Recapitulation

- MRSA in Hong Kong (~44% of SAUR)
  - 700 cases/year, 70% of which were new cases
  - Prevalence 0.9679/1000bd
  - Bacteremia 0.1065/1000bd
- Association with higher MRSA rates
  - ICU/HDU; renal
- Major constrain
  - Ratio of nursing staff to patient
  - Bed occupancy rate
  - RCHE—21% prevalence of colonization (20% admission but disproportionately constitute 40% of cases)

Role of laboratory in control of MRSA

- Detection: clinical specimens & screening
- Antimicrobial susceptibility
- Typing: spa type t1081 is endemic in HK
- Communication with frontline is essential for interpretation of result

Success in Europe

- Active MRSA control implemented in many European countries
  - Surveillance
  - National guidelines and recommendations
- Change in process of care and organization, resources and political commitment +/- legislation
- Targeted screening & isolation
- Improved basic infection control (Hand hygiene, prevention of CVC related sepsis)
- Successful examples: France, Nordic, UK, Belgium
  - proportion of screening on admission 5.2% in Belgium

The role of active MRSA screening, what is the evidence?

- Recent high quality publications on MRSA screening, but evidence still conflicting
- Targeted screening is probably more cost effective if linked to rapid infection control intervention
  - Universal screening is not a mandatory prerequisite to decrease MRSA infection
- Risk profiling need to be adopted to local epidemiology
  - Study design, interventions, patient demographics, test performance, baseline rate
- Rapid MRSA screening
  - Baseline rate as important predictor for cost effectiveness
  - More appropriate in setting with high MRSA prevalence

Results of pre-session survey

- Universal MRSA screening on admission or before admission
  - Y 5.1% N 94.9% (N=78)
- Targeted screening
  - Y 68.8% N 31.3% (N=80)
- Single room isolation for positive screen
  - Y 26.7%   N 73.3% (N=60)
- Screening of staff for any reasons in last year
  - Y 14.3% N 85.7% (N=77)
- Methods available in hospital for MRSA detection
  - None 12% Culture only 58.7% culture+PCR 29.3% (N=75)

Local Experience: a tale of 2 units

- *Successful control of MRSA depends on intensive* collaboration between ICT, laboratory & clinical counterpart
- Effort of intensified measures may not be sustainable

  positive environmental screening increased from 0 – 13.3%
- Spa typing and antibiogram should be interpreted in the context of clinical & epidemiology information

To Screen or Not to Screen

- Universal vs. targeted group(s)
  - ICU (NICU)
  - Renal
  - Neurosurgery
  - Cardiothoracic
  - Orthopaedics
- Continuous vs. event-based
- Culture vs. culture + rapid PCR testing vs. rapid PCR testing
- Patients +/- staff +/- environment

What to do after screened positive?

- Decolonization
- Isolation (limited space)

Results of post-session survey

- Universal admission or pre-admission screening is effective in reducing MRSA (n=72)
  - Yes = 31.9% No = 68.1%
- Selective or targeted screening in discrete patient groups is effective in reducing MRSA (n=73)
  - Yes = 90.4% No = 9.6%
- Staff screening is effective in reducing MRSA (n=74)
  - Yes = 73.0% No = 27.0%
- Decolonization of MRSA colonized patients is useful in reducing MRSA (n=71)
  - Yes = 67.6% No = 32.4%
- MRSA screening method(s) preferred (n=74)
  - Culture only = 20.3%   PCR only = 31.1%   Culture & PCR = 48.6%

How do you isolate the MRSA colonizers?	Accepted (n=71)	Preferred (n=74)
Isolation wards & side wards only	8.5%	39.2%
Isolation wards, side wards & cohort cubicles only	31.0%	47.3%
Isolation wards, side wards, cohort cubicles & corner beds only	47.9%	10.8%
Anywhere in ward	12.7%	2.7%