

# Evaluation of Non-Medical Prescriber Interventions in the Management of Gram-negative Bacteraemia

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## Context

Multidisciplinary antimicrobial stewardship programmes are essential in optimising antimicrobial use and preventing associated unintended consequences.<sup>1,2</sup> Partnerships between medics and pharmacists are well documented within the literature however; the collaboration of nurse and pharmacist prescribers with expertise in antimicrobial stewardship is both innovative and unique.<sup>3</sup>

## Improvement Issue

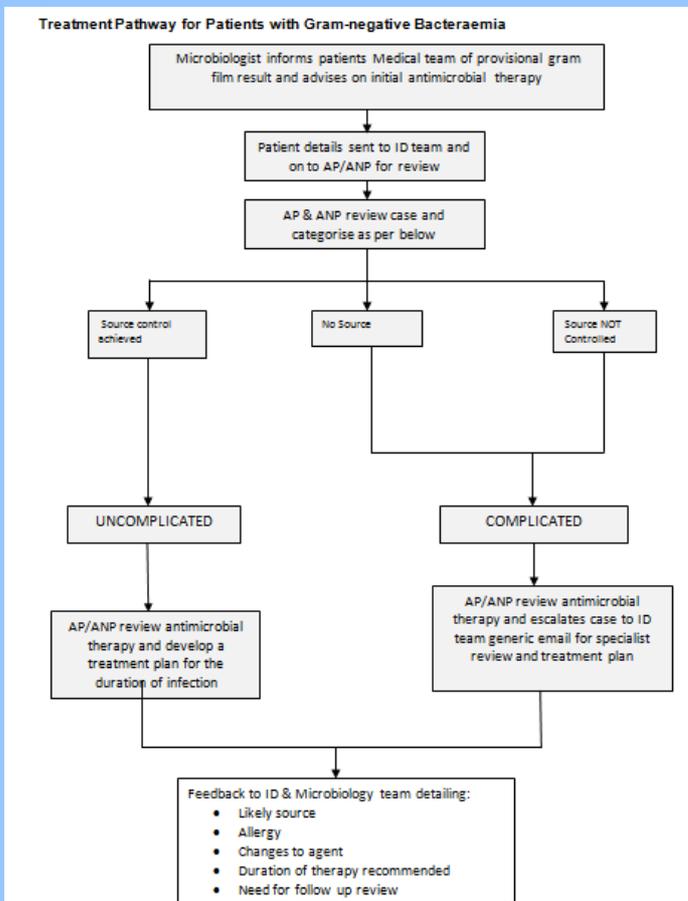
The projected rise in multi-drug resistant infections will impact on the available Infectious Disease (ID) specialist resource due to the increasingly complex cohort of patients requiring expert medical management.<sup>4</sup>

By incorporating non-medical prescribers (NMP) with knowledge and clinical experience into the patient consultation, the ID team can focus on the more complex patients whilst supporting and mentoring non-medical team members in the management of uncomplicated infection, thus, maximising team capacity and capability.

## Process

A treatment pathway (Fig 1.) was developed for NMP service provision which enabled triage of patients requiring specialist ID review. The aims of the project were to evaluate the inclusion of NMP's in gram-negative bacteraemia review by measuring the quality of the clinical recommendations.

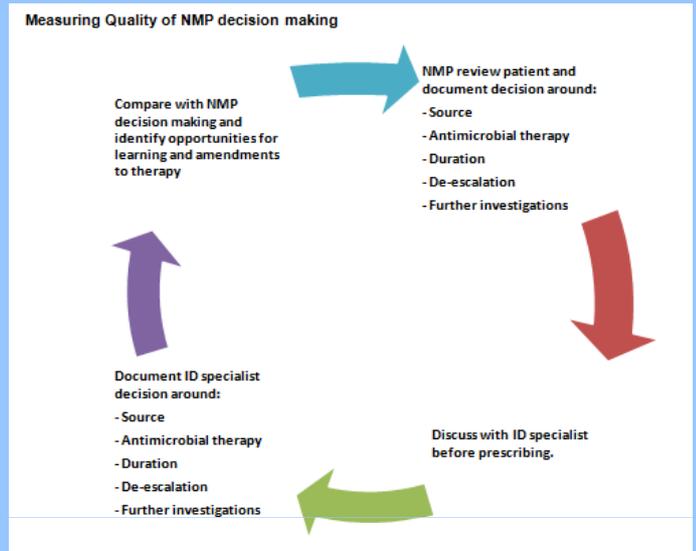
Fig 1.



## Improvement Strategy

Comparison between clinical decision making of the NMPs and infectious disease specialists informed the evaluation of this novel service using a model of continuous improvement (Fig 2).

Fig 2.



## Results Evidence

Concordance of NMP and ID specialist clinical decision making and prescribing was 94% with only 2 patients requiring escalation for specialist ID review.

The introduction of NMPs to the existing gram-negative bacteraemia service, has released capacity within the current Infection specialist service provision. Additionally, capability and scope of the team will be enhanced as NMP prescribing competence and confidence grow.

The nurse/pharmacist led gram-negative bacteraemia review has provided additional support for prescribers in this area whilst promoting prudent use of antimicrobials in the treatment of gram negative bacteraemia, providing an opportunity for feedback/education to medical and nursing teams on the use of antimicrobials, the principles of stewardship, the management and prevention of gram-negative bacteraemias whilst offering a multidisciplinary approach which incorporates the additional aspects of infection prevention and control.

## Future Steps

Following a similar process, there is the potential for the NMPs to incorporate the review of gram-positive bacteraemias and review and triage of patients with uncomplicated infection, such as urinary tract infection, respiratory tract infection and soft skin and tissue infection into their service delivery which in turn would generate greater capacity within the wider team.

## REFERENCES

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3. Brink A, Van den Bergh D, Mendelson M, Richards GA. Passing the baton to pharmacists and nurses: New models of antibiotic stewardship for South Africa? S Afr Med J 2016; 106(10): 947-8.
4. O'Neill. Tackling Drug Resistant Infections Globally: Final Report and Recommendations. 2016