

# Healthcare Associated Infection:

What do I want from new  
diagnostics?

A P Gibb

**Consultant Microbiologist,  
Edinburgh**

- What is HAI?
- Why hasn't it gone away?
- Where do diagnostics fit in?
- Wishes and needs from new diagnostics.

# What is HAI?

- Infection not present on admission

Operational definition =

Onset > 48 h after admission

- Mostly common bacterial infections
  - Urinary tract
  - Lower respiratory
  - Wound
  - Intravascular lines
  - *Clostridium difficile* diarrhoea
- Occasionally other specific infections



## NHS SCOTLAND NATIONAL HAI PREVALENCE SURVEY

FINAL REPORT

July 2007

Prepared for Scottish  
By Health Protection

13,754 inpatients , Oct '05 - Oct '06

Prevalence =

- 9.5% for acute hospitals
- 7.3% for non-acute hospitals.

Cost to NHS Scotland estimated at  
£183M pa



You are here: [Topics](#) > [Health and Community Care](#) > [NHSScotland](#) > [Healthcare](#)  
[Associated Infections](#)

- ▾ [Health and Community Care](#)
- ▾ [NHSScotland](#)
- ▾ [Healthcare Associated Infections](#)
  - [News](#)
  - [Infection Monitoring](#)
  - [Questions and Answers](#)

## Healthcare Associated Infections

### Action to reduce Healthcare Associated Infections

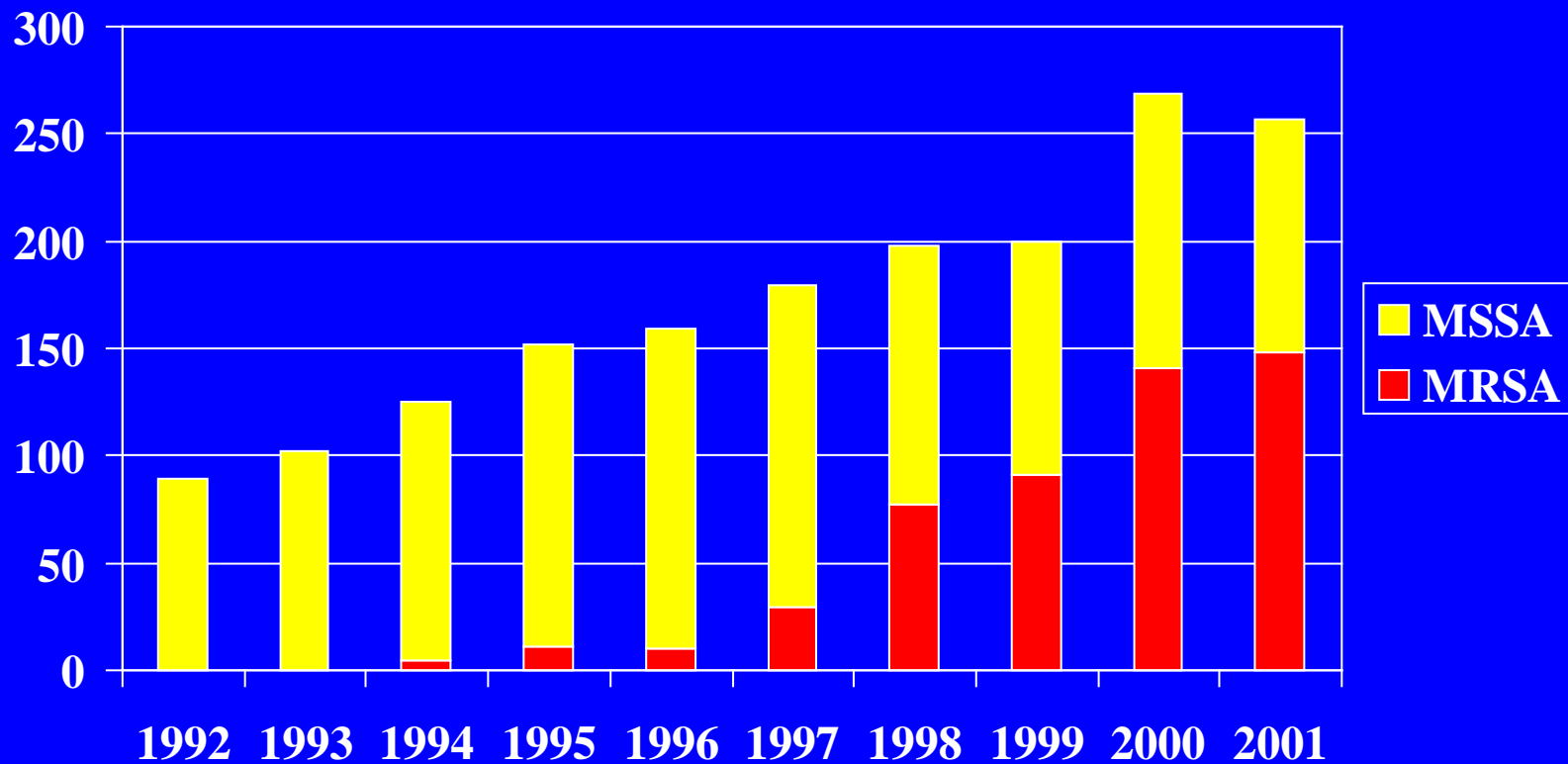
This section tells you about the work that is being done to reduce Healthcare Associated Infections in Scotland.

Healthcare Associated Infections (HAI) are infections that patients acquire during the course of receiving treatment for other conditions within a healthcare setting.

The most well known of these are [MRSA](#) and [Clostridium difficile](#), although the term covers a much wider range of infections.

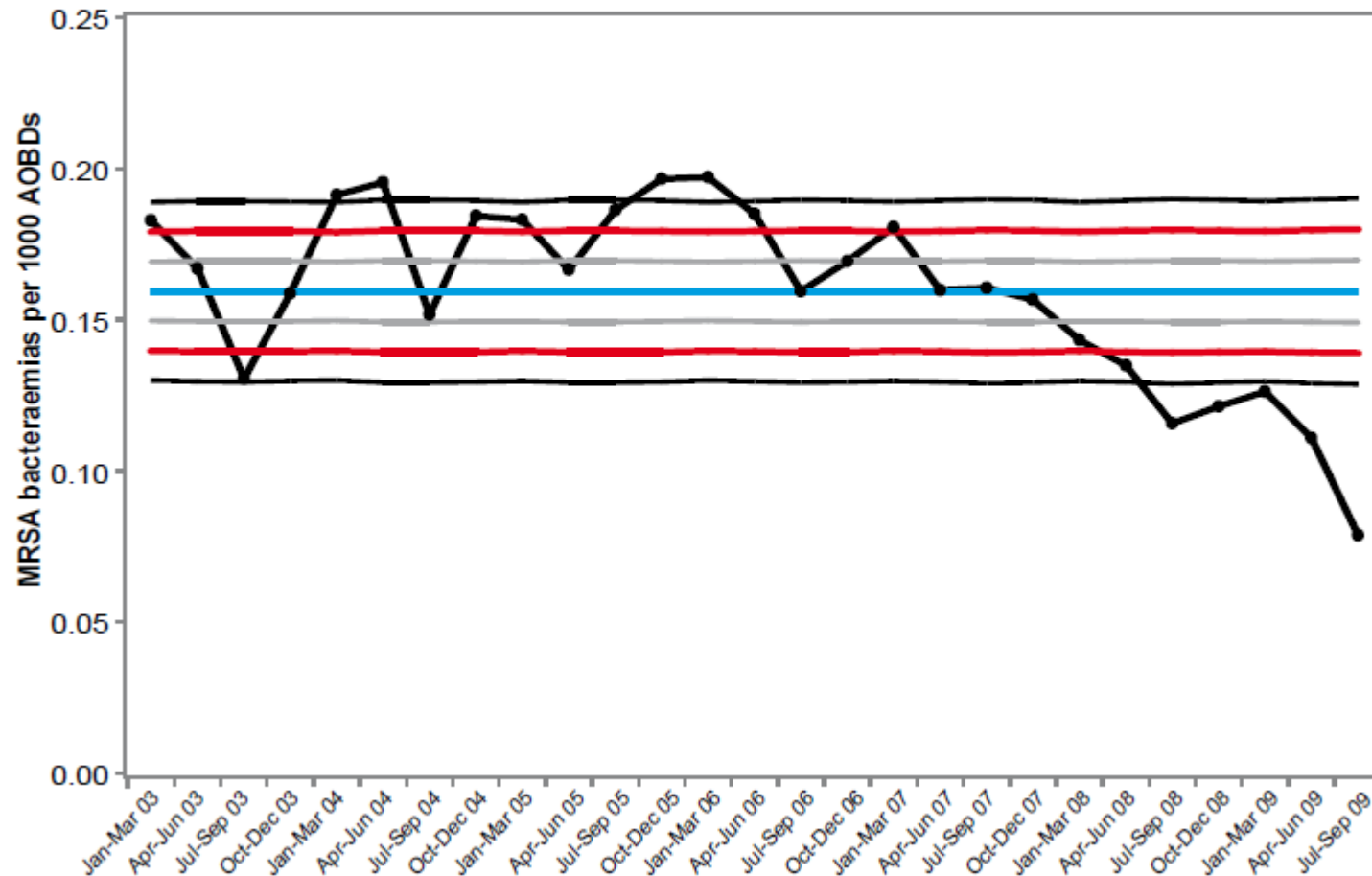


# *S. aureus* bacteraemia RIE (patient episodes per year)



We can make a difference.....

**Figure 4:** SPC chart of quarterly MRSA bacteraemia per 1000 AOBs in Scotland, 1 January 2003 to 30 September 2009.



[http://www.hps.scot.nhs.uk/pubs/Publication\\_Detail.aspx](http://www.hps.scot.nhs.uk/pubs/Publication_Detail.aspx)

# Why hasn't HAI all gone away?

- Some HAI may be an inevitable consequence of health care
- We know some of the solutions, but not all
- Implementation of what we know is hard

# A spectrum of HAI advice and guidance

Evidence  
of clinical  
benefit

Evidence of  
mechanism

Rational

Ritual?



Care bundle  
for central  
lines

MRSA  
screening

Don't wear  
a tie

Don't sit on  
beds

Hand  
hygiene

Bare below  
the elbows

Wall  
washing

# Where do diagnostic tests fit in?

- Primary prevention
  - Screening patients
  - environmental?
- Secondary prevention
  - early diagnosis, targeted therapy
- Surveillance and monitoring
  - Consistent measurements
  - Strain fingerprinting

# What do I want from a new diagnostic test?

- Evidence of clinical benefit
  - i.e. tests that make a difference.
- A way to justify the cost
- Point-of-Care tests: Ease of use for
- Lab tests: Automation
- Pluripotent platforms