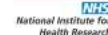


Patient and Public Involvement in Infectious Diseases Research

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UKCRC Modernising Medical Microbiology



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Deaths from hospital superbug C.diff soar by a THIRD in just one year

'It is absolutely outrageous that year on year older people are dying as a result of failure to ensure high levels of hygiene in our hospitals.'

'People go into hospital expecting to be looked after, not to run the risk of secondary infections as a result of poor hygiene.'

risen 28 per cent

Altogether last year, 8,324 people in England and Wales had clostridium difficile when they died.

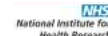
This compares with 6,480 in 2006, with the infection noted as the underlying cause in about half of deaths, according to the Office for National Statistics.

But the number of reported deaths involving the infection has more than doubled since 2005, when there were 3,757.

The ONS said some of the increase may be due to more complete reporting on death certificates after the Government

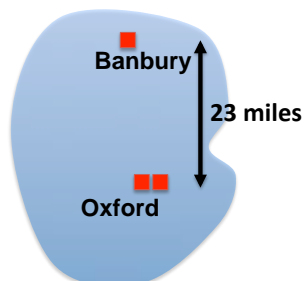


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Role of symptomatic patients in *C. difficile* transmission

- We sequenced 1223 of all 1251 hospital and community CDI cases (98%) in Oxfordshire, September 2007 – March 2011
- Hospital admission and ward movement data, and home postcode district and GP location available for each case
- 3 Hospitals
 - Typical CDI incidence
 - Infection control in line with published guidelines



N Engl J Med 2013; 369:1195-1205

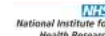
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Findings

- Only 20% of *C. diff* infections are caught in the hospital from another case and incidence is decreasing
- < 3% caught from a “dirty room”
- Most cases caught from a very large reservoir
- Where is it coming from?

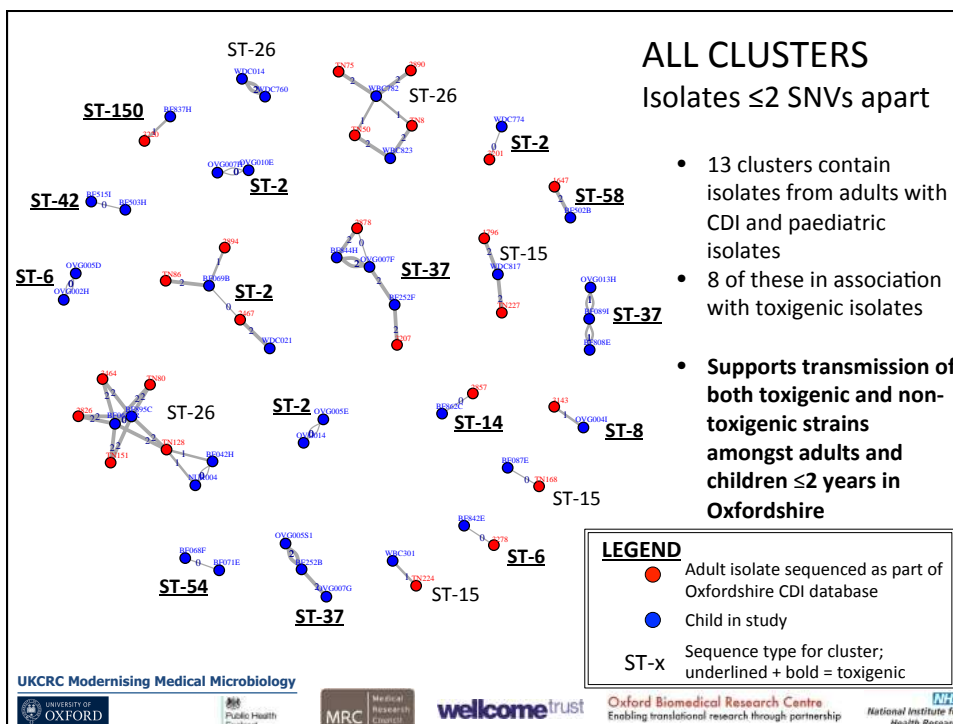
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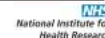
Risk factors in Oxfordshire infant study

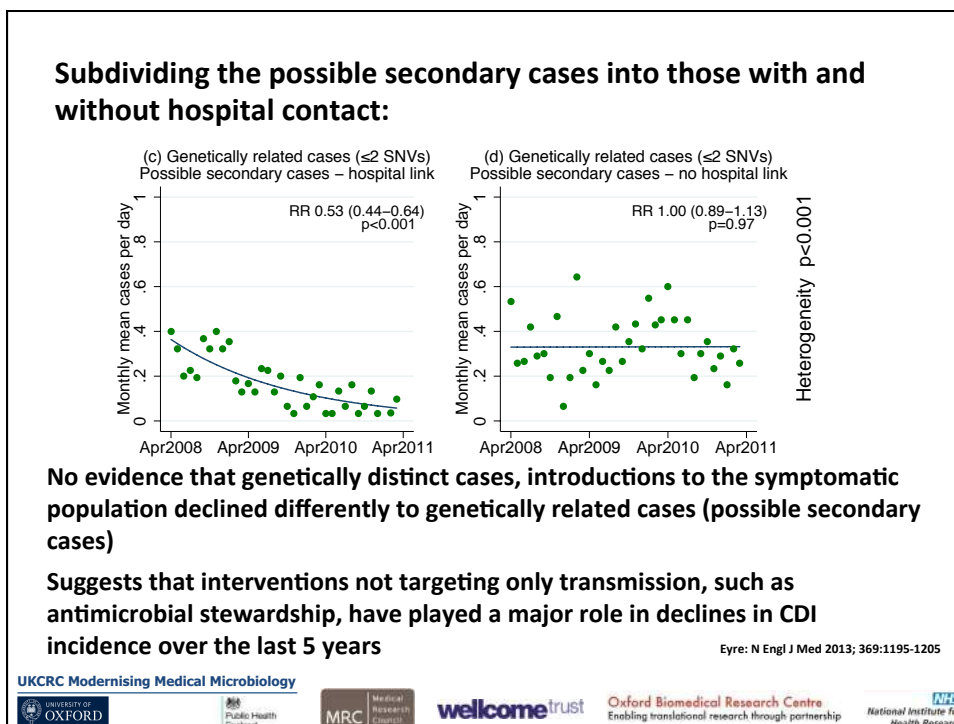
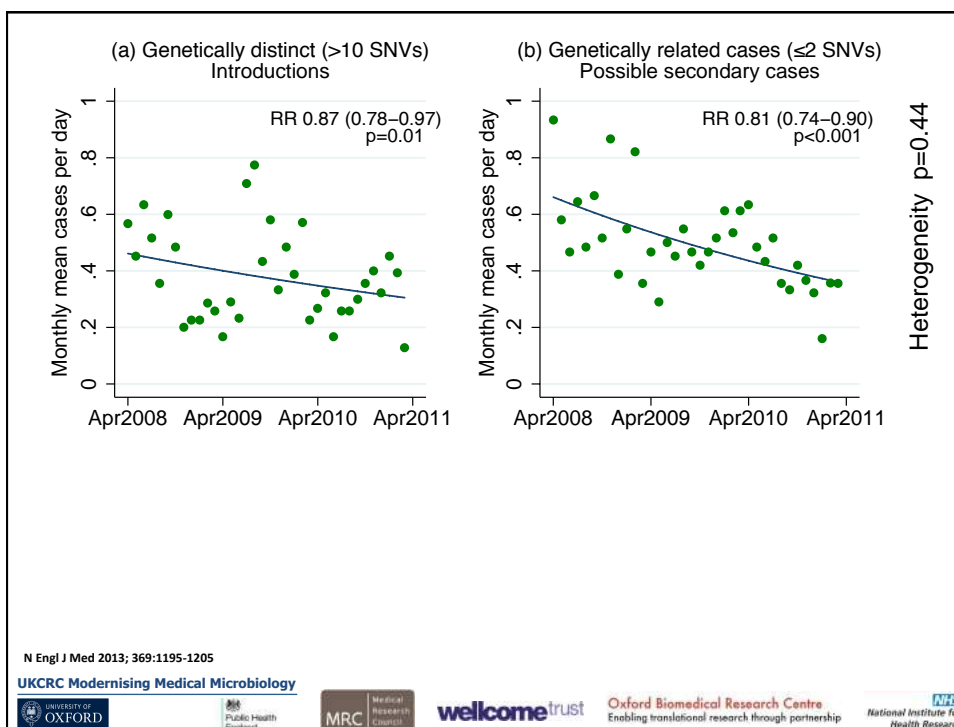
Significant	<i>C. difficile</i> positivity (n=58)	Presence of toxigenic <i>C. difficile</i> (n=34)	Not significant
Age	Older age ↑	Older age ↑	<ul style="list-style-type: none"> Gender Delivery mode Hospital vs home birth (low numbers) Birthweight Gestational age Parental/extended family hospital/ward employment Childcare by childminder Number of siblings Siblings <2 years Medications affecting gastrointestinal motility (low numbers) or gastric acidity Foreign travel
Feeding	Breastfeeding ↓	Breastfeeding ↓ Formula feeding only ↑	
Childcare	Grandparent or nursery involved in childcare ↑	Grandparent or nursery involved in childcare ↑	
Any pet	↑; dogs	↑; dogs	
Hospital admission	In last month, three months or year ↑	In last three months or year ↑	
Antibiotics	Any previous systemic antibiotic ↑	Any previous systemic antibiotic ↑	
Diarrhoea	Presence ↑	Presence ↑	

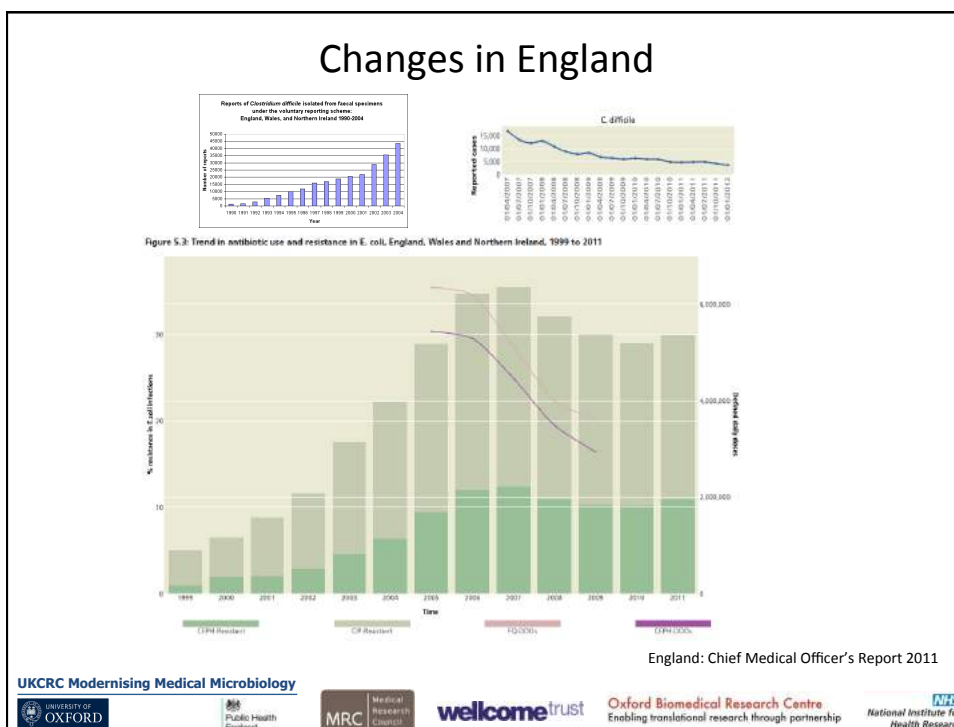
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Challenges

- Identify important questions from a patient's perspective
- Develop a better understanding of how the public perceives our research
- Find ways of better presenting our research