

# Developing an antimicrobial strategy for sepsis in Malawi

*Joe Lewis*

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# Preface

Joe's thesis



# Chapter 1

## Introduction

Placeholder

## Chapter Overview

### Sepsis in sub-Saharan Africa

Search strategy

Defining sepsis

Applicability of sepsis-3 definitions in sub-Saharan Africa

Sepsis epidemiology in sub-Saharan Africa

Incidence

Risk factors: the sepsis population in sub-Saharan Africa

Outcomes

Sepsis aetiology in sub-Saharan Africa

Bacterial zoonoses, Rickettsioses and arboviruses

HIV opportunistic infections: PCP, histoplasmosis and cryptococcal disease

Sepsis management

Early goal directed therapy

Evidence to guide antimicrobial therapy in SSA

Evidence to guide intravenous fluid therapy in sub-Saharan Africa

### ESBL-E in sub-Saharan Africa

Search strategy

Introduction: definition and classification of ESBL-E

Global molecular epidemiology of ESBL-E: an overview

1980s-1990s: First identification of ESBL in nosocomial pathogens

1990s-2010s: Emergence and globalisation of CTX-M

Epidemiology of gut mucosal carriage of ESBL-E: the first step towards invasive infection

Molecular mechanisms underlying success of CTX-M: mobile genetic elements and high-risk clones

Epidemiology of ESBL-E in sub-Saharan Africa

Invasive ESBL-E infection

Gut mucosal carriage of ESBL-E in sub-Saharan Africa

## Chapter 2

# Methods

### Chapter Overview

This chapter gives an overview of the clinical study which underpins this thesis, and the laboratory and computational procedures used in analysis. Further details are given in the individual chapters, where necessary.

### Study site

#### Malawi

Malawi is a country of 18 million people in South-Eastern Africa ()

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Queen Elizabeth Central Hospital

Participating Laboratories

Clinical Study

Summary

Entry Criteria

Study Team

Study Visits and Patient Sampling

Diagnostic Laboratory Procedures

Quality Assurance

Data Storage

Molecular Methods

Bioinformatics

Ethical Approval and Consent