

# A commercial molecular diagnostic test: Clinical case series of the top six blood-stream infection and sepsis-causing bacteria

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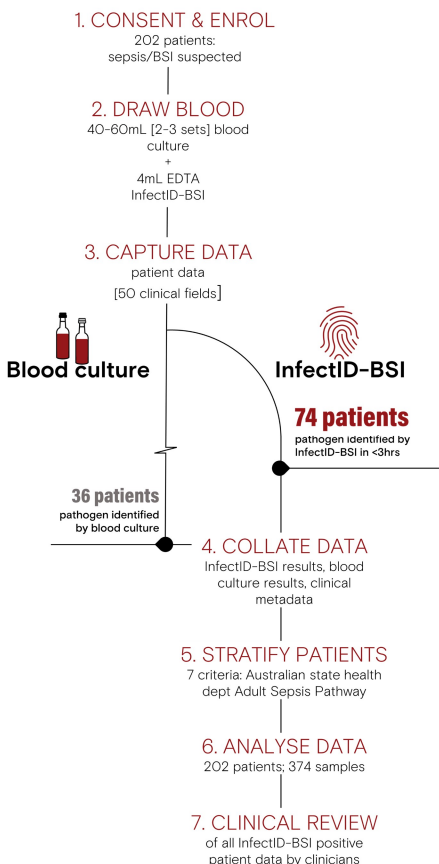
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## INTRODUCTION

Blood cultures are the gold standard for managing bloodstream infection, sepsis and septic shock, and provides good information, but not timely. InfectID-BSI is a rapid, direct-from-blood pathogen detection and identification assay.

## METHODS

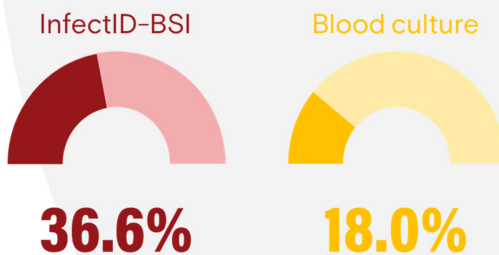
InfectID-BSI was used to test blood samples obtained from 202 patients admitted to two emergency departments in Queensland. The Queensland Adult Emergency Department Sepsis Pathway was used for determining the likelihood of clinical sepsis. Seventy-one patient records were selected for a 'deep dive' clinical review based on identification of bacterium by InfectID-BSI or InfectID-BSI and blood culture. A rich clinical metadata set was gathered, comprising 50 clinical metadata fields per patient. Disease severity in these patients was divided into blood-stream infection, sepsis and septic shock.



## DISCUSSION

Despite blood culture being the gold standard, the positivity rate in this study was 1 in 6 cases (18.3%). For the 81.7% of patients where blood culture was negative, clinical management was imprecise. InfectID-BSI identified pathogens in 36.5% of samples compared to 18.3% for blood culture. This study shows that clinical data, when combined with InfectID-BSI's specificity in identifying the six most prevalent bacterial species (listed in order of prevalence, right) reveals a broad collection of systemic and localised conditions in representative case studies that have historically rarely been considered to result in sepsis.

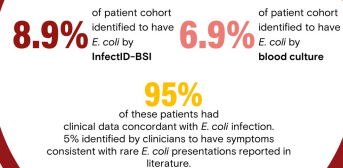
### Positivity rate



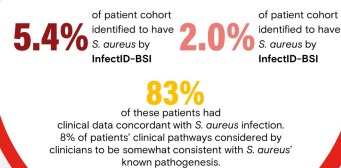
## CONCLUSIONS

This study strongly suggests that InfectID-BSI could result in radical improvements in the clinical management of sepsis for patients, clinicians and the healthcare system. InfectID-BSI challenges traditional thinking in managing sepsis.

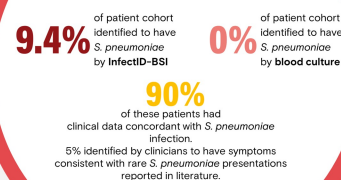
### 1. ESCHERICHIA COLI



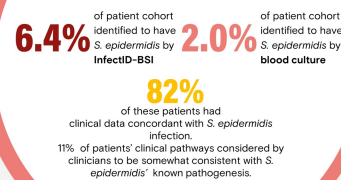
### 2. STAPHYLOCOCCUS AUREUS



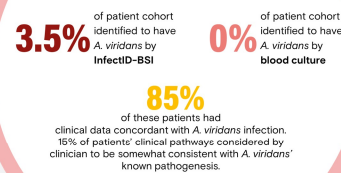
### 3. STREPTOCOCCUS PNEUMONIAE



### 4. STAPHYLOCOCCUS EPIDERMIDIS



### 5. AEROCOCCUS VIRIDANS



### 6. ENTEROBACTER CLOACAE

