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Abstract

Computer-based clinical decision support (CDS) has been pursued for more than five decades. Despite notable accomplishments and successes, wide adoption and broad use of CDS in clinical practice has not been achieved. Many issues have been identified as being partially responsible for the relatively slow adoption and lack of impact, including deficiencies in leadership, recognition of purpose, understanding of human interaction and workflow implications of CDS, cognitive models of the role of CDS, and proprietary implementations with limited interoperability and sharing.

To address limitations, many approaches have been proposed and evaluated, drawing on theoretical frameworks, as well as management, technical and other disciplines and experiences. It seems clear, because of the multiple perspectives involved, that no single model or framework is adequate to encompass these challenges. This Viewpoint paper seeks to review the various foci of CDS and to identify aspects in which theoretical models and frameworks for CDS have been explored or could be explored and where they might be expected to be most useful.

Keywords: Clinical decision support, knowledge models, knowledge representation

Introduction

Computer-based clinical decision support (CDS) has great potential to improve health and healthcare, but it has been difficult to fulfill its full promise. Models of how CDS should be developed and used may help improve its performance.

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