



Abstract S36 Figure 1 Run chart of compliance with peak flow assessments

implement sequential interventions to increase the proportion of acute asthma patients who have a PEF within 30 minutes of arrival in ED to 80%.

Methods Over a 2-year period, we continuously collected data on demographics, pre- and post-treatment PEF, blood eosinophils and follow-up arrangements for consecutive adult patients presenting to Wythenshawe Hospital ED, coded with an asthma exacerbation. During this time, 7 QI Plan-Do-Study-Act (PDSA) cycles were carried out which focussed on staff engagement, education and use of the existing asthma pathway. Percentage of patients with PEF on arrival was plotted in a run chart.

Results 787 individual patients made 1038 visits to ED. ED staff treated and discharged 49.5% of patients. Of these, 12.9% were offered secondary care follow-up (compared with 58.7% of those admitted), 48.5% re-attended ED, 38.2% had blood eosinophils ≥ 300 cells/ μ L. The primary QI objective was achieved within 6 months (figure 1) through bespoke education delivered by the respiratory directorate, followed by weekly in-person reminders. However, this was not sustained due to factors such as winter pressures, staff turnover, introduction of a new electronic patient record and a move to a new ED building. Further PDSA cycles were implemented following recruitment of a central ED QI team, including introduction of a shortened asthma proforma and promotion of asthma care in daily staff huddles.

Conclusion Patients treated and discharged from ED had high levels of re-attendance, uncontrolled eosinophilia and were 4.5 times less likely to receive hospital follow-up than admitted patients. Sustained improvement in asthma assessment (such as PEF) was challenging and was supported by changes being driven by ED staff.

S37 THE EFFECT OF ASTHMA MANAGEMENT PLANS AND ANNUAL ASTHMA REVIEWS ON EXACERBATIONS

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Introduction and aims This study aimed to evaluate the effect of two different non-pharmacological interventions (asthma management plan and annual asthma review) on asthma exacerbations, one year after the intervention. This investigation expands upon existing studies which analyse other risk factors associated with exacerbations in a UK asthma population.

Methods Clinical Practice Research Datalink and Hospital Episode Statistics data from January 2004 to January 2017 were used to identify a nationally-representative asthma population. Patients were included that had at least two years of follow-up. The presence of the two main exposures were measured in the first year: annual asthma review and asthma management plan. The risk of an exacerbation in the following year was then calculated using a multivariate logistic regression model. The following variables were included in the model: gender, age, BMI, asthma severity (BTS step), smoking history, atopy, gastro-oesophageal reflux disease (GORD), anxiety, depression and exacerbations in the year prior to study entry.

Results Of the 370,528 eligible patients, 110,467 (29.81%) received an annual asthma review, whilst only 23,140 (6.25%) were given an asthma management plan. Presence of an asthma management plan or an annual review did not increase the odds of an exacerbation (management plan: adjusted OR=1.03, 95% CI 1.00–1.07, $p>0.05$; annual review: adjusted OR=1.01, 95% CI 1.00–1.03, $p>0.05$; table 1). Of the confounders adjusted for, increasing asthma severity and history of exacerbations in the year prior to study entry had the greatest effect on the exacerbation odds, increasing by 24.99 ± 2.56 and 7.19 ± 0.15 respectively.

Conclusions One year post-study entry, presence of either intervention was found not to have any significant association with exacerbations. This study therefore suggests that these non-pharmacological interventions did not reduce the risk of exacerbations; however, it is possible that there were other confounders that were unaccounted for. Further studies investigating the type of management plan (verbal or written),

Abstract S37 Table 1

| | Odds Ratio | 95% Confidence Intervals | |
|-----------------------------|------------|--------------------------|--------|
| | | Lower | Upper |
| Interventions | | | |
| Annual review | 1.008 | 0.988 | 1.029 |
| Management plan | 1.031 | 0.992 | 1.072 |
| Gender | | | |
| Male | Reference | | |
| Female | 1.251 | 1.227 | 1.275 |
| Age Category | | | |
| 20-30 | Reference | | |
| 30-40 | 1.139 | 1.103 | 1.177 |
| 40-50 | 1.452 | 1.408 | 1.498 |
| 50-60 | 1.867 | 1.810 | 1.925 |
| 60-70 | 2.246 | 2.179 | 2.316 |
| 70+ | 2.637 | 2.561 | 2.715 |
| BMI category | | | |
| Healthy | Reference | | |
| Underweight | 1.075 | 1.034 | 1.117 |
| Overweight | 1.172 | 1.142 | 1.202 |
| Obese | 1.403 | 1.368 | 1.440 |
| BTS Step | | | |
| 1 | Reference | | |
| 2 | 1.115 | 1.084 | 1.146 |
| 3 | 1.966 | 1.891 | 2.043 |
| 5 | 2.196 | 2.135 | 2.259 |
| 5 | 3.754 | 3.625 | 3.888 |
| 6 | 24.989 | 22.433 | 27.836 |
| non-BTS | 2.127 | 2.015 | 2.245 |
| Smoking Status | | | |
| Never smoked | Reference | | |
| Current smoker | 1.425 | 1.390 | 1.461 |
| Ex-smoker | 1.524 | 1.490 | 1.558 |
| Additional Variables | | | |
| Atopy | 0.989 | 0.970 | 1.009 |
| GORD | 1.515 | 1.469 | 1.563 |
| Anxiety | 1.410 | 1.376 | 1.446 |
| Depression | 1.479 | 1.446 | 1.513 |
| Previous exacerbation | 7.189 | 7.038 | 7.343 |

compliance with plans and different interventions such as inhaler technique checks would be useful.

Integrative working to improve patient experience in lung disease

S38 IMPROVING ACCESS TO PSYCHOLOGICAL THERAPY SERVICES IS A COST EFFECTIVE INTERVENTION TO REDUCE HOSPITAL BURDEN AND IMPROVE WELLBEING IN PATIENTS WITH LONG TERM RESPIRATORY CONDITIONS

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Background Patients with long term conditions (LTC) such as COPD have a higher incidence of depression and anxiety

compared to the general population.¹ This patient group often have a high usage of healthcare services. Cognitive Behavioural Therapy (CBT) has been shown to improve welfare, although access to these services can be delayed and non-specific.²

Aim To see if improving access to Psychological Therapy services for patients with long term respiratory conditions could reduce healthcare costs and improve patient wellbeing.

Methods A tailored approach of fast accessible therapy was set up locally – Improved Access to Psychological Therapy (IAPT). Patients were referred via Respiratory Specialist Nurses, Healthcare professionals or self-referral. This group was compared to patients with registered LTC's assigned to general psychological therapy (PT). Healthcare usage was assessed 3 months prior to and post referral date and psychological scores recorded using WSAS (Work and Social Adjustment scale).

Results Within IAPT 45% of patients had a diagnosis of COPD and 32.3% had more than one LTC (20.2% in the PT group). In the IAPT group there was a 70.6% reduction in A&E attendances for those that completed treatment compared to 13.3% in PT group and a 59.1% versus 18.7% reduction in non-elective hospital admissions.

In the IAPT group, for CSRI (Client Service Receipt Inventory) paired responses taken before and immediately after treatment there was a 15.4% reduction in ambulance callout and a 27.3% reduction in GP appointments. For those in paid employment total days lost due to ill health reduced by 64% post treatment, with an average saving of £852.50 per person in the three months post treatment completion.

Abstract S38 Table 1 Outcomes measured between IAPT and PT groups

| | IAPT | PT |
|---------------------------|-------|-------|
| Severe or mod sev (PHQ-9) | 63.6% | 63.2% |
| Recovery | 39.5% | 52.1% |
| Recovery >2LTC | 26.7% | 46.4% |
| Improvement | 57.8% | 69.7% |
| WSAS improvement | 73.8% | 68.4% |

Conclusions There was a significant reduction in cost, non-elective hospital admissions and wider healthcare activity in the IAPT group. Patient perception of their functional impairment also improved. Further development of fast accessible therapy tailored towards the breathless patient is required to improve outcomes in patients with long term respiratory conditions.

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S39 IMPACT OF A SPECIALIST BREATHLESSNESS MANAGEMENT GROUP

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Introduction Breathlessness is a subjective feeling of breathing discomfort, a symptom that is common and can be chronic