

GREAT

by Good Good

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Clinical decision support systems

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Introduction

The Clinical Decision Support System (CDSS) refers to a Health-based information system premeditated to offer clinical decision support to health professionals by assisting them in carrying out tasks that require clinical decision making. Its purpose is to help healthcare givers in analyzing data of patients using the information to assist in diagnosis formulation. Besides, health care providers find this system useful in improving the quality of healthcare received by patients. Further, the system is integrated with patient information as well as clinical knowledge meant to enhance the delivery of healthcare through improved medical decisions and it(Sutton et al., 2020). However, there are some limitations associated with the clinical decision support system.

Benefits of a clinical decision support system

Reduce medication error risks: This system is capable of determining medication doses for patients accurately. Most are the times when healthcare centres face emergencies and to avoid giving improper dosage. The CDSS is used to help nurses and other health professionals to administer the right dosage with the aid of dosing calculators that reduces medication errors (Hitchcock, 2011).

Reducing misdiagnosis: The medical errors are pervasive in most healthcare, most of which are caused by diagnosis errors. Hitchcock (2011) supports that the CDSS is of benefit as it drastically improves diagnostic error margin. This system has tools that aid in identifying all possibilities of a diagnosis. As Anooj (2012) argued, the clinical decision support system helps in predicting medical risks like a heart attack in patients.

One place information accessibility: This CDS system facilitate for the convenience of information when needed, which is continuously valid and up to date. This system compliment skills of clinicians hence enhancing the quality of care in hospitals. Most importantly, it is a tool that assists in reducing not only healthcare adverse events but also, limiting the incidence of preventable medical errors (Hitchcock, 2011).

Efficiency improvement: The CDSS enhances the quality of care provided in hospitals as it presents more information to healthcare providers as they navigate so many difficult tasks. It can be used to assess patient, make a diagnosis and help in deciding the most sophisticated treatment that is tedious to doctors and nurses, which is an enormous benefit.

Limitations of clinical decision support system

Clinical data set misinterpretation: The CDSS is prone to distortion of the datasets. This results due to inconsistencies when coding the data and where the data extracted is of poor quality. When this happens, machine-related errors occur hence misdiagnosis and wrong medication occurs (Bonney, 2011).

Failure to fits clinician's routine work: It has never been smooth to access this system in a computer by professional healthcare workers, and thus this limits its implementation. There is a complexity in the process of integrating CDSS with routine tasks of nurses. Based on the clinician's workload, the system seems daunting. Its use in the time of consultation alienates them from patients.

Knowledge management. The CCDS are dependent on proper management of clinician's knowledge for an appropriate implementation (Bonney, 2011). Sometimes, health professionals misunderstand the knowledge, information and data. For newly created data that is of undesired

quality, there is expected devastation in clinical workplaces resulting from a problem of knowledge management hence limiting the implementation of this system.

Limited commercial systems: The usability of clinical decision support systems requires the ability to customize the content related to legal issues by both hospitals.

Conclusion

The purpose of the CDSS is to help healthcare professionals analyze the patient's data to formulate their diagnosis. This comes with benefits like reducing the risk of medication errors, reducing misdiagnosis, providing one place information and improving efficiency in healthcare provision. However, the systems have a couple of limitations such as Failure to fits clinician's routine work, dependent on knowledge management, misinterpretation of clinical data set and limited to commercial systems. Due to these limitations, healthcare professionals must have the knowledge and different computer tools that enhance making of decision for the improved clinical workflow.

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