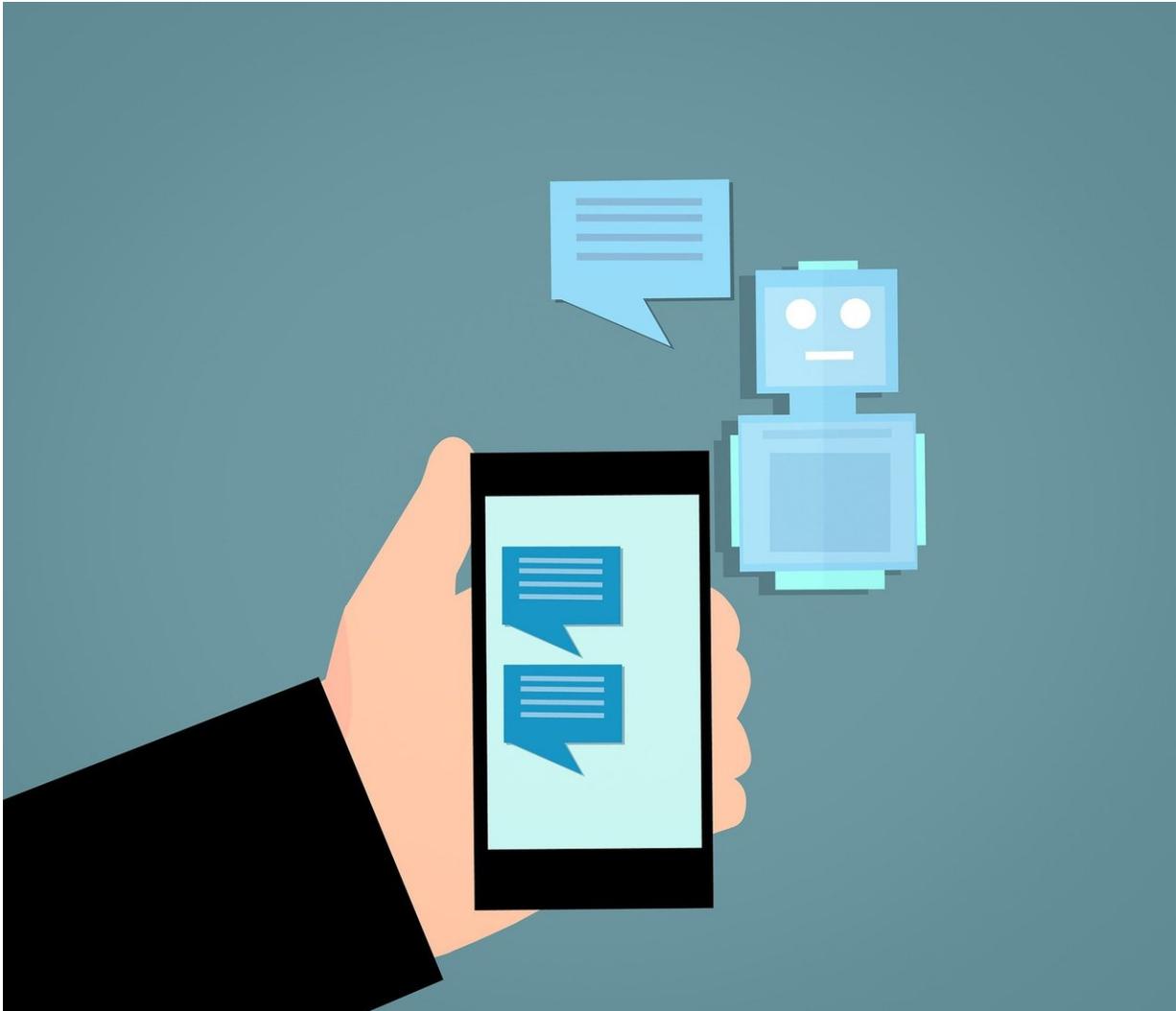


Out with the life coach, in with the chatbot

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As we start to edge out of winter, improving our diet and boosting our exercise start to appear on our agenda. But, when it comes to encouraging a healthier lifestyle, it may surprise you that artificial intelligence could be your best friend.

Now, in a first systematic review and meta-analysis of its kind, researchers at the University of South Australia show that chatbots are an effective tool to significantly improve physical activity, diet and sleep, in a step to get ready for the warmer months ahead.

Published in *npj Digital Medicine*, the study found that chatbots—otherwise known as conversational agents or virtual assistants—can quickly and capably support you to increase your daily steps, add extra fruits and vegetables to your diet, and even improve sleep duration and quality.

Specifically, chatbots led to:

- An extra 735 steps per day,
- one additional serving of fruit and vegetables per day, and
- An additional 45 mins of sleep per night.

Insufficient [physical activity](#), excessive sedentary behavior, [poor diet](#) and poor sleep are major global health issues and are among the leading modifiable causes of depression, anxiety and [chronic diseases](#) including type 2 diabetes, [cardiovascular disease](#), obesity, cancers and increased mortality.

Lead researcher, UniSA's Dr. Ben Singh says the findings highlight the potential of [artificial intelligence](#) to revolutionize health care delivery.

"When we think of chatbots, we often think of simple applications such as daily news notifications or Uber orders. But in recent years, this

technology has advanced to the point where it can sometimes be hard to determine whether you are chatting to a machine, or a real person," Dr. Singh says.

"For health, this capability presents tremendous opportunities for chatbots to promote effective interventions that support well-being and a [healthy lifestyle](#).

"Their [appeal](#) lies in the way that they can generate immediate, appealing, and personalized responses, which prompt users to make better decisions about their everyday movement, eating habits and sleep.

"Interestingly, we found that text-based chatbots are more effective than speech or voice-based AI, which suggests that, at least for the time being, text-based communication is more conducive to achieving [positive outcomes](#) in health-related interventions.

Our study found chatbots were effective across different age groups, dispelling the notion that they are useful only for younger, tech-savvy users."

Senior researcher, UniSA's Professor Carol Maher, emphasizes that while chatbots present an innovative approach to lifestyle-related health issues, a blended approach of chatbots and human coaching could be the most beneficial.

"Chatbots offer personalized and interactive lifestyle support, that may be more engaging and meaningful to users than other tech-based lifestyle tools." Prof Maher says.

"They adapt to individual user's needs, tailoring their advice based on the user's responses, habits and preferences. The level of personalization may lead to more effective motivation and advice."

However, caution is also needed.

"This field of research is young, and there is potential for chatbots to give inappropriate advice. For now, using chatbots to supplement human coaching, could be the best solution, offering the best of both worlds—retaining the unique value of a human coach, combined with round-the-clock support from a [chatbot](#).

"While more research is needed, this study suggests that chatbots could help address certain modifiable factors in lifestyle diseases, such as obesity, alleviating pressure on our health system."

More information: Ben Singh et al, Systematic review and meta-analysis of the effectiveness of chatbots on lifestyle behaviours, *npj Digital Medicine* (2023). [DOI: 10.1038/s41746-023-00856-1](https://doi.org/10.1038/s41746-023-00856-1)

Provided by University of South Australia

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