



## Symposium 18.3

### Surveillance as the key to infection control

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For the control of nosocomial multi resistant organisms an important strategy is to identify reservoirs from which spread can occur. Screening of patients is common – the practice of which raises the following questions: Which organisms are of importance? Is screening cost effective? Should specific patient populations be targeted? Can risk factors for colonisation be identified? Should staff members be screened and if so when? If screening is to be performed which sites require sampling and how often? Which screening media give the best results and what role do molecular techniques play?

Royal Perth Hospital (RPH) has had to address each of these questions for various multi-resistant organisms (MROs)

- Multi resistant MRSA is not endemic in the hospital and screening has been used on patient entry into the hospital or specific hospital units and as part of a 'search and destroy' policy should nosocomial transmission be demonstrated. Analysis of 100,000 screening specimens over a two year period has allowed evidence based modification of our practice.
- During a major VRE outbreak screening of all hospital patients identified previously unrecognised colonised patients allowing instigation of appropriate isolation procedures. The outbreak was successfully terminated. The experience gained during the outbreak and ongoing surveillance has allowed assessment of VRE screening.
- Admission of over 30 burn victims of the Bali terrorist attack who were found to be carrying large numbers of MROs, both Gram negative and Gram positive, resulted in a detailed look at screening programs for a wide range of MROs.

Screening of staff is perhaps more controversial, however with the introduction of epidemic MRSA UK15 (ST22 MRSA IV) into Western Australia data support the validity of this. Our VRE outbreak data however, does not support staff VRE screening. There are no data on staff screening for other MRO's.

How to screen is the next question. Which laboratory method should be used? The ideal test would have high negative and positive predictive values, be rapid, inexpensive, applicable to the routine laboratory, and have high through put capabilities. Currently used tests for MRSA and VRE are traditional microbiological culture and identification methods, use of selective media including various types of CHROMagar and molecular techniques using real time PCR. The requirement for broth amplification increases the sensitivity for some of these methods but also increases the time to identification.

Screening strategies depend greatly on whether an organism is endemic in the hospital, introduced intermittently or during an outbreak situation. Identifying the cost effective approach for each of these circumstances remains a challenge.