthcare settings, the school also needs to implement EBP into their curriculum separately. By implementing EBP, the nurses are taught to obtain peer-reviewed research, interpret the findings, and rely on independent thinking to evaluate the credibility and validity of evidence. That way, the nurses can learn reliable information that can be used in treatments and information evaluation strategies instead of relying on electronic systems that may lose the context of information and present inaccurate information.

Second, it is important to keep in mind that the lack of interoperability standards and their implementation will not be resolved immediately. Nursing schools can avoid using legacy systems if possible because those types of systems usually have lower interoperability capabilities with systems from other vendors, which may lead to poor dynamic treatment planning and semantic interoperability (Iroju, Soriyan, Gambo, & Olaleke, 2013). If legacy systems are already in use, the nursing school should consider implementing middleware software or hardware and connect them to a healthcare network to enable systems designed for different practices interact among each other without losing important data in the process.

References

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