

# MRSA

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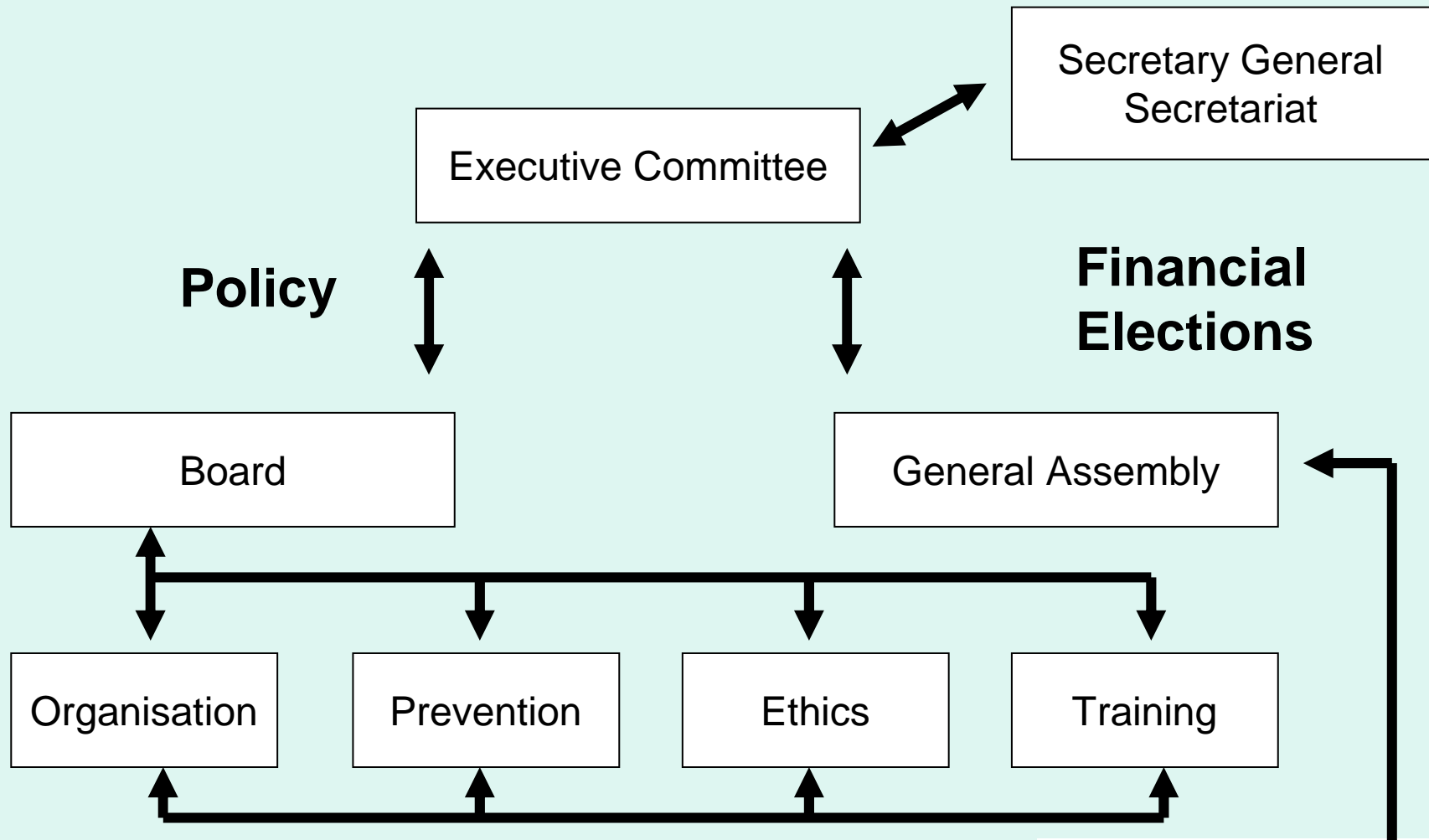
(Standing Committee of European Doctors)

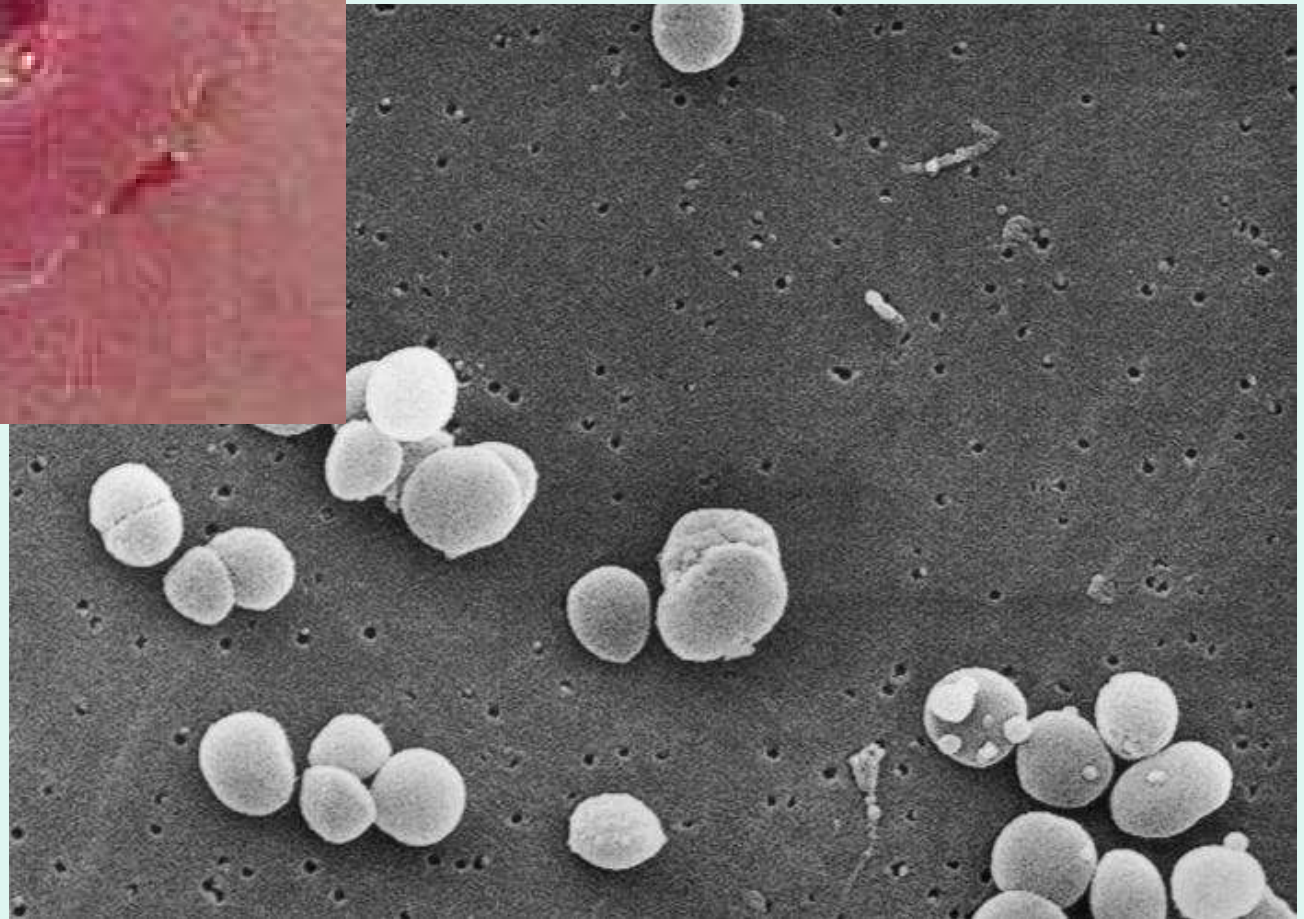


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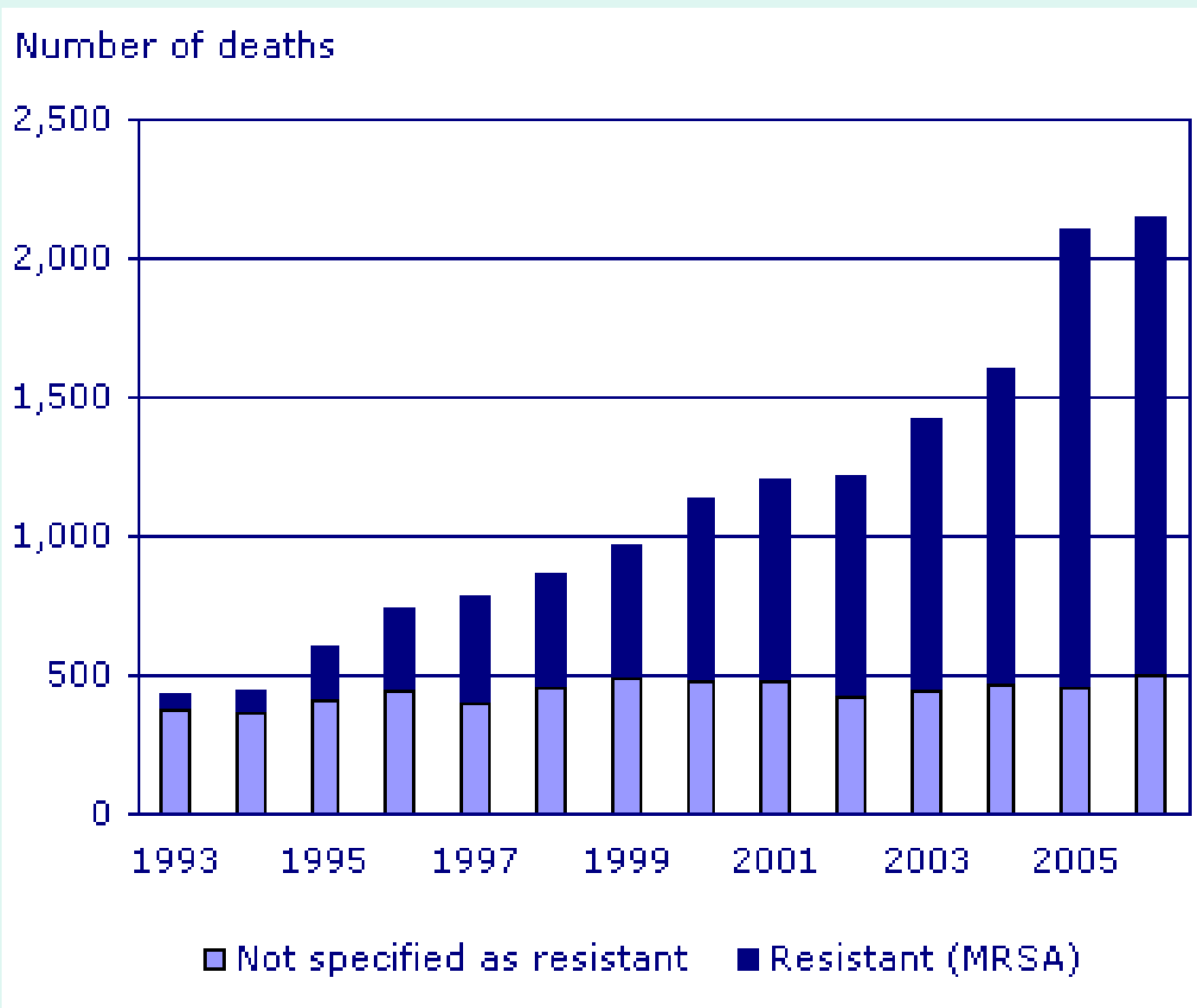


# Brief history

- Staphylococcus aureus treatment revolutionised in the 1940s due to penicillin
- Most strains of Staphylococcus aureus are now resistant to penicillin -  $\beta$ -lactamase degrades penicillin activity
- Methicillin developed in 1960's - not degraded by  $\beta$ -lactamase; later introduction of Flucloxacillin and others
- Rapid development of Methicillin-resistant Staphylococcus aureus - also resistant to Flucloxacillin
- Epidemic MRSA (EMRSA – strains 15 and 16) causing hospital infections, starting in 1990s



## Hospital-based deaths – UK – 1993 to 2006



# Community-based MRSA

- MRSA strains in the community are distinct from hospital strains
- ‘Community-associated MRSA’ strains have evolved independently of hospital MRSA
- Often cause infections in previously healthy individuals
- Susceptible to a wider choice of antibiotic



# Recent treatment methodology

- Patients colonised with MRSA:
  - Topical or intranasal mupirocin (Bactroban)
- Patients infected with MRSA:
  - Infections due to normal strains of *Staphylococcus aureus* are often treated with flucloxacillin
  - Most MRSA are susceptible to vancomycin and teicoplanin. Both must be administered by infusion or injection
  - Vancomycin must be given by slow infusion into a vein. In contrast, teicoplanin may be safely administered by injection into muscle or rapid infusion into a vein
  - MRSA resistant to vancomycin and/or teicoplanin has been found in the USA
  - More recent use of linezolid (given either i/v or in tablet form)
  - Daptomycin has been licensed for the treatment of skin infections including those caused by MRSA
  - ? Reduce bed occupancy level to <85%



# Risk mitigation

- After physical contact with patients, use soap or rapidly acting antibacterial alcohol solutions.
- Patients colonised or infected with MRSA should be placed in separate rooms, with access restricted to essential personnel.
- Hospital staff should wear gloves and disposable gowns prior to having physical contact with MRSA patients
- Visitors and carers. All visitors should wash their hands before leaving the room.
- Areas where MRSA patients are nursed should be thoroughly cleaned using disinfectants



June 2007 - Research published today by the Soil Association reveals that a serious human health threat already present in the Netherlands and other European countries, could spread to the UK

The 'superbug' methicillin-resistant *Staphylococcus aureus* (MRSA) is already a high-profile, persistent problem in many UK hospitals

Farm-animal MRSA has already transferred to farmers, farm-workers and their families in the Netherlands, causing serious health impacts.  
40% of Dutch pigs and 50% of pig farmers have been found to carry farm-animal MRSA

The minister in the UK responsible, Ben Bradshaw dismissed the Soil Association's concerns:

*'...there is no current evidence that food-producing animals form a reservoir of MRSA infection'*

# SIMPATIE Project

- Safety Improvement for Patients in Europe
- Final Report - May 2007
- Reporting period February 2005-February 2007



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# Improving patient safety in health care organisations: working party 6

- Objective : to develop a toolkit for patient safety in healthcare organizations
- Contents:
  - What is patient safety?
  - Patient safety from an international perspective
  - Why are hospitals not as safe as we would like them to be?
  - The epidemiology of medical errors: do we know what we are measuring?
  - The safety management system, the approach at the organisation level
- Instruments:
  - application should be possible across the EU
  - Categories:
    - analysis of incidents or risks on a prospective basis
    - analysis of incidents or risks on a retrospective basis
    - intervention approaches at the system or organizational level
    - intervention approaches at the process or professional level

# European Union Network for Patient Safety (EUNetPaS)

- The EC should facilitate and promote further cooperation on developing and implementation of instruments to be used by healthcare providers and organizations
- **General objective:**
  - to establish an umbrella network to improve cooperation among Member States (MS) in the field of Patient Safety (PS) (culture, reporting and learning systems, education) and thus avoid overlap and duplication of effort.



# Antibiotic awareness

- European Parliament's 'Scientific technology options assessment' (STOA) committee:
  - “Resources allocated to the serious problem of increasing antibiotic resistance would be better spent on action to combat further resistance than research into new antibiotic drugs”
  - [http://www.europarl.europa.eu/stoa/publications/studies/stoa173\\_en.pdf](http://www.europarl.europa.eu/stoa/publications/studies/stoa173_en.pdf)
- EP debate on antibiotic resistance October 2007
- Antibiotic Awareness Day – Autumn 2008
  - CPME member of technical advisory group



Thank you



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