Cross-jurisdictional tracking of superbugs

Teresa Wozniak
What is surveillance?

“ongoing systematic collection, analysis, and interpretation of health data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those who need to know.”

Source: Centers for Disease Control and Prevention (CDC)
Are we just collecting cases?

Identify the problem
Engage the end-user
Collect & analyse data
Interpret & disseminate
Are we just collecting cases?

- Improve patient safety
- Reduce antibiotic use
- Reduce infections
- Cost saving

Identify the problem
Engage the end-user
Collect & analyse data
Interpret & disseminate
Australia’s response to AMR
Australia’s response to AMR
Australia’s response to AMR

AUSTRALIAN GROUP on ANTIMICROBIAL RESISTANCE

Gonococcal: Australian Gonococcal Surveillance Programme

November 2016
Australia’s response to AMR

Australian Group on Antimicrobial Resistance (AGAR)

The Department of Health

Antimicrobial Use and Resistance in Australia (AURA)

November 2016

Hot North

Menzies School of Health Research
Australia’s response to AMR
Australia’s response to AMR
Australia’s response to AMR

Australian Passive AMR Surveillance (APAS)

November 2016

Communicable
Gonococcal

HOT NORTH
Improving Health Outcomes in the Tropical North

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Australia’s response to AMR- what we don’t have

Australian Passive AMR Surveillance (APAS)
Staphylococcus aureus Infections: Epidemiology, Pathophysiology, Clinical Manifestations, and Management

High burden of complicated skin and soft tissue infections in the Indigenous population of Central Australia due to dominant Panton Valentine leucocidin clones ST93-MRSA and CC121-MSSA

The rise of methicillin resistant Staphylococcus aureus: now the dominant cause of skin and soft tissue infection in Central Australia

Community-Associated Strains of Methicillin-Resistant Staphylococcus aureus and Methicillin-Susceptible S. aureus in Indigenous Northern Australia: Epidemiology and Outcomes
HOT NORTH plan

Prospective surveillance

Retrospective analysis

Data enrichment

Prospective surveillance

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Improving Health Outcomes in the Tropical North

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Retrospective analysis

- To quantify the occurrence of key organisms across Kimberley, NT and far north Qld

> S aureus > H. influenza
> E. coli > N. gonorrhoea
> K. pneumoniae > A. baumannii
> P. aeruginosa > S. pneumoniae
> S. pyrogenes
Data enrichment

1. Pathology data linked with hospital inpatient data statistics
   i. Patient demographics
   ii. Hospitalisation (extra length of stay, treatment, antibiotic prescribing)
   iii. Geographical location of acquisition
   iv. Economic burden to the healthcare system (Will’s PhD)

2. Proof-of-concept genomics studies to look at transmission within and between communities

Time frame: 2-3 years
Data enrichment
Prospective surveillance system

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Thank you

A/Prof Anna Ralph
A/Prof Steve Tong

HOT NORTH for fellowship
Menzies Philanthropic funding for infrastructure support

All Menzies staff who make it a great place to work