

disease. A key problem for patients with severe asthma is impaired exercise capacity and often reported as a trigger for symptoms. In COPD it is recognised that reduced Physical Activity (PA) levels can be linked with poorer morbidity and increased exacerbations. In Severe Asthma (SA) there has to date been no formal evaluation of self reported PA levels in comparison to objective measurements and Quality of Life (QoL).

**Objectives** To evaluate self reported PA in a population of patients with SA compared to 6 Minute Walk Test (6MWT) results.

To compare PA levels with others measures of disease including lung function and QoL measurements (Short Form 36 or SF36)

**Methods** 35 patients (12 male:17 Female) with SA completed the Dukes Activity Status Index (DASI) which gives an estimated maximum metabolic equivalent (METs) as an estimation of self reported physical function. QoL was measured with the SF36 where Physical component scores (PCS) and Mental Component Scores (MCS) were collected. Objective measures of Forced Expiratory Volume in 1 second percent predicted (FEV<sub>1</sub> %) and 6MWT distance (metres) were also collected.

**Results**

**Abstract M3. Table of demographics**

	Median (range)
Age	45 (52)
FEV <sub>1</sub> %	68.1 (87.4)
6MWT(metres)	390 (650)
SF36 PCS	33.1 (42.1)
SF36 MCS	50.2 (49.4)
DASI	22.3 (51)

The 6MWT had medium correlations with SF36 MCS (r<sub>s</sub> = 0.372, p > 0.03) and SF36 PCS (r<sub>s</sub> = 0.480, p > 0.004) and a strong correlation with the DASI (r<sub>s</sub> = 0.604, p > 0.0001). Moreover the Physical function component of SF36 (SF36PF) also had a strong correlation with 6MWT (r<sub>s</sub> = 0.541, p > 0.001). FEV<sub>1</sub> showed a medium correlation with 6MWT (r<sub>s</sub> = 0.413, p > 0.19).

**Conclusion** Patients appear to estimate PA levels accurately with the DASI, with higher scores of estimated METs correlating with increased 6MWT distance. QoL appears higher in those patients who achieve a greater distance in their 6MWT, especially in relation to their physical function. FEV<sub>1</sub> preservation also appears to correlate with improved 6MWT distances. Further investigation of PA in this population is warranted.

**M4 THE IMPACT OF AN ASTHMA INREACH SERVICE ON ASTHMA MANAGEMENT AND FOLLOW UP**

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**Introduction** Suboptimal discharge management of asthmatic patients increases risk of early re-hospitalisation leading to avoidable burden on healthcare services. Previous BTS asthma audits have demonstrated that discharge planning was an area for improvement. In Sept 2011 we developed an asthma Inreach team (2 band 6 nurses, 1.3 whole time equivalents) to improve asthma inpatient care. In Oct 2012 this service was expanded to actively trace all patients who had attended the Emergency

Department (ED) in the previous 24hrs and arrange follow up in an asthma nurse specialist clinic (ANS) within one week. We evaluated the impact of this service.

**Methods** Data was extracted from clinic letters. The asthma Inreach team reviewed patients admitted to the respiratory wards and a proforma was used to document interventions.

**Results** ED: Between Oct 2012 to May 2013, there were 215 patients with 245 attendances to ED. 12 patients were readmitted within 30days. Only 26 (12%) patients were known to chest clinic. 138 (64%) attended follow up in the ANS clinic. 70 (51%) had poor compliance issues addressed. 48 (22%) had a significant change in treatment and 30 (14%) were referred onto the difficult asthma clinic. All received written asthma management plans (WAMP). Asthma Inreach: Between Sept 2011 to May 2013, the asthma inreach team undertook 240 reviews on 213 patients. 142 (68%) patients given WAMP 91 (43%) inhaler technique initially poor improved with education. 65 (27%) had poor compliance. 155 (73%) patients were subsequently followed up in ANS clinic. 30 day readmission rate decreased from 2.7% in 2011/12 to 1.9% in 2012/13.

**Conclusion** This study demonstrates that the introduction of an asthma inreach service & ANS clinic has significantly improved asthma management, follow up according to BTS guidelines and reduced 30 day readmissions. A significant number of patients had evidence of poor compliance, poor inhaler technique, lack of WAMP which was addressed by the asthma team. A number of patients were more complex and required review in the difficult asthma clinic.

**M5 LUNG FUNCTION AND PSYCHOLOGICAL WELL-BEING: ONE-YEAR OUTCOMES IN SEVERE ASTHMA**

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**Aims** Psychological comorbidity and impaired quality of life (QoL) are commonly reported in severe and difficult to treat asthma. These factors appear to contribute to asthma attacks and hospital admissions. Changes in these markers over one-year were studied following multidisciplinary intervention.

**Research Design and Methods** All new referrals to the Severe and Brittle Asthma Unit (SBAU), between 2009 and 2012 were assessed using a structured protocol including asthma diagnosis and severity, associated co-morbidities, lung function, QoL and drivers of poor asthma control. Patients received multidisciplinary interventions over a one-year period and outcomes were reassessed. Measures used included the Hospital Anxiety and Depression Scale (HADS) and the Juniper QoL. Lung function measures included FEV<sub>1</sub> and the Asthma Control Questionnaire. Paired T-Tests and Multiple Regressions were used to analyse the data.

**Results** 142 patients (N = 108, 76.06% female) completed the baseline measures. After one-year of multidisciplinary intervention 66 completed the HADS, 69 completed the Juniper QoL and 102 had FEV<sub>1</sub> reassessed. The majority (N = 96; 85.71%) of these patients met the criteria for refractory asthma. The number of patients on antidepressants significantly decreased over the year from 17.61% (N = 25) to 10.71% (N = 12; p = 0.021). Depression on the HADS showed a non-significant reduction from 53.5% (N = 76) to 42.4% (N = 28; p = .192) after one year. Anxiety on the HADS showed clinically significant reduction from 57.7% (N = 82) to 40.9%

( $N = 27$ ;  $p = 0.023$ ). Significant increases in QoL ( $p = 0.002$ ) were also found on the Juniper QoL. FEV<sub>1</sub> significantly improved with a mean score of 2.21 at baseline, increasing to 2.83 at one-year ( $p < 0.001$ ). Multiple regressions showed that 25% of the variance in QoL was predicted by FEV<sub>1</sub>; however, depression and FEV<sub>1</sub> combined explained 50.8% of the variance ( $p < 0.001$ ).

**Conclusions** Multidisciplinary intervention led to effective improvement in well-being and lung function in patients with severe and difficult asthma. The improvements in QoL were predicted by both FEV<sub>1</sub> and depression. We recommend supporting patients' adaptation to life with severe asthma as an integrated function of the multidisciplinary approach. This approach can help minimise anxiety and depression symptoms, improve QoL and reduce the psychological impact upon physical symptoms.

**Abstract M5 Table 1. Changes in lung function and psychological well-being across a one-year period of multidisciplinary intervention.**

	Baseline (Mean Score)	One-Year Assessment (Mean Score)	P Value * = significant
HADS Depression	7.69	7.13	.192
HADS Anxiety	8.97	7.56	.023*
AQLQ (Juniper QoL)	3.20	4.09	.002*
FEV <sub>1</sub>	2.21	2.83	.000*

#### M6 LEVEL OF ASTHMA CONTROL IN PRIMARY CARE IN THE UK AS DETERMINED BY THE RCP 3 QUESTIONS

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**Introduction** From 2012, the Quality Outcomes Framework (QOF) in Asthma was amended to include an objective assessment of a patient's asthma control using the RCP 3 questions.

In the last month

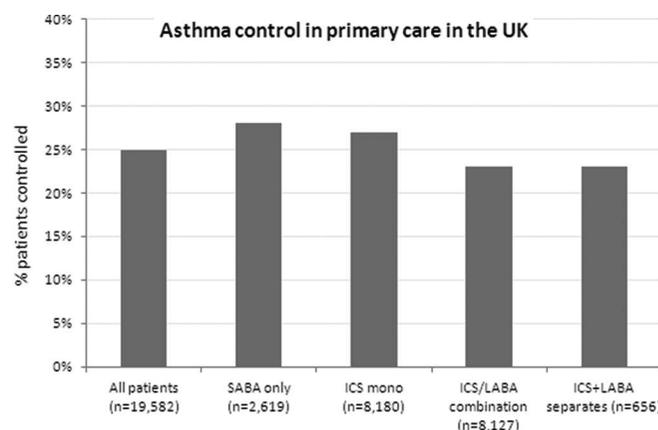
- Have you had difficulty sleeping because of your asthma symptoms (including cough)?
- Have you had your usual asthma symptoms during the day (cough, wheeze, chest tightness or breathlessness)?
- Has your asthma interfered with your usual activities (for example, housework, work/school, etc.)?

Controlled asthma is defined as answering 'no' to all 3 questions.

Cegedim Ltd, who own the InPS Vision prescribing software, have access to anonymised QOF data and have used 150 GP practices which are selected to provide UK-wide representation. This has enabled an analysis to determine real-world levels of asthma control in primary care in the UK.

**Methods** Asthma patients were identified according to QOF business rules. Patients who had provided responses to the RCP 3 questions (during the period March 2012–February 2013) were selected. A subset of those who had been on the same medication for the 12 months prior to that assessment were specified, defined as consistently prescribed the same medication at the time of assessment and 12 months prior.

**Results** A cohort of 19,582 asthma patients who had completed the RCP 3 question assessment during the study period with 12 months of consistent therapy was identified. One-quarter (25%)



**Abstract M6 Figure 1.**

of patients were controlled (answered 'no' to all questions). For patients at BTS Step 1 (SABA only) and BTS Step 2 (ICS monotherapy), the proportion controlled was 28% and 27% respectively. For patients at BTS Step 3 and above (ICS and LABA in combination, including as separate inhalers) the proportion was 23% (see figure).

**Conclusions** Asthma control in primary care in the UK is poor with only 25% of asthmatics achieving control as defined by the RCP 3 questions; levels of control were consistent across BTS steps. Interventions to understand barriers and improve asthma control are warranted.

#### M7 POOR CONTROL OF ASTHMA IN UYO, SOUTH-EASTERN NIGERIA

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**Background** The prevalence of asthma is increasing in the developing world. Asthma management guidelines have been instituted to provide recommendations for the optimal control of asthma. This study evaluated the current level of asthma control as reported by the patients which may be a reflection of adherence to guidelines.

**Methods** Asthma patients referred to a respiratory diseases clinic were recruited for the study. The asthma control test (ACT) was administered on the patients. Data was also obtained for medication use and disease monitoring. A total ACT score of less than 20 signified poor control.

**Results** Seventy out of 78 patients completed the survey (89.7%). The average age of patients was  $46 \pm 18$  years. The average ACT score was  $14.4 \pm 4.8$  (mean  $\pm$  SD). 82.9% of patients had poor control. 57.1% of patients who perceived their asthma to be well or totally controlled were objectively assessed to be poorly controlled. More than half of the patients used short acting 2 agonist (SABA) alone and only 20% used inhaled corticosteroids (ICS) for maintenance therapy. Thirty eight patients made unscheduled emergency room visits in the past 12 months and 68.8% could not use their inhaler devices well. Emergency room visits (OR 9.5) and poor inhaler technique (OR 18.9) was independent predictors of poor asthma control.

**Conclusion** The current level of asthma control among patients in Uyo is below guideline recommendations. Management of patients did not appear to follow guideline recommendations and patients tend to over-estimate their disease control.