Hall hospital, Dudley in December 2012. We calculated CURB scores and measured their lactate level, serum albumin and white cells count on admission. We also monitored their albumin levels throughout the admission. We then examined the association between these factors and LOS using Spearman's rank correlation coefficient (RS).

Results There was no mortality from CAP in our study population. Mean length of stay was 7 days (1–41). There was positive correlation between CURB65 and LOS (Rs = 0.41, p = 0.003). We did not observe any statistically significant correlation between the lactate level, albumin level or white cell count on admission and the LOS. Interestingly, we noticed that there was a statistically significant negative correlation with the day 3–5 albumin level with LOS (Rs = -0.522, p = 0.000627).

Conclusions Our study suggests that low albumin on day 3–5 increases hospital LOS therefore it could be postulated that early nutritional intervention to keep higher level of albumin might decrease length of stay. We also believe that combing admission CURB65 and day 3 albumin will give us better tool to predict LOS but prospective study is needed to evaluate these findings further.

P241 'CURE-CAP': A COMPREHENSIVE ADMISSION & DISCHARGE PNEUMONIA CARE BUNDLE

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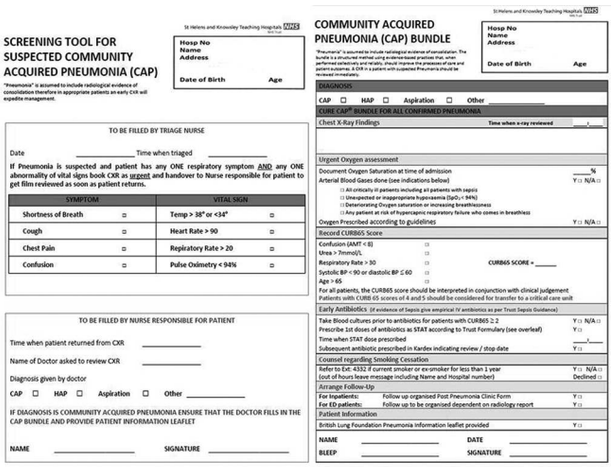
Introduction The annual incidence of Community acquired pneumonia (CAP) is 5–11/1000. Between 22% and 42% require admission to hospital. Wide variation exists in the management of CAP despite guidelines issued by the British Thoracic Society (BTS). Care bundles have been shown to improve outcomes through standardisation of care in other diseases as well as in CAP. A BTS/NHS Improvement initiative is due to launch a pneumonia admission bundle. However, it does not address the issue of standards around comprehensive discharge care.

Objectives To design and implement a care bundle for the management of CAP, that incorporates admission and discharge standards and to assess improvements post-implementation.

Methods We formulated a CAP bundle including a triage tool, with the acronym 'CURE-CAP', focussing on seven key standards (Fig. 1). Data was collected retrospectively on consecutive patients admitted to our GP Assessment Unit with a primary diagnosis of CAP with a 3-month period of implementation in between. Compliance to standards before and after implementation of the bundle was then measured.

Results The pre-implementation cohort had 43 patients (17 (40%) male; median (range) age 74 (36 –101)) and post–implementation cohort had 30 (8 (27%) male; median (range) age 82 (36–93)). Chest x-ray was performed within 4 hrs in 30/43 (70%) in the pre-implementation cohort, increasing to 30/30 (100%) post-implementation. Time from admission to x-ray improved as well (median (range) 2:49 (0:30–18:27) to 1:00 (0:21–2:42). Urgent oxygen assessment was performed in 100% cases in both cohorts. Recording of the CURB-65 severity score improved from 35/43 (81%) to 28/30 (93%). Early antibiotic administration (within 4 hrs) increased from 12/43 (28%) to 20/30 (68%) with appropriate (severity based) antibiotics selection improving from 29/43 (67%) to 28/30 (93%). The bundle led to total compliance with all discharge standards including appropriate smoking cessation counselling (5/7 (71%) to 4/4 (100%)), patient information leaflet provision (0% to 100%) and appropriate follow-up arranged (16/43 (37%) to 30/30 (100%)).

Conclusions We have successfully designed a CAP admission and discharge care bundle and shown improvements across all measured standards post implementation. A further study is planned to measure effects on direct patient outcomes.



Abstract P241 Figure 1. CAP Bundle

P242 WHAT IS THE PRE-ADMISSION NHS-CONSULTATION BEHAVIOUR OF ADULTS WITH COMMUNITY-ACQUIRED PNEUMONIA?

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Introduction Under 75 mortality from respiratory disease is highlighted as a target in the NHS Outcomes Framework. Community-acquired pneumonia (CAP) cases are likely to form a considerable proportion of such deaths. Most CAP deaths occur in hospital, but it is not known whether initiatives to reduce such deaths should be primarily targeted at hospital or alternatively at pre-hospital care. To help address this we set out to identify the pre-admission NHS contact behaviour of adults admitted for CAP.

Methods Adult admissions for CAP to one NHS Trust were prospectively identified between 14th May and 25th June 2013. For each case the diagnosis was validated by chest radiograph examination. After written informed consent a structured interview was conducted with each patient. Anonymous data was collected in an Excel spread-sheet and analysed with IBM SPSS 20.

Results Of 83 possible pneumonia cases, 64 were confirmed to have radiographic pneumonia and 44 included in the study (Exclusions: declined - 4; language barrier - 4; immune compromise–5; unable to provide history due to illness or confusion–7). Median age was 73 years and CURB65 distribution was 0–1 (36%), 2 (30%), 3–5 (34%) - similar to the BTS audit population. Only 17 (38%) had had some form of pre-admission NHS contact for this illness, the majority presenting directly to hospital. Pre-admission NHS contacts included GP contact (17, including 9 consultations, 5 telephone contacts, 2 home visits, 1 out-of-hours service), 1 walk-in centre and 1 A & E attendance. 1 case had 3 pre admission NHS contacts. There were no contacts with NHS Direct / 111. Those with sputum production, higher CURB65 scores and longer illness duration were significantly more likely to have had pre-admission NHS contact (Table).

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Multiple other factors (eg age, ethnicity, having English as first language, weekend admission, distance of home from hospital) were not significantly related to pre-admission behaviour.

Conclusions The majority of admitted adult CAP cases presented directly to hospital, but a significant minority had pre-admission NHS contact. Efforts to reduce CAP mortality should primarily be directed at in-hospital care.

Abstract P242 Table 1.

Symptoms		Total n (%)	No pre-admission NHS contact n (%)	Pre-admission NHS contact n (%)	P value
Sputum	Yes	30 (68)	15 (50)	15 (50)	**0.044**
	No	14 (38)	12 (86)	2 (14)	
CURB65 score	0	8 (18)	4 (50)	4 (50)	**0.038**
	1-2	20 (46)	16 (80)	4 (20)	
	3	13 (30)	7 (54)	6 (46)	
	4/5	3 (6)	0 (0)	3 (100)	
Duration of illness	1-2 days	6 (13)	5 (83)	1 (17)	**0.028**
	3-7 days	25 (57)	18 (72)	7 (28)	
	8-14 days	3 (7)	0 (0)	3 (100)	
	>14 days	10 (23)	4 (40)	6 (60)	

P243 INFLUENZA A OUTBREAK IN A UK RESPIRATORY CENTRE

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Introduction In March 2013, 12 patients on a single ward in a tertiary respiratory transplant centre contracted influenza within 72 hours. There was no corresponding community outbreak. Staff with symptoms went off sick. Trust policies outlining respiratory infection and isolation existed but there were no guidelines for this specific novel situation. We found no published reports of such an event in England.

Methods Patients quickly developed pyrexias and respiratory symptoms. All had throat swabs and blood cultures. Influenza A, H3N2 variant, was identified. A team of infection control and respiratory physicians, nurses and managers met regularly to implement these measures:

- Closure of ward and cohorting of bays
- Ward avoidance for non-essential personnel and anyone with symptoms
- Cancellation of non-essential procedures
- Strict hand hygiene and use of PPE and FFP3 masks
- Stockage of oseltamivir for treatment for all affected high risk staff and patients and prophylaxis offered to all ward patients and exposed high risk staff.
- No crossover of ward staff to transplant patients.
- Contact tracing of all immunocompromised patients on ward up to one week and all high risk patients 48 hours prior to the index case; advice on prophylaxis and their GPs contacted.
- Writing an information sheet for staff and GPs
- Increased and terminal ward cleaning

Results On the respiratory ward, 151 bed days were lost and 53 on two other wards. Fourteen patients (including two on another ward) had positive swabs for H3N2. There were 27 symptomatic staff members; 15 had swabs, two were positive. All patients and two staff members were given treatment oseltamivir. Fourteen patients and two staff members had prophylaxis.

No influenza complications or deaths occurred.

The department staff had 45% influenza vaccination uptake in 2012/2013. All affected patients had been vaccinated.

Conclusions Containment, pathogen identification, prompt treatment and contact tracing were priorities, to limit number of individuals affected. This is widely applicable.

Our departmental staff vaccination rate is below Department of Health targets. Importance of vaccination needs emphasising, whilst recognising that vaccine effectiveness against all laboratory-confirmed influenza in primary care is 51% for 2012/2013.

P244 ACCURACY OF ADMISSION DIAGNOSIS OF PNEUMONIA

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Background The inclusion of 'new infiltrates' on the admission chest radiograph (CXR) is part of the BTS audit tool (1), but it has been reported that up to 37% of inpatients coded (using the ICD-10 coding system) as pneumonia did not have CXR consolidation (2). We assessed our local audit population for potential reasons for this pneumonia miscoding.

Methods Patients selected by coding for the 2012/13 BTS Pneumonia Audit at hospitals within Imperial Healthcare Trust (Charing Cross (CX), Hammersmith (HH) and St Mary's (SMH) Hospitals) underwent a notes review.

Results Of all patients clinically coded as community-acquired pneumonia (CAP), 88/176 (50%) had a diagnosis of CAP compatible with the audit criteria, with infiltrates on the admission CXR–in 15 (39%), 25 (61%) and 48 (50%) of cases at CX, HH and SMH respectively.

Of the patients found not to have CAP by the current BTS audit criteria (n = 88), 47/88 (53%) had an abnormal admission CXR *not* showing CAP. The main abnormalities in these admission CXRs were pulmonary oedema (in 30%), COPD/bronchiectasis (27%), malignancy (13%), interstitial lung disease (ILD) (7%) and pleural effusions (7%). In the 88 'non-audit criteria CAP' patients, in combination with symptoms, inflammatory markers (WCC 10.4 (1.7–33) $x10^9$ and CRP 84.8 (3.6–381) mg/L), and the CXR series, the likely diagnosis was felt to be LRTI (35%), CAP (17%), HAP (13%), COPD (10%), pulmonary oedema (9%), malignancy (4.5%), UTI (3%), and ILD, asthma and effusions (all 2%), in the 'non-audited CAP' patients.

Of those remaining 41 patients with a normal admission CXR excluded from the audit, 24 patients (59%) had a repeat CXR within 72h, of which 5 (21%) then showed CAP. An additional 12 patients with normal admission CXRs had CT scans performed within 72h, 6 of which (50%) detected consolidation. Thus, of all the patients with a normal admission CXR, 11 (27%) had CAP that was missed by solely looking at the admission CXR.

Conclusion We confirm earlier findings that coding diagnoses are insufficiently accurate to judge quality of care, but also show that current audit criteria exclude a significant proportion of cases.

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