

# Insights

**HiMSS** Europe

THE INFORMATION TECHNOLOGY JOURNAL FOR HEALTHCARE LEADERS  
WWW.HIMSSINSIGHTS.EU | @HIMSSINSIGHTS | VOLUME SIX | NUMBER ONE

**THE DEBATE:**  
Future Of Medicine: Will  
Algorithms Take Over?

**p. 27**

## Mental Health Chatbots

### Am I The Future Of Therapy?



- + Prescriptions Without Boundaries
- + More Safety, Or Less Innovation?
- + The People's CIO
- + Prioritising The Providers

# Mental Health Chatbots

## The Future Of Therapy?

Mental care is among the medical disciplines that are most actively embracing artificial intelligence solutions. Chatbots are said to be the state-of-the-art work tool dedicated to our emotional wellness. Where and how can they support traditional psychotherapy?

By Anna Engberg

Tell me what happened," Wysa asks the anonymous user with whom she is corresponding. Wysa is a so-called chatbot, a digital artificial intelligence (AI) solution, ready to chat with anyone who is in need of mental advice on a smartphone. Appearing in the form of a cute penguin, the technology of the 'happiness buddy' set up by US-startup Touchkin is based on Cognitive Behavior Therapy (CBT) guidelines. Any advice the AI friend can give has initially been approved by practising counsellors. Once installed, the chatbot works by itself following certain emotion-recognition algorithms and conversational flows scripted by psychologists.

"There is an unmet need for timely, affordable and reliable access to mental health care, even in rich countries like the US and the UK," states Maneesh Juneja, a Digital Health Futurist from London who has performed real-world tests on a number of currently available chatbots for mental health, from Woebot to Joy to Wysa. Sharing his views on

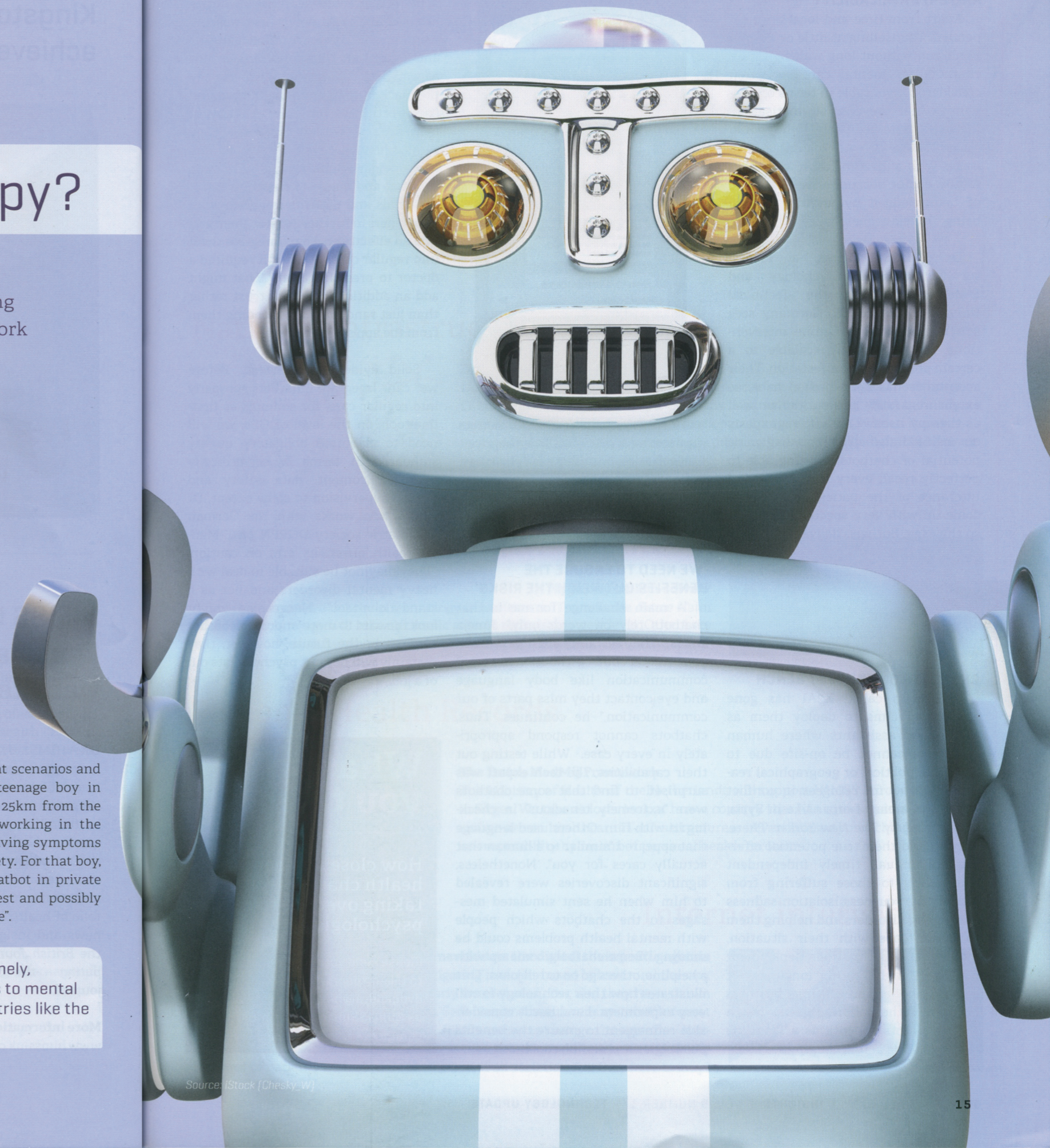
his social media channels, he calls the invention of these chatbots an admirable intention: "They take into account how people seek information and like to communicate in the 21st century," he points out while admitting that instant messaging may not be suitable for everyone, especially decision makers in healthcare. "Nonetheless we should not dismiss their potential value just because we would not use these services ourselves," he claims.

### 'THE INVENTION OF CHATBOTS IS AN ADMIRABLE INTENTION'

But what is it that makes chatbot applications attractive to be used in mental care, a medical field where personal trust and human empathy are considered to be the most critical element? "For some, chatbots might be used in between visits to the doctor to keep track of a patient's mental health whereas for others, they could be the only route to care," Juneja says. He fore-

casts future deployment scenarios and explains: "Imagine a teenage boy in a small town in India, 25km from the nearest city hospital, working in the family business and having symptoms of depression and anxiety. For that boy, being able to use a chatbot in private 24/7, might be the easiest and possibly only path to mental care".

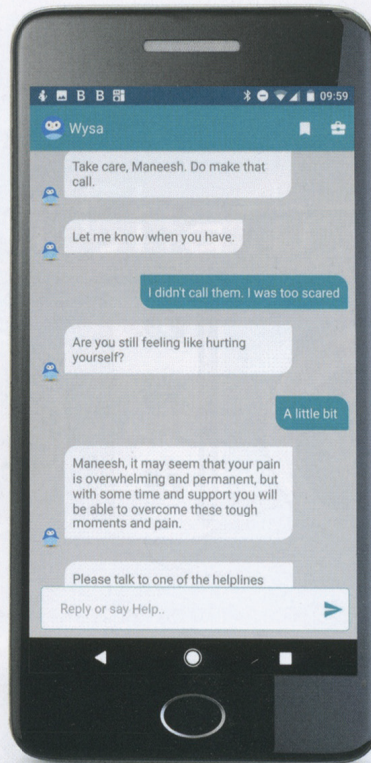
"There is an unmet need for timely, affordable and reliable access to mental health care, even in rich countries like the US and the UK."



**ANONYMITY, COST-EFFICIENCY AND 24/7 AVAILABILITY**

Apart from time and location independent counselling at little or no cost at all and without long waiting times, chatbots for mental care are often considered favourable in terms of anonymity that prevents stigmatisation. "Perhaps there are people who would rather share private mental health issues with a machine than with their family doctor because they are afraid of being judged by another human being," Juneja argues.

Dr Corinna Jacobi, a Professor for Clinical Psychology and E-Mental-Health at the Technical University Dresden in Germany sees another advantage: "Online interventions are individually scalable to a certain problem or manifestation. Their acceptance has been proven to some extent regarding prevention as well as therapy itself." Quite a few experts on the field also stress the diagnostic potential of chatbots as being able to perfectly recall every interaction and utterance of the patient, they could come up with very specific diagnoses, so they say. But who delivers the practical evidence?



Source: Wysa; Collage: Insights

Too clingy? Too witty? Mental health chatbots attempt to track your mood. Some users find them too tenacious. Other perceive them as a human that really cares.

**'WE NEED TO ENSURE THE BENEFITS OUTWEIGH THE RISKS'**

"A main challenge for me is that chatbots rely on words only," Juneja states. "They certainly attempt to track your mood but without non-verbal communication like body language and eye contact they miss parts of our communication," he continues. Thus, chatbots cannot respond appropriately in every case. While testing out their capabilities, the tech expert was surprised to find that some chatbots were "extremely tenacious" in checking in with him. Others used language that appeared "similar to a human that actually cares for you". Nonetheless, significant discoveries were revealed to him when he sent simulated messages to the chatbots which people with mental health problems could be sending. "Some chatbots come up with a helpline, others go on to tell jokes. This illustrates how their technology is still very experimental and needs considerable refinement to ensure the benefits outweigh the risks," he concludes.

While many chatbots are equipped with self-directed learning facilities like the ability to detect user-specific emotion and communication patterns and algorithms that take into account aspects like typing speed, experts say they lack human emotional depth and trustworthiness for now as many of them are still "work in progress". "They cannot just be developed by technology providers alone," claims Juneja, the futurist, and suggests healthcare professionals and patients might co-work as partners to further develop them and find an effective path to integrate them into regular care. "What if it required a doctor to prescribe them? That might add an additional layer of trust rather than just randomly downloading them from the app store," he says.

Solid evidence is needed. Before we can integrate chatbots properly into regular care, for example as first-line-tools on the level of GPs, we will need to elaborate obligatory quality standards in terms of scientifically approved content, data safety and human supervision to some extent. Dr Jacobi who works with the German psychiatric society DGPPN on E-Mental-Health questions errs on caution: "They may not be suitable to deal with heavy mental disorders and not as a stand-alone-tool." Hence, we might look forward to more improved chatbot services in the future, however, they certainly will not put psychologists out of a job. ■

"A main challenge for me is that chatbots rely on words only."

**CHATBOTS ON THE TEST BENCH**

A startup called X2AI has gone ahead and aims to deploy them as therapeutic assistants where human therapists cannot be on-site due to financial, political or geographical reasons, such as for refugees in conflict zones and areas of crisis like in Syria, as reported by *The New Yorker*. There, they unfold their true potential offering polylingual, timely independent counselling to those suffering from anxiety, nervousness, isolation, sadness or sleeping disorders and helping them to better cope with their situation. Moreover, ideas for their deployment go far beyond treating loneliness of adolescents to preventing business burnout. Other pilot projects design their chatbots to work as a frontline tool preceding actual therapy sessions.

**What do you think?**

**How close are mental health chatbots to taking over the role of psychologists?**

Please send your comments to Dillan Yogendra [dyogendra@himss.org](mailto:dyogendra@himss.org) or tweet us @HIMSSInsights. Selected comments will be published online.