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Singapore develops technology for intelligently triaging sepsis patients

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Enabling prioritisation of limited hospital resources and delivering timely interventions for the prevention and treatment of complications



Duke-NUS Medical School and TIIM Healthcare, in Singapore, have signed an exclusive IP licensing agreement that will enable the latter to commercialise an innovative new technology designed to help hospital emergency care providers quickly and efficiently identify sepsis patients at higher risk of dying.

The new technology, developed by Professor Marcus Ong, Director of the Health Services & Systems Research (HSSR) Programme at Duke-NUS Medical School; Associate Professor Liu Nan, also from the HSSR Programme; and their colleagues from Duke-NUS Medical School, uses selected heart rate variability measurements, to assess the severity of sepsis in patients presenting with the condition in hospital emergency departments.

The team has piloted a novel scoring system incorporating HRV, HRnV, vital signs and quick sequential organ failure assessment (qSOFA) to predict in-hospital mortality (IHM) among sepsis patients over a 30-day stay on the emergency ward. The technology does not require laboratory-analysed blood tests and the risk assessment results can be generated within 10 minutes, which means it can be used for continuous monitoring of IHM risk among warded sepsis patients.

Sepsis, a potentially life-threatening condition caused by the body's dysregulated response to infection affects more than 50 million people annually, resulting in more than five million deaths worldwide in both adult and paediatric populations.