



Improving treatment for critically ill patients in ICUs  
**SuDDICU program** – November 2018



The George Institute  
for Global Health

### **Facts:**

- Each year, more than 20 million people are treated in an Intensive Care Unit (ICU), of which 20-50% will develop a hospital-acquired infection.
- Selective decontamination of the digestive tract (SDD) is an infection control strategy that may reduce mortality by preventing hospital-acquired infections, but its efficacy and safety have not been tested in a global trial to date.

### **Project Cycle:**

2015-2021

### **Partners:**

Australia and New Zealand Intensive Care Society

Clinical Trials Group

Canadian Critical Care Trials Group

Critical Care Research Group

### **Supporters:**

National Health and Medical Research Council (NHMRC), Australia

Canadian Institutes of Health Research (CIHR), Canada

### **Background:**

- Sepsis, the body's life-threatening response to infection, is a common cause of death in critically ill patients. A quarter of patients that develop severe sepsis die during their hospitalisation.
- Selective Decontamination of the Digestive Tract (SDD) is an infection-control strategy involving the use of antibiotics that is designed to reduce the risk of infection and improve survival for critically ill patients.
- Although many trials suggest that SDD reduces mortality, its uptake has been constrained globally by concerns that SDD will increase antibiotic resistance.

### **Aims:**

- To determine whether the application of the SDD strategy reduces hospital mortality in mechanically ventilated patients in Intensive Care Units (ICUs).
- To determine whether the use of SDD is associated with the development of antimicrobial resistance in participating hospitals.

### **Methods:**

- SuDDICU will recruit 12,000 eligible patients in 28 ICUs for two 12-month interventional trial periods in Australia, UK and Canada.
- Participating ICUs will be randomised to either implement SDD or continue standard practice (control) for the first 12 months, followed by a crossover to the other arm for the second 12-month period. The two periods will be separated by a three-month gap. Detailed data will be collected in three-month periods before and following the intervention periods.

### **Impact:**

- The results of SuDDICU will have major global impact, regardless of the result, and address a fundamental question in the management of critically ill patients that has perplexed clinicians for over 50 years: does the application of SDD improve outcomes for critically ill patients without an associated increase in antimicrobial resistance?
- If positive, the manufacturing of a tested SDD drug kit may have substantive commercial and health economic implications and opportunities.

### **Contact:**

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