



# British Thoracic Society Adult Community Acquired Pneumonia Audit (national audit period 1 December 2011 – 31 January 2012)

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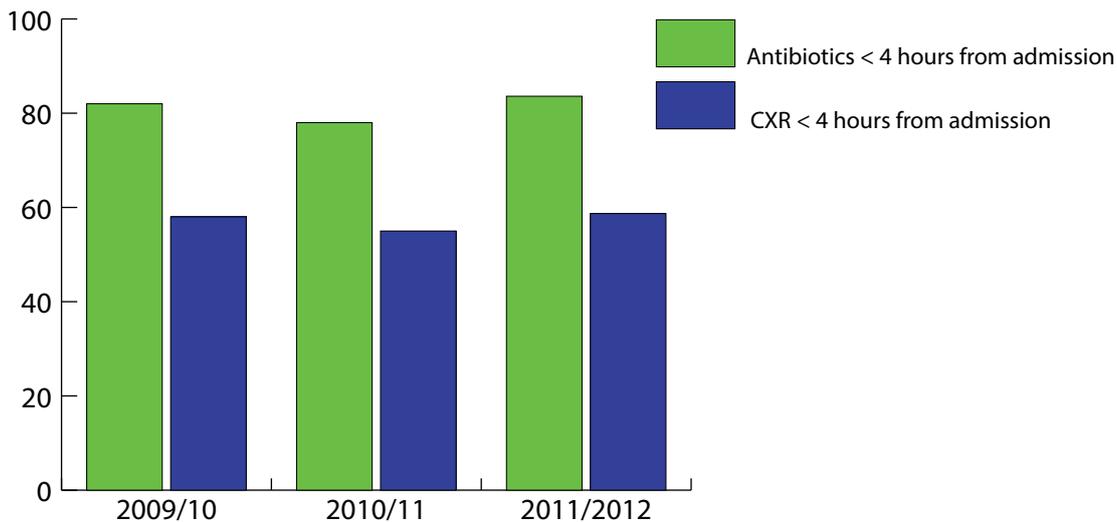
**T**HE NATIONAL BTS ADULT COMMUNITY ACQUIRED PNEUMONIA (CAP) audit has run for the last 3 years with 5430 patients from 104 institutions captured in the latest audit period over the winter of 2011/2012. This summary describes facets of the national picture and initiatives arising.

## Patient profile and outcome

The median age of cases was 77 years (range 63-85); 71.3% were aged  $\geq 65$  years. Based on the CURB65 score, 43.5% of patients had low severity CAP (score 0 to 1), 29.0% moderate severity CAP (score 2) and 27.5% high severity CAP (score 3 to 5). The median length of stay (LOS) was 5 days (range 3-10) and critical care admission (ICU) was required in 5.9%. Overall, 18.5% patients died while an in-patient within 30 days of admission. These figures were comparable to previous years – 2009/10 LOS 5 days, 7% ICU; 2010/11 LOS 5 days, 8% ICU.

Processes of care & antibiotic use: A chest x-ray was obtained within 4 hours of admission in 83.6% of patients, and the first dose of antibiotics was given  $< 4$  hours after admission in 58.7%. This was relatively unchanged over 3 years (Fig 1). Patients admitted via Emergency Departments (EDs) were more likely to have a CXR and receive antibiotics within 4 hours, compared to other patients (90.2% v 77.1% and 67.9% v 55.9% respectively).

Figure 1: Comparison of processes of care over 3 years



Antibiotics were given in accordance with *local* CAP guidelines in 51.7% of cases. Overall, initial empirical antibiotics were given intravenously in 74% (n=4016) of cases. A beta-lactam + macrolide combination was given in 44.4%, 50.3% and 55.1% of cases with low, moderate and high severity CAP respectively.

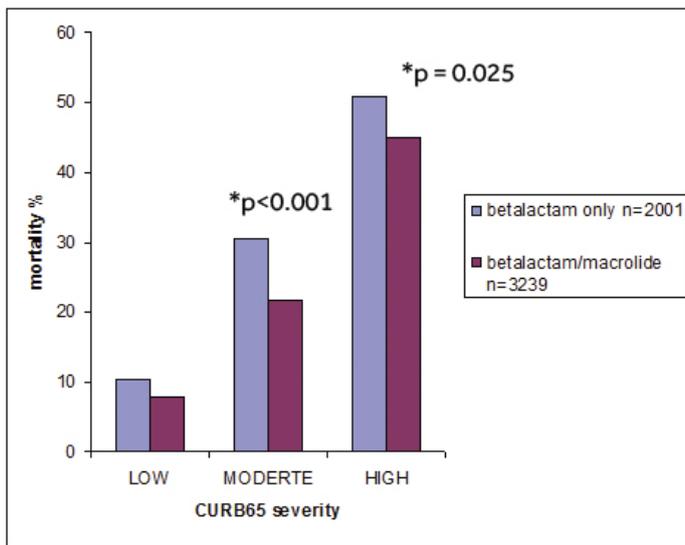
Of 318 patients admitted to ICU, 85 were mechanically ventilated and 39.6% died. Of 305 patients who received NIV, 35.7% had underlying COPD and only 52% were managed in ICU.

## Specific considerations:

- Adherence to CAP antibiotic recommendations, including the use of combination (beta-lactam + macrolide) antibiotics in patients with moderate and high severity CAP has been shown in the BTS audit dataset (see Figure 2) <sup>1</sup> and in other cohort studies <sup>2</sup> to be associated with improved outcomes. Currently, around 45 – 50% of patients with moderate and high severity CAP are empirically treated with single agent beta-lactams alone. Further efforts to determine reasons for this, and to improve guideline adherence where appropriate, are needed.
- The value of NIV in patients with CAP remains unproven. Delay to intubation has been associated with a worse outcome. Therefore, it is recommended that if a trial of NIV is indicated, it should only be conducted in a critical care area where immediate expertise is available to enable a rapid transition to invasive ventilation.<sup>3</sup>

- Overall, there has been comparatively little change in CAP care over 3 years. The hurdles facing local respiratory services in influencing practice in emergency and acute medicine departments can be considerable. Together with NHS Improvement, the BTS have started a pilot of a CAP Care Bundle in collaboration with 25 hospitals, each with high-level trust support for the pilot. The BTS is also working with the Department of Health Respiratory Programme Board to develop broader strategies to improve the care of patients with CAP. Hopefully, the fruit of these initiatives will provide seed for local improvement programmes in the near future.

**Figure 2: Association of mortality and empirical antibiotic choice according to CAP severity: data from the BTS CAP Audit years 2009 to 2011. (Figure drawn from data reported in ref 2)**



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### References

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