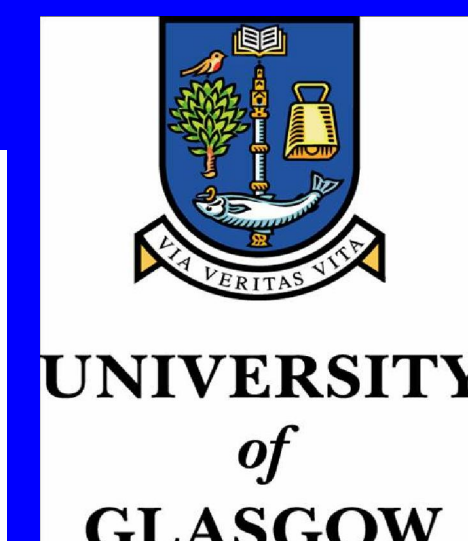


Paediatric Empyema Management In The UK: UK-ESPE 1 year on

M Thomas*, D Cliff, S Beaton, J Paton and DA Spencer

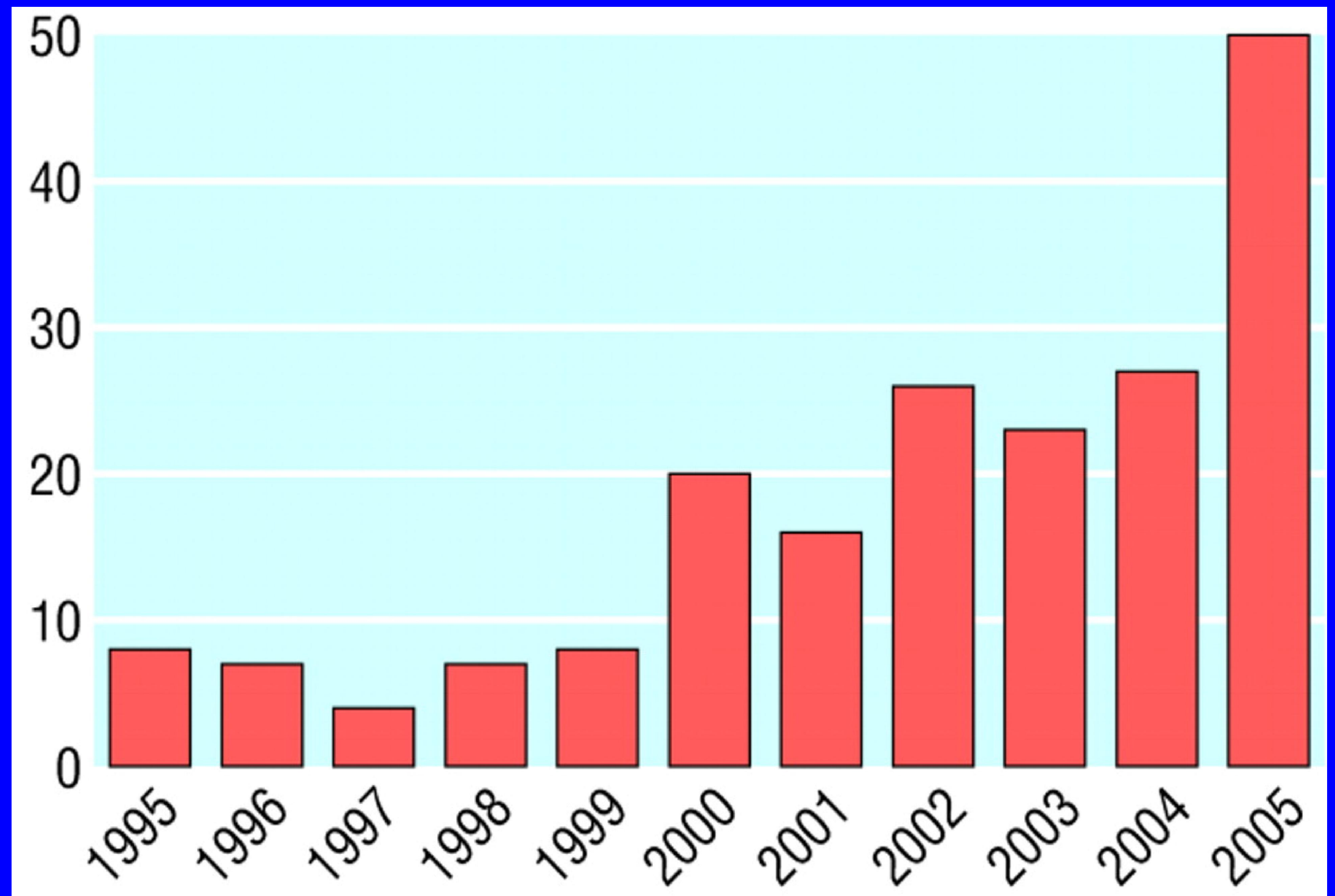
Research Associate / Paediatric Registrar, Newcastle University

In collaboration with:



Increasing incidence of paediatric empyema

Surgically managed
cases of empyema
North East England
1995-2005



Aims

To:

1. Monitor impact of BTS Guidelines 2005
2. Monitor impact of Introduction of heptavalent pneumococcal conjugate vaccine 2006
3. Investigate aetiology of change in incidence



BTS GUIDELINES

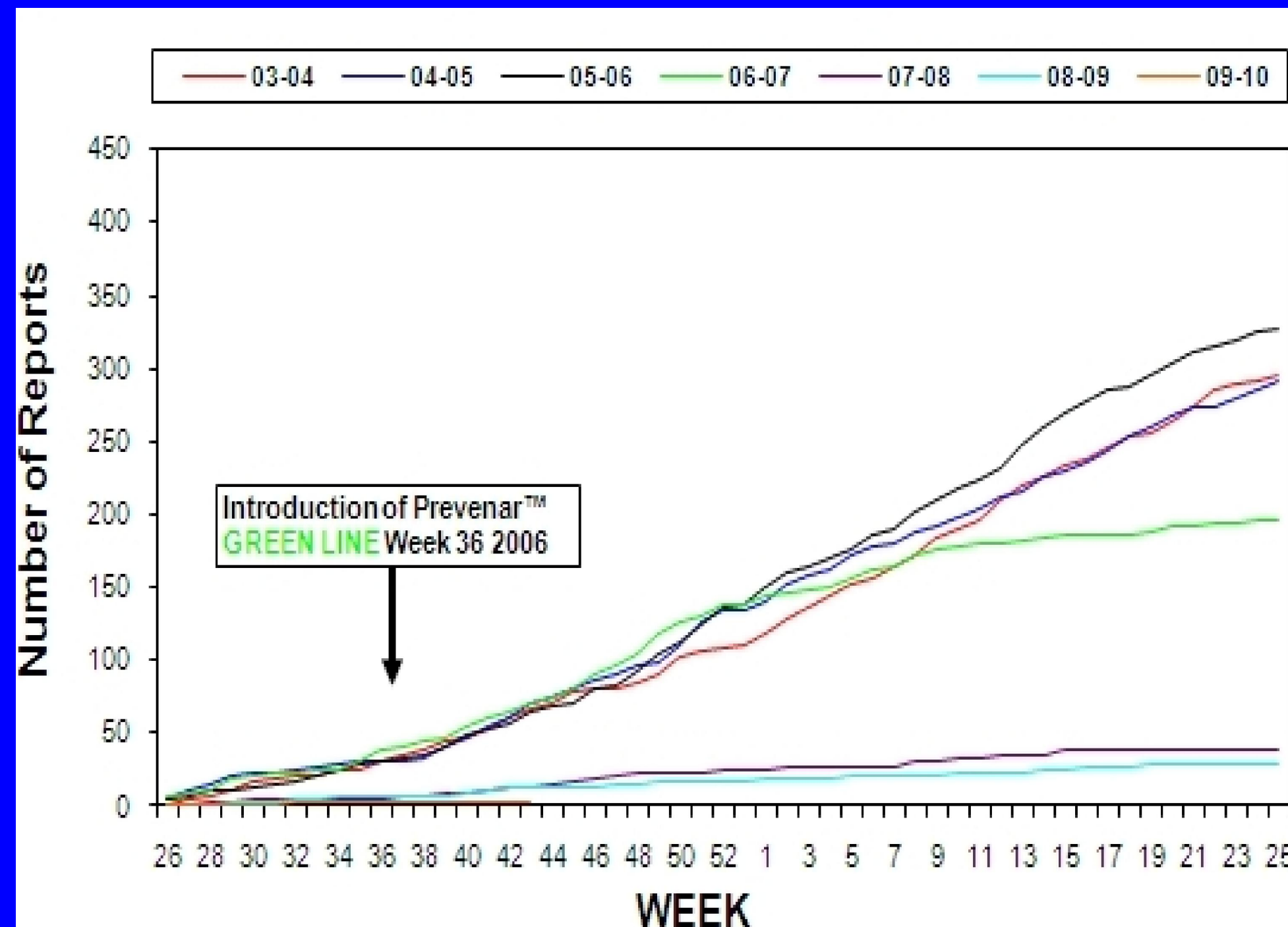
BTS guidelines for the management of pleural infection in children

I M Balfour-Lynn, E Abrahamson, G Cohen, J Hartley, S King, D Parikh, D Spencer, A H Thomson, D Urquhart, on behalf of the Paediatric Pleural Diseases Subcommittee of the BTS Standards of Care Committee

Thorax 2005;60(Suppl I):i1-i21. doi: 10.1136/thx.2004.030676

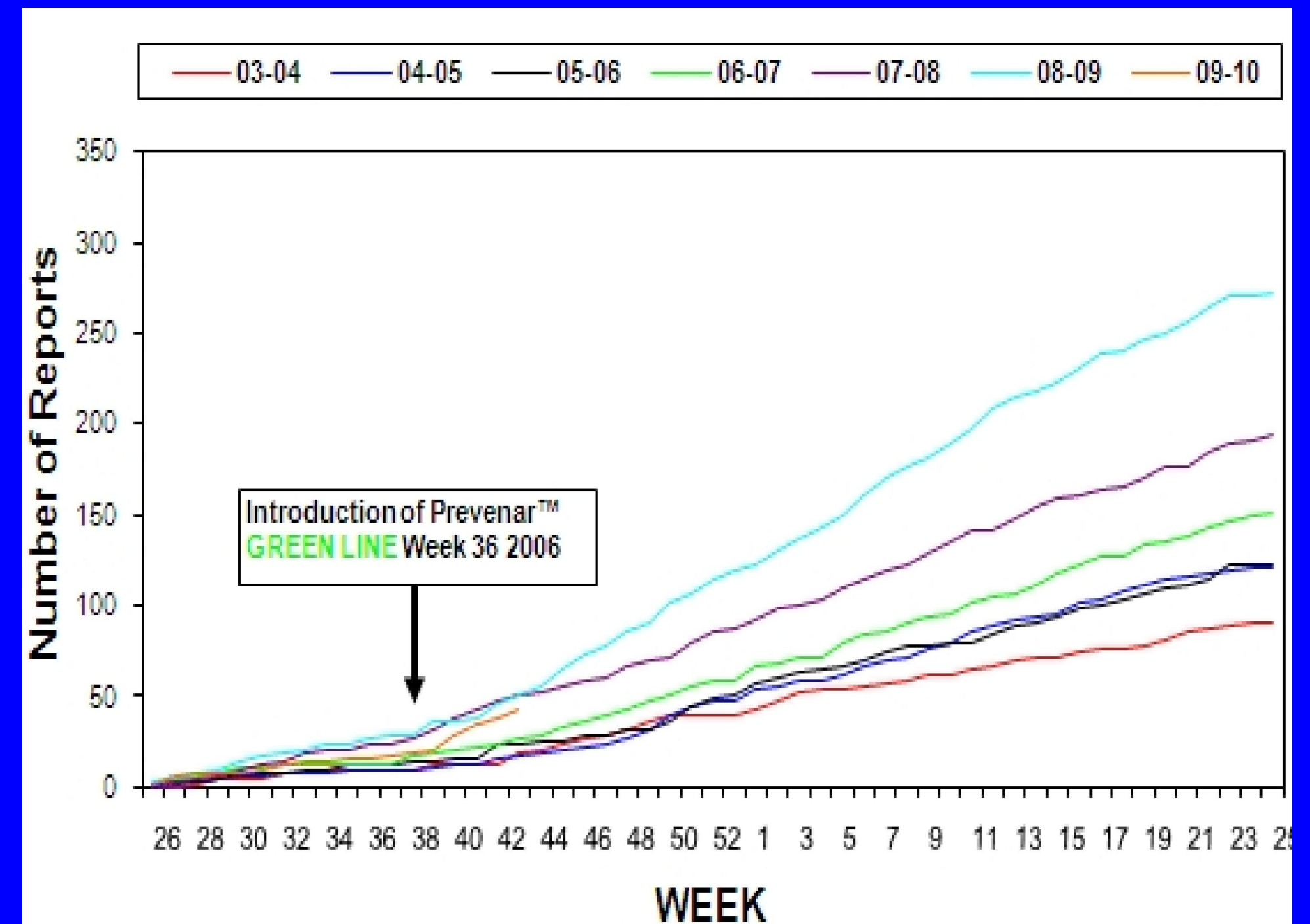
Effects of Immunisation

Benefits



Pneumococcal serotypes in
Prevenar™

Replacement disease



Non-Prevenar™
Pneumococcal serotypes

Adapted from: <http://www.hpa.org.uk/>

Enhanced surveillance 2006-

- All UK tertiary centres managing paediatric empyema contacted
- Collection and testing of culture negative samples established in collaboration with HPA
- Prospective recruitment in 17 centres August 2008

Culture-negative testing

Two stage process:

- Pneumolysin DNA performed by HPA in Manchester
- If positive, sample forwarded to RSIL Colindale for confirmatory PCR (lytA)
- Positive samples tested for 13 serotypes using the Bioplex method

Web-Access Database

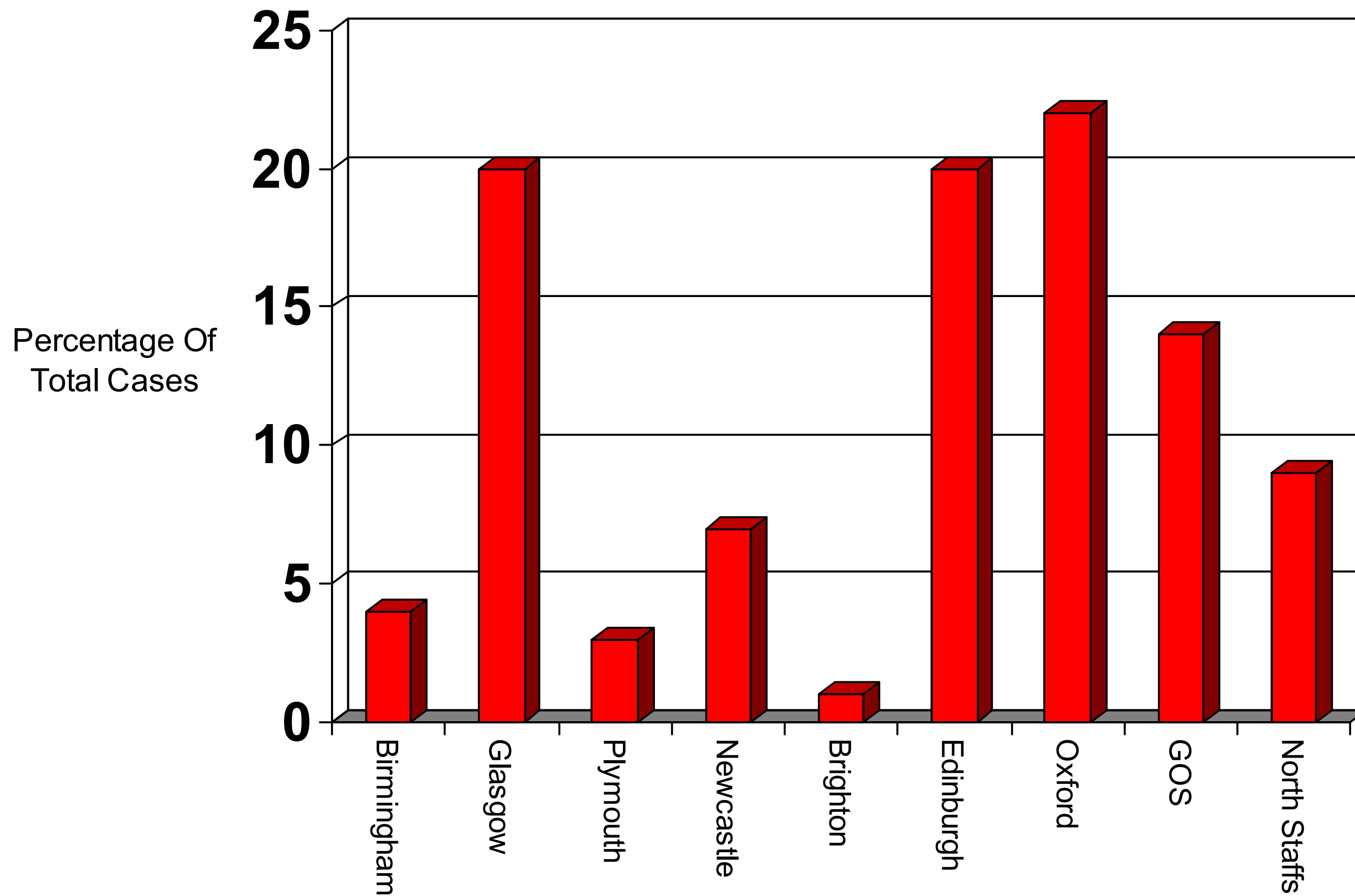
<div>Export Data</div> <div>Export Antibiotics</div>	
<div>Patient</div> <div>Admission</div> <div>Disease</div> <div>Tests</div> <div>Chest Drain</div> <div>Medical & Surgical Therapy</div> <div>PICU</div> <div>Analgesia</div> <div>Antibiotics</div>	
Update Cancel	
Admitted Directly To Tertiary Unit	No ▾
Admission Date 1st Hospital	03/04/2007
Admission Date Tertiary Hospital	06/04/2007
Discharge Date Tertiary Hospital	13/04/2007
Readmission	No ▾
Readmission Date	
Length of Pre-Hospital Illness (days)	2
Pre-Hospital Antibiotics given	No data ▾
SaO2 in air at admission to tertiary centre (Enter 999 if saturation unknown)	92
Age (Calculated)	2
LOS (Calculated)	7

<http://www.fom.gla.ac.uk/emptyema/>

Results 01/08/08-21/07/09

- Data on 74 children available
- Median age 4 years, 68% male
- Median total hospital stay 12 days (4 – 46)
- Tertiary centre stay 8 days (2-38)
- PICU admission in 25%, no deaths reported
- Some incomplete fields in 21% of cases

Recruitment By Centre

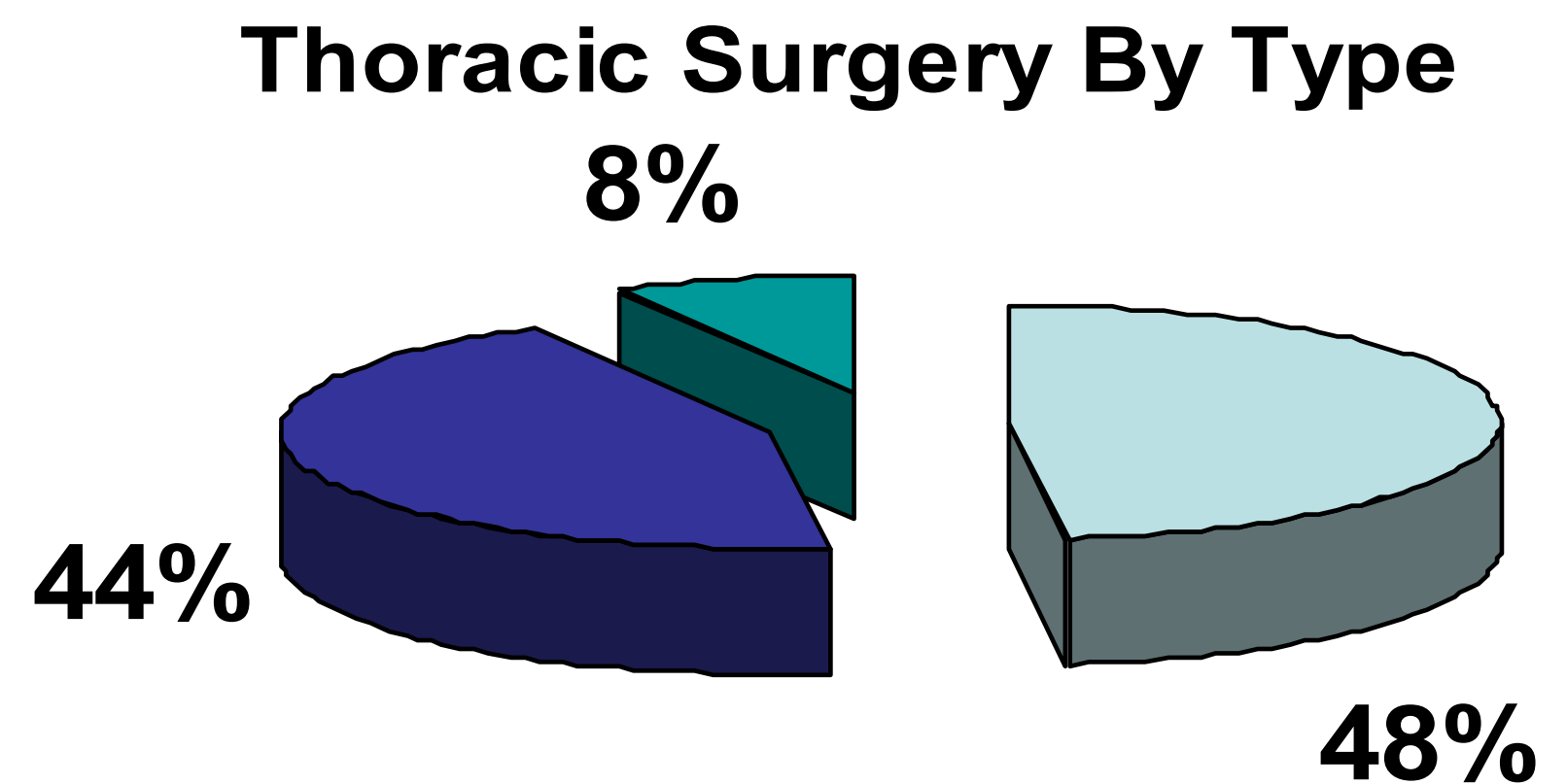


Imaging

- Chest ultrasound in 97%
- Chest CT in 27%
- Routine CT not currently recommended in the BTS guidelines

Management

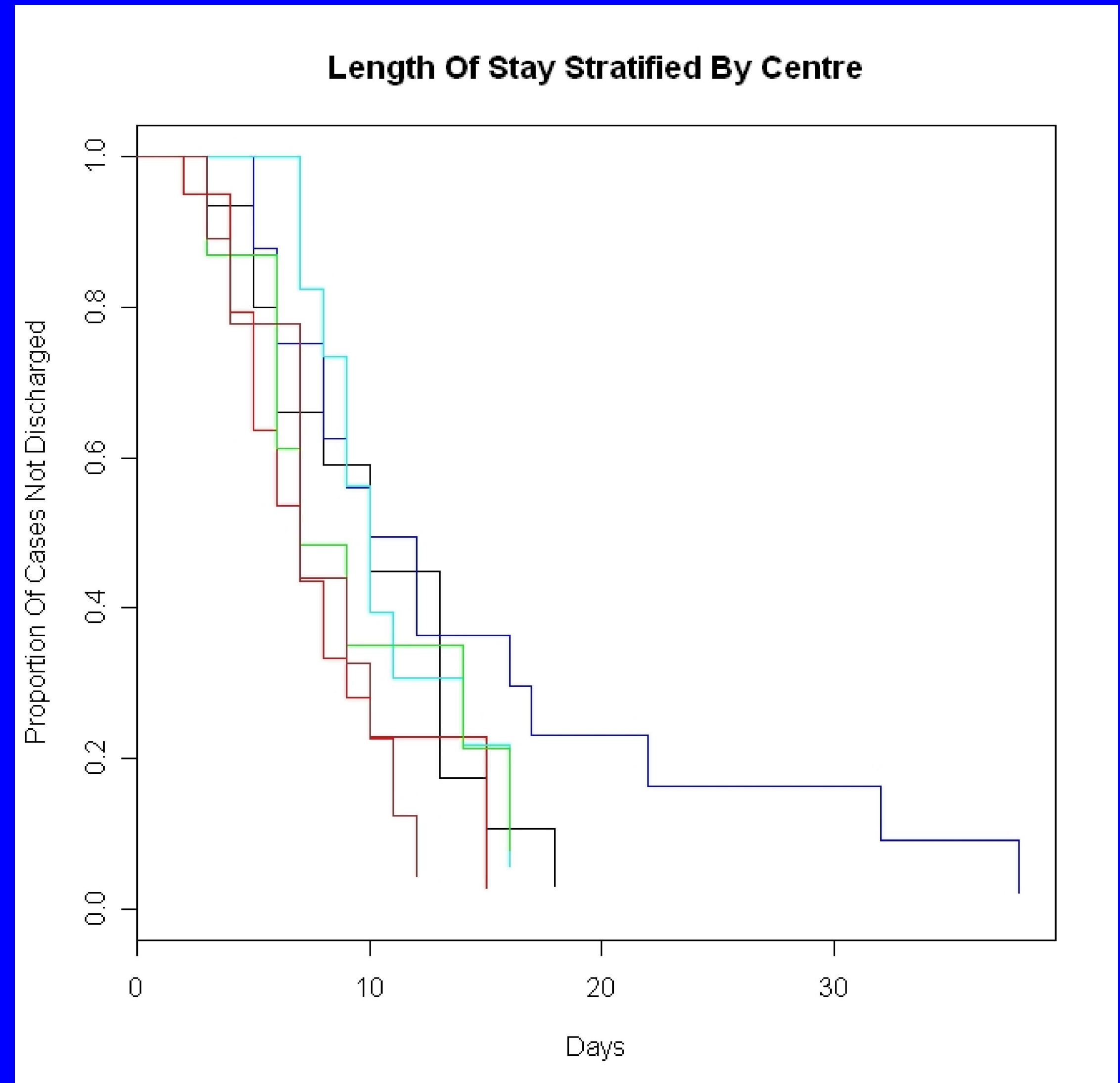
- Chest drain in 97%
- Intrapleural fibrinolytics in 63%
- “Thoracic surgery” in 33%



- Video-Assisted Thoracoscopic Surgery
- Thoracotomy
- Both Procedures

Analysis

- Centre had no significant effect on length of stay
- No significant differences in length of stay between Fibrinolytics, VATS and Thoracotomy



Conclusions

- System for collecting data now working
- Need to tidy terminology
- Drive to increase recruitment following UKCRN adoption
- Evidence of variation in management but not of a resulting impact on length of stay

Acknowledgements

- Thanks to all those that have agreed to collaborate with the project

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Dr G. Connett – Southampton

Dr R. Ross-Russell – Cambridge

Dr C. Pao – Barts, London

Dr J. Clarke – Birmingham Children's Hospital

Dr G. Ruiz – Kings, London

Dr T. Ninan – Birmingham Heartlands

Dr E. Carroll – Liverpool

Dr P. Heath – St. Georges, London

Dr A. Thompson – Oxford

Dr P. Chetcuti – Leeds

Prof. W. Lenney – North Staffs

Dr C. Upton – Norwich

Dr P. Seddon – Brighton

Dr S. Cunningham – Edinburgh

Dr I. Doull – Cardiff

Dr C. Murray – Manchester

Dr R. Primhak – Sheffield

Dr J. Bhatt – Nottingham

Dr W. Carroll – Derby

Dr P. Habibi – St Mary's

Dr E. Gaillard – Leicester

Dr B. O'Connor - Belfast

Update meeting

- Tomorrow 2.30pm to 4.30pm Wesley Room (4th floor, QEII Conference Centre) open meeting of the Paediatric Empyema Surveillance Group
- Presentation of further clinical, microbiological & genetics data from study
- All welcome