

# Research Poster Awards 2023

## Title: Optimising antimicrobial stewardship in Australian primary care utilising a novel implementation model

Project Team Leader: Dr Sajal Kumar Saha<sup>1,2,3</sup>

Project Team Members: Alicia Neels<sup>3</sup>, David Kong<sup>4</sup>, Karin Thursky<sup>4</sup>, Danielle Mazza<sup>5</sup>, Eugene Athan<sup>1,2,3</sup>

<sup>1</sup>Centre for Innovation in Infectious Disease and Immunology Research; <sup>2</sup>Deakin University, School of Medicine, IMPACT, Institute for Innovation in Physical and Mental Health and Clinical Translation, VIC 3220; <sup>3</sup>Barwon Health, University Hospital Geelong; <sup>4</sup>University of Melbourne, National Centre for Antimicrobial Stewardship, VIC 3000; <sup>5</sup>Monash University, Department of General Practice, VIC 3168, Australia

### INTRODUCTION

- Estimate suggests that 1 in 3 antimicrobials (mostly antibiotics) are prescribed inappropriately in Australian primary care either by clinical indication(s), choice of antibiotic therapy, dose or duration [1].
- The estimated costs of inappropriate prescribing is ~\$AUD98 million/year in the paediatric respiratory infections alone [2].
- Worldwide, an implementation model framework for antimicrobial stewardship (AMS) involving GP-pharmacist collaboration remains underdeveloped to reduce unnecessary antibiotic use, patient harms, treatment costs, and emergence of antimicrobial-resistant infections in

### OBJECTIVE

- To design an implementation model named GP-pharmacist antimicrobial stewardship (GPPAS) to optimise antimicrobial use in Australian primary care

### METHOD

- Between 2017-2023, exploratory studies involving systematic reviews and meta-analysis [3,4], scoping review [5], rapid review [6] nationwide surveys and qualitative interviews of GPs and community pharmacists [7-9] and GPPAS pilot trials [10] were conducted to design a GPPAS model framework.
- The study protocol [11] described detailed analysis and methodologies.

### RESULTS

#### Outcome 1: GPPAS Implementation model

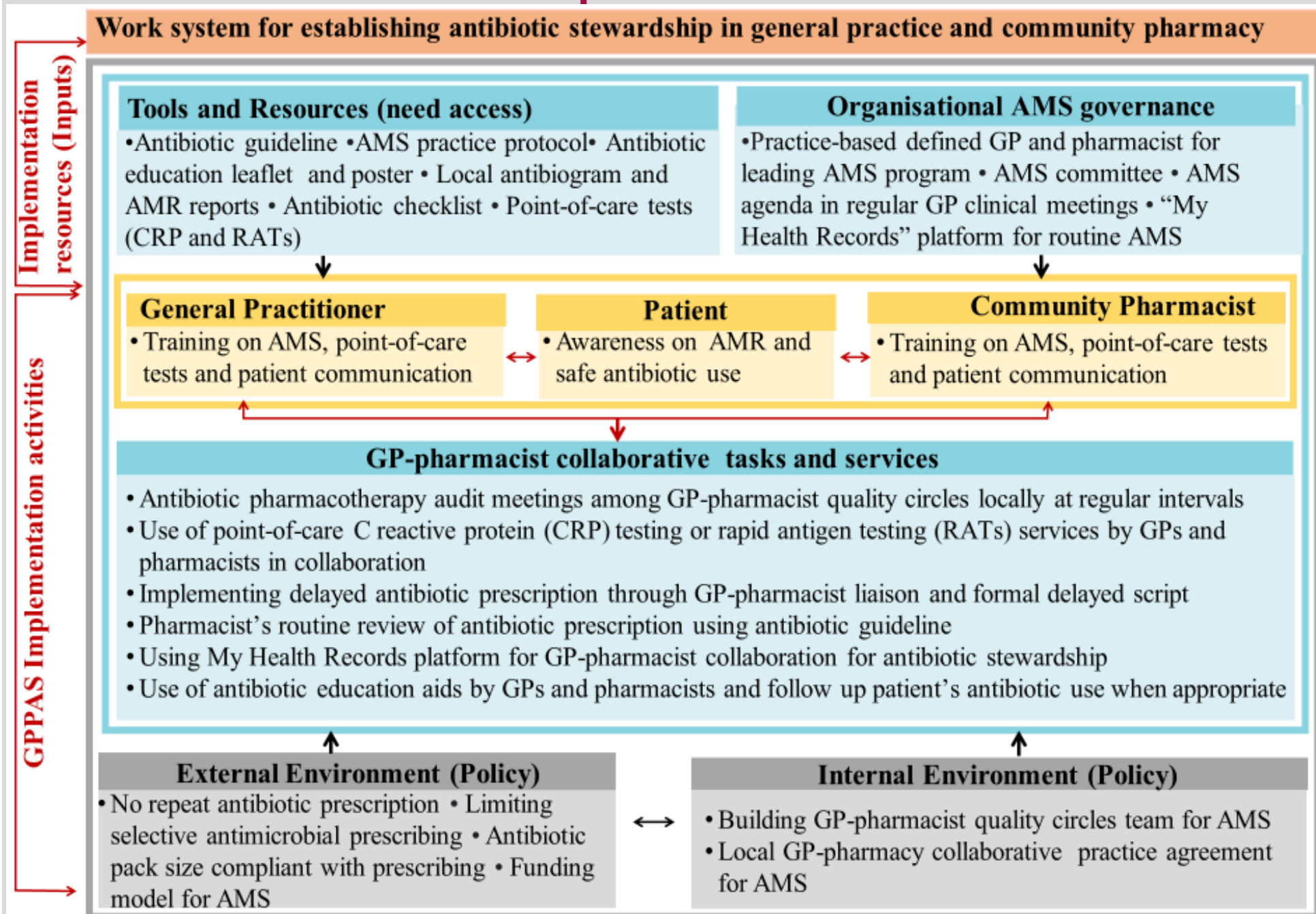


Fig 1: GPPAS implementation model framework to optimise antimicrobial use in primary care in Australia. [The framework guides the required training, tools, collaborative activities and patient care services, and environmental policy changes to foster routine implementation of antibiotic stewardship program by GPs and community pharmacists].

#### Outcome 2: Effectiveness of a GPPAS sub-model involving AMS education

Improved appropriateness in a GP practice in Australia : Antimicrobial selection [73.9% (291/394) to 92.8% (336/362) RR = 1.26, 95% CI 1.18–1.34], duration [53.1% (205/386) to 87.7% (316/360), RR = 1.65, 95% CI 1.49–1.83 and

#### Outcome 3: National governance structure for GPPAS implementation in primary care

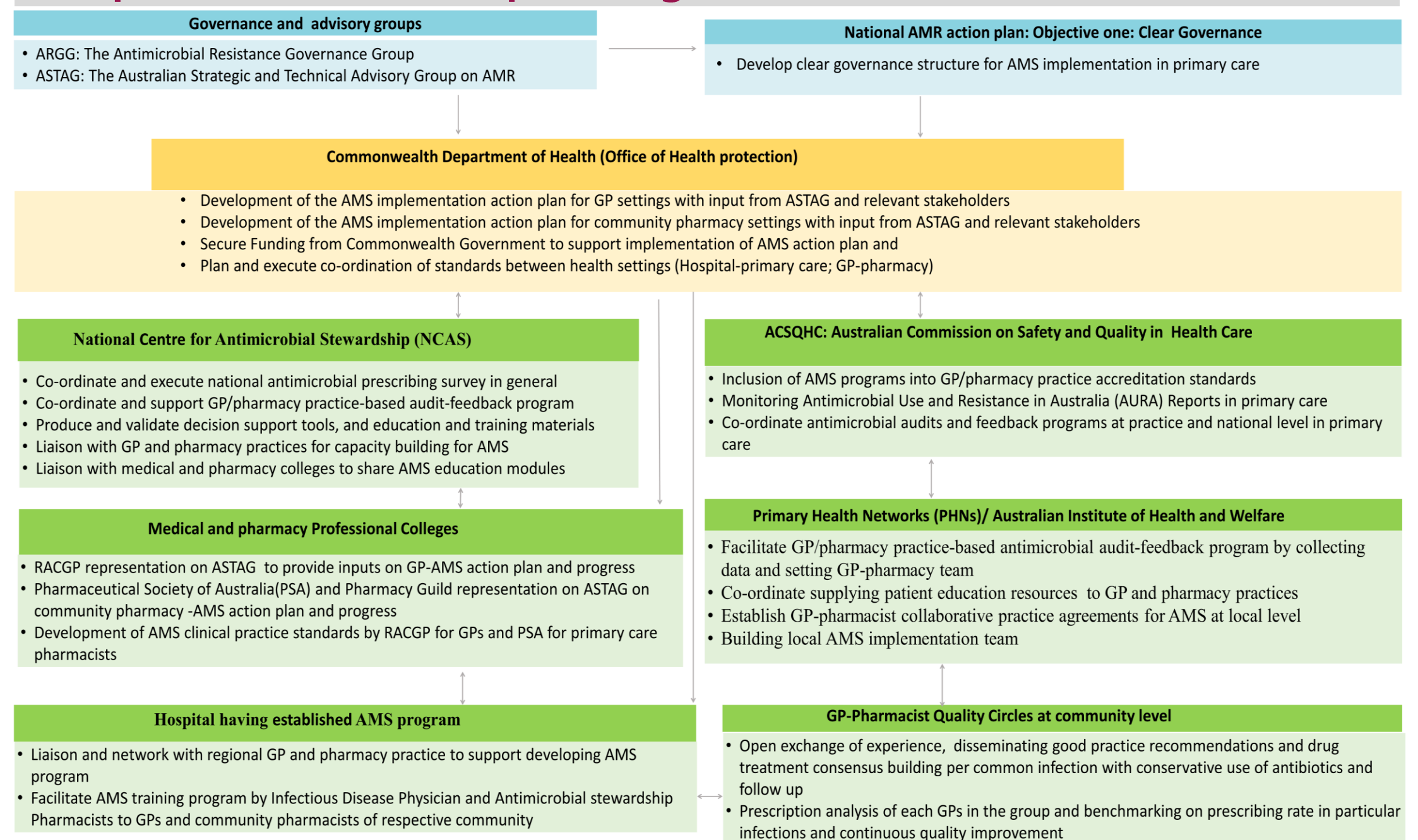


Fig 2: The GPPAS implementation governance structure to optimise antibiotic use in Australian primary care. Fig shows the key roles of the relevant organisations to accelerate implementation of the GPPAS program at local and national level in response to the national antimicrobial resistance (AMR) action plan.

### DISCUSSION

- The GPPAS model has identified that AMS training, delayed prescribing, antimicrobial audits and feedback and point-of-care CRP and RATs testing services as instrumental to optimise antimicrobial use in routine patient care and foster GP-pharmacist collaboration for antimicrobial stewardship.
- A GPPAS model involving point-of-care CRP testing services and delayed prescribing strategies is on pilot assessment in GP/pharmacy co-located settings in Australia. A randomised controlled trial is needed to test if the GPPAS model is effectiveness and cost-effective to integrate into routine GP/pharmacy practices in future.
- The GPPAS model development work has made 11 key national policy recommendations to improve antimicrobial stewardship in Australian primary care: Models of care to support best practice AMS; GP-community pharmacy practice agreements; AMS training; Collaborative GP-pharmacist prescribing models; Guidelines to support delayed prescribing strategies; Point-of-care testing for microbial infection; A digital platform to support AMS in primary care; Program evaluation; Audit and feedback through real-time monitoring for antibiotic prescribing; Clinical decision support tools for antibiotic prescribing; GP-Community pharmacy governance framework for AMS.

- The policy brief [13] and recommendations have been disseminated through the Deeble Institute of Health Policy Research with media release, primary Health Network (PHN) and Australian Commission of Safety and Quality in Health Care

### CONCLUSION

- A novel GPPAS model framework has been successfully designed [15] that guides and informs the national governance structure and policy recommendations to improve antimicrobial stewardship in Australian primary care.
- The implementation of the GPPAS model will have policy impact in establishing antibiotic stewardship program in GP and pharmacy practices

### REFERENCES

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Contact: