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

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

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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

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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 ≥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.

Abstract P123 Table 1

	Survived<12 months (n=30)	Survived>12 months (n=43)	P Value
Age (years)	71.1 (64.3–74.8)	65.5 (62.4–75.3)	p=0.47
Number (%) Male	10 (33%)	24 (56%)	p=0.06
BMI (kg/m^2)	21.3 (17.2–25.3)	26.1 (21 0–30.8)	p=0.03
Number (%) initiated after acute admission	24 (80%)	31 (72%)	p=0.44
Forced Expiratory Volume in 1 s (L)	0.65 (0.44–0.85)	0.82 (0.52–0.95)	p=0.89
Baseline pCO2 (kPa)	9.9 (8.4–11.7)	9.2 (8.2–10.7)	p=0.33
Inspiratory Positive Airway Pressure (cm H_20)	22 (19–28)	25 (20–27)	p=0.23
Expiratory Positive Airway Pressure (cm H_20)	5 (5–6)	5 (4–5)	p=0.02
Number (%) using NIV≥4 hours per night	20 (67%)	39 (90%)	p=0.1

Data are presented as median (Interquartile Range)

Discussion 109 (73%) patients with COPD and hypercapnic respiratory failure continued using NIV after set up. Our data demonstrates lower body mass index was significantly associated with surviving<12 months after starting NIV. Patients who survived more than 12 months showed a non-significant trend to be male, younger and use NIV for more than 4 hours each night at higher inspiratory pressures. An unexpected finding was that patients intolerant of NIV showed a trend to longer survival, compared to those who continued with NIV. This may be due to the small number of patients with full data, or that 50% of these patients had stable hypercapnic respiratory failure at NIV initiation, compared to 25% in the patients who used NIV.

Conclusions These observations highlight the need for careful patient selection when considering which patients with COPD may benefit from home NIV, an awareness of the different features that may contribute to survival, and subsequent attention to ventilator settings and compliance once the treatment has begun.

P124 EARLY EXPERIENCE WITH 2-WAY REMOTE MONITORING FOR THE INITIATION OF VOLUME-ASSURED HOME NON-INVASIVE VENTILATION

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Introduction The prevalence of conditions requiring nocturnal breathing support is increasing. 2-way remote monitoring via a cloud based system provides access to home non-invasive ventilation (NIV) data, highlights therapy issues and facilitates prescription changes to optimise NIV and potentially rationalise patient follow up. Remote-adjustable volume-assured NIV modes with auto-EPAP and intelligent backup rates offer prospects for improved NIV titration. We have adopted these emerging technologies with aim of improving patient outcomes and service efficiency. Interrogation of remote monitoring NIV data will provide insights to the utility of new NIV modes.

Methods Between February and June 2017 67 patients (26 OHV, 21 COPD, 20 other cause hypoventilation) who had clinical indications for home NIV were commenced on iVAPS with auto-EPAP and intelligent backup rate mode NIV (Lumis, ResMed) with remote monitoring (Airview, ResMed) and their data was retrospectively reviewed.

Results 31 patients commenced NIV as a day-case rather than as inpatients (our previous service model), saving 93 occupied bed days. Patients required on average 3 data reviews and 1 telephone consultation. Remote prescription change – eg capping of pressures or adjustment of iVAPS targets to achieve symptomatic benefit or tolerance – was required in 38 patients, with 20 requiring more than 1 change. Adverse monitoring findings triggered beneficial early follow up day-case review in 12 patients. The majority of patients realised good NIV usage and benefit (based on standard monitoring parameters) after optimisation; 6 patients discontinued NIV use despite treatment adjustments. Disease-specific patterns of iVAPS pressure support provision with volume assured mode were noted. Auto-EPAP was poorly tolerated in COPD patients.

Conclusion 2-way remote monitoring highlights NIV therapy issues, allowing early remote or daycase troubleshooting and optimisation, which should translate to improved treatment outcomes. Remote monitoring facilitates day-case initiation, saving occupied bed days and outpatient visits vs our previous service model. 2-way monitoring identifies intractable non-compliant patients, expediting ventilator recovery. Disease-specific iVAPS provision patterns have been identified which will provide novel management and pathophysiological insights.

P125 THE EFFECT OF PREVENTATIVE HYDROCOLLOID NASAL DRESSINGS IN ACUTE NON INVASIVE VENTILATION (NIV)-RELATED NASAL BRIDGE PRESSURE ULCERATION

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Introduction There are over 4000 acute mask application episodes coded in the treatment of acute respiratory failure in the UK every month according to a 2017 survey (NCEPOD). Most guidelines on acute NIV use suggest good skin care strategies including regular mask pressure relief. However, data on the magnitude of the problem of nasal bridge pressure ulceration and the effect of proactive preventative steps (e.g., hydrocolloid dressings) remains scant. A previous smaller but similar survey in a district general hospital showed a trend in the reduction of Grade2 Pressure ulcer rates following change in practice but fell short of statistical significance (Stygall G, Morley K, Pickup L, et al. Thorax 2016. 71:3. A124–125.). We set out on a quality improvement project and systematically examined the effect of a proactive approach to prevent Grade2 Pressure ulcers in a dedicated ward-based Physiotherapy-led acute NIV service in a teaching hospital serving a population of about 4 00 000.

Methods In addition to the routine acute NIV data for the unit, additional data was collected from 30/10/14 to 31/08/2015 on: NIV mask used (model and size), total number of admissions with days of NIV (NIV bed-days) and nasal bridge tissue viability grading. This included a 12 month period before (period1) and a 12 month period after (period2) the