consideration of surgical intervention were made, a referral rate of 6%. The referral rate from the same consultants secondary care clinic during this period was 8% (10 referrals from 126 new COPD patients).

Referred patients had a mean age of 60 years (range 45–72), mean COPD Assessment Test (CAT) score 19 (8–32), mean FEV1 38% predicted (22–64%) and mean RV 196% (163–246%).

All referred patients are discussed at a regional COPD MDT. 5 patients have subsequently received an intervention- 2 lung volume reduction surgery and 3 endobronchial valve placement. 2 patients declined further assessment following discussion with surgeons. 3 patients currently undergoing further investigation to assess operative risk. Outcomes from secondary care referrals were similar (3 had an intervention, 5 were declined and 2 awaiting further assessment).

Post operative CAT scores improved by an average of 9 points. Uncomplicated recovery is rare with complications ranging from wound infection to coughing up a valve. Patients felt the information given pre-operatively by the community and surgical services was at the right level, although it was noted by the community respiratory nurse that patients required significant psychological support before and after surgery.

Summary Management of complex emphysema is possible in a community setting. 6% of COPD patients were referred for assessment for surgical intervention for their emphysema. Objective and subjective patient reported outcome measures improved post operatively. Patients needed more intensive support from the community team in the peri- and post-operative periods.

REFERENCE

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M15 USE OF E-CIGARETTES IN PATIENTS ACCESSING SECONDARY CARE IN CROYDON

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Background The introduction of electronic cigarettes on the market as a cheaper and allegedly healthier alternative to cigarettes, has led many people to use them. The aim of this study is to give us a better understanding of the increase in useage of electronic cigarettes as an aid to quitting smoking for people accessing stop smoking services in secondary care in Croydon.

Method Questionnaires were given to participants who were willing to take part. 50 participants were recruited during their hospital visit through the Croydon Respiratory Team (CRT) and the hospital based stop smoking service. Patient demographics were recorded and participants reported their behavioural changes, impact on health, reason for use, and intention of when to stop using e-cigarettes.

Results Participants were both male and female with the age range of 23–82 years. 17 participants (35%) reported a diagnosis of COPD (Chronic Obstructive Pulmonary Disease). 34 participants were single users (only used e-cigarettes) and 16 were dual users (use e-cigarettes and other NRT products). Results revealed that e-cigarettes are popular, well tolerated and various brands used. The most popular brand was Vapour Zone cigarettes with 14 users followed by V2 Cig with 8 users. The findings also showed that some patients are using 2 types of e-cigarettes: 2 participants in this study were using more than one brand at the

same time. Duration of using e-cigarettes was from one week to over 18 months with 50% of patients having used e cigarettes for at least 3 months. 26 patients (52%) reported improvement in breathing and 9 patients (18%) reported a reduction in sputum. 21 patients (42%) had reduced their cigarette use and 19 (38%) had quit smoking. Out of these 25 patients who were using e-cigarettes for at least 3 months; 12 had quit smoking. 22 participants reported hearing about e-cigarettes through the media, 14 through friends, 3 from health professionals, 3 from relatives and 3 through media and friends. It was interesting to note that despite all participants wanting to stop smoking, 33 participants were not sure when they intended to stop using e-cigarettes.

Conclusions The use of e-cigarettes is common in patients accessing secondary care in Croydon. Many patients either quit or reduced smoking and many reported improvement in symptoms. Duration of use of e-cigarettes is variable but half of patients surveyed had used them for at least 3 months. Whilst this study provides some local data, further research is required to help shape future respiratory and smoking cessation services and policies.

M16 ARE WE SHOUTING LOUD ENOUGH? – A COMPARISON OF PRIMARY VERSUS SECONDARY CARE SPIROMETRY

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Background Abnormal spirometry results are a leading cause of referral to secondary care in the UK. Spirometry performed in GP practices is often supervised by nursing staff and in secondary care by dedicated respiratory physiologists. We felt that patients who performed spirometry in secondary care would be encouraged to exhale to their full capacity and achieve higher spirometric values.

Methods We collected patient spirometry values from 87 GP referral letters and compared them with the values obtained at our lung function laboratory at a district general hospital. We used a paired t-test to compare the two sets of spirometry results.

Results We found that there were significant differences between the lab FEV1 ($p = 0.034$), FVC ($p < 0.0001$) and FEV1/FVC ratio ($p = 0.0001$) compared to primary care values. There was a 77 ml average increase in FEV1 and a 241 ml average increase in FVC when spirometry was performed in our lung function lab.

Importantly, when we looked at the individual results, 18 patients (21%) originally deemed to have restrictive spirometry had obstructive spirometry when performed in our lab. Six patients (7%) originally had obstructive spirometry which proved to be normal or restrictive in our lab.

Conclusions A significant difference was identified between GP and secondary care spirometry. The most important aspect of this is the understanding that spirometry is effort based. Most patients require significant encouragement to perform to their limit. If a less than maximal effort is made, the FVC value is most affected. This may cause truly obstructive spirometry to appear restrictive.

Primary care spirometry gave a misleading picture in 28% of cases in this cohort, resulting in instances where referrals, investigations and treatments might have been avoided and possibly

managed in primary care. Effective spirometry enables more accurate diagnosis, therefore reducing the chance of under or over treatment.

M17 IMPROVE ACCURACY OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) DIAGNOSIS BY OFFERING QUALITY ASSURED SPIROMETRY

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Background and objective Spirometry is a commonly performed diagnostic test in the primary care with variable quality. Around a quarter of the spirometry done in the community is inaccurate and in up to one half of the cases referred to secondary care, diagnosis is changed when spirometry is repeated. We conducted this study to look at the impact of educational intervention in improving the accuracy of COPD.

Methods Seventeen practices across 2 regions in East of England participated in the study. Nurses from these practices underwent educational intervention in the form of attending a structured training to perform Spirometry. Spirometry data and confidence scores in performing and interpreting procedure were collected pre and post training.

Results Clinician's confidence in performing spirometry improved from 5.1 to 7.6 ($p = 0.001$) on a visual analogue scale post intervention. Confidence to interpret Spirometry improved from 4.3 to 6.5 ($p = 0.001$). Following intervention tracing improved in thirty nine percent of patients who had poor quality of tracing pre-intervention. Twenty two percent of patients had a change in diagnosis post intervention with medication changes in 33% of the patients.

Conclusions Educational intervention with a structured spirometry course improves the quality and accuracy of spirometry in the primary care. Study support quality assured spirometry for all healthcare providers who are involved in doing the procedure in primary care.

M18 KNOWLEDGE AND ATTITUDES OF SECONDARY CARE STAFF TOWARD GIVING ADVICE ON SMOKING, WEIGHT MANAGEMENT, ALCOHOL AND PHYSICAL ACTIVITY

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Introduction It is well recognised that adopting a healthier lifestyle leads to better health, improved survival and reduced NHS costs. There are numerous missed opportunities within secondary care to identify high-risk patients and intervene early to prevent illness. The aim of this study was to examine knowledge, attitude and perceived barriers of members of staff to provide healthy lifestyle advice such as Smoking cessation, Weight management, Alcohol consumption and Physical activity (SWAP) and referral to appropriate services.

Methods A questionnaire was distributed to all members of staff working at Sandwell and West Birmingham Hospitals NHS trust electronically and via paper copies.

Results A total of 558 responses were secured from a wide breadth of staff (doctors (23%), Nurses/midwives (36.2%), allied

health professionals (11.3%), Pharmacists (1.8%), Admin (8.1%), Domestic/porters (4.1%), clinical support staff (13.8%). Most respondents saw it as their role to encourage people to adopt a healthy lifestyle. Staff had limited knowledge of local resources, however significantly higher knowledge scores were seen for stopping smoking verses weight management ($P < 0.001$) and physical activity ($P < 0.001$). Most respondents knew how to refer patients for smoking cessation (66%) and alcohol services (63%), which was significantly higher compared to weight management (39%) and physical activity (36%) services ($P < 0.01$). 56% participants had not given any life style advice within the previous week, 4% to at least 5 people and 3% to more than 10. 72% participants had not referred anyone to services. The top barriers identified included patient unready-ness to change, unclear referral pathways, lack of time and need for additional training. 82% of staff had no formal training.

Abstract M18 Figure 1

Conclusion It is encouraging that a large proportion of staff in secondary care see it as their role to give lifestyle advice, however the majority don't do it due to barriers including lack of time, knowledge and training. We have therefore devised an electronic training package that has gone live on our trust intranet page giving very brief advice on SWAP as well as providing an electronic referral system that will ensure a 'one click' referral system to the appropriate service. We plan to re audit in a few months time.

M19 THE COST OF HIGH DOSE CORTICOSTEROID PRESCRIBING IN LONDON – HOW MUCH IS TOO MUCH?

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Introduction A high dose ICS (HDICS) is defined as daily dose ≥ 1000 micrograms beclomethasone dipropionate equivalent and is associated with an increased risk of side effects over their lower dose alternatives, but minimal increase in efficacy. In asthma, HDICS are reserved for severe disease, while in COPD, ICS are beneficial only in those with an $FEV_1 < 50\%$ and frequent exacerbations, but there is evidence for overuse (White P *et al.* PLoS One 2013 8:e75221). Currently, HDICS (as combination inhalers), comprise 2 of the top 4 highest spend medicines in the NHS (NHSBSA Mar 2015), so the aim of this study was to