

Systems that use AI to match medications with patients can reduce prescription costs, study reveals

December 18 2020, by Cynthia Corzo



Credit: Pixabay/CC0 Public Domain

As a result of rising medication costs, patients often stop following medical treatment plans and fail to get better. Without detailed

information, medical practitioners can do little to help.

A recommender system, an emerging tool that uses [artificial intelligence](#) (AI) algorithms to identify a medication that matches health care goals with the patient's budget, could help solve the issue on both fronts, according to new research from FIU Business.

Recommender systems are used extensively in e-commerce to give consumers suggestions for products similar to those they've bought in the past. The study found a general tendency among medical practitioners to reduce healthcare costs by prescribing lower-cost medications with similar outcomes to their patients when price information was provided by a recommender system.

"The idea is to give recommendations and price information to the providers at the time the prescription is issued so they pick what's best for their patient," said Lina Bouayad, associate professor of information systems and business analytics at FIU Business and one of the researchers. "This is relevant because if the patient can't afford the medicine, they won't take it and won't get well."

Published in the December 2020 issue of *Management Information Systems Quarterly*, the research consisted of two controlled experiments and one interview-based survey. A total of 160 practicing physicians, [nurse practitioners](#) and [physician assistants](#) participated in the study.

In the experiments, [medical practitioners](#) were presented with six cases of fictional patients that included patient information and associated medication lists. As doctors prescribed medications, the recommender system showed—in [real-time](#)—alternative medications and their corresponding prices.

Researchers analyzed the impact of various cost-aware [recommender](#)

[systems](#) on prescription-choice behavior, including how [time constraints](#) on practitioners affect the use of such cost-aware systems and the effect of practitioner experience on the evaluation and adoption of cost-aware recommendations in clinical settings.

"Physician assistants and nurse practitioners always switched to the lower-cost option. Their behavior, however, changed under high time pressure," Bouayad said. "By contrast, physicians, with more experience dealing with time pressure, were not impacted."

Bouayad conducted the research with professors Balaji Padmanabhan of the University of South Florida and Kaushal Chari of the University of Wisconsin–Milwaukee.

More information: Can Recommender Systems Reduce Healthcare Costs? The Role of Time Pressure and Cost Transparency in Prescription Choice. [misq.org/skin/frontend/default ... manabhanAbstract.pdf](https://misq.org/skin/frontend/default/manabhanAbstract.pdf)

Provided by Florida International University

Citation: Systems that use AI to match medications with patients can reduce prescription costs, study reveals (2020, December 18) retrieved 25 April 2024 from <https://medicalxpress.com/news/2020-12-ai-medications-patients-prescription-reveals.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--