

14 July 2026

Gap in AI regulation awareness among developers raises potential concerns for health care rollout



A new study by Nanyang Technological University, Singapore (NTU Singapore) has found that many developers building medical AI tools lack familiarity with regulatory frameworks.

The study, one of the first multiregional surveys of medical AI developers focused specifically on regulatory awareness, also revealed that most developers believe they are responsible for the AI they build.

Reported in *npj Digital Medicine*, the findings indicate a stronger need to engage AI developers to boost the effectiveness and safety of AI implementation in medical settings, especially in countries like Singapore that invest heavily in digital innovation.

Limited familiarity with medical AI regulations a stumbling block

As AI is increasingly used in health care, such as to analyze medical images and predict disease risks, limited awareness of regulatory safeguards such as the EU AI Act or

Singapore's Artificial Intelligence in Healthcare Guidelines could affect patient outcomes and public trust when AI tools are deployed in clinics.

The researchers surveyed 122 medical AI developers from Singapore and other regions, including China, Hong Kong and the United Kingdom, to assess their awareness, familiarity and perceptions of implementing these regulations.

They found that most developers felt they should be responsible for the AI they create, with guidance from a government or institutional ethics body and in partnership with users and the organizations that provided the data for AI development.

More than half of the surveyed developers (57%) were aware of at least one regulatory framework, with senior developers and developers from nonacademic organizations more likely to be aware of more frameworks than junior developers and developers from academic organizations. Furthermore, senior developers were also more familiar with these frameworks.

However, more than half (67%) of the organizations that the developers worked for have not adopted any regulatory frameworks. Developers from organizations that adopted these frameworks were more familiar with them than those from nonadopting organizations.

The researchers say addressing these gaps will be key to ensuring AI can be effectively and safely integrated into health care systems.

"Developers are uniquely positioned to assess data quality, model limitations and risks such as bias and hallucinations. While it is reassuring that there is a sense of responsibility among developers for the AI tools they create, the gaps in regulatory awareness identified in our study are concerning," said Assistant Professor Wilson Goh of NTU's Lee Kong Chian School of Medicine (LKC Medicine) and chief data scientist at the Centre of AI in Medicine (C-AIM), who co-led the study.

"A more proactive stance is needed to empower developers to build high-quality AI models that do not pose a risk to patient outcomes and public trust."

Implementing trustworthy AI in the clinic

To increase awareness of AI regulations, the researchers propose that educational institutions include regulatory frameworks in developer training. Within companies and development teams, well-structured mentorship processes between senior and junior developers can also reduce the difficulties of navigating the complex regulatory landscape.

Beyond improving organizational culture and leadership to increase awareness and familiarity with frameworks, the researchers recommend that national regulatory bodies adopt an active role in ensuring compliance and implement longer-term harmonization

activities across jurisdictions, incorporating both positive and negative experiences from developers.

These combined efforts can ease adoption barriers. The findings from this study complement an earlier study on medical AI perceptions by the researchers that shows gastroenterologists generally trust and accept the use of medical AI tools in clinics and hospitals.

"Our research shows that collaborative efforts from multiple stakeholders are required to resolve the challenges of adopting AI in health care. Only by taking collective ownership of the broader implications of AI deployment will we be able to address the challenges of ensuring patient safety, data privacy and the long-term reliability of AI in medicine," says NTU Senior Vice President (Health & Life Sciences) and Director of C-AIM Professor Joseph Sung, who led the study. Sung is also dean of LKCMedicine.

Publication details

Cameron M. Choo et al, Examining developer perspectives on medical AI regulatory frameworks", *npj Digital Medicine* (2026). DOI: 10.1038/s41746-026-02689-0.

Journal information: *npj Digital Medicine*

<https://medicalxpress.com/news/2026-07-gap-ai-awareness-potential-health.html>