



Public Health  
England

# Epidemiology and surveillance of meningococcal disease in England

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## Surveillance of IMD in England

- Mature surveillance system – *since 1984*
  - Co-operation: ref lab, epidemiologists and immunisation colleagues
  - Support from all UK microbiology labs and PHE HPTs – actively encourage submissions
  - Lab confirmation of IMD in UK underpins the best surveillance
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- Comprehensive cleaned dataset, ability to further characterise cultures (eg MATS / MEASURE)
  - WGS for IMD cultures from July 2010  
(initially funded by MRF)



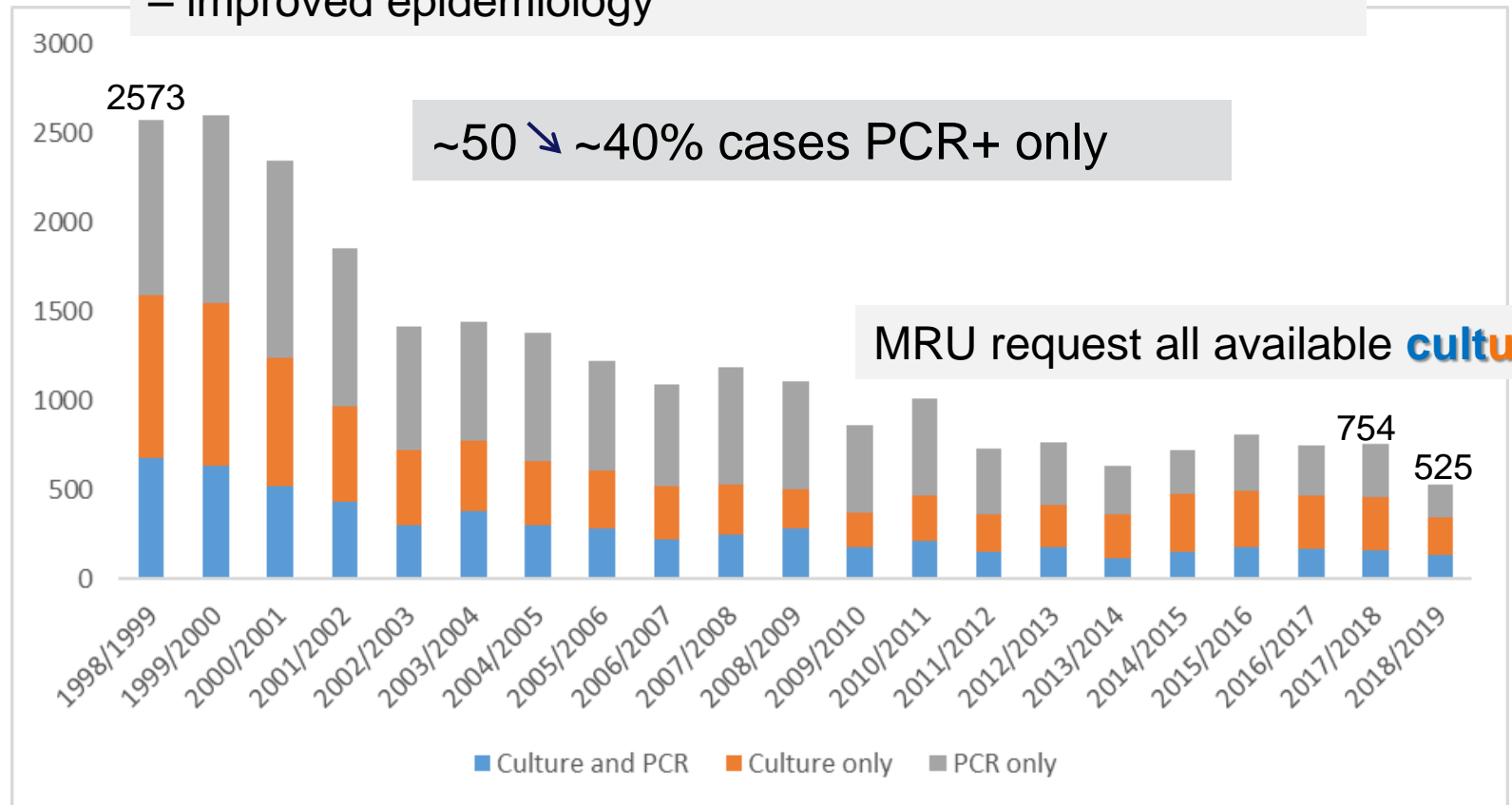
MRF MENINGOCOCCUS GENOME LIBRARY

<http://www.meningitis.org/research/genome>



# Fig 1: Distribution of IMD cases by diagnostic method, England

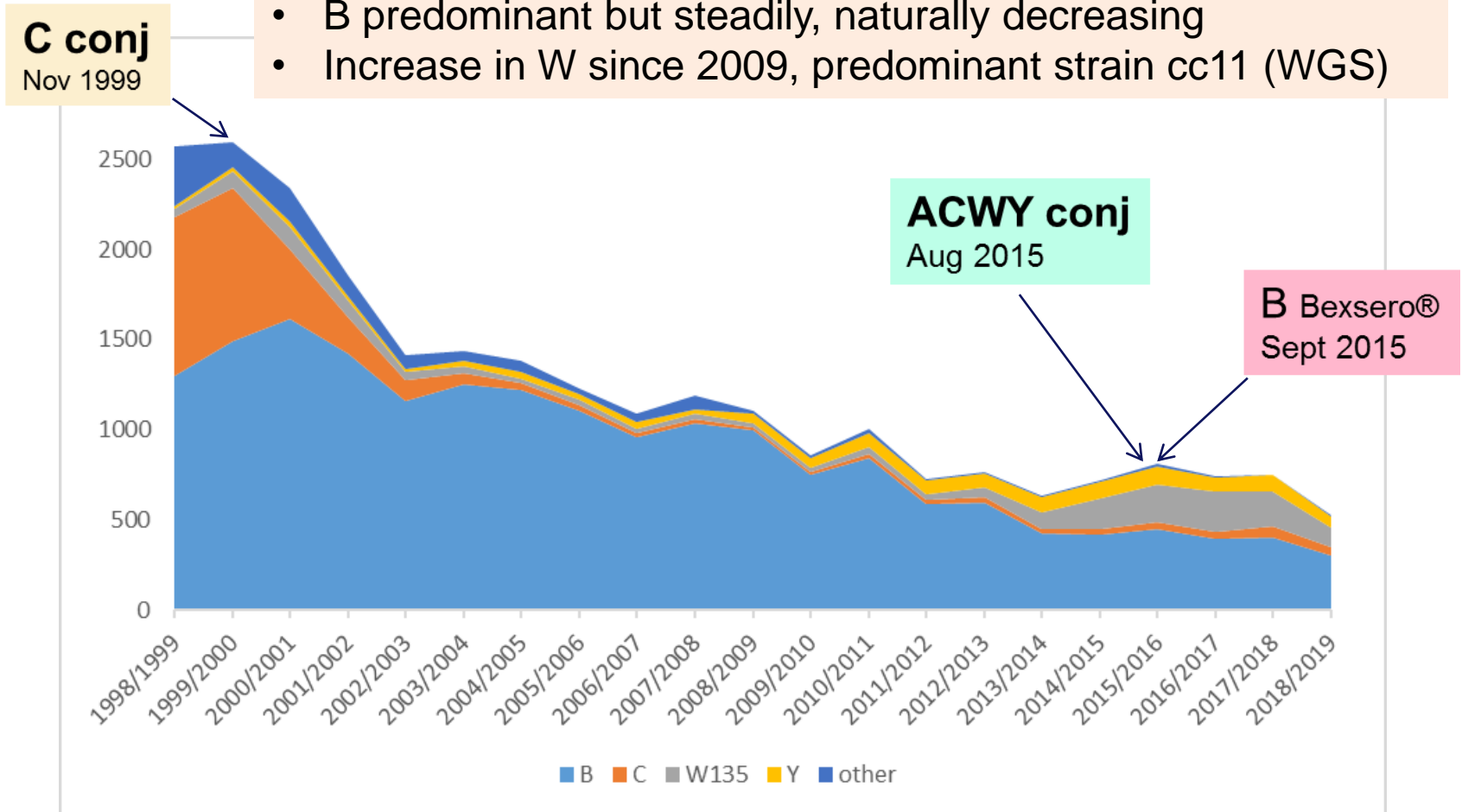
Since Oct 1996, free non-culture (PCR) case confirmation – improved epidemiology





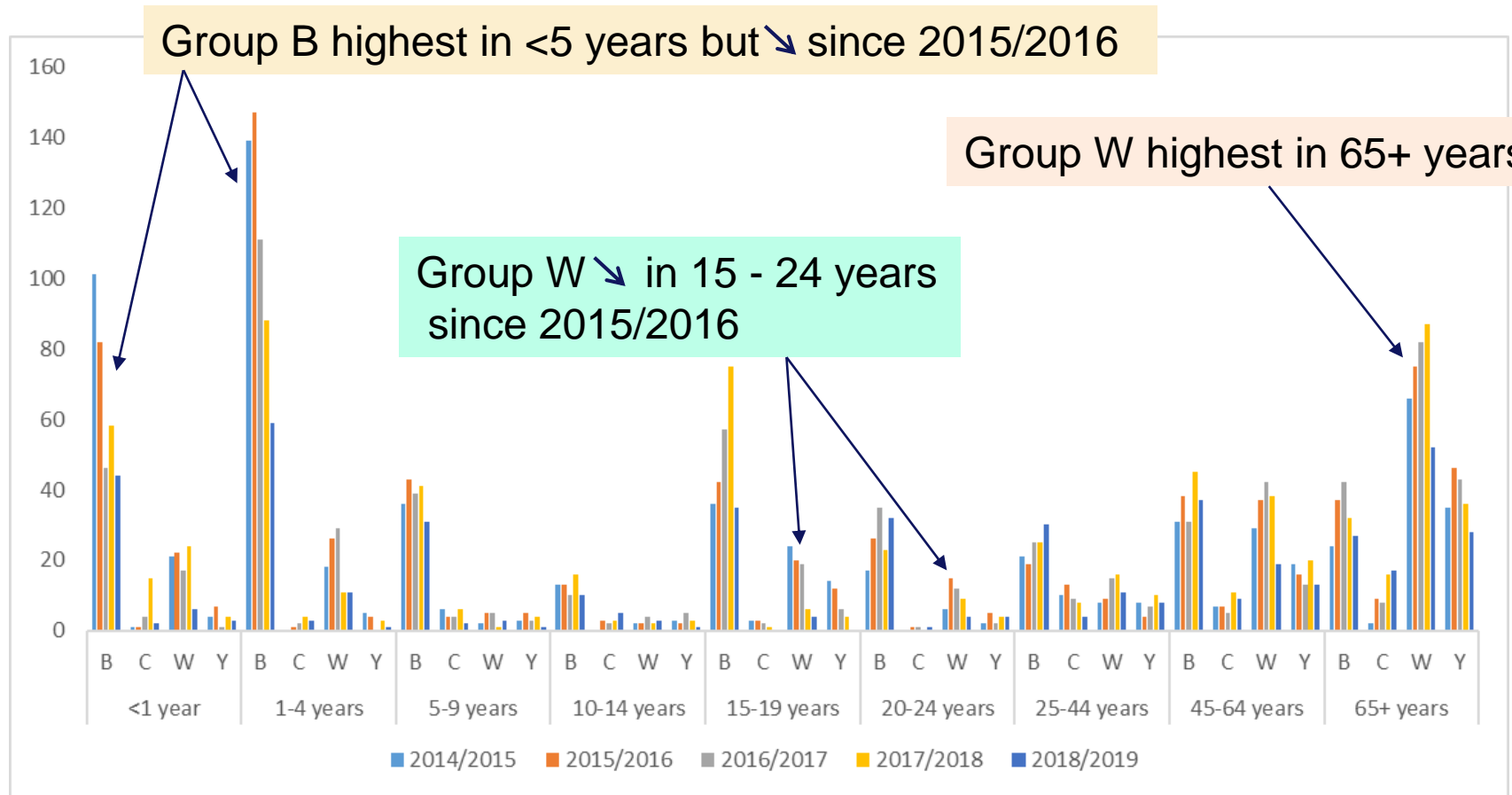
## Fig 2: IMD by capsular group and epidemiological year, England

- Rapid reduction in C since Nov 1999, monitored very closely
- B predominant but steadily, naturally decreasing
- Increase in W since 2009, predominant strain cc11 (WGS)





# Fig 4: Distribution of confirmed cases of IMD by age and capsular group, England





- Case confirmation
- Cluster identification / management
- To detect changes in meningococcal population  
capsule groups, strains, antibiotic susceptibilities
- Review clinical presentations
- To support vaccine design & development - coverage
- To determine vaccine effectiveness
- To monitor / modify immunisation schedules