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Can Recommender Systems Reduce Healthcare Costs? The Role of Time Pressure and Cost Transparency in Prescription Choice

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Abstract

This paper presents and synthesizes results from three studies (two controlled experiments and one interview) on using recommender systems to reduce healthcare costs at prescription time, while taking time pressure into account. All of the subjects were practicing physicians, nurse practitioners, or physician's assistants. Across these studies a total of 160 medical practitioners used a system that provides recommendations for medications along with associated cost information. The main finding was a general tendency among practitioners to reduce healthcare costs by prescribing lower cost medications when cost information is provided by a recommender system. The time pressure faced daily by prescribers, however, appears to impact the use of recommendations by nurse practitioners and physician's assistants more than it does physicians themselves. These results have significant implications for cost reduction in healthcare and for the design of effective real-time healthcare recommender systems.

Keywords: Cost transparency, time pressure, clinical recommender systems, design Science