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%

<table>
<thead>
<tr>
<th>How do you isolate the MRSA colonizers?</th>
<th>Accepted (n=71)</th>
<th>Preferred (n=74)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolation wards &amp; side wards only</td>
<td>8.5%</td>
<td>39.2%</td>
</tr>
<tr>
<td>Isolation wards, side wards &amp; cohort cubicles only</td>
<td>31.0%</td>
<td>47.3%</td>
</tr>
<tr>
<td>Isolation wards, side wards, cohort cubicles &amp; corner beds only</td>
<td>47.9%</td>
<td>10.8%</td>
</tr>
<tr>
<td>Anywhere in ward</td>
<td>12.7%</td>
<td>2.7%</td>
</tr>
</tbody>
</table>
Thank You