### Submission Id: 2723

# Title

The AI Will See You Now: Feasibility and Acceptability of a Conversational AI Medical Interviewing System

# **Priority 1 (Research Category)**

Screening, prevention, and health promotion

### Presenters

Grace Hong, BA, Steven Lin, MD, Margaret Smith, MBA, Bridget Scallen

# Abstract

Context: Primary care physicians (PCPs) face numerous challenges, including time constraints and burnout, and are often limited in their ability to collect detailed medical histories from their patients. As a result, delays in diagnosis and failures to address actionable risk factors affect an estimated 12 million Americans each year. Recent advances in conversational agents powered by artificial intelligence (AI) show promise in augmenting traditional human-driven methods of collecting personal and family histories; however, such tools are largely unproven in real-world settings. Objective: To examine the acceptability and feasibility of a conversational AI medical interviewing system among patients in a primary care setting. Study Design: A cross-sectional survey leveraging the validated "unified theory of acceptance and use of technology" (UTAUT) instrument. Setting: An academic family medicine clinic within a large quaternary care health system in Northern California. Population: Convenience sample of 20 adult (age range = 19-79), English-speaking patients; 60% female, 40% male. Intervention: Patients were invited to use the AI-powered interviewing system, developed by a health tech start-up (SOAP Health), which was designed to (1) capture detailed personal medical histories, multi-generational family histories, and social determinants of health; and (2) assist in identifying individuals who meet established guidelines and recommendations for further evaluation based on personal and family histories. Outcome Measures: Patient-reported feasibility and acceptability ratings based on the UTAUT instrument. Results: The majority of participants agreed that using an AI-enabled tool to collect histories could help PCPs have a better understanding of their health (80%) and help them stay healthy through identification of their health risks (70%). Those who reported that they found the system clear and understandable, and that they were able to learn it quickly, tended to be younger. Those who agreed that the tool could motivate them to share more comprehensive histories with their PCPs tended to be older. Patients were split on the effort required to use the tool and on whether AI should be used for interviewing. Conclusions: Our findings suggest areas for further research, such as understanding the design requirements and user interface factors that influence uptake, and why patients may be reluctant about AI being incorporated into the history-taking process