

Online tool informs recovery prospects for sepsis survivors

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The tool, available online, is the first of its kind and was developed and validated using anonymised data from around 120,000 sepsis patients from the ICNARC national database for critical care units across

England.

The new [tool](#) is particularly timely as both survivors of [sepsis](#) and COVID-19 have risks of complications or death after leaving [hospital](#) and because the winter months are associated with an increase in sepsis admissions to hospital. The free, online tool could help inform patient care pathways to prevent unplanned readmissions to hospital and excess deaths.

Sepsis is a serious complication of infection. It occurs when the body's immune system goes into overdrive in response to an infection and can lead to multiple organ failure and death. In 2017, there were an estimated 48.9 million new diagnoses of sepsis worldwide.

Previous work by this team has shown that sepsis survivors are at an increased risk of adverse events such as unplanned rehospitalisation (in 40% of sepsis survivors) and death (in 15% of sepsis survivors). The risk is at its highest in the first year after leaving hospital. Currently, sepsis survivors do not receive consistent follow-up care to tackle these risks. One reason for this may be the lack of a simple tool to assess patients' risk.

The work to develop the tool was led by Dr. Manu Shankar-Hari, a consultant in intensive care medicine at Guy's and St Thomas' Reader in Intensive Care Medicine at King's College London and NIHR Clinician Scientist. He said: "It is well recognized that some people who survive sepsis are at an increased risk of unplanned rehospitalisation and of death in the first year after they leave hospital.

"We provide a simple and free online tool for use. Our vision is that by providing [health care professionals](#) and sepsis survivors a simple 'score' to explicitly understand risk, it may help improve follow-up care of sepsis survivors. The score could inform how to develop clinical

pathways and support sepsis survivors' choices around their ongoing care.

"Looking ahead, we hope that this online tool will help to reduce unplanned rehospitalisation and death after surviving sepsis by informing clinical trials, through better stratification of risk and evidence-based care of sepsis survivors."

The tool was developed using data from 94,748 patients. The team determined eight factors which affected risk for sepsis survivors: previous hospitalisations in the preceding year, age, [socioeconomic status](#), pre-existing dependency (refers to how much support was required prior to hospitalization for activities of daily living such as washing and dressing), numbers of pre-existing conditions, admission type, site of infection and admission blood hemoglobin level. Using these, they developed a [statistical model](#) that could give an overall risk score for rehospitalisation or [death](#) in the first year after leaving hospital.

The tool was then tested in a second group of 24,669 patients. The team found that the calculations were valid in this separate group.

More information: Manu Shankar-Hari et al, Development, Validation, and Clinical Utility Assessment of a Prognostic Score for 1-Year Unplanned Rehospitalization or Death of Adult Sepsis Survivors, *JAMA Network Open* (2020). [DOI: 10.1001/jamanetworkopen.2020.13580](#)

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