

Ambient clinical intelligence, Healthcare AI

Healthcare 2050: How ambient clinical intelligence will redefine patient care

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Artificial intelligence is already transforming healthcare delivery, and a new generation of conversational and ambient AI solutions is taking that transformation one step further. We look at how ambient clinical intelligence (ACI) helps clinicians and patients today, and how new breakthroughs will redefine how we detect disease, monitor health, and deliver care.

What will healthcare look like in 2050? At HIMSS Europe 2022, I presented a session with Greg Moore, Corporate VP of Microsoft Health & Life Sciences, detailing how [AI-driven ambient clinical intelligence](#) will define the future of healthcare. In case you missed it, here's a summary of the key takeaways from the session.

Using AI to alleviate burnout

As medicine has become more complex, so has clinical documentation. The level of detail required now means that clinicians spend a lot of their time just creating documentation, and this admin burden is one of the biggest contributors to [the growing problem of clinician burnout](#).

The technology to alleviate burnout is already here, including the latest advances in AI-powered speech recognition solutions. Over the last ten years, the accuracy of [speech recognition solutions](#) has come on in

leaps and bounds, making it simple for clinicians to create detailed, accurate documentation using their voice. This massively reduces the documentation burden, giving clinicians hours back in their day. And over weeks and months, those hours stack up, helping clinicians see more patients without burning out, and enabling them to achieve a much healthier work-life balance.

But speech recognition—however advanced—is only the beginning.

Ambient clinical intelligence is here

Once you have the basics of cloud-based speech recognition in place, you have a foundation for other voice-activated solutions. For example, voice-enabled virtual assistants help clinicians navigate the EHR and complete common tasks by simply saying, “Show me the latest CT scan,” or “Order a full blood count and lipid profile.”

[Ambient clinical intelligence](#) solutions take conversational AI technologies even further. ACI solutions listen to the patient-clinician conversation, capture all relevant information from the encounter, and automatically create a complete, accurate clinical note in the EHR. That enables clinicians to turn away from their computer screen and focus on the patient—no typing, no clicking, just a natural, free-flowing conversation. It’s a much better experience for clinicians and patients, and the documentation burden is reduced even further.

Defining the future of healthcare with ambient clinical intelligence

When we speak, we use many of the body’s systems and structures: the lungs, vocal cords, tongue, lips, nasal passages, and brain. Our speech contains more than 2,500 biomarkers—diagnostic clues that provide insights into various aspects of health and wellbeing. Researchers are already developing ways to use these biomarkers to provide real-time decision support for clinicians, by detecting depression and anxiety, for example, or [identifying social determinants of health](#).

Perhaps even more transformational is the potential to use ACI to monitor patient health and provide treatment in the home. For example, gait analysis using a combination of wearable devices, cameras, depth sensors, radar, and acoustic sensors could enable the detection of Parkinson’s disease years sooner than we can see signs of it now.

Ambient clinical intelligence is transforming healthcare right now—and the future possibilities for re-imagining healthcare are tremendously exciting. By 2050, who knows how far we’ll have come?

“We’re moving at breakneck speed into a world filled with sensors and connected devices of all kinds,” says Greg. “This world will be awash with data we can use to train AI-based solutions to detect and predict the state of an individual’s health. The AI solutions of today and tomorrow will combine to improve outcomes, create better experiences for patients and clinicians, and increase care access and affordability.”

Tags: [Clinical documentation](#), [Dragon Medical One](#), [Future of Healthcare](#), [Dragon Ambient eXperience](#), [Burnout](#)

More Information

Explore healthcare AI solutions

Discover how you can alleviate clinician burnout and improve care delivery and outcomes with AI-powered automation and clinical intelligence.

[Learn more](#)



About Dr. Simon Wallace

Dr. Simon Wallace is the Chief Clinical Information Officer (CCIO) of Nuance's Healthcare division in the UK and Ireland. Simon has worked as a GP, hospital and public health doctor in Brighton and London. His interest in health informatics began in the 90s when he spent a year at the King's Fund investigating the impact of the internet on shared decision making between patients and their healthcare professional. For the past 15 years, he has worked for a range of organisations including Bupa, Dr Foster, Cerner Corporation and GSK across a range of technologies which include electronic patient records, telemedicine, mobile health and lifestyle devices. Simon has a keen interest in the voluntary sector, recently completing a 7 year term as a Trustee for Fitzrovia Youth in Action, a children and young people's charity based in London.

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