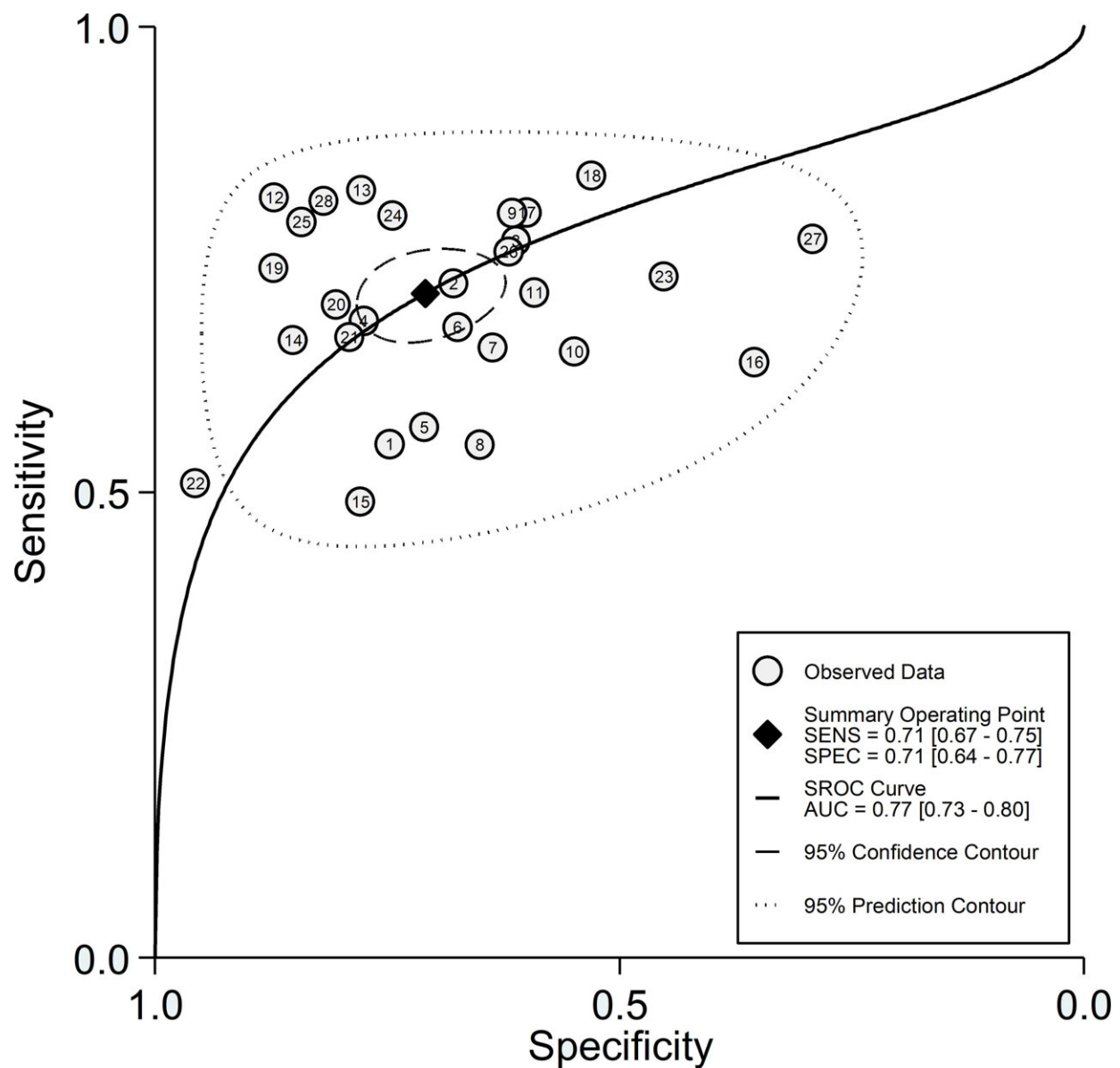


# Simple test for COVID-19 could prioritize treatments for individuals most at risk

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SROC curve with 95% confidence region and prediction region for the SII towards prediction of severe disease or mortality. Credit: *Frontiers in Immunology* (2023). DOI: 10.3389/fimmu.2023.1212998

Measuring a patient's inflammatory response to coronavirus when hospitalized could help to identify those most at risk of severe, extended illness or even death from the respiratory disease and its variations.

Development of a simple test using routine information from laboratory data, the Systemic Inflammatory Index (SII), could be used to prioritize treatments and focus on individuals most at risk, says Strategic Professor of Pharmacology Arduino Mangoni from Flinders University's College of Medicine and Public Health.

The call to action, published by Professor Mangoni and Italian Professor Angelo Zinellu from the University of Sassari in the journal *Frontiers in Immunology*, was based on the results of multiple research articles published during the three-year global pandemic which so far has led to millions of deaths, many of them in hospital.

The reported pre-vaccination mortality rate in COVID-19 patients admitted to hospital is estimated at 17% with [high mortality rates](#) among general admitted patients and critical care cases leading to major pressure on resources which continued after the infectious disease emerged in 2020.

With vaccinations leading to high levels of population immunity to SARS-CoV-2, the World Health Organization recently highlighted the decreasing trend in COVID-19 deaths, the decline in COVID-19 related hospitalizations and intensive care unit admissions.

However, Professor Mangoni, from the Clinical Pharmacology Department at Flinders Medical Center in Adelaide, says COVID and annual influenza cases will continue to put pressure on hospitals and [public health](#) systems.

"We already know inflammatory markers can be used to highlight outcomes and progression of many forms of cancers, as well as risk for stroke, [non-alcoholic fatty liver disease](#) and some heart conditions.

"It's also been linked to organ damage from 'long COVID' symptoms.

"Our study of all the evidence so far confirms the potential for routine assessment of the SII—particularly for patients presenting for hospital care—to tailor their anti-viral and other treatment to suit their risk profile and reduce long-term harms."

**More information:** Arduino A. Mangoni et al, Systemic inflammation index, disease severity, and mortality in patients with COVID-19: a systematic review and meta-analysis, *Frontiers in Immunology* (2023). [DOI: 10.3389/fimmu.2023.1212998](https://doi.org/10.3389/fimmu.2023.1212998)

Provided by Flinders University

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