The Incidence of Infective Endocarditis in England is Increasing

An Assessment of the Impact of Cessation of Antibiotic Prophylaxis Using Population Statistics

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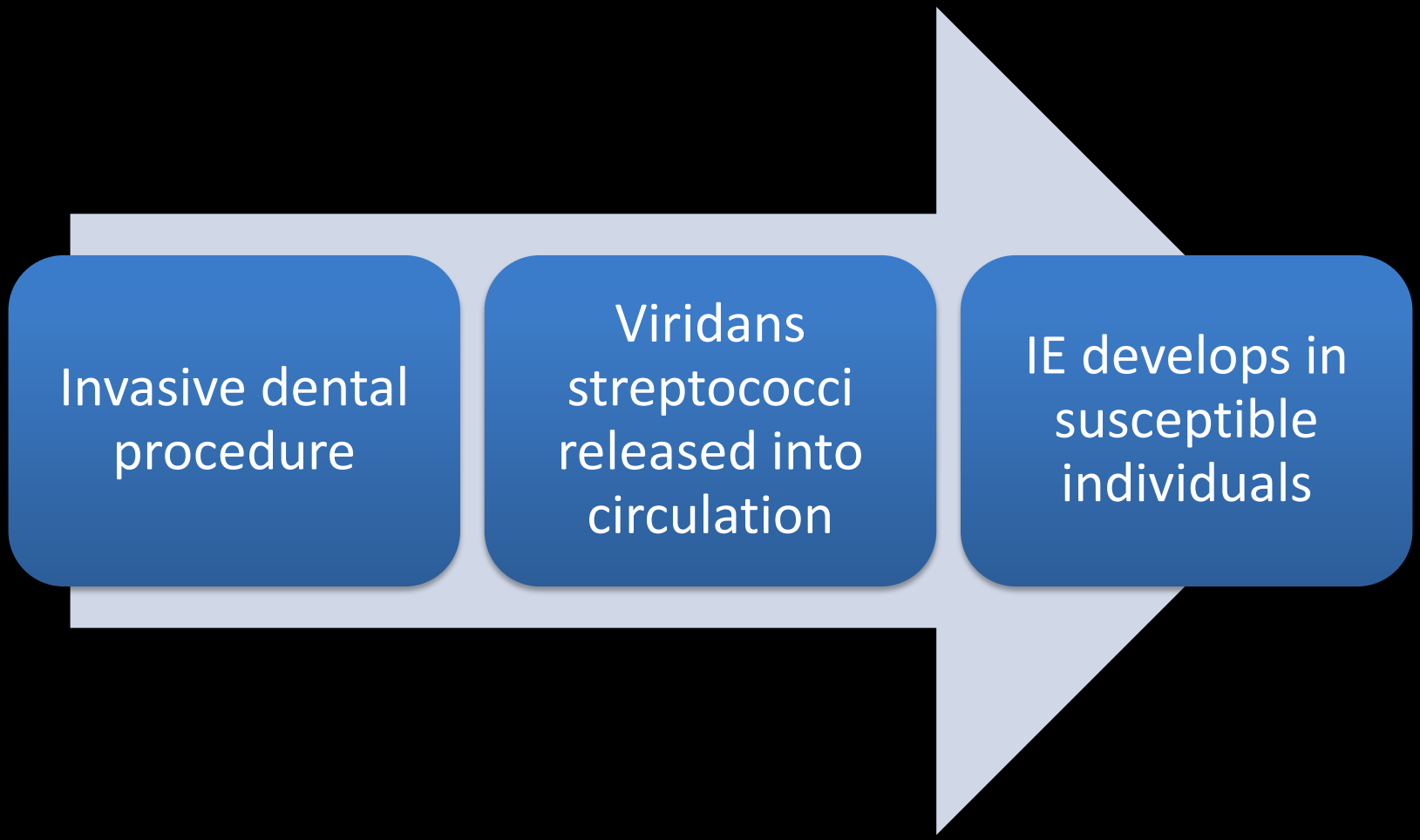
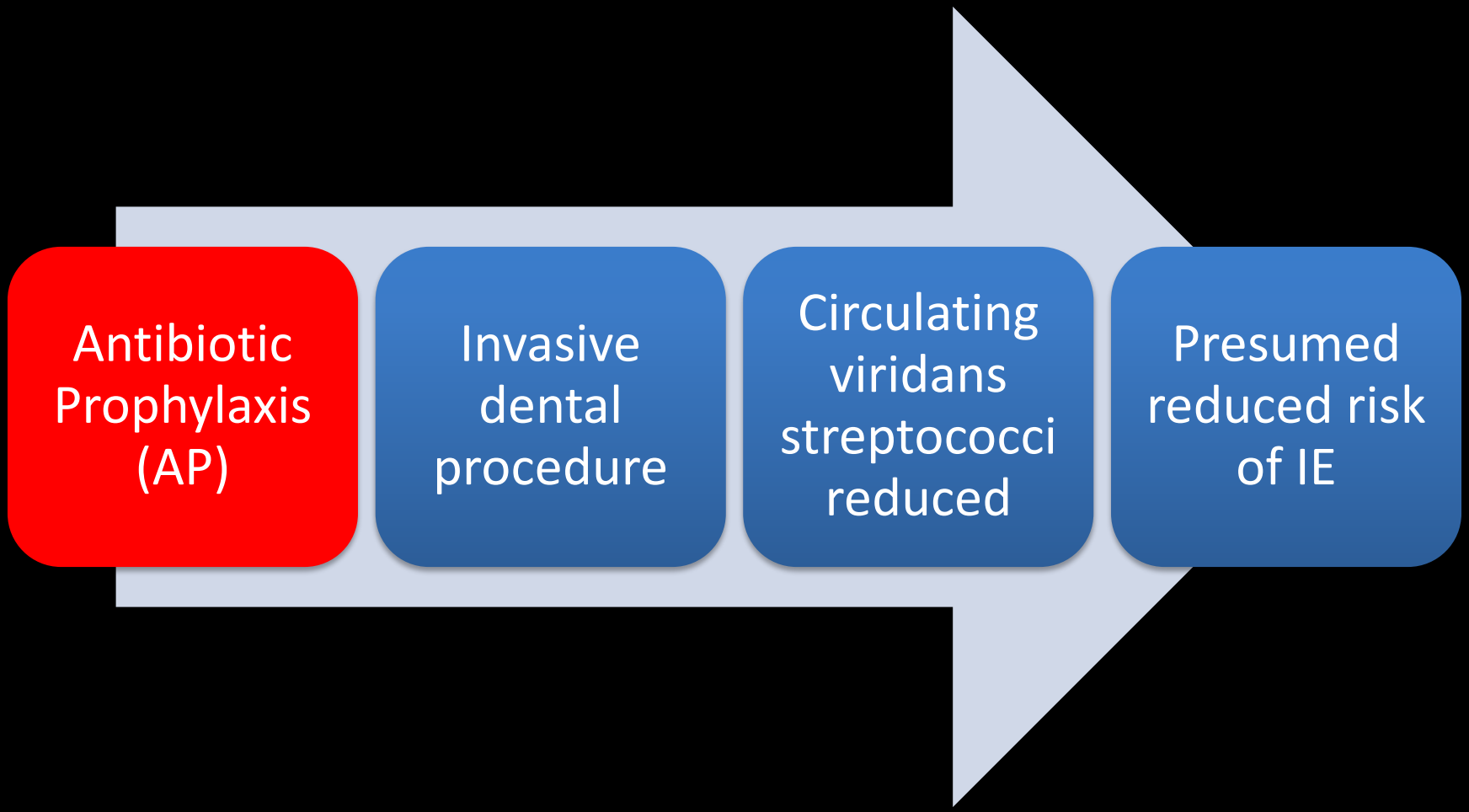

Invasive dental procedure
Viridans streptococci released into circulation
IE develops in susceptible individuals


Antibiotic Prophylaxis (AP)
Invasive dental procedure
Circulating viridans streptococci reduced
Presumed reduced risk of IE

Historical Perspective

- 1955: First AHA Guidelines on AP
- Successive guidelines have tended to recommend:
  - Smaller doses of antibiotics given for a shorter time
  - That fewer patients regarded as being at risk of IE
  - Fewer invasive procedures covered
- Increasing controversy over time
- No randomized trial of AP

UK NICE Guidelines: March 2008

Prophylaxis against infective endocarditis

Antimicrobial prophylaxis against infective endocarditis in adults and children undergoing interventional procedures

Issued: March 2008

NICE clinical guideline 64

guidance.nice.org.uk/cg64

NICE National Institute for Health and Care Excellence

NICE - March 2008

1.1.3 Antibiotic prophylaxis against infective endocarditis is **not** recommended:

- For people undergoing dental procedures
- For people undergoing non-dental procedures at the following sites:
  - Upper and lower gastrointestinal tract
  - Genitourinary tract
  - Upper and lower respiratory tract

Funded opportunity to study the impact of stopping antibiotic prophylaxis at a national level

Methodology

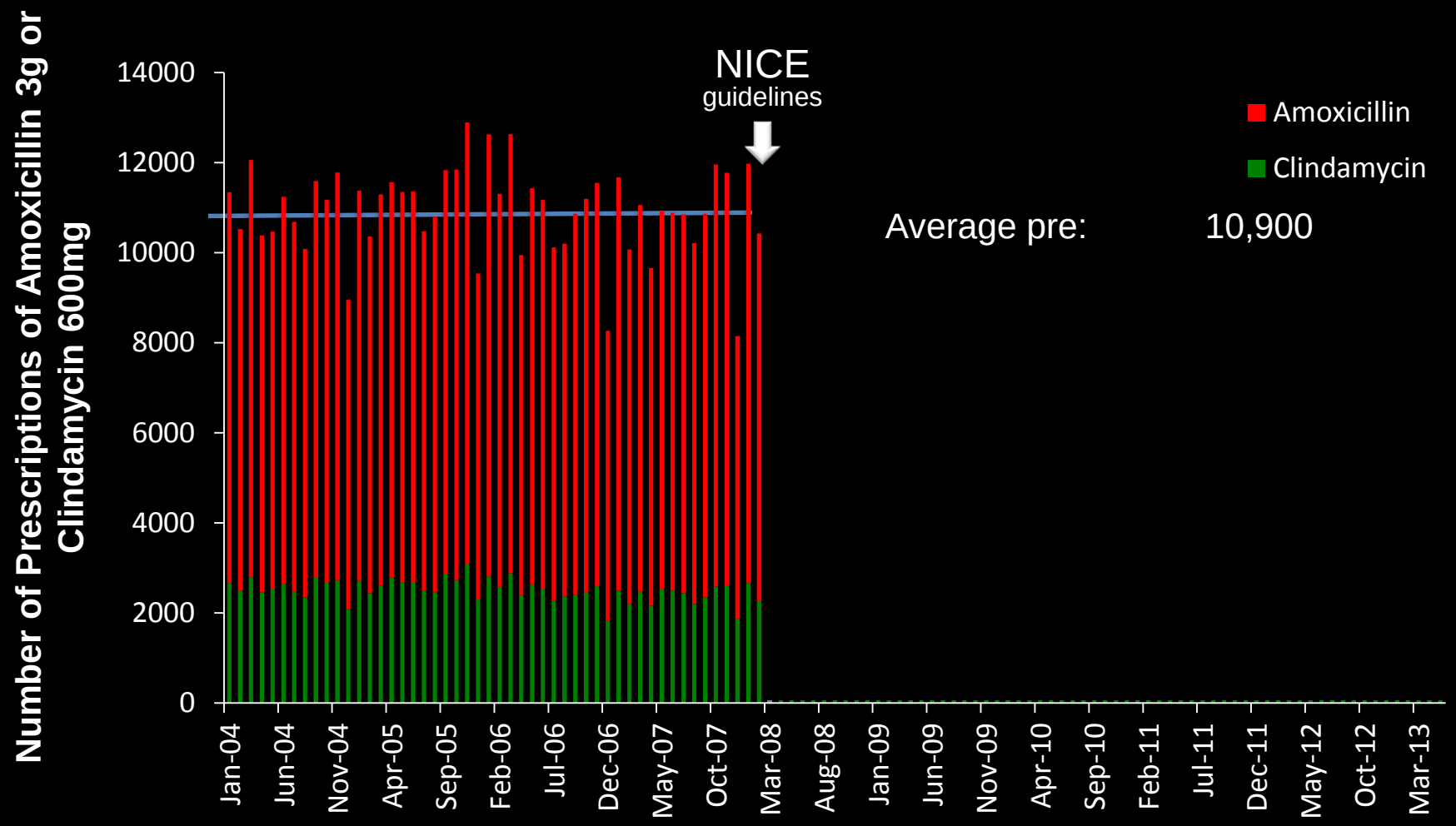
- England only - ~ 50m

- All prescriptions for single doses of amoxicillin 3g or clindamycin 600mg
- Jan 1st 2004 – March 31st 2013

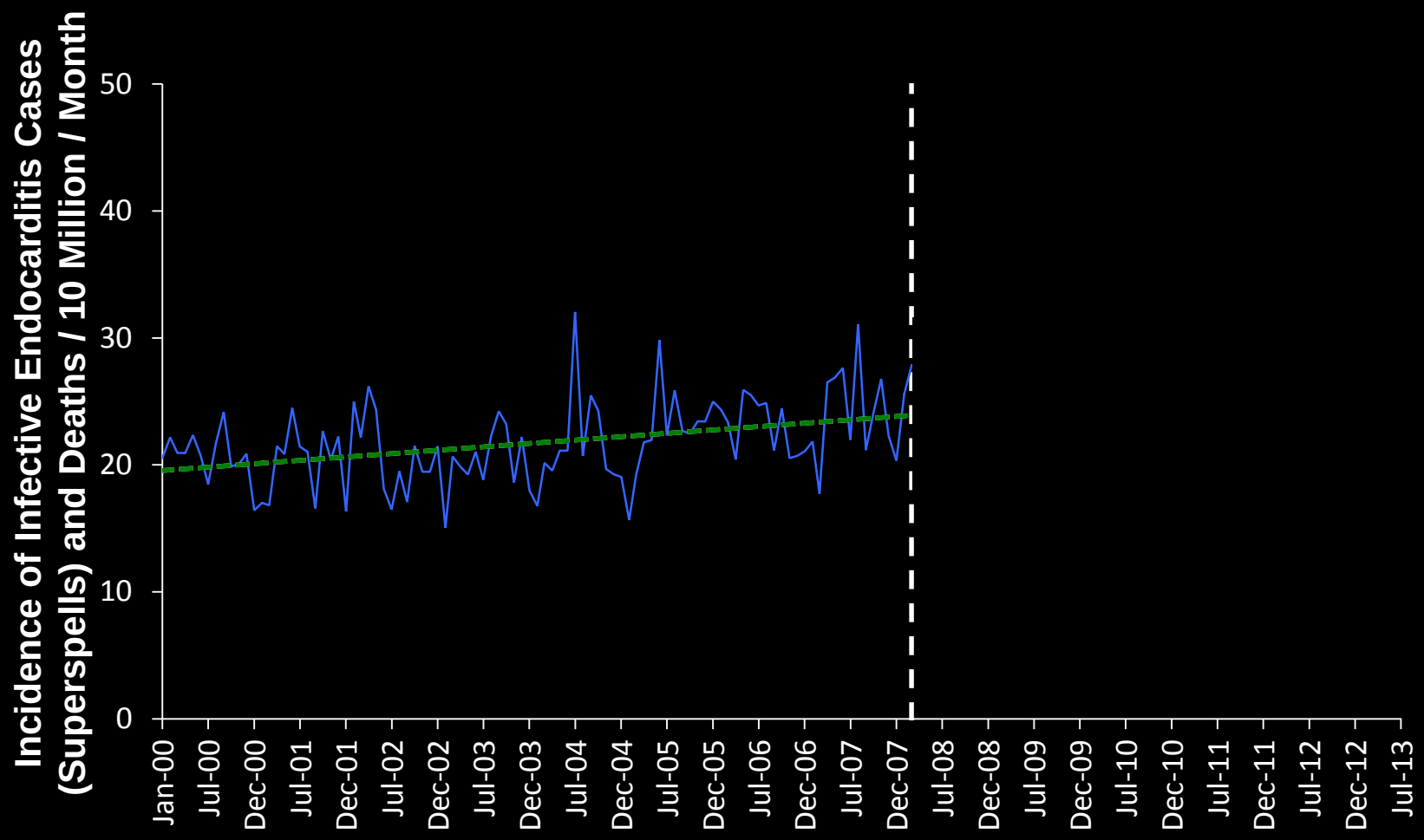
- Patients discharged from English hospitals with a primary diagnosis of infective endocarditis
- Jan 1st 2000 – March 31st 2013
- Superspells

- 19,804 cases in total

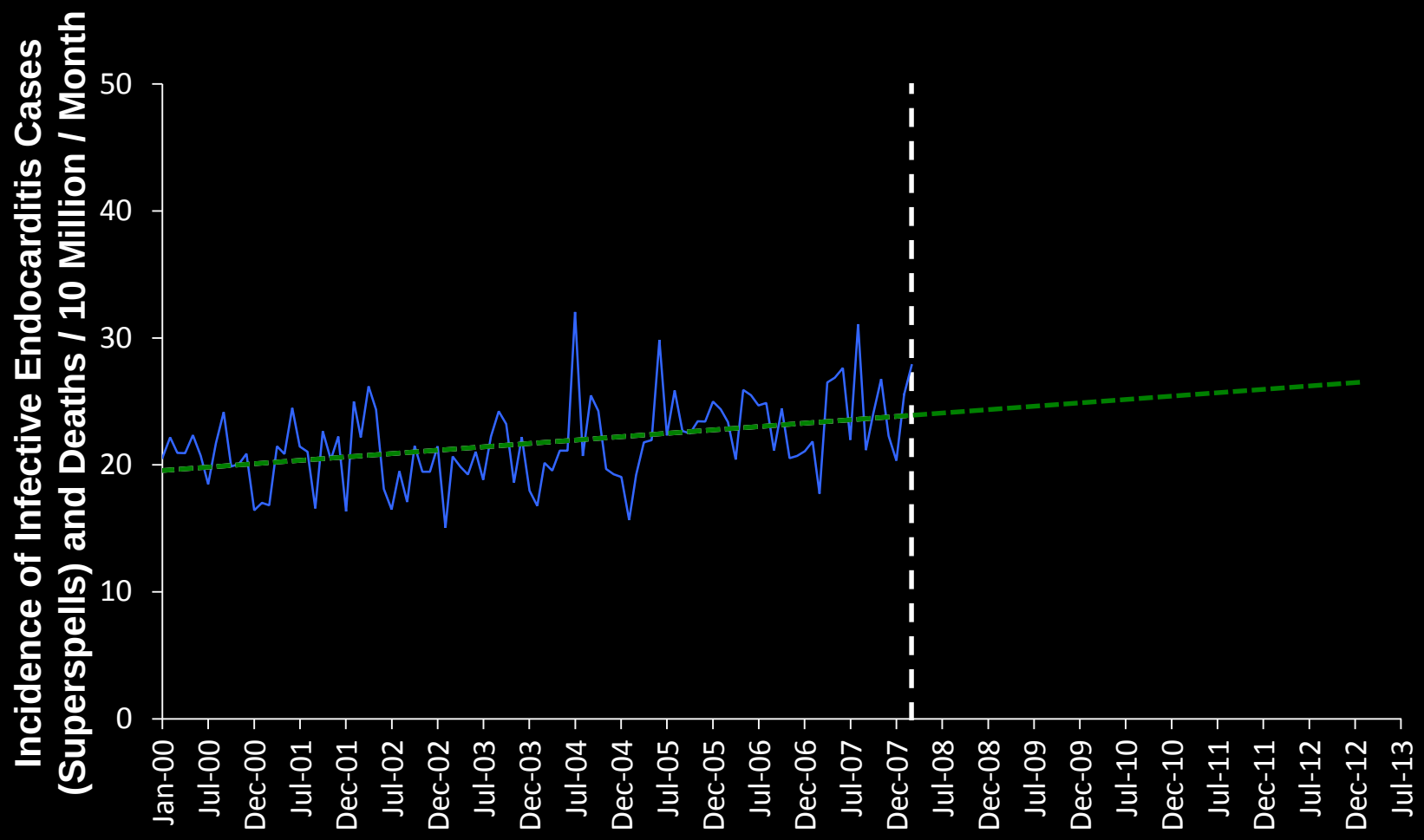
Antibiotic Prophylaxis Prescribing Data



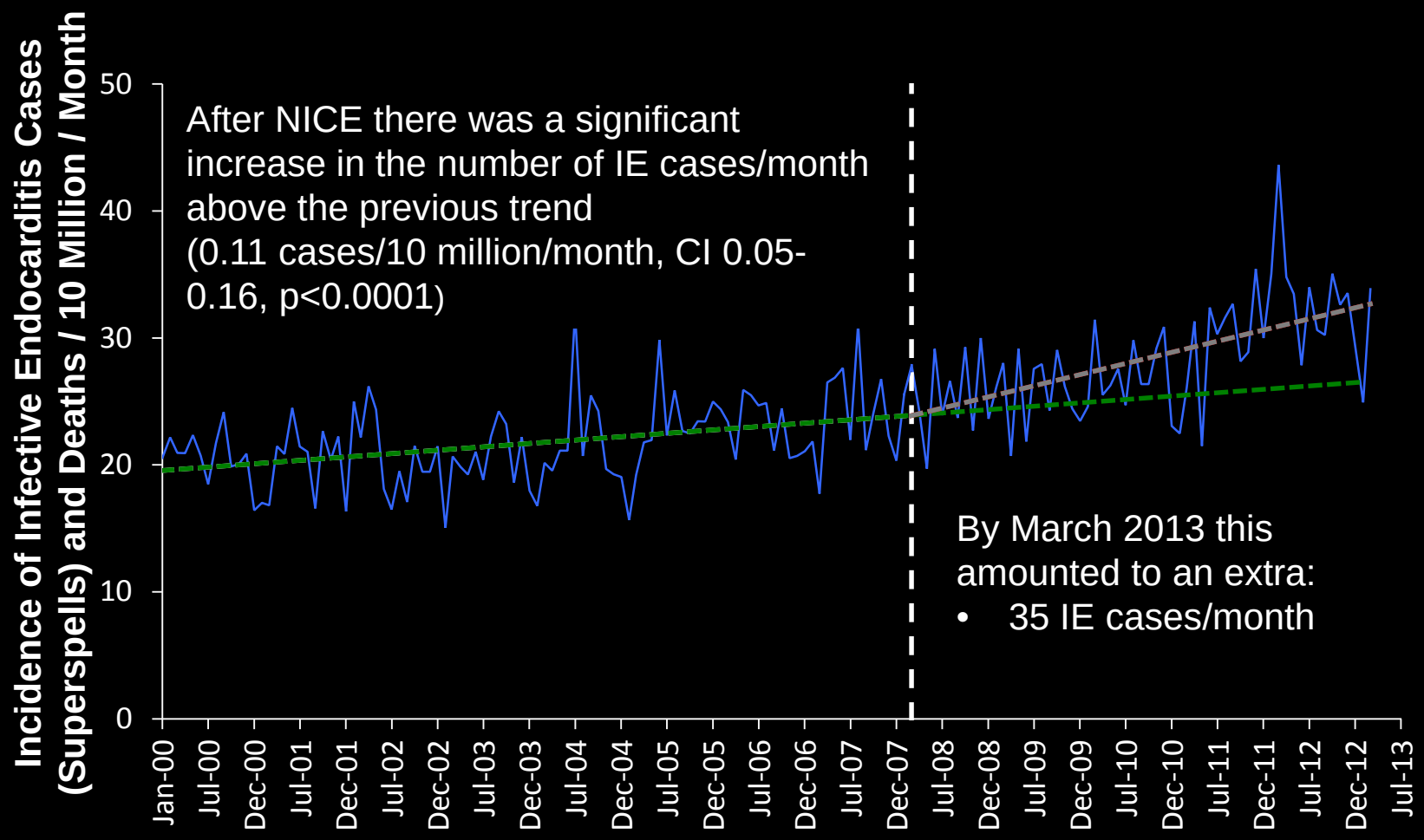
Incidence of IE



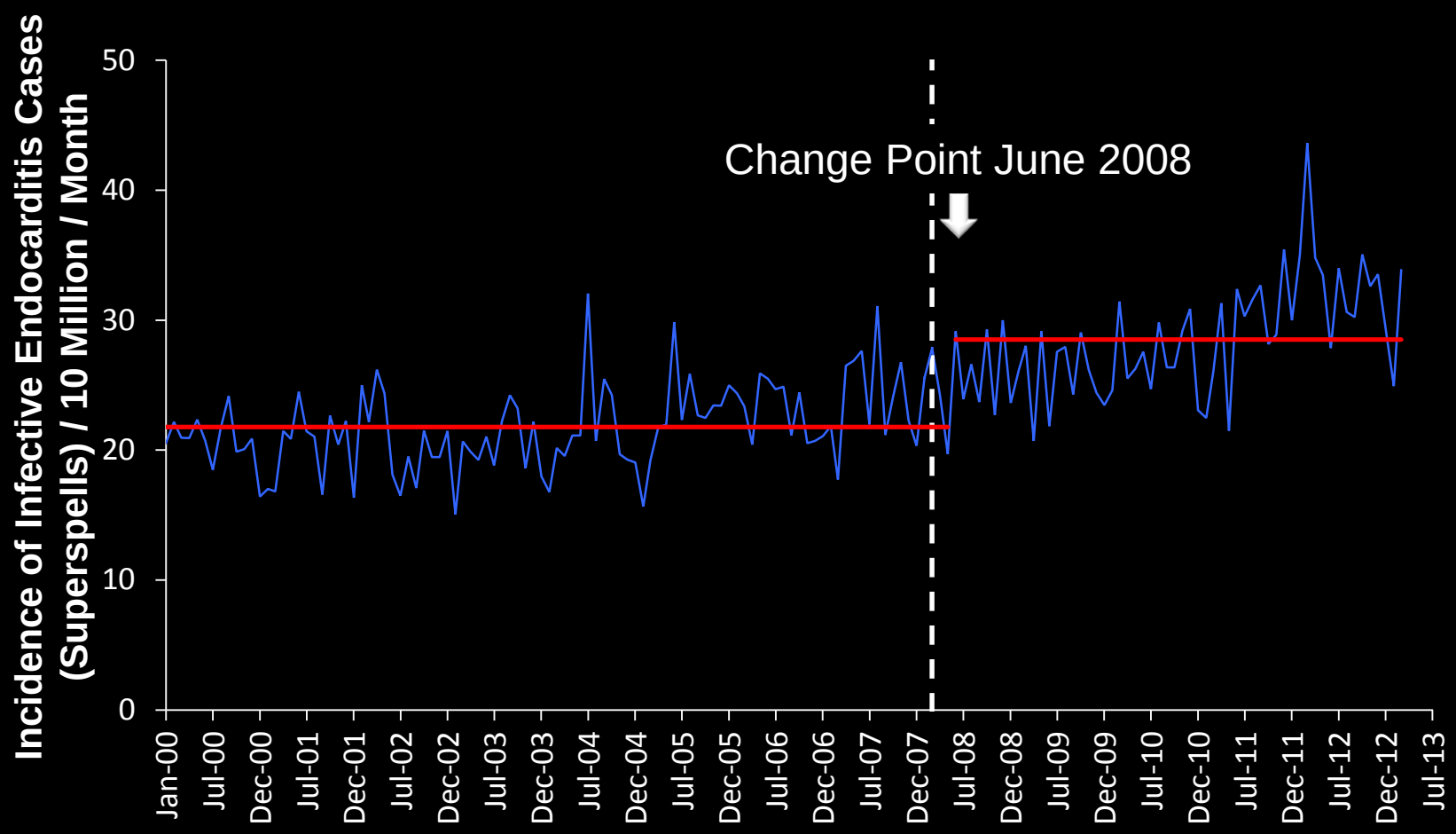
Incidence of IE



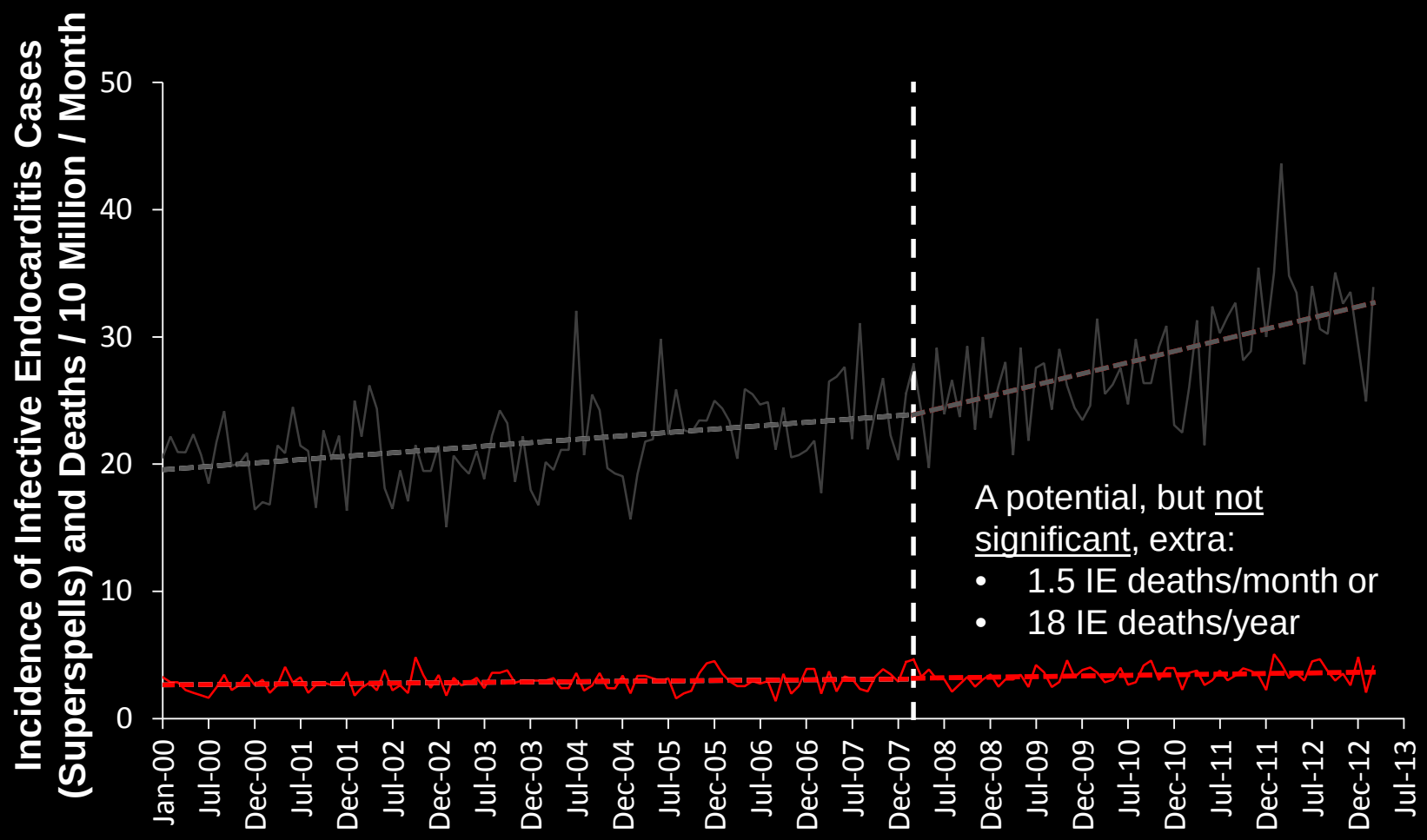
Incidence of IE



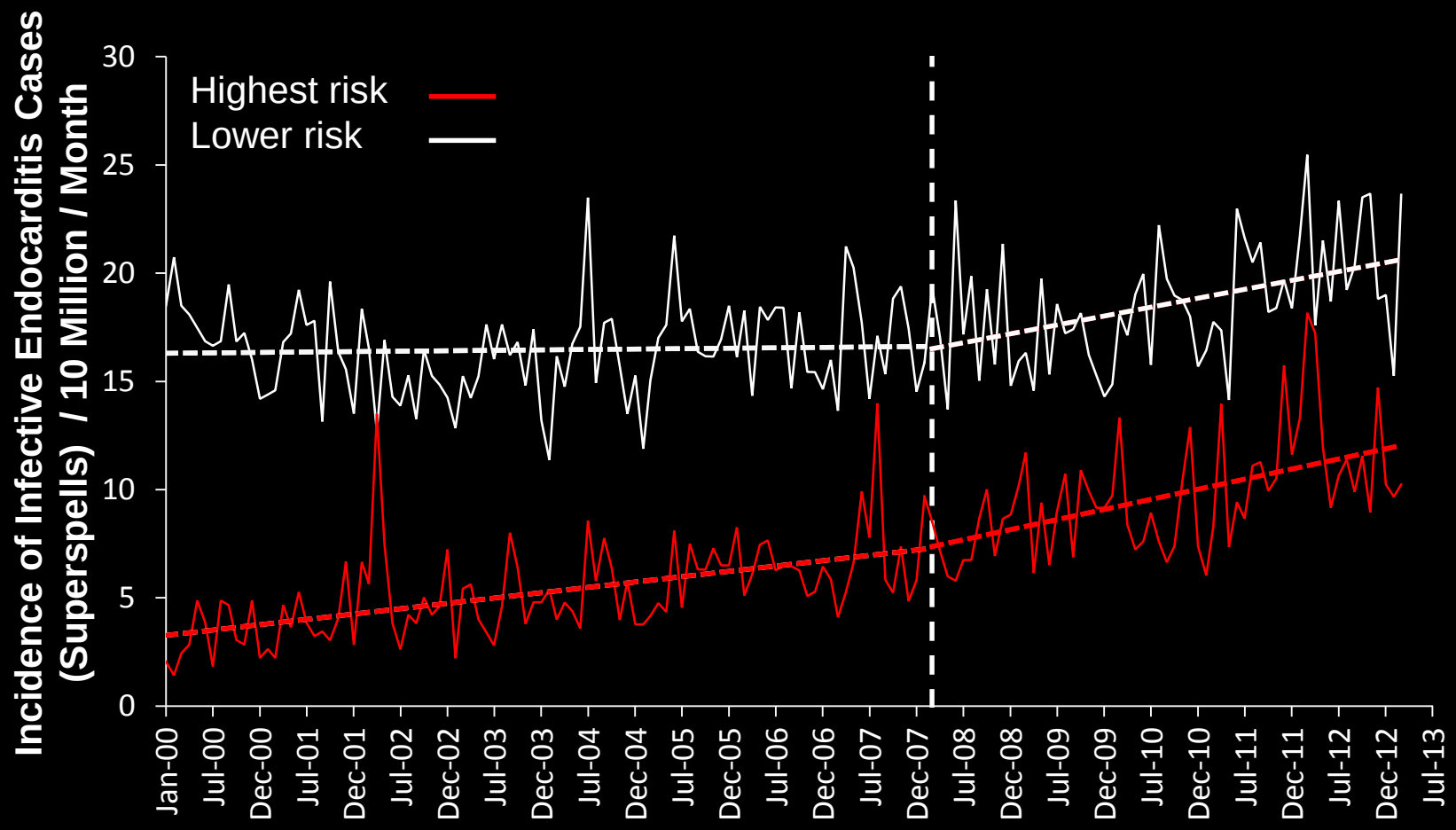
Change Point Analysis



In-Patient Mortality



Highest and Lower Risk



Conclusions

- Five years post NICE there has been:
  - a large and significant fall in AP prescribing
  - a significant increase in the incidence of IE
- Individuals affected include highest risk and lower risk individuals
- Although there is a temporal association, we **cannot** conclude there is a cause-effect relationship
- Need for a prospective RCT

In Addition

NICE have issued a press release to say that they will undertake an immediate review of their guidance.

There are no recommendations for a change in practice at present.

The study has just been published by the Lancet:

http://dx.doi.org/10.1016/S0140-6736(14)62007-9

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