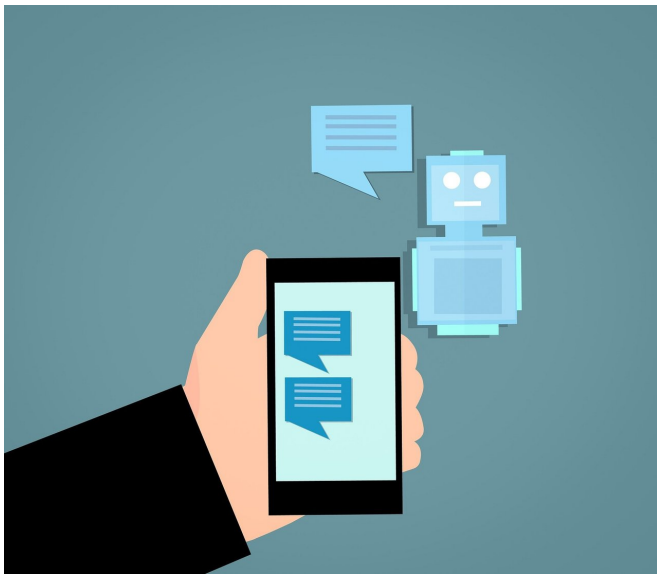


Chatbots can ease medical providers' burden, offer guidance to those with COVID-19 symptoms

9 July 2020



Credit: CC0 Public Domain

COVID-19 has placed tremendous pressure on health care systems, not only for critical care but also from an anxious public looking for answers.

Research from the Indiana University Kelley School of Business found that chatbots—[software applications](#) that conduct online chats via text or text-to-speech—working for reputable organizations can ease the burden on [medical providers](#) and offer trusted guidance to those with symptoms.

Researchers conducted an online experiment with 371 participants who viewed a COVID-19 screening session between a hotline agent—chatbot or human—and a user with mild or severe symptoms.

They studied whether chatbots were seen as being persuasive, providing satisfying information that

likely would be followed. Their results showed a slight negative bias against chatbots' ability, perhaps due to recent press reports. When the perceived ability is the same, however, participants reported that they viewed chatbots more positively than human agents, which is good news for health care organizations struggling to meet user demand for screening services.

"The primary factor driving user response to screening hotlines—human or chatbot—is perceptions of the agent's ability," said Alan Dennis, the John T. Chambers Chair of Internet Systems at Kelley and corresponding author of the paper, "User reactions to COVID-19 screening chatbots from reputable providers." "When ability is the same, users view chatbots no differently or more positively than human agents."

Other authors on the paper, forthcoming in the *Journal of the American Medical Informatics Association*, are Antino Kim, assistant professor of operations and decision technologies at Kelley; and Sezgin Ayabakan, assistant professor of management information systems, and doctoral candidate Mohammad Rahimi, both at Temple University's Fox School of Business.

Even before the pandemic, chatbots were identified as a technology that could speed up how people interact with researchers and find medical information online.

"Chatbots are scalable, so they can meet an unexpected surge in demand when there is a shortage of qualified human agents," Dennis, Kim and their co-authors wrote, adding that chatbots "can provide round-the-clock service at a low operational cost.

"This positive response may be because users feel

more comfortable disclosing information to a chatbot, especially socially undesirable information, because a chatbot makes no judgment," researchers wrote. "The CDC, the World Health Organization, UNICEF and other health organizations caution that the COVID-19 outbreak has provoked [social stigma](#) and discriminatory behaviors against people of certain ethnic backgrounds, as well as those perceived to have been in contact with the virus. This is truly an unfortunate situation, and perhaps chatbots can assist those who are hesitant to seek help because of the stigma."

The primary factor driving perceptions of ability was the user's trust in the provider of the screening hotline.

"Proactively informing users of the [chatbot](#)'s ability is important," the authors wrote. "Users need to understand that chatbots use the same up-to-date knowledge base and follow the same set of [screening](#) protocols as human agents. ... Because trust in the provider strongly influences perceptions of ability, building on the organization's reputation may also prove useful."

More information: Alan R Dennis et al, User reactions to COVID-19 screening chatbots from reputable providers, *Journal of the American Medical Informatics Association* (2020). [DOI: 10.1093/jamia/ocaa167](#)

Provided by Indiana University

APA citation: Chatbots can ease medical providers' burden, offer guidance to those with COVID-19 symptoms (2020, July 9) retrieved 29 April 2021 from <https://medicalxpress.com/news/2020-07-chatbots-ease-medical-burden-guidance.html>

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.