LETTER

Beyond the algorithm: Reclaiming humanism in the Age of AI-powered healthcare

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The stethoscope once defined the physician. Today, it shares symbolic space with something more elusive: data. Artificial intelligence (AI), machine learning, and predictive algorithms are reshaping healthcare systems around the world. AI promises increased diagnostic accuracy, standardisation of care, and efficiency in overburdened clinical environments. However, the growing influence of AI raises urgent ethical and professional questions, chief among them the risk of losing the human connection in care.

AI excels in pattern recognition. Its ability to process large datasets with speed and consistency allows for rapid triage, image analysis, and risk stratification. Studies have demonstrated promising diagnostic accuracy when algorithms are used in dermatology, radiology, and ophthalmology [1]. In primary care, chatbots and symptom-checkers increasingly serve as a first point of contact for patients. A recent web-based survey by Yun and Bickmore reported that a substantial proportion of individuals now seek health information online before consulting a physician [2]. While this trend reflects greater patient engagement and empowerment, it also exposes users to misinformation, heightened anxiety, and misinterpretation of medical data.

Yet, AI lacks context. It does not hear hesitation in a patient's voice, notice the tremor of a hand, or ask follow-up questions rooted in compassion. Algorithms operate on probability; humans live in complexity. As clinicians, we are expected to interpret algorithmic outputs and apply them to patients who may not conform to textbook patterns. A misapplied AI recommendation, even when statistically sound, can lead to delayed diagnoses or missed nuances.

Equally concerning is the emotional distancing that can occur when clinicians begin to rely more on digital inputs than interpersonal cues. In resource-limited settings, where patient volume and time pressure dominate, AI can seem like a lifeline. But it may also reinforce a transactional model of care that undervalues presence, patience, and empathy. The human element is not an optional supplement to care; it is a core requirement.

Medical education must also adapt to this shifting landscape. While digital competence is essential, it must not replace critical thinking. The diagnostic reasoning process — the ability to formulate hypotheses, weigh probabilities, and consider outliers must remain central. Overreliance on AI tools can erode clinical instincts. A 2015 audit revealed that common symptom-checkers varied widely in accuracy and were prone to over triage [3]. Students exposed to these tools early may begin to defer judgment instead of developing it.

There is also an ethical imperative. Algorithms are only as unbiased as the data on which they are trained. Racial, gender, and socioeconomic biases have already been documented in commercial health algorithms [4]. Clinicians must remain vigilant, serving as stewards of justice and equity in healthcare. Ethical education should include digital literacy not just how to use tools, but how to critique them.

What is needed is not resistance to AI but planned integration. Reflective practice, ethics discussions, and patient narrative training should be prioritised alongside algorithmic literacy. Digital decision support systems should be viewed as collaborators, not substitute for human care. Importantly, the system must reward relational competence, not just procedural efficiency.

Healthcare cannot afford to become purely mechanistic. Patients are not datasets. They arrive with stories, fears, and expectations that extend beyond algorithmic capture. The physician's role is not simply to interpret numbers, but to hold space, provide context, and affirm dignity.

Preserving humanism in the AI age requires that we:

- recognise the therapeutic relationship as central to healing
- equip trainees with both technical and narrative skills
- challenge biases in digital tools and push for inclusive design
- value presence as much as precision.

AI may assist in diagnosis. But only a human can understand the complexities.

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Do AI chatbots used for Alzheimer's disease patients risk worsening psychosis?

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The advent of artificial intelligence (AI) tools and agents have revolutionised medicine and healthcare. Patients and caregivers of Alzheimer's disease (AD), as well as numerous other aging-related neurodegenerative diseases, could benefit from various AI-enabled technological advancements pertaining to disease modelling, drug discovery, data processing and patient support. With regards to the latter, generative AI-based chatbots have been touted, and indeed adapted and marketed as AD apps, to provide disease progression monitoring, cognitive training, companionship and conversational support to lighten the burden of human caregivers [1]. Such AI apps are generally perceived to be non-invasive and thus carry fewer risks for patients. However, generative AI chatbots are nonetheless *cognitively invasive,* and as such do carry unseen risks that need to be addressed.

It is well-known that AD (like numerous other aging-related neurodegenerative diseases) often presents neuropsychiatric symptoms, such as anxiety, depression, apathy, agitation, aggression, and psychosis [2-3]. Some of these symptoms are direct consequences of neuronal impairments and neural network disruptions due to disease pathology, while others are likely psychopathological responses to one's depressive feeling of progressive impairment of critical cognitive agencies, such as memory and independence. Neuropsychiatric impediments or psychosis in AD could be manifested in various delusional behaviours, with potentially dire consequences of added burden to caregivers, harm to others, or even suicide.

A worrying emerging development in AI chatbot use is AI-induced psychosis [4] — the development or exacerbation of reality detachment, delusions, and paranoia after prolonged interaction with conversational AI chatbots. Particularly susceptible are individuals with some pre-existing mental health conditions, those experiencing social isolation, or with a tendency to obsessive behaviour. AI psychosis appears to involve a psychological feedback loop where AI sycophancy (a tendency for a chatbot to agree with its user) strengthens the AI user's delusions [5]. Some scholars have opined that AI-induced delusions and psychosis would most affect those prone to mental disorders [6-7]. Viewed together with AD-associated psychosis, one cannot help but ask whether extensive use of AI chatbots by AD patients might either trigger or worsen their impending psychosis?

Some might argue that such worries are unfounded. AI-induced psychosis has thus far been mainly observed in adolescents [8], but AD patients are usually the elderly who in their more advanced disease state are unlikely to have prolonged and extensive interaction with AI chatbots. However, if adolescents are vulnerable to cognitive invasion, the cognitively impaired elderly are even more so. Elderly individuals are increasingly turning to AI chatbots for companionship [9], so much so that even their children become aware of their inattention towards them. A survey of 21,000 US-based participants indicated that "Among individuals aged 45 to 64, the odds of reporting at least moderate depression were 50% greater for daily AI users ..." [10]. It is likely that most interactions between an individual and AI chatbots would occur at the initial or the mild-cognitive impairment stage. However, this is exactly when the delusion and psychosis could be induced by interaction with AI. Furthermore, let us not forget that suicidal ideation and actions are often highest during the early stages of AD.

The potential causative interaction between AI chatbot use and AD-associated psychosis should thus be addressed promptly and not be overlooked like an elephant in the room.

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