HealthManagement
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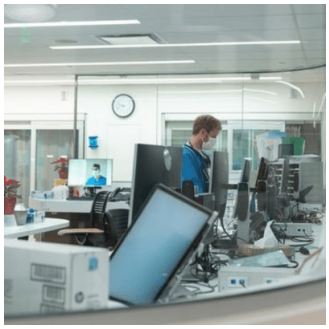
AI Surveillance Tool to Predict Sepsis



Nearly 1.7 million adults in the United States contract sepsis annually, with approximately 350,000 succumbing to the condition.

In a recent study published in npj Digital Medicine, experts from the University of California San Diego School of Medicine harnessed an artificial intelligence (AI) model within the emergency departments of UC San Diego Health to swiftly identify patients vulnerable to sepsis. Known as COMPOSER, the AI algorithm demonstrated a 17% reduction in mortality rates.

The COMPOSER model leverages real-time data to forecast sepsis before visible clinical symptoms manifest, discreetly and continuously monitoring patients for potential signs of sepsis. Upon a patient's arrival at the emergency department, the algorithm continuously monitors over 150 patient variables associated with sepsis risk, including lab results, vital signs, medications, demographics, and medical history.

When a patient exhibits multiple risk factors indicative of heightened sepsis risk, the algorithm promptly notifies nursing staff through the hospital's electronic health record. The nursing team can then collaborate with the critical care team to devise suitable treatment strategies.

According to the research team, these advanced AI algorithms detect subtle patterns that may elude human observation, enabling highly accurate sepsis predictions.

The study, which analysed over 6,000 patient admissions before and after implementing COMPOSER in UC San Diego Medical Center and Jacobs Medical Center, showcased significant enhancements in patient outcomes. It marks the pioneering utilisation of an AI deep-learning model to improve patient care by harnessing artificial neural networks for precise health assessments and can facilitate expedited delivery of life-saving interventions to patients.

COMPOSER has already been deployed in various in-patient units across UC San Diego Health, with plans for expansion to UC San Diego Health East Campus. UC San Diego Health has also initiated a pilot programme integrating Epic, a cloud-based electronic health record system, with Microsoft's generative AI, streamlining message responses through ChatGPT to alleviate doctors' and caregivers' burdens and enhance focus on patient care.

Source & Image Credit: UC San Diego Health

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