

Singapore explores use of AI tools to improve diagnostics in resource-limited healthcare settings

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AI models can support doctors in making critical decisions and expand access to care in low-resource settings



After a cardiac arrest, families and doctors are often faced with agonising uncertainty about a patient's chances of recovery. This uncertainty is even greater in hospitals with limited resources, where access to advanced diagnostic tools and large datasets is constrained.

In one example of how artificial intelligence (AI) can help bridge this gap, researchers from Duke-NUS Medical School, Singapore and their collaborators have adapted an advanced AI model to accurately predict neurological recovery after cardiac arrest in a resource-limited setting.

Published in *npj Digital Medicine*, the study applied transfer learning, an advanced AI approach that adapts pre-trained models built on large datasets, to new settings with limited local data. This method improves performance in new environments without requiring extensive data collection, making it particularly relevant for low-and-middle-income countries.

While AI tools have the potential to improve healthcare delivery, appropriate governance frameworks are essential for safe and ethical implementation. Existing regulations for medical technologies often do not address AI-specific risks, including privacy concerns and model hallucinations, nor do they clearly refine accountability for safe deployment and oversight of new tools.

To address these gaps, researchers led by Duke-NUS have proposed the creation of an international consortium—the Partnership for Oversight, Leadership, and Accountability in Regulating Intelligent Systems-Generative Models in Medicine (POLARIS-GM).

The consortium aims to establish actionable best-practice guidance for regulating new tools, monitoring their impact, establishing safety guardrails and adapting them for resource-limited settings.