

CO-MRSA INFECTIONS IN AUSTRALIA COST \$3.5B PER ANNUM

Authors:

Cameron JK¹, Paterson DL², Britton PN³, Tong SYC⁴, Hall L¹, Nimmo GR⁵, Bennett CM⁶, Halton K¹.

¹ Institute for Health and Biomedical Innovation and School of Public Health and Social Work, Queensland University of Technology, ² The University of Queensland Centre for Clinical Research, University of Queensland and Royal Brisbane and Women's Hospital, ³ The Children's Hospital at Westmead and Sydney Medical School, University of Sydney, ⁴ Victorian Infectious Disease Service, The Royal Melbourne Hospital and The University of Melbourne, at the Peter Doherty Institute for Infection and Immunity and Menzies School of Health Research, Darwin, ⁵ Griffith University School of Medicine and Pathology Queensland, ⁶ Centre for Population Health Research, Deakin University

Introduction: The health and economic burdens of community-onset methicillin resistant *Staphylococcus aureus* (CO-MRSA) infections are needed to inform policy, planning and evidence-based practice. We aimed to synthesise data from a range of public sources to generate the first estimate of the national incidence and cost of CO-MRSA infections.

Methods: Incidences of CO-MRSA skin and soft tissue (SSTI), lower respiratory tract (LRTI) and bloodstream (BSI) infections were calculated for regions of Australia using data from existing literature and correspondence with specialists.

Simulations estimated costs using treatment models developed for children and adults in primary or tertiary care settings and including bed-stay, diagnostics, procedures, mortalities and loss of productivity.

Results: Annually, in Australia there were found to be 3702 CO-MRSA SSTIs, 559 CO-MRSA BSIs and 425 CO-MRSA LRTIs, occupying 147,000 bed-days, including 1600 bed-days in intensive care. Incidence ranged from 4 /100,000 person-years in Tasmania to 243 /100,000 person-years in central Australia.

The estimated cost of CO-MRSA was \$3.5b annually in Australia. The higher incidence of SSTIs resulted in costs greater than summing the costs of BSIs and LRTIs. The greatest cost was mortality. The cost to the health system was found to be \$1.9b, with bed occupancies accounting for ≥94%.

Conclusion: This first evaluation of the health and economic burden of CO-MRSA in Australia found a need for increased and more consistent data collection for a significant and expensive disease.

Disclosure of Interest Statement: This research was funded by NHMRC grant GNT1027589.