

## S107 PREDICTORS OF 30 DAY READMISSION FOLLOWING HOSPITALIZATION WITH COMMUNITY ACQUIRED PNEUMONIA

<sup>1</sup>B Chakrabarti, <sup>2</sup>T Jenks, <sup>3</sup>S Lane, <sup>2</sup>J Higgins, <sup>2</sup>E Kanwar, <sup>1</sup>DG Wootton. <sup>1</sup>University Hospital Aintree, Liverpool, UK; <sup>2</sup>Advancing Quality Alliance, Manchester, UK; <sup>3</sup>University of Liverpool, Liverpool, UK

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**Background** Patients admitted to hospital with Community Acquired Pneumonia (CAP) are at risk of readmission within 30 days of discharge. There is little UK evidence aiding healthcare professionals predict which CAP patients are at greatest risk of readmission.

**Methodology** This study analyzed the Advancing Quality Alliance (AQuA) Pneumonia database. (<https://www.aquanw.nhs.uk/events/advancing-quality-pneumonia/80258>), a CAP Quality Improvement program in the Northwest of England from October 2016 to March 2019. 30-day readmission was defined as any admission for the same patient within 30 days of discharge following the index admission. Patient comorbidities were identified using ICD10 diagnosis codes in the patient spell.

**Results** A total of 12,144 adults (mean age 73 (SD16) years; 47% male) admitted with CAP were submitted to the AQ database during the study period. The in-hospital mortality was 14.7% (1791/12,144). Of the 10,353 cases discharged from hospital, 26% (2691) were readmitted within 30 days of discharge with 34% (913/2691) of readmissions being coded specifically due to Pneumonia. After applying multivariate analysis, the following factors emerged as significant predictors of 30 day readmission: a history of Chronic Kidney Disease (15.9% in those readmitted v 13.1% in those not readmitted), Congestive Cardiac Failure (16.8% v 13.9%), Cancer (16.2% v 9.7%), Ischaemic Heart Disease (12.7% v 11%), Diabetes with complications (1.4% v 0.9%) and Severe Liver Disease (0.4% v 0.2%). A longer index hospital stay was also associated with increased likelihood of 30 day readmission (median 6 (IQR 10) v 5 (9) days;  $p < 0.01$ ) whilst a background of Dementia was less likely to be associated with 30 day readmission being present in 5% of those readmitted at 30 days compared with 13.1% of those not readmitted ( $p = 0.01$ ).

**Conclusion** Over a quarter of those patients admitted to hospital with a diagnosis of Community Acquired Pneumonia are readmitted within 30 days of discharge. Key comorbidities such as Cardiac and Renal Disease appear to be significant drivers for readmission. Further studies are required to determine whether optimization of such comorbidity following hospitalization with CAP results in a reduction in readmission rates and improved clinical outcomes.

## S108 PRIMARY CARE RE-CONSULTATION AFTER COMMUNITY ACQUIRED PNEUMONIA: A LARGE POPULATION-BASED COHORT STUDY

<sup>1</sup>V Baskaran, <sup>2</sup>WS Lim, <sup>1</sup>T McKeever. <sup>1</sup>University of Nottingham, Nottingham, UK; <sup>2</sup>Nottingham University Hospitals NHS Trust, Nottingham, UK

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**Introduction** There is paucity of information on the burden of disease during recovery from community acquired pneumonia (CAP). This study aims to describe healthcare re-consultation episodes within 30 days after a diagnosis of CAP.

**Methods** Adults aged  $\geq 18$  with the first CAP Read code recorded in Clinical Practice Research Datalink (CPRD) GOLD between July 2002 and June 2017 were included. Patients were followed up to 30 days from date on which CAP Read code was recorded (index date). Re-consultation was defined as recording of any medical Read codes (excluding admin-related codes) after the index date; re-consultation was counted as a single episode if there were multiple Read codes recorded in a day per patient. Statistical analyses were performed using Stata/MP15.

**Results** There were 135232 patients with CAP. Thirty-day mortality was 6.7% ( $n = 9004$ ). Excluding patients who died, 41.7% ( $n = 52689$ ) had re-consulted primary care at 30 days for any reason. In comparison to the 18–49 age group, the 50–64 (OR 1.35, 95% CI 1.30–1.40) and 65–74 (OR 1.32, 95% CI 1.27–1.37) age groups were more likely to re-consult whilst those  $\geq 85$  (OR 0.65, 95% CI 0.64–0.68) were less likely to re-consult. Females were less likely to re-consult (OR 0.95, 95% CI 0.93–0.98). Compared to never smokers, current smokers (OR 1.14, 95% CI 1.11–1.18) and ex-smokers (OR 1.19, 95% CI 1.16–1.23) were more likely to re-consult.

Of those who re-consulted, 43.7% ( $n = 23036$ ) re-consulted primary care twice or more. Forty-one percent ( $n = 21533$ ) of these patients re-consulted for a respiratory reason whilst a low proportion re-consulted for a cardiac reason (8.3%,  $n = 4359$ ). At re-consultation, 26.8% ( $n = 14138$ ) received a further course of antibiotics. Most of these patients (77.5%,  $n = 10955$ ) received one course of antibiotics within 30 days of CAP. Penicillins (39.7%,  $n = 7820$ ) and macrolides (25.9%,  $n = 5088$ ) were the commonest antibiotics prescribed.

**Conclusion** A significant proportion of patients, particularly those aged 50–75 years re-consult primary care after CAP. More than one re-consultation is common, highlighting the burden on primary care. When re-consultation occurs, >25% patients are prescribed a further course of antibiotics, therefore emphasizing the importance of promoting antibiotic stewardship.

## S109 HUMAN METAPNEUMOVIRUS LOWER RESPIRATORY TRACT INFECTION IN ADULTS: CHEST CT IMAGING FEATURES AND CORRELATION WITH CLINICAL OUTCOMES

<sup>1</sup>LA Marinari, <sup>2</sup>MA Danny, <sup>3</sup>WT Miller Jr. <sup>1</sup>The Bryn Mawr Hospital, Bryn Mawr, Pennsylvania, USA; <sup>2</sup>Bryn Mawr College, Bryn Mawr, Pennsylvania, USA; <sup>3</sup>University of Pennsylvania, Philadelphia, Pennsylvania, USA

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Human metapneumovirus (hMPV) has increasingly been identified as an important, worldwide cause of lower respiratory tract infections (LRTI) in adults. Our goals were to determine the chest CT imaging features of LRTI due to hMPV and to correlate chest CT imaging features with clinical outcomes. We retrospectively reviewed the medical records and chest CT images of 100 adults collected over 33 months at 4 community hospitals in the northeast US. Chest CT images were reviewed by an experienced thoracic radiologist. Study subjects satisfied 4 criteria: 1. acute lower respiratory tract symptoms, 2. positive reverse-transcriptase polymerase chain reaction (RT-PCR) assay of nasopharyngeal swab for hMPV, 3. chest CT within 7 days of positive RT-PCR assay for hMPV, 4. no other pulmonary infection or other pulmonary disease that