

**Results** Over the first year the team reviewed 351 patients with suspected CAP; 50 had a chest radiograph reported as clear and were excluded, leaving 301 for analysis. Length of hospital stay (LOS) was reduced when compared with pre-intervention after adjustment for disease severity using CURB-65 (low severity, 2.8 vs 4.4 days,  $p < 0.01$ ; moderate severity, 4.3 vs 7.6 days,  $p < 0.01$ ; high severity, 6.0 vs 8.9 days,  $p = 0.07$ ). Readmission rate at 30 days was unchanged (54/301, 17.9% vs. 50/324, 15.4%,  $p = 0.45$ ). Early supported discharge was appropriate in 51/172 (30.0%) patients with low severity CAP; in this group median LOS was 1.4 days and readmission rate 6/51 (11.8%). A positive microbiological diagnosis was made in 69/301 (22.9%) patients compared with 16/324 (4.9%) pre-intervention; 60/301 (19.9%) had a positive POC test with a result available within the acute admitting area. As a result, broad spectrum antibiotic regimens were streamlined in 43 (14.3%) patients.

**Conclusion** A dedicated respiratory infections team can significantly reduce LOS for patients admitted with CAP. A robust microbiological diagnosis early in the admission episode Results in an improvement in antibiotic stewardship.

## REFERENCE

1. Daniel P, Bewick T, Welham S, *et al.* Adults miscoded and misdiagnosed as having pneumonia: Results from the British thoracic society pneumonia audit. *Thorax* 2017;72(4):376–79.

## P122 THE EFFECT OF ALCOHOL ON SEVERE RESPIRATORY DISEASES: A SERIES OF SYSTEMATIC REVIEWS AND META-ANALYSES

E Simou, J Britton, J Leonardi-Bee. *University of Nottingham, Nottingham, UK*

10.1136/thoraxjnl-2017-210983.264

**Introduction and Objectives** Alcohol consumption is a well-recognised risk factor for a range of diseases, but there is relatively little knowledge on the association between alcohol consumption and respiratory disease risk. We present systematic reviews of alcohol effects on Adult Respiratory Distress Syndrome, asthma, COPD, community acquired pneumonia, obstructive sleep apnoea and tuberculosis.

**Methods** Systematic reviews identified comparative observational studies listed on Medline, EMBASE and Web of Science, published between 1985 and December 2015, with the exception of tuberculosis, for which we performed a separate search from 2005 to 2017. The reference lists of the eligible studies were also searched. We imposed no language restrictions. Random effects meta-analysis was used to estimate pooled effect sizes with 95% confidence intervals (CI). Heterogeneity was explored using subgroup analyses. Funnel plots and Egger's asymmetry test were used for the assessment of publication bias.

**Results** A total of 120 papers were included in these reviews (see Table 1). Our reviews confirmed an approximate doubling in the risk of CAP among drinkers. In addition, we found that there is an 8% increase in the risk of CAP for every 10–20 grams higher alcohol intake per day. Also, heavy alcohol consumption was found to significantly increase the odds of ARDS/ALI. Furthermore, a subgroup analysis indicated that this association was primarily due to alcohol abuse. Alcohol consumption increased the risk of TB between 2 and 3-fold, depending on study design. We found no evidence of an effect of alcohol consumption on the risk of asthma and COPD.

**Conclusions** Our review highlights that high alcohol intake is linked to the risks of several respiratory diseases, and that reducing alcohol intake may have an important role to play in respiratory disease prevention.

**Abstract P122 Table 1** Alcohol consumption and respiratory diseases

Alcohol consumption			
Respiratory Diseases	Number of studies included in the review	Number of high quality studies	Effect estimate
ARDS/ALI	11	7	OR=1.98,95% CI: 1.50–2.60
Asthma	15	2	RR=1.00,95%CI: 0.83–1.20
COPD	13	7	RR=1.05,95%CI: 0.86–1.28
CAP	11	7	RR=1.98,95% CI:1.45–2.69
OSA	31	1	RR=1.23,95% CI:1.12–1.36
TB	39	20	OR=1.99,95% CI: 1.63–2.43

## Ventilatory strategies for patients with respiratory failure

### P123 REVIEW OF PATIENT CHARACTERISTICS AND THEIR ASSOCIATION WITH SURVIVAL IN PATIENTS WITH COPD ON HOME NON – INVASIVE VENTILATION FOR HYPERCAPNIC RESPIRATORY FAILURE: 5 YEAR RETROSPECTIVE STUDY

JE Bleksley, NR Ward, R Pritchard, J Davidson, PD Hughes, J Palmer, B Kathiresan. *Plymouth Hospitals NHS Trust, Plymouth, UK*

10.1136/thoraxjnl-2017-210983.265

**Introduction** Home non-invasive ventilation (NIV) can improve outcomes in some patients with chronic obstructive pulmonary disease (COPD) and chronic hypercapnic respiratory failure. It remains unclear how to identify which patients will benefit most from this treatment. We have assessed patient characteristics and ventilator settings, and their association with survival, in individuals with COPD referred to our home NIV service

**Methods** Database and case notes of patients with COPD referred to our centre for home NIV between April 2011 and January 2017 were retrospectively analysed. We compared patient characteristics and ventilator settings in those who survived  $\geq 12$  months, to those who died earlier.

**Results** 150 patients were referred for home NIV. 41 patients did not tolerate NIV and discontinued treatment. Of the 109 who used NIV, 50 were alive in July 2017. Full data was available for 87 (58%) patients. Median survival in patients who used NIV ( $n=73$ ) was 14.2 months (Interquartile Range (IQR) 3.2–28.8). In patients who discontinued NIV ( $n=14$ ), survival was 21 months (IQR 5.2–38.2;  $p=0.81$ ). Characteristics and NIV settings in the 79 patients who used NIV are shown in Table 1.