

# Investigating postoperative deaths in Africa

Surgical patients in Africa are twice as likely to die in hospital following surgery when compared to the global average. This is due to a failure to recognise and/or respond to common postoperative complications which result in death.



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A study involving University of Cape Town (UCT) academics and published in the *Lancet Global Health Journal* details the landmark African Surgical OutcomeS-2 (ASOS-2) trial that attempted to address the problem of postoperative deaths in Africa. In the trial patients at greatest risk of death were identified and the limited available care was redirected to these high-risk patients.

## Study

The investigators randomised hospitals in clusters across Africa to either provide enhanced postoperative surveillance to high-risk patients or standard care. The enhanced postoperative surveillance interventions included admitting the patient to a higher care ward, increasing the frequency of postoperative nursing observations, assigning the patient to a bed in view of the nursing station, allowing family members to stay in the ward, and placing a postoperative surveillance guide at the bedside.

A total of 332 hospitals from 28 African hospitals participated in the trial between May 2019 and July 2020, with 160 hospitals (13,275 patients) in the enhanced postoperative surveillance arm and 172 hospitals (15,617 patients) in the standard care arm. The mean age was 37.1 years-old and 69.4% of patients were women.

While the intervention offered greater insight into what is required to implement interventions to decrease postoperative deaths in resource limited environments, it was not associated with improved in-hospital survival.

## Postoperative surveillance

Lead investigator, Professor Bruce Bickard of the Department of Anaesthesia and Perioperative Medicine at Groote Schuur Hospital and UCT, explains that although the intervention did not improve outcome, the trial demonstrated a number of possible explanations for this finding. “While the intervention was designed and piloted before the trial to improve postoperative surveillance, the implementation of increased postoperative surveillance was less successful than hoped for.”

The work required from healthcare providers and investigator teams was more than what was anticipated, making it hard to implement the intervention in these resource limited environments.

“Furthermore, even when patient deterioration was correctly identified, we don't know whether local teams had the means to escalate care appropriately to improve outcome.”

Biccard said that “a generic fix” for surgical mortality in Africa didn't work in this trial, however the African Perioperative Research Group has demonstrated that it has the capacity to do perioperative research at scale in Africa, and so “we should keep working to find solutions through research.”

“Future projects will have an increased focus on co-designing interventions with the local teams and the use of proven strategies to ensure successful implementation,” he said.

“This trial is unique and significant on several fronts. First, the evidence generated regarding this simple intervention to improve patients’ outcomes is critical to help us understand what kinds of strategies are more or less likely to have a major impact on surgical outcomes in resource-constrained settings.

## **Collaboration**

“But beyond the results, the scale of this trial within Africa – enrolling at hundreds of hospitals across the continent – demonstrates the kinds of internationally-significant public health research that is possible with the right leadership, commitment, energy and vision. Moreover, the trial is an important demonstration of the power of collaboration across disciplines in the health sciences, with leadership from anaesthetics and surgery, and folding in contributions from epidemiology and biostatistics among other fields in the faculty,” said Professor Landon Myer of UCT and part of the trial steering committee shared:

The study was funded by the Bill & Melinda Gates Foundation, and the World Federation of Societies of Anaesthesiologists as there is an urgent need for novel solutions to surgical mortality in Africa, given the severe financial and human resource restrictions in this environment.

**Source:** University of Cape Town