Abstract P11 Table 1

Parameter assessed	Baseline (pre-omalizumab)*	16-weeks*	1-year*	2-year*
Maintenance Steroid Dosage	7.3 (0, 11)	4 (0, 6.25)	5.1 (0, 10)	5.1 (0, 10)
FEV1	1.60 (1.1.2.1)	1.51(1.35, 2.6)	2.74 (1.71, 2.87)	1.35 (0.81, 2.29)
FEV1%	64.5 (39.0, 78.0)	58.0 (52.0, 81.0)	84.0 (56.0, 97.0)	52.0 (35.0, 75.0)
FVC	2.30 (2.12, 2.94)	2.74 (2.34, 3.8)	3.83 (2.95, 4.42)	2.74 (2.36, 3.43)
FVC%	75.0 (70.0, 88.0)	84.0 (63.0, 118)	113.0 (92.0, 123)	80.0 (74.0, 97.0)
FEV1/FVC %	53.0 (51.0, 75.0)	66.0 (58.0, 72.0)	60.0 (47.0, 66.0)	51.0 (43.0, 69.0)
Morning PEF	250 (176, 300)	300 (230, 350)	260 (250, 350)	220 (185, 320)
ACT	7 (7, 7)	13 (11, 18)	11 (9, 13)	13 (11, 13)
Overall AQLQ	2.26 (2.26, 3.2)	4.06 (3.8, 5.7)	4.43 (4.35, 4.52)	4.00 (3.4, 4.6)
AQLQ Symptoms domain	2.4 (2.3, 2.6)	4.4 (4.03, 5.5)	3.6 (3.6, 3.6)	4.9 (4.45, 5.1)
AQLQ Activities domain	3.38 (2.69, 4.75)	5.0 (4.38, 6)	4.63 (4.31, 4.94)	4.38 (3.5, 4.94)
AQLQ Emotions domain	2.50 (2.07, 3.75)	4.0 (3.33, 5.0)	6.33 (5.6, 6.67)	4.1 (3.45, 5.2)
AQLQ Environment domain	2.47 (1.99, 2.95)	3.0 (2.5, 4.5)	3.63 (3.15, 4.12)	2.8 (2.45, 3.5)

FORM 500/20 μg and 100/10 μg in the severe asthma group were significant at the 5% level for sleep disturbance scores [treatment difference –0.138 (95% CI: –0.265, –0.012) P=0.032], percentage awakening-free nights [treatment difference 11.754 (95% CI: 2.234, 21.274) P=0.016] and mean AQLQ score [treatment difference 0.302 (95% CI: 0.013, 0.591) P=0.041].

Conclusion High dose FLUT/FORM (500/20 μg) was consistently associated with greater symptomatic treatment benefit than low dose (100/10 μg) treatment in patients with severe asthma. These data provide a rationale for dose escalation with FLUT/FORM, which appears most likely to confer additional treatment benefit in patients with severe asthma.

Clinical observations in acute and chronic lung infection

P13 MISMATCH BETWEEN CLINICAL AND RADIOLOGICAL DIAGNOSIS OF PNEUMONIA

doi:10.1136/thoraxjnl-2012-202678.154

SV Ruickbie, E Kursumovic, B Narayan, K Opong, P Luce, T Toma, LV Baker, KK Lee. *University Hopsital Lewisham, London, United Kingdom*

Introduction National guidelines on management of pneumonia stipulate the need for radiological evidence of consolidation to confirm the diagnosis. An incorrect diagnosis may lead to sub-optimal management, inappropriate antibiotic use and prolonged hospital stay. We sought to determine the relationship between clinical diagnosis of pneumonia and radiological evidence on chest x-ray.

Methods We performed a retrospective case-note study of admissions with a diagnosis of pneumonia in a large district general hospital during a three month period. Cases with pneumonia were identified using the ICD-10 coding system; those with co-existing diagnoses of malignancy or bronchiectasis were excluded. Clinician diagnoses of pneumonia were established by examination of clinical discharge summaries. All chest radiographs performed throughout the admission episode had been evaluated by a radiologist. Serum white cell count (WCC) and C-reactive protein (CRP) at admission were also examined.

Results 132 coded records of pneumonia were identified, of which a clinician diagnosis of pneumonia was recorded on 91. Median (interquartile range) age was 75 (61–89) years, 57% female, and median length of stay was 9 (3–23) days. CAP accounted for 65%, hospital acquired pneumonia 15%, aspiration pneumonia 1% and in 19% the origin was unclear. In 37% of all cases, there was no evidence of consolidation on any of the chest radiographs performed during inpatient stay. Subjects without radiological consolidation had similar length of stay to those with consolidation. There was no significant difference in age (p=0.34) or gender (p=0.28) between groups. WCC and CRP were significantly lower in those without consolidation. Analysis of cases where pneumonia was highlighted as the primary reason for admission (n=47) was similar to the overall cohort: 26% had no radiological evidence of consolidation.

Conclusion A significant proportion of clinical diagnoses of pneumonia are made despite no radiological evidence of consolidation. Studies are required to investigate if this could be due to a lack of awareness of diagnostic criteria, mismatch in chest x-ray interpretation or other factors in the clinical presentation.

Abstract P13 Table 1 Length of stay and inflammatory indices in patients with and without radiological evidence of pneumonia

	Consolidation on x-ray (n=57)	No consolidation on x-ray (n=34)	P Value
Length of stay	9 (4–19)	11 (2–31)	0.87
Median WCC	11.8 (9.0–15.7)	8.5 (6.3–12.6)	0.002
CRP	123 (55–209)	34 (8–66)	<0.001

Data presented as median (IQR). WCC: white cell count; CRP: C-reactive protein

P14 PNEUMONIA: 30 MONTHS OF ADVANCING QUALITY IN NORTH WEST ENGLAND

doi:10.1136/thoraxjnl-2012-202678.155

[1]MA Woodhead, [2]L Kitchen, [1]G Morrow. *[1]Central Manchester University Hospitals NHS Foundation Trust, Manchester, UK; [2]Advancing Quality, Salford, UK*

As part of an initiative to improve the quality of care within the North West Strategic Health Authority, five 'quality markers' (QMs) were measured in all adult admissions with pneumonia in all 23 Acute Trusts in the North West Region. Results for discharges for 30 months from October 2008 are presented. Data reporting was changed to match the financial year in 2009 so cohorts from October 2008-September 2009, October 2009-March 2010 and April 2010-March 2011 are presented. Only adults who fulfilled a prescribed definition of 'pneumonia' were included.

QMs were taken from a USA initiative and adapted for UK use. Patient identification was based on clinical coding. Data was recorded in each individual Trust and centrally collated.

Data on 31,972 pneumonia episodes were included (11,127, 6,683, 14,162 in each time period respectively). Mean results of %

Abstract P14 Table 1

Quality Marker	2008–2009		2009–2010		2010–2011	
	Mean	SD	Mean	SD	Mean	SD
Oxygenation Assessment	96.6	3.8	98.3	2.1	99.3	0.9
Guideline Compliant Initial Antibiotic Selection for CAP	80.5	14.5	85.6	12.0	90.6	9.5
Blood cultures performed prior to initial antibiotic	58.5	21.9	68.7	17.5	80.3	11.5
Initial Antibiotic Received Within 6 Hours of Arrival	64.0	13.2	69.2	9.0	76.3	7.0
Adult Smoking Cessation Advice/Counselling	35.4	17.5	52.4	19.6	55.0	19.8
Composite Process Score	76.1	8.4	81.3	5.1	85.7	4.0

compliance for each variable for each Trust, together with standard deviation as a measure of variability across hospital sites, are presented in the Table for each cohort.

Initial compliance was worst for administration of smoking cessation advice and best for oxygenation assessment. While variability between hospitals was least for oxygenation it was greatest for the performance of blood cultures prior to antibiotic administration. Over the 3 cohorts overall compliance with QM assessment steadily improved for all QMs and variability between Trusts declined for all but smoking cessation advice.

Conclusions The Advancing Quality Programme has resulted in improved quality of pneumonia care as assessed by both the improvement in overall compliance and the reduction in inter-hospital variability.

P15 HOW IMPORTANT ARE BLOOD CULTURES IN THE MANAGEMENT OF PATIENTS SUSPECTED TO HAVE COMMUNITY ACQUIRED PNEUMONIA?

doi:10.1136/thoraxjnl-2012-202678.156

W Kent, L Potter, S Roberts, R Shaw, K Vaudrey, P Deegan, J Folb. *Royal Liverpool University Hospital, Liverpool, United Kingdom*

Background It is acknowledged in the BTS guidelines that the routine use of blood cultures in community acquired pneumonia (CAP) has been questioned on the grounds of cost, low sensitivity and lack of impact on antimicrobial management.[1] In October 2011 the hospital policy for severe CAP (CURB 65 ≥ 3) at our trust changed to benzylpenicillin and clarithromycin. This combination is associated with decreased rates of *clostridium difficile*, however it has weak cover against *Haemophilus influenzae* and none against gramme negative bacilli.

Aim To determine the positive yield from blood cultures in patients suspected as having CAP at presentation to hospital, their impact on management and, in particular, the outcomes associated with Gram negative bacteraemia.

Method Patients were prospectively identified at a large University Hospital in whom CAP was suspected as their admitting diagnosis between November 2011 and January 2012. The patient demographics and outcomes were analysed at admission and revisited at 7 and 30 days.

Results 151 patients were identified for inclusion. Age range was 22–97, median 75. The CXR was reported as showing infiltrates in 93/148 cases (62.8%). Blood cultures were sent in 41/88 patients (46.5%) with CURB score ≥ 2 and 21/37 patients (56.8%) with CURB score ≥ 3. There were 10 positive blood cultures (representing 14.5% of all blood cultures sent). 6 were positive for *streptococcus pneumoniae* and 4 yielding *E. Coli* or *Klebsiella* suggesting an alternative source of infection. There were no cases of severe CAP due to *Haemophilus influenzae*. 60/151 patients had a change in their antibiotics; 11 as a result of poor clinical progress, 11 due to positive microbiology results, 38 due to a new diagnosis or no evidence of infection.

Conclusion Blood cultures can be of increased importance in the investigation of CAP when used in combination with a narrower spectrum of antibiotics, particularly when checking for the possibility of occult gram negative sepsis.

References

1. Lim WS et al. Pneumonia Guidelines Committee of the BTS Standards of Care Committee. BTS guidelines for the management of community acquired pneumonia in adults: update 2009. Thorax. 2009.Oct; 64 Suppl 3:iii 1–55.

P16 AN INVESTIGATION INTO 'DO NOT RESUSCITATE ORDERS' IN ADULTS ADMITTED FOR PNEUMONIA

doi:10.1136/thoraxjnl-2012-202678.157

E Cant, MA Woodhead. *Central Manchester University Hospitals NHS Foundation Trust, Manchester, UK*

The NHS Outcomes framework classes respiratory deaths in those aged under 75 as potentially avoidable. In practise the level of care available is often limited in those who are unlikely to benefit from invasive interventions which may limit death 'avoidability'. We sought the frequency of such limitations by investigation of the use of 'Do not actively resuscitate' (DNAR) orders in adults with pneumonia.

Adult admissions for pneumonia (ICD10 J12-J18) to one NHS Trust between 01/01/2012 and 31/05/2012 were retrospectively identified. Case details were gleaned from the case records.

293 cases were found of which 81 (28%) died. After exclusions (no radiographic pneumonia (12), no radiograph within 24 hours (1) and no radiograph (1)), 67 deaths remained. From these, 20 case notes were obtained and compared with the 40 subsequent surviving admissions. DNAR orders were present in 18 (30%) cases. 11 DNAR orders were recorded within 48 hours of admission, 2 within the next 48 hours and 5 in the following 5 days. They were more

Abstract P15 Table 1 Outcomes amongst patients with Gram-negative bacteraemia

Age	CURB-65 score	CXR infiltrates?	Organism	New diagnosis	New antibiotic	Outcome
87	3	No	E.Coli	Urosepsis	Tazozin	Discharged after 23 days
85	Not recorded	No	E.Coli	Urovs intra abdominal sepsis	Tazozin + Ciprofloxacin	Discharged after 4 days
75	1	Yes	E.Coli	Biliary sepsis	Tazozin + Gentamycin	Discharged after 13 days
83	3	No	Klebsiella	Not specified; CXR NAD	Tazozin	Discharged after 6 days