Abstract P209 Table 1 Association between clinical and demographic features of cohort and death at 30 days

Demographic feature		Number of individuals (n = 790) (%)	Number of deaths at 30 days (n = 240) (%)	Crude OR (95% CI)	Adjusted OR (95% CI)*
Sex	Female	394 (49.9)	111 (46.2)	1.00	1.00
	Male	396 (50.1)	129 (53.8)	1.23 (0.91–1.67)	1.38 (0.96–1.99)
Age category (years)	<70	184 (23.3)	27 (11.3)	1.00	1.00
	70–79	182 (23.0)	58 (24.2)	2.72 (1.63–4.55)	2.30 (1.28–4.14)
	80–89	305 (38.6)	113 (47.1)	3.42 (2.14–5.48)	3.18 (1.86–5.43)
	≥90	119 (15.1)	42 (17.5)	3.17 (1.82–5.52)	3.23 (1.71–6.10)
Admitted from nursing home	No	734 (92.9)	218 (90.8)	1.00	1.00
	Yes	56 (7.1)	22 (9.2)	1.54 (0.88–2.68)	1.47 (0.75–2.91)
Charlson Index Score	0	186 (23.5)	29 (12.1)	1.00	1.00
	1	178 (22.5)	49 (20.4)	2.06 (1.23–3.44)	1.94 (1.09–3.44)
	2–3	248 (31.4)	79 (32.9)	2.53 (1.57–4.08)	2.15 (1.27–3.66)
	≥4	178 (22.5)	83 (34.6)	4.73 (2.89–7.74)	4.34 (2.50–7.53)
Consolidation on CXR	No	138 (17.5)	35 (14.6)	1.00	1.00
	Yes	386 (48.9)	132 (55.0)	1.53 (0.98–2.37)	1.48 (0.92–2.39)
Timing of HAP antibiotics	Admission or ≤48 h of admission	192 (24.3)	59 (24.6)	1.00	1.00
	2–4 days from admission	169 (21.4)	42 (17.5)	0.75 (0.47–1.19)	0.81 (0.48–1.39)
	≥5 days from admission	429 (54.3)	139 (57.9)	1.08 (0.75–1.56)	0.87 (0.57–1.33)
White cell count (quintiles)	≤7.9	191 (24.2)	47 (20.0)	1.00	1.00
	8.0–10.9	189 (23.9)	53 (22.1)	1.19 (0.76–1.89)	1.01 (0.59–1.67)
	11.0–14.6	190 (24.1)	61 (25.4)	1.45 (0.93–2.27)	1.20 (0.72–2.02)
	≥14.7	190 (24.1)	69 (28.8)	1.74 (1.12–2.72)	1.38 (0.83–2.31)
	Missing	30 (3.8)	-	-	-
C Reactive Protein (quintiles)	≤45	187 (23.7)	41 (17.1)	1.00	1.00
	46–87	186 (23.5)	60 (25.0)	1.70 (1.06–2.69)	1.90 (1.12–3.22)
	88–174	187 (23.7)	73 (30.4)	2.28 (1.45–3.59)	2.42 (1.42–4.12)
	≥175	185 (23.4)	55 (22.9)	1.51 (0.94–2.41)	1.56 (0.90–2.70)
	Missing	45 (5.7)	-	-	-

*Odds ratio adjusted for all variables in table.

Background Hospital acquired pneumonia (HAP) is a common nosocomial condition, especially in the elderly population. We aimed to describe clinical and demographic features of patients diagnosed with HAP (excluding ventilator associated pneumonia) in a large teaching hospital and investigate the association of these features with 30 day mortality.

Methods We used electronic medical records to identify all individuals with a physician diagnosis of HAP between 1/11/2014 and 31/4/2015. We extracted information on demographics, radiographic and laboratory findings, antibiotic prescriptions and mortality. HAP was defined as either diagnosis of pneumonia after 48 h of admission or hospital admission within the preceding 10 days. 30 day mortality was defined as death within 30 days of first being prescribed antibiotics for HAP. Logistic regression was used to generate odds ratios for death at 30 days, stratified by clinical and demographic features. White cell count and C Reactive Protein (CRP) levels were divided into quartiles.

Results There were 790 people with a diagnosis of HAP during the study period. 396 (50.1%) were male and mean age at admission was 78.0 years (standard deviation [SD] 13.1). 56 (7.1%) people were admitted from a nursing home. 706 (89.4%) patients were admitted under medical specialities. 186 (23.5%) had a Charlson Index Score of 0, and 62 (7.9%) had dementia coded as a co-morbid illness. 48.9% of patients were reported to have consolidation on chest radiograph, whilst 19.9% were reported to have clear lungs. 598 (75.7%) patients had been admitted to hospital for at least 48 h prior to starting antibiotics for HAP, with a median stay of 5 days in hospital prior to starting antibiotics for HAP (Interquartile range [IQR]:

2 to 11). 240 (30.4%) patients died within 30 days of first being prescribed antibiotics for HAP. Features strongly associated with increased mortality at 30 days were older age, higher Charlson Index Score and high CRP (see Table 1).

Conclusion Our findings suggest that HAP poses a substantial burden to secondary care services and carries a high mortality rate.

P210 COMMUNITY ACQUIRED PNEUMONIA- SEVERITY AND MORTALITY

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10.1136/thoraxjnl-2015-207770.346

Background Community acquired pneumonia (CAP) is a common cause of hospital admissions and carries a high mortality rate. Risk stratification through clinical assessment, underlying chronic lung disease, SIRS and CURB65 helps identify patients at moderate to high risk of mortality. Despite prompt and appropriate management, a significant number of patients (18.3%) die in hospital (BTS Adult CAP audit 2009/10).

Aims and objectives We wished to determine our hospital's CAP mortality rate and ascertain the proportion of patients with a high likelihood of death, as predicted by high CURB-65 scores, markers of severe infection (SIRS criteria) and underlying chronic respiratory disease.

Methods Case notes of all patients admitted with CAP over a 3 month period were requested and 175 were obtained. Information was gathered on the presence of underlying chronic lung conditions, CAP severity/mortality markers (SIRS and CURB65 scores) and mortality.

Results At least one underlying chronic pulmonary condition was found in 45.1% (n = 79), the commonest being COPD (n = 56). CURB65 score was 0 to 1 in 39.4% (low risk), 2 in 27.4% (moderate risk), 3–5 in 17.2% (high risk) and not done in 16% (n = 28). SIRS criteria were met in just under half of the cases (48.5% n = 85).

An in-patient mortality review during this study period showed that 8% (n = 14) CAP patients died in hospital within 30 days. An association of these patients with background lung condition, CURB65 and SIRS is shown in Table 1.

Abstract P210 Table 1 Characteristics of CAP patients who died in hospital within 30 days (n = 14)

Mortality	Chronic lung disease		CURB65		SIRS		SIRS and/or CURB65 2–5	
	Yes	No	0–1	2–5	Yes	No	Yes	No
Numbers	10	4	1	7	5	9	8	6
%	12.6%	4.2%	1.4%	9%	5.9%	10%	9%	7%

Conclusion We showed an improvement in mortality figures compared with the BTS National CAP adult audit 5 years ago (8% vs 18.3%). A significant number of these patients have an underlying chronic lung disease which predisposed them to developing CAP. The highest mortality was seen in patients with a high CURB65 score with SIRS response.

P211 IMPACT OF DOOR-TO-RADIOGRAPH TIME ON PNEUMONIA MANAGEMENT

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10.1136/thoraxjnl-2015-207770.347

Introduction Pneumonia continues to be associated with significant mortality.¹ The diagnostic gold standard remains the Chest X-Ray (CXR). Quality indicators such as door-to-antibiotic or door-to-radiograph time are monitored as surrogate outcome measures.

Objective To assess the impact of CXR availability at first clinician contact in cases where initial antibiotics were delayed.

Methods We interrogated the time of initial consultation, radiographs and diagnosis for 57 CAP patients between March 2013 and February 2014 whose initial antibiotics were delayed beyond 4 h.

Results The median age was 77 (interquartile range 67–85), 32 (53%) were female. Presentation was to the ED in 45 (79%) and to the GP assessment unit (GPAU) in 12 (21%) cases. 37 (65%) cases had SIRS, 45% had a CURB-65 score of 3 or above.

CXR reports were compatible with pneumonia in 44 (77%) cases, but only 11 (19%) had a CXR at time of first doctor contact. Interestingly, a reported consolidation was not associated with an initial diagnosis of pneumonia (p = 1.0000, Fisher's exact test, two-tailed p).

Median time to first clinician contact was 2:14 h (ED 2:03 h, GPAU 4:33 h). Overall, 20 patients (35%) had a diagnosis of pneumonia after the initial consultation, 7 (58%) in GPAU and 13 (29%) in the ED. CXRs were obtained within 4 h in 49 (86%) cases. Median time to diagnosis was 7:06 h (ED 8:35 h, GPAU 5:54 h). CXR availability at first clinician contact differed significantly – GPAU 50%/6 vs ED 11%/5 (p = 0.0068, Fisher's exact test, two tailed p).

Discussion There were significant delays to diagnosis, despite most CXR reports indicative of pneumonia. The absence of a CXR on initial clinician contact may contribute to the poor diagnostic accuracy seen in this case series. Notably the 4 h door-to-radiograph target set by BTS was largely met. We will deploy the GPAU pneumonia care bundle in the ED, which was shown to improve door-to-radiograph time (CURECAP, reported previously²). The efficacy of this intervention will be the subject of further studies.

REFERENCES

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P212 MICROBIOLOGICAL SAMPLING IN COMMUNITY-ACQUIRED PNEUMONIA: DO WE FOLLOW THE GUIDELINES AND DOES IT HELP OUR PATIENTS?

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10.1136/thoraxjnl-2015-207770.348

Introduction Community-acquired pneumonia (CAP) is a common cause for hospital admission and carries a high mortality rate. Choosing the correct antibiotic can be challenging and “atypical” pathogens, such as *Mycoplasma pneumoniae* and *Chlamydia pneumoniae*, are not eliminated by some first-line empirical agents. Identification of the infecting organism through microbiological sampling can help to tailor antibiotic therapy and substantially improve patient outcomes. Guidelines exist (NICE, BTS, trust) that recommend which patients should undergo microbiological sampling. We wished to determine whether these guidelines were followed in our trust in patients admitted with CAP.

Methods We reviewed the notes of adult patients admitted over a 15-week period (February–May 2014) with a clinical code of pneumonia. Further information was derived from hospital systems, including Telepath (used by the Microbiology department) and from ‘Advancing Quality’ data available for these patients.

Results 175 patients were identified with CAP. Blood cultures (BCs) were indicated in 89 patients according to trust guidelines (based on Systemic Inflammatory Response Syndrome (SIRS) criteria, CURB-65 score, immunocompromised; data sufficient in 147) and appropriately collected in 55 (61.8%). However, only 4 had positive (clinically significant) BC results. Sputum samples were sent for 31 patients (17.7%, n = 175) and only 19% had significant bacterial growth. All patients transferred to intensive care (ITU; 3.4%) were screened appropriately for urinary pneumococcal antigen (UPA) and urinary legionella antigen (ULA), with 1 positive UPA result. 6 (of 10) UPA and 7 (of 12) ULA samples appeared to be sent inappropriately for non-ITU patients and were rejected by the laboratory. Serum samples were sent for Mycoplasma testing in 7 patients, despite this