

NTU Singapore Study: Insights on AI Trust in Healthcare

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Artificial intelligence has impacted many aspects of medicine, promising accurate diagnoses, better management decisions, and improved outcomes for both patients and healthcare systems. However, the [successful implementation of AI technology](#) in clinical practice hinges on the trust and acceptance of healthcare providers.

A recent international study led by NTU Singapore, focusing on the treatment of digestive diseases, provides insight into the levels of trust and acceptance among doctors in the gastroenterology field. The study surveyed 165 gastroenterologists and gastrointestinal surgeons in the Asia-Pacific region, revealing significant findings about their perceptions of AI in medical practice.

The research team found that 80% of respondents accept and trust the use of AI-powered tools for diagnosing and assessing colorectal polyps, benign growths in the colon that could become cancerous. Additionally, 70% expressed trust in AI-assisted applications that guide endoscopists on whether to remove polyps during screening colonoscopies.

Interestingly, the study noted no significant differences in acceptance levels based on gender, type of healthcare setting (public vs. private), or size of the medical practice (large hospital units vs. small group practices). However,

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experience level played a crucial role in acceptance. Contrary to expectations, gastroenterologists with fewer than 10 years of clinical experience perceived a higher risk associated with AI-powered medical tools compared to their more seasoned colleagues with over 10 years of experience.

Published in the scientific journal JMIR AI in March, these findings underscore the need for further research into the factors influencing doctors' acceptance of AI in their medical practice. The study highlights the importance of addressing concerns and providing comprehensive training to build confidence in AI tools among less experienced doctors. By fostering trust and acceptance, the medical community can fully harness the potential of AI to enhance patient care and optimise healthcare outcomes.

NTU Singapore stands at the forefront of innovation in the medical and healthcare fields, leveraging cutting-edge technology including AI, robotics, and pioneering research to drive advancements and improve patient outcomes.

In a significant development, an international team of scientists has engineered a [flexible electrode](#), inspired by spider silk, that moulds around muscles, nerves, and hearts, outperforming conventional electrodes in electrical stimulation and signal recording.

This innovation could revolutionise biomedical devices for monitoring irregular heartbeats, repairing nerves, and reducing scars. The electrode, crafted from moisture-responsive material, fits seamlessly around tissues, providing higher sensitivity and minimally invasive installation.

In another breakthrough, NTU researchers developed a cutting-edge method to treat glioblastoma using a significantly reduced dose of X-rays. This innovative radiodynamic therapy employs a novel compound, the molecular radio afterglow dynamic probe (MRAP), which targets brain tumour cells with minimal side effects.

MRAPs absorb X-rays and release cancer-killing free radicals selectively, showing remarkable efficacy in mouse experiments. This technology offers a safer, more effective brain cancer treatment, with potential advancements in targeting tumour cells and incorporating immunotherapeutic functions.

Singapore has established itself as a [global leader in biomedical sciences](#), driven by a commitment to research, digital transformation, and cutting-edge technologies. This success is underpinned by a collaborative ecosystem of government support, business partnerships, and a focus on excellence.

Significant R&D investment, exemplified by the RIE2025 plan, has fostered strategic alliances, attracted top talent, and spurred groundbreaking drug development in Singapore. Its strategic location, sustained R&D efforts, and collaborative approach have attracted biotech startups and venture funding. Key initiatives like the Experimental Drug Development Centre (EDDC) and international partnerships have achieved major milestones in drug discovery. <https://www.opengovasia.com/2024/06/22/ntu-singapore-study-insights-on-ai-trust-in-healthcare/>

With a focus on precision medicine and leveraging its diverse population for genetic research, Singapore is poised to become a regional biomedical hub.

Proactive government initiatives and a vibrant startup community drive tech leadership, particularly in AI and blockchain, positioning Singapore at the forefront of global tech advancement.