“The English MRSA Miracle”

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MRSA bacteraemia, England 2001-2013

1. Mandatory reporting, 2001
2. 'Getting ahead of the curve', 2002
3. 'Winning ways', 2003
4. 'Towards cleaner hospitals’, 2004
5. 'Cleanyourhands', 2004
6. Targets introduced, 2004
7. Cleanliness improvement, 2005
8. 'Going further faster’, 2006
9. Root cause analysis, 2006
10. Revised national guidelines, 2006
12. Screening elective admissions, 2008
13. Universal screening, 2010
Does hand hygiene explain the “MRSA miracle”? 

‘The Cleanyourhands campaign was associated with sustained increases in hospital procurement of alcohol rub and soap, which the results suggest has an important role in reducing rates of some healthcare associated infections.’

Why no reduction in MSSA bacteraemia...?

Fig 2 Estimated quarterly rate of bacteraemia (per 10 000 bed days)

...or *E. coli* bacteraemia?

![Graph showing the trend of MSSA, CDI, E. coli, and MRSA cases from 2001 to 2014]
Spurious correlation?

Correlation between the proportion of *S. aureus* bloodstream infections due to MRSA and an indicator for fair play from the European Football Championships (red or yellow cards / 100 min)

Meyer *et al.* *Infection* 2012 in press.
MRSA bacteraemia, England 2001-2013

- Mandatory reporting, 2001
- 'Getting ahead of the curve', 2002
- 'Winning ways', 2003
- 'Towards cleaner hospitals', 2004
- 'Cleanyourhands', 2004
- Targets introduced, 2004
- Cleanliness improvement, 2005
- 'Going further faster', 2006
- Root cause analysis, 2006
- Revised national guidelines, 2006
- Deep clean, 2007
- Screening elective admissions, 2008
- Universal screening, 2010
Targeted approach to MRSA infection prevention

- Reduction targets introduced in 2004 and reinforced in 2006
- High impact interventions launched in 2006
- Root cause analysis launched in 2006
- Revised national guidelines launched in 2006
### Key Challenge Specific Focus

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<th>Challenge</th>
<th>Specific Focus</th>
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<td>Challenge 1</td>
<td>Engage the board and use performance management at every level</td>
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<td>Challenge 2</td>
<td>Ensure clinical ownership across organisation</td>
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<td>Challenge 3</td>
<td>Screen and/or decontaminate according to risk assessment</td>
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<td>Challenge 4</td>
<td>Use HIIs* to monitor and increase compliance</td>
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<td>Integrate with risk and clinical governance framework</td>
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<td>Ensure infection control is part of induction and ongoing training</td>
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<td>Effectively coordinate bed management with infection control input</td>
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<td>Challenge 8</td>
<td>Clean and decontaminate</td>
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<td>Challenge 9</td>
<td>Proactively manage your reputation, engage all staff and local community</td>
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*HII = high impact interventions*: Central venous catheter care bundle; Peripheral intravenous cannula care bundle; Renal catheter care bundle; Care bundle to prevent surgical site infection; Care bundle for ventilated patients; Urinary catheter care bundle; Care bundle to reduce the risk from *Clostridium difficile*.

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**From ‘Going further faster’**
Questions for chief executives to ask

- Where are MRSA bacteraemias occurring and how often?
- How do you ensure that your data is accurate?
- Does the Trust board understand this agenda and are they engaged in reducing MRSA?
- Who is responsible for leading this work and what resources are needed?
- How are you embedding this in your performance management framework?
- Do you have a non-executive champion for this?
- Is this integrated into your risk management and clinical governance framework?
- How are you engaging patients and the public to increase public confidence in your trust?
MRSA invasive infections, Europe
MRSA invasive isolates, UK v Portugal

% invasive isolations resistant to methcillin


Portugal
UK

EARS-Net
Antibiotic use

Carbapenem use

Single rooms

Infection control nurse staffing

Infection prevention and control nurses (Median FTE/250 beds)

- <0.50
- 0.50 to <0.75
- 0.75 to <1.00
- 1.00 to <1.25
- >=1.25
- No data
- Not included

Infection control doctor staffing

National debt

General government gross debt - annual data

2012

Percentage of GDP

Eurostat

"Eurostat public debt GDP" by Eurostat. Licensed under Attribution via Wikimedia Commons.
And finally...

Correlation between the proportion of *S. aureus* bloodstream infections due to MRSA and an indicator for fair play from the European Football Championships (red or yellow cards / 100 min)

Meyer *et al.* *Infection* 2012 in press.
Key points for discussion

- What explains the UK success in reducing MRSA and CDI, but failure in reducing MSSA and *E. coli*?
- How do we explain the differences in epidemiology of key HCAI pathogens between Portugal and the UK?
- What is the relative importance of national strategy vs. local practices?
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