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Title: Mitigating Cultural and Linguistic discordance--A Gen AI-Powered Training on Culturally Competent Clinical Communication.**Authors: S Li, S Radovanovic, S Dhebri, S Reddy, B Kurti, P Kumar, O Turpin.****Contact: Dr Shuangyu Li, Reader in Clinical Communication & Cultural Competence Shuangyu.li@kcl.ac.uk, Kings College London.**

Miscommunication is way too common in culturally and linguistically discordant clinical communication contexts. Cultural competence training provides healthcare students and professionals with the ability to minimise the impact of miscommunication. However, training tends to be costly and labour intensive. This pilot project aims to develop an OpenAI's GPT-4o agent-based Chatbot with two functions: 1) to simulate cultural scenarios in medical consultations for medical students to practice their communication skills, and 2) to provide feedback on students' performance based on the ACT Cultural Competence model, published in BEME Guide (97).

The development involved one clinical communication educator (SL), one machine learning academic (SR), and five medical students. The medical students conducted a series of tests, and their reflections were captured to inform future development of the chatbot. We started with SL translating the ACT cultural competency model into a set of evaluative categories, forming the foundation of the instructions that SR fed into the GPT-4o to develop the evaluator bot. Collaborating with GPT-4o, SL then wrote five patient scenarios presenting different medical conditions and cultural issues, which were then used as an input to the simulator bot. Streamlit®, combined with Google Firebase® to store the responses, was the platform used to form the interface to simulate consultations and giving feedback. On completion of each consultation, the platform immediately invites students to complete a questionnaire about their learning experience. Students' evaluations underscored the value of additional learning opportunities the technology offers. Nevertheless, the authenticity of the simulator was a consistent issue. The evaluator bot provides useful feedback, which challenged participants' cultural biases and highlighted their impact on the consultation process.

Students appreciated feedback that encouraged them to acknowledge their own biases in a professional and self-aware manner. They also find the evaluator bot's suggestions comprehensive and structured. However, it still required refinement in linguistic coherence and scenario adaptability. While further research with larger sample sizes is needed, these findings suggest that AI chatbots have the potential to serve as effective tools for training culturally competent communication in clinical settings.