

# To Clean or not to Clean: VRE we all need to take notice!

Margaret Broom<sup>1,2</sup>, Janine McEwan<sup>1</sup>, Melanie Rosin<sup>1</sup>, Wendy Beckingham<sup>3</sup>, Penny Maher<sup>1</sup>

<sup>1</sup> Department of Neonatology, Centenary Hospital for Women and Children, Woden, ACT, 2606, <sup>2</sup> Australian Catholic University, Canberra, ACT, 2600

<sup>3</sup> Department Infection Prevention and Control, Canberra Hospital, Woden, ACT, 2606 <sup>4</sup> Women, Youth and Children, Centenary Hospital for Women and Children, Woden, ACT, 2606

## Background

- The prevalence of Vancomycin-resistant enterococci (VRE) colonisation has increased in Neonatal Intensive Care Units (NICU) over the past 5 years
- Previous studies reporting 12-39% colonisation rates in their NICU population
- Risk factors for VRE colonization include the need for intensive care, invasive procedures and broad spectrum antibiotics placing neonates admitted to a NICU at high risk of colonisation
- In March 2017 the Canberra NICU and Special Care (SCN) clinical teams were alerted that an infant transferred to local SCN was colonised for VRE
- Further investigation identified a 20% colonisation rate highlighting the need to review cleaning processes and protocols

## Method

- A VRE working group (VWG) was established, membership included: medical, nursing, infection control and biomedical staff
- The VWG met weekly and undertook a systematic review of NICU/SCN cleaning processes and protocols
- Factors reviewed included:
  - number of colonised infants
  - Infant transfers from room to room
  - layout of the clinical environment
  - Routine cleaning of equipment
  - staff education,
  - cleaning responsibilities and cleaning products
- Meetings were held until two weeks post all neonates screened negative
- Staff were updated weekly throughout the colonisation period

## Results

- The VWG highlighted the following gaps:
  - delineation of cleaning responsibilities and methods
  - unit footprint
  - product misuse
  - adherence to standard precautions
  - hand hygiene practice.
- The VWG developed and initiated a comprehensive package of interventions. Strategies implemented consisted of:
  - isolation of colonised infants
  - comprehensive infection control measures across the NICU/SCN
  - weekly infant VRE swab protocol was implemented
  - update protocols
  - staff (clinical and cleaning) education
  - weekly surveillance of environmental cleaning
  - testing of new cleaning products
  - positive feedback for improved outcomes.
- No positive cultures were reported eight weeks post event

## Conclusion

- Early detection and swift interventions are required to avert VRE colonisation

## Clinical Significance

- Infants colonised with VRE are at risk of developing systemic infection
- This study has emphasising the importance of continuing education, maintenance of cleaning standards and hand hygiene practices

## Transmission of VRE in NICU/SCN

