MEDINFO 2007
HISA Ltd Australia
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Using An Electronic Prescribing Tool As a System for Chronic Disease Management

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Abstract

Electronic prescribing tools are gaining popularity because they promote best prescribing practices. We have previously shown that the MOXXI electronic prescribing solution is used frequently to help manage patients with complex medication problems. We have now begun to investigate the utility of using the MOXXI system to improve management of asthma in the primary care setting. If a decision support system targeted at improving chronic disease management is to be effective, it must be used often. In addition to traditional clinician user feedback we discovered that the analysis of system audit trails yielded information useful in modeling physicians' behaviours and contributed to improved software design. We have implemented these improvements and await observational data.

Keywords:

electronic prescribing, medical informatics applications, computer assisted decision-making, disease management

Introduction

Clinical software that is well designed and integrated into the clinical workflow along with providing relevant recommendations has the best chance of being frequently used. The Medical Office of the XXIst century (MOXXI) project is an electronic prescribing solution that was developed for use by primary care physicians in community-based practice. In previous work [1] we showed that this system is preferentially used by busy clinicians to manage their complex cases. Our group has now focused on asthma management since it is a chronic condition with substantial morbidity, involves significant healthcare costs, and has effective therapeutic options that can reduce those costs if disease management is optimized. Our objectives were to determine if computerized decision-support and timely home-monitoring of asthma severity that are integrated into the MOXXI system can improve asthma management and treatment outcomes for those patients.

Methods

A new custom-designed module was integrated into the MOXXI system to provide recommendations and action plans to optimize care for patients older than 5-years with asthma. Clinical content was based on the Canadian Asthma management guidelines. Information relevant to asthma control were presented and treatment options were directly integrated into the electronic prescription tool. During the iteration of the module design we analyzed the system audit trails and discovered that certain fields or screens were avoided. This information, along with feedback from test physicians resulted in a greatly improved module design that is now deployed among 85 family physicians in Montreal and Quebec City.

Conclusion

Consistent use of information technologies in primary care leads to an opportunity to assist in the optimal management of chronic diseases. We are exploring the utility of using an electronic prescribing solution to improve management of asthma in primary care. Future candidate conditions include: hypertension, diabetes, and cardiovascular diseases. The eventual addition of lab results management to this system would create a 'light' electronic medical record, with perhaps similar impacts on quality of care improvements as hospital-based clinical information systems.

References

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