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ABSTRACTS

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IPCRG13-1052

GENDER DIFFERENCES IN COPD: FINDINGS OF AN EARLY DETECTION PROGRAMME IN SINGAPORE

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Aim: This study aimed to examine gender differences in the prevalence of COPD as detected during a public awareness programme with spirometry measurement in screening for COPD in a self-selected population.

Method: A series of public education events were held in selected locations in Singapore from 2010 to 2011 on the causes, symptoms and risk of developing COPD. After completing the risk assessment questionnaire, participants were invited to undergo spirometry.

Results: 928 unique subjects participated in the public education events. The mean age was 52 years, 63% were men. 81 (8.7%) had clinically significant airflow obstruction ($FEV_1/FVC<0.7$). Of these, 33 subjects (41%) had mild COPD, (FEV_1 > 80% pred), 36 (44%) had moderate COPD ($FEV_1<80\%$ but >50%pred) and the remaining had severe COPD. There were no significant differences between the proportion of male and female subjects with COPD (8.9% and 8.4% respectively). The proportion of smokers/ex-smokers among men was significantly higher than among women (81% vs 30% respectively [p<0.001]). The smoking and age-group adjusted prevalence of COPD among males and females was 6.9% and 8.2% respectively.

Conclusion: In spite of significantly lower self-declared smoking rates among women, COPD was more prevalent in women as compared to men who were screened during the COPD public awareness programme in our study population. We postulate that this may be due to a general under-reporting of the smoking rates among women, or that women are more susceptible to smoking-related lung damage.

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IPCRG13-1059

HOW PAIN AFFECTS PHYSICAL PERFORMANCE IN PEOPLE WITH COPD

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Aim: The purpose of this study was to determine the relationship between pain and the six-minute walk distance test (6MWT), physical activity (assessed by 3D accelerometry), and concentric knee extensor torque in people with COPD.

Methods: Twenty-six people with moderate to severe COPD completed the McGill Pain Questionnaire (MPQ), the Brief Pain Inventory (BPI), the Short Form-36 (SF-36), and a form to list medications and co-morbidities. After spirometry, participants performed the 6MWT. Physical activity was monitored for two days using a DynaPort MiniMod Monitor 3D accelerometer. At least 3 days after the 6MWT, maximal and fatiguing concentric contractions of the knee extensors were assessed on a Biodex dynamometer. Correlations were performed between pain severity and 6MWT, physical activity, and knee extensor torque. These physical performance measures were compared in COPD patients with the most severe pain versus those with moderate to no pain.

Results: Pain severity was negatively correlated with 6MWT (p<0.05), and quality of life (p<0.05), and was positively correlated with body mass index (BMI) (p<0.001), and number of co-morbidities (p<0.001). Subjects with severe pain showed lower standing and activity times (p<0.01), lower 6MWT (p<0.05), higher BMI (p<0.001), had a higher number of co-morbidities (p<0.001) and lower quality of life (p<0.01) as compared to subjects with minimal or no pain.

Conclusion: Pain in patients with COPD is associated with lower walking distances, reduced daily physical activity, and higher BMI. Pain is also associated with the number of comorbid conditions. Early evaluation and treatment of pain and comorbid conditions with pain-inducing symptoms should be considered in the assessment and treatment plan of people with COPD.

Disclosure of Interest: None declared

IPCRG13-1061

INHALED CORTICOSTEROIDS (ICS) USE FOR COPD IN A HEALTH AREA

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Aim: To describe the prescription of inhaled corticosteroids (ICS) in COPD patients in our health area and to identify factors possibly associated with it.

Methods: Cross sectional study. Includes all patients in a health area diagnosed with chronic obstructive bronchitis or emphysema, who came to a primary care practice during the last two years. Measurements: demographics, smoking, prescription of inhaled corticosteroids, spirometric parameters, exacerbations and associated diseases. The information was obtained from registers of primary care medical records (AP).

Results: A total of 15,440 patients. 70% men, mean age 68.6 years (SD = 12.25). Of the 13,719 patients with smoking records, 27.7% (3,802) were never smokers. 46.46% had no spirometric data available. 14% had associated diagnosis of asthma. A total of 6,887 (44.6%) took ICS, 38.1% of them using high doses. The mean age of patients taking ICS was significantly higher than those who do not take (71.03 vs 66.7 P <0.001). Active smokers were taking less ICS (34.6%) compared to former smokers (51%) and nonsmokers (51.7%) P <0.001. 48.9% of patients with spirometry recorded vs 40.8% were using ICS (P <0.001). Among those who have had exacerbations 58.3% were using ICS vs 36.2% P <0.001. The concomitant diagnosis of asthma was significantly associated with ICS treatment (71.5% vs 40.2%) P <0.001. Also rhinitis (51.4% vs 44.1) and allergic dermatitis (50.3% vs 44.4%) were significantly associated P <0.001. We did not find differences in consumption of ICS by sex.

Conclusion: The percentage of prescription of ICS in COPD patients in our health area is lower than expected based on data from similar studies. There are different factors that significantly influence the prescribing of these drugs in our area.

Disclosure of Interest: None declared

IPCRG13-1069

PREVALENCE OF COPD AND ITS RISK FACTORS IN A RURAL AREA OF UGANDA

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Aim: In sub-Saharan Africa, little is known about the damage to respiratory health caused by indoor biomass fuel use and tobacco smoke. Our aim was to survey the prevalence and burden of COPD and its risk factors in a predominantly rural district of Uganda.

Methods: Population-based cross-sectional epidemiological survey of 588 randomly selected adults above the age of 30. Trained local healthcare workers used validated screening and air pollution questionnaires, and performed pre- and postbronchodilator spirometry in the villages.

Results: The mean age was 45.3 ± 13.7 and 50.5% of the participants were female. Over 90% were exposed to indoor biomass smoke (particularly wood): 5.2 hours/day in females and 3.1 hours/day in males. 34.4% of the males and 7.4% of the females were current-smokers; 85% of the females never smoked. Using the forced expiratory ratio (FER)< 0.7, the prevalence of COPD was 12.4% (43.8% female); from these, 17.1% of males and 12.5% of females were in the age group 30-39 years. Using the lower limits of normal (LLN), the prevalence of COPD was 16.2% (52.3% female); from these 37% of males and 40% of females were in the age group 30-39 years.

Conclusion: The prevalence of COPD in Uganda is high, particularly among young female subjects. Using LLN more younger subjects are diagnosed compared to FER < 0.7. COPD represents a major threat to health for people of all ages in rural Uganda. Further analyses will examine the interaction of tobacco smoke, biomass fuel use and other factors in the development of COPD, with the aim to reduce the future risks.

Disclosure of Interest: None declared

IPCRG13-1075

SUPPORTED SELF-MANAGEMENT FOR PATIENTS WITH MODERATE TO SEVERE CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) AT, OR SHORTLY AFTER, DISCHARGE FROM HOSPITAL: A SYSTEMATIC REVIEW OF THE EVIDENCE FOR EFFECTIVENESS AND COST-EFFECTIVENESS

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Aim: A systematic review of supported self-management for COPD patients recently discharged from hospital following an exacerbation.

Methods: Key databases were searched to May 2012 for studies of any design where patients admitted with an acute exacerbation of COPD were included in a supported self-management intervention/component within 6 weeks of discharge. There were no language restrictions. Data were extracted and risk of bias assessed independently by 2 reviewers.

Results: Of 16876 initial search hits, 13 papers were included which reported 7 randomised controlled trials (RCTs), 1 controlled clinical trial and 5 pre-post studies/arms. Study quality was variable and interventions heterogeneous. Of the RCTs, 4 described multi-component self-management packages, 1 was a home-based exercise trial, 2 were integrated care/case management packages with significant self-management components. RCT follow-up was 3-12 months, total of 1043 (range 33-464) patients enrolled. Provisional results from n=3 better quality RCTs indicate no significant effect on overall quality of life (SGRQ) scores (pooled mean difference -1.55 (95%CI -4.47, 1.37)) or mortality (OR 1.27 (0.83, 1.95)). The effect on health service utilisation was heterogeneous.

Conclusion: There is a paucity of good quality large RCTs of supported self-management delivered at discharge. Few studies report significant benefits in important outcomes. There were no cost-effectiveness studies.

Disclosure of Interest: None declared

IPCRG13-1077

OBSTRUCTIVE AIRWAYS DISEASES ARE STRONGLY ASSOCIATED WITH PRESENCE OF CATARACT: RESULTS FROM A 1-DAY, POINT-PREVALENCE STUDY IN 204,912 PATIENTS FROM 880 CITIES AND TOWNS IN INDIA

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Aim: We aimed to explore the association between OADs and cataract in a large, nationwide, cross sectional, observational study amongst primary care physicians of India.

Methods: 12,000 randomly selected primary care physicians from 880 cities and towns were invited to participate in a 1-day point prevalence study. Each doctor kept a record of all symptoms and diagnosis of patients who visited them on 1st Feb '11, on a modified ICD-10 classification questionnaire. Quality checked data entered into Epi-info software was analyzed using simple descriptive statistics. Chi square test was used to study associations between OADs and cataract.

Results: 7400 doctors provided data on 204,912 patients (M: 54.1%; F: 45.9%). 16075 (7.8%) patients had OADs and 1086 (0.5%) had cataract. Doctor-diagnosed OADs were strongly associated with cataract [OR: 3.87 (3.37, 4.45); p< 0.0001], more so in the age group 18-40 yrs [3.68 (2.4, 5.66); p< 0.0001]. Odds ratio for asthma was 2.56 (2.13, 3.00); p<0.0001 and COPD was 6.40 (5.43, 7.54); p<0.001. Patients with cataract had a 3.8 fold (CI: 3.37 – 4.45; p<0.0001) increased odds of having OADs.

Conclusion: This large, cross-sectional study in India showed a very strong association between OADs and cataract, likely due to widespread use of oral steroids in the management of OADs. This needs further evaluation. Patients with OADs should be screened for cataract and patients with cataract should be screened for OADs.

Disclosure of Interest: None declared

IPCRG13-1078

PATIENTS PERCEIVE THEIR ASTHMA TO BE CONTROLLED DESPITE THE PRESENCE OF SYMPTOMS: A EUROPEAN SURVEY OF 8000 PATIENTS

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Aim: Previous studies showed that many patients with asthma ignore symptoms and overestimate the extent to which their disease is controlled, accepting a lower quality of life. We report data from the largest and most recent European survey of patient attitudes to asthma and its management, to assess whether the discrepancy between perceived and guideline-defined control has improved.

Methods: Online surveys were conducted with 8000 patients with asthma (aged 18–50 years, ≥2 prescriptions in the last 2 years) from 11 European countries, recruited via validated consumer panels.

Results: Overall, 91% of respondents considered their asthma to be 'well controlled', and 92% were confident in their ability to manage it; the majority were not concerned about their asthma (75%) and did not regard their symptoms as serious (72%). However, of those who perceived their asthma to be controlled, 42% had uncontrolled asthma and 37% had partially controlled asthma as defined by the GINA guidelines. Notably, in the 7 days before completing the survey, 42% of respondents with perceived control used their reliever inhaler ≥3 times, 53% had awoken due to asthma on ≥1

day and 56% had symptoms that interfered with their normal activities on ≥1 day. Moreover, many respondents with perceived control had required oral steroids for asthma (43%) or been admitted to AandE (22%) due to their asthma in the previous year.

Conclusion: There remains a marked discrepancy between patient-perceived and GINA-defined asthma control; many patients do not associate symptoms with poor control. This suggests a need for initiatives to help patients recognize and respond actively to symptoms to improve their asthma management.

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IPCRG13-1080

ASTHMA AND ITS MANAGEMENT: IDENTIFYING DISTINCT PATIENT ATTITUDINAL CLUSTERS

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Aim: Patient attitudes towards asthma vary and this may impact on disease management. This analysis was designed to group respondents to a large European survey into clusters based on their attitudes towards asthma and its management.

Methods: Online surveys were completed by 8000 patients with asthma (aged 18–50 years, ≥2 prescriptions in the last 2 years) from 11 countries. Cluster analysis was used to identify different clusters of patients based on attitudes towards asthma.

Results: Four clusters were identified. Clusters 1 and 2 were defined by a high level of confidence in managing their asthma, and low levels of concern about the disease. Cluster 1 was more adherent to therapy and less likely to ignore HCP instructions than Cluster 2. Clusters 3 and 4 were more concerned about their asthma and considered it serious, and wanted to improve their disease management; these clusters had the lowest levels of GINA-defined control. Cluster 4 was less adherent to therapy and more likely to ignore HCP instructions than Cluster 3. Cluster 4 was most likely to seek additional information about asthma.

Image:

	Cluster 1 (n=2264)	Cluster 2 (n=1966)	Cluster 3 (n=1633)	Cluster 4 (n=2137)
Very confident in managing asthma	41	50	10	16
Concerned about asthma %	11	4	61	32
Considered asthma serious %	8	2	41	20
Want to manage asthma better %	34	25	66	62
Take maintenance inhaler daily %	52	40	60	36
Ignore HCP instruction on taking maintenance inhaler %	9	26	17	45
Seek information about asthma ≥1/week %	5	1	14	38
GINA-defined control %	28	37	5	7

Conclusion: This survey identifies four distinct clusters of patients with asthma that differ in attitude, adherence and educational need. Understanding these differences may facilitate the development of appropriate asthma management strategies.

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IPCRG13-1082

LONG-TERM SAFETY AND EFFICACY OF FLUTICASONE PROPIONATE/FORMOTEROL FUMARATE COMBINATION THERAPY IN PATIENTS WITH ASTHMA

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Aim: The ICS fluticasone (FLUT) has been combined with the LABA formoterol (FORM) in a single inhaler (FLUT/FORM; flutiform®) for the maintenance treatment of asthma. The aim of this study was to assess the long-term safety and efficacy of FLUT/FORM.

Methods: In this open-label continuation study, 280 patients (aged ≥12 years) with asthma (baseline forced expiratory volume in 1 second [FEV_1] % predicted 40–80%) who had completed 12 weeks' treatment with FLUT/FORM 250/10 µg or FLUT 250 µg b.i.d. received FLUT/FORM 250/10 µg b.i.d. for ≤60 weeks. Lung function was assessed pre-dose and at 5, 15, 30 minutes, 2 and 4 hours post-dose on day 1 and at weeks 2, 12, 24, 36, 48 and 60.

Results: The most common adverse events (AE) were nasopharyngitis (19.6%), pharyngitis (10.7%), rhinitis (8.2%), bronchitis and headache (both 7.1%). No drug-related serious AEs were reported. The incidence of severe exacerbations (asthma deterioration requiring additional therapy [e.g. systemic steroids], or AandE visit or hospitalization) was low (2.1%, n=6); mean time to onset of severe exacerbation was 237 days (range, 37–413). Increases from baseline in FEV_1, FEV_1 % predicted and forced vital capacity (FVC) were observed at every assessment time point from day 1; these improvements were sustained over 60 weeks (Table).

Image:

Visit	FEV_1, L		FEV_1% predicted		FVC_1, L	
	Pre-dose	2 hours post-dose	Pre-dose	2 hours post-dose	Pre-dose	2 hours post-dose
Baseline	2.093		67.1		3.047	
Change from baseline						
Day 1		0.235		7.8		0.188
Week 12	0.085	0.276	2.8	8.9	0.047	0.217
Week 36	0.153	0.340	4.9	10.8	0.116	0.284
Week 60	0.150	0.335	4.7	10.7	0.099	0.256
Baseline, n=276						

Conclusion: FLUT/FORM is generally well tolerated and provides clinically relevant, sustained improvements in lung function during long-term therapy.

Disclosure of Interest: K. Kaiser Employee of: Skyepharma, T. Pertseva Consultant for: Skyepharma, GlaxoSmithKline, AstraZeneca, Novartis

IPCRG13-1083

FLUTICASONE/FORMOTEROL THERAPY: TREATMENT EFFECTS IN PATIENTS BY BASELINE ASTHMA SEVERITY

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Aim: The ICS fluticasone propionate (FLUT) and the LABA formoterol fumarate (FORM) have been combined in a single inhaler (FLUT/FORM; flutiform®). A double-blind, parallel group study was carried out to assess the efficacy and safety of FLUT/FORM vs FLUT and FORM administered concurrently (FLUT+FORM). This is a post hoc analysis comparing the efficacy of FLUT/FORM 500/20µg with 100/10µg by baseline asthma severity.

Methods: 620 patients were randomised 1:1:1:1 to receive FLUT/FORM 500/20µg, 100/10µg, FLUT+FORM 500µg+24µg or FLUT 500µg (all bid), stratified by % predicted FEV_1 at baseline [≥40–≤60%: severe asthma, 52% patients, vs >60%–≤80%: moderate asthma, 48% patients], to allow a post hoc analysis of spirometric and symptom-based endpoints.

Results: No dose-response was found between FLUT/FORM 500/20µg and 100/10µg for spirometric variables overall or in either group. Almost all symptom-based endpoints showed treatment effect differences between the doses (in favour of the high dose; more so in the severe asthma group), e.g. changes in mean symptom and mean sleep disturbance scores, % symptom-free and % rescue medication-free days, awakening free nights, % asthma control days, AQLQ score and asthma exacerbations. For severe asthmatics the differences between FLUT/FORM doses were statistically significant for sleep disturbance scores [treatment difference –0.138; 95% CI –0.265, –0.012; p=0.032], % awakening-free nights [treatment difference 11.754; 95% CI 2.234, 21.274; p=0.016] and mean AQLQ score [treatment difference 0.302; 95% CI 0.013, 0.591; p=0.041].

Conclusion: High-dose FLUT/FORM was consistently associated with greater symptomatic treatment benefit than low-dose for severe asthmatic patients: these data provide a rationale for dose escalation with FLUT/FORM.

Disclosure of Interest: T. McIver Employee of: Mundipharma Research Limited, B. Grothe Employee of: Mundipharma Research Limited, S. Dissanayake Employee of: Mundipharma Research Limited.

IPCRG13-1085

TIOTROPIUM AS ADD-ON THERAPY TO ICS PLUS LABA IN PATIENTS WITH SYMPTOMATIC SEVERE ASTHMA

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Aim: Assess efficacy/safety of the long-acting anticholinergic bronchodilator tiotropium (tio) in patients (pts) with severe symptomatic asthma despite ICS+LABA treatment.

Methods: 2 identical double-blind, placebo (pbo)-controlled, parallel-group trials (NCT00772538, NCT00776984) assessed tio (via Respimat® Soft Mist™ Inhaler) as add-on to ICS+LABA for 48 wk in pts with severe symptomatic asthma. Entry criteria: age 18-75 yr; asthma diagnosed before age 40; asthma for ≥5-yr; ACQ-7 score ≥1.5; persistent airflow limitation; post-bronchodilator FEV_1 ≤80%; non-smoker/ex-smoker (<10 pack-yr); ≥1 exacerbation in previous yr; ICS+LABA for ≥4 wk pre-screening. Exclusion criteria: COPD/other lung diseases. Severe exacerbation defined as needing systemic corticosteroids for ≥3 days. Allergic asthma identified by total serum IgE >430 µg/L, blood eosinophils $0.6x10^9$/L or clinical judgement 'yes'.

Results: 912 pts randomised to 5 µg tio QD (n=456) or pbo QD (n=456) for 48 wk. Time to first severe exacerbation 56 days longer with tio vs pbo (risk reduction 21%; HR 0.79; p=0.034). At 24 wk mean change from baseline FEV_1 peak (0-3h) and trough FEV_1 were greater with tio vs pbo: trial 1 difference from pbo 86 mL (SE±34; p=0.011) and 88 mL (SE±31; p=0.005); trial 2 difference from pbo 154 mL (SE±32; p<0.001) and 111 mL (SE±30; p<0.001). Lung function and time to first severe asthma exacerbation improved with tio vs pbo, irrespective of allergic status or blood eosinophilia. AEs were balanced across treatment groups.

Conclusion: Once-daily tiotropium as add-on to ICS+LABA in pts with severe asthma prolongs time to first severe exacerbation, improves lung function irrespective of allergic status, and is well tolerated.

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IPCRG13-1086

PRISMS: A RAPID SYSTEMATIC META-REVIEW OF THE EVIDENCE ON SUPPORTING ASTHMA SELF-MANAGEMENT

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Aim: The effectiveness of asthma self-management (SM) is well recognised and is a core guideline recommendation. To inform practical implementation of such interventions, we planned to synthesise the findings of systematic reviews to provide a high-level overview.

Methods: We searched systematically and screened results from 7 electronic databases, and performed snowball and manual searches. Outcomes of interest included measures of asthma control and asthma-related quality of life. We investigated the composition, delivery, and setting of interventions in order to identify the optimal configuration of asthma SM support.

Results: 18 systematic reviews were identified for inclusion, published between 1995 and 2012 and collectively representing 157 randomised controlled trials. The interventions were diverse, targeting healthcare professionals, patients and/or caregivers, as well as being tailored to specific populations by age or ethnicity. Contexts varied, including traditional healthcare settings as well as school-based, home-based, and remote delivery through computerized programmes. Targeting of interventions is important: e.g. paediatric programmes reported significant reductions in asthma morbidity; culturally specific programmes improved asthma related quality of life; and interventions delivered post-asthma related admission reduced risk of future emergency presentation.

Conclusion: When implementing asthma SM support it is essential to consider not only the content of the intervention, but also the most appropriate delivery mode and setting for the target population, and the wider healthcare context.

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IPCRG13-1087

EVALUATION OF QUALITY STANDARDS IN THE MANAGEMENT AND DIAGNOSIS OF COPD IN PRIMARY CARE

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Aim: To know how the diagnosis and treatment of COPD is being performed across primary health care clinics. To analyze the inputs of family care physicians in regards to the different aspects to be addressed in the strategy and implement and training programs in order to improve this.

Methods: Cross-sectional study through an anonymous questionnaire to family care physicians in 38 primary health clinics; 172 of these surveys were

acceptable for the study

Results: 92.4% said they have a spirometer in their clinic. 59.3% admitted to perform spirometries only on patients that showed any respiratory symptom regardless of their age and total tobacco consumption. In 73.3% of the cases, a bronchodilator test is performed. 69.2% know about appropriate medication and the inhalation procedure, but only 5.2% of them actually know the dosage as indicated in the guidelines. 65.7% establish or confirm a COPD diagnosis in all patients > 40 years, pack/year and $FEV_1/FVC < 70\%$ post-bronchodilator. 47.7% point out that routine spirometries are not performed on every smoker patient > 40 years. 24.4% consider that not enough relevance is given to COPD. 93.6% agree that a patient who has been diagnosed with COPD and has daily symptoms should be treated with a long acting bronchodilator. In cases where dyspnea persists, 68% would add an ICS and 26,7% a second bronchodilator. 84.9% say they have in their health centres an established system for smoking cessation. 60.5% suggested that training in diagnosis and treatment of COPD should be promoted.

Conclusion: COPD is being under-evaluated and there is a widespread difficulty applying clinic guidelines in regards to the diagnosis and management of COPD. Training of primary care physicians should be optimized with case studies where they can participate based on the gaps and deficiencies found in our study.

Disclosure of Interest: None declared

IPCRG13-1089

NEW GOLD RECOMMENDATIONS OVER SEVEN YEARS' FOLLOW-UP - CHANGES IN SYMPTOMS AND RISK CATEGORIES

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Aim: The aim was to analyse the change in GOLD categories according to the new GOLD recommendations over seven years of follow-up.

Methods: 1548 patients aged 34-75 years with a diagnosis of COPD were randomly selected in 2005 from primary and secondary care in Sweden. The response rate was 75%. Information was collected using questionnaires in 2005 including history of exacerbations and CCQ. Spirometry data were obtained from record reviews for the period 2000-2003. A follow-up of the same patients in 2012 included the same questions as 2005. Symptoms and future risk were graded into the GOLD categories A, B, C and D. CCQ was used to assess symptoms in both surveys. A mean of CCQ $\leq$ 1.0 was judged as less symptoms.

Results: A total of 573 from 802 available patients participated in both surveys. Mean age 2012 was 69.8, 59% women. 26% were daily smokers in 2005 compared with 16% 2012 ($p<0.001$). There was an uneven distribution in the different GOLD categories. In 2005 23% were in A, 39% in B, 4% in C and 34% in D. In 2012 19% were in A, 38% in B, 4% in C and 40% in D. From 2005 to 2012 39% had changed category (see table). Of those with Low Risk in 2005, 25% had changed to High Risk in 2012. Daily smokers in 2005 had an increased odds ratio for changing to High Risk, OR 2.25 (95%CI 1.29-3.94) adjusted for sex and age.

	A-2012 (n=98)	B-2012 (n=199)	C-2012 (n=20)	D-2012 (n=210)
A-2005 (n=119)	53%	29%	5%	13%
B-2005 (n=207)	12%	60%	1%	28%
C-2005 (n=20)	25%	15%	25%	35%
D-2005 (n=181)	3%	20%	4%	72%

Conclusion: Many COPD patients change GOLD categories and daily smoking was associated with increased future risk in this follow up.

Disclosure of Interest: None declared

IPCRG13-1092

PAIN AS A CAUSE OF ACTIVITY LIMITATION IN PERSONS WITH COPD

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Aim: To compare the self-reported causes and extent of activity limitations imposed by pain in Canadians with or without self-reported COPD.

Methods: Using data from a national post-census population survey of Canadians reporting participation or activity limitations, we compared the self-reported causes of activity limitations in people with and without COPD using the eight attributes of the Health Utility Index. COPD was considered present if there was a self-report of COPD, emphysema, or bronchitis as the cause of disability. Analyses were weighted to the population.

Results: The sample represented 4,219,480 adults, of whom 47,560 (1.1%) reported a diagnosis of COPD. Mobility, agility and pain were the most frequently reported causes of activity limitations for those with or without COPD. Higher proportions of people with COPD than without COPD reported disability caused by problems with: mobility (93.5% vs. 52.6%); agility (82.2% vs. 50.9%) and pain (73.4% vs. 54.8%). Activity limitations attributed to pain occurred for 48.0% of respondents with COPD, compared to 36.8% without COPD. Pain prevented most activities for 21.2% of those with COPD compared to 10.1% of those without COPD.

Conclusion: Pain leading to activity limitations may occur more often than expected in persons with COPD. Assessment and appropriate management of pain in this population could improve outcomes related to rehabilitation, functional status and psychosocial well-being.

Disclosure of Interest: None declared

IPCRG13-1093

NURSES' KNOWLEDGE ABOUT, AND THEIR INTENTION TO STUDY, COPD

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Aim: The aim of this study was to clarify the nurses' knowledge about COPD and intention to study the disease.

Methods: 1) Ethical Issues: The research methods were approved by the Ethical Review Committee of the University of Fukui, Department of Medical Sciences (Approval #23-109).

2) Subjects: The self-oriented questionnaire was distributed to 1505 nurses in 14 hospitals in Japan.

3) Date collection: The questionnaire contained 1) demographic data, and smoking status, 2) knowledge about COPD, 3) frequency of studying COPD and 4) intention to study COPD.

Results: 1285 (85.4%) out of 1505 subjects responded to the questionnaire and 1018 (67.6%) were valid data. The data from 744 (49.4%) nurses was analyzed as valid data in this study. The average age was 35.0±9.7 years, and 696 (93.5%) were female. The average year of nursing experience was 12.4±9.4 years. About 544 (73.1%) subjects were non-smokers, 101 (13.6%) were smokers and 99 (13.3%) were ex-smokers. Most of the subjects stated that they knew COPD very well or moderately, and that their body of the knowledge came from basic nursing education. Many subjects responded that efficient medical diagnosis tests for COPD were #1 "spirometry test" (n=497, 96.5%), #2 "chest X-ray" (n=383, 74.4%) and #3 "arterial blood gas analysis" (n=381, 74.0%). However, only 65 (12.6%) subjects pointed out "pulmonary exercise test" as a diagnostic test. It is important to enhance the nurses' knowledge about diagnostic tests, such as pulmonary exercise tests.

Conclusion: It became clear that the nurses didn't have sufficient knowledge

about COPD diagnostic tests although they thought they had high knowledge about COPD. In order to facilitate early diagnosis of COPD, it is important to promote nurses' as well as ordinary population's knowledge about COPD.
Disclosure of Interest: None declared

IPCRG13-1095

ONCE-DAILY QVA149 REDUCES EXACERBATIONS, IMPROVES LUNG FUNCTION AND HEALTH STATUS VERSUS GLYCOPYRRONIUM AND TIOTROPIUM IN SEVERE-TO-VERY SEVERE COPD PATIENTS: THE SPARK STUDY

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Aim: Combinations of long-acting bronchodilators help to maximize bronchodilation and reduce risk of exacerbations. Once-daily QVA149 is a dual bronchodilator consisting of a fixed-dose combination of two long-acting bronchodilators, indacaterol and glycopyrronium (GLY).
Methods: The 64-wk SPARK study randomized patients to QVA149 110/50µg or GLY 50µg, both via the Breezhaler® device; or open-label tiotropium (TIO, 18µg via the Handihaler® device). Objectives were rate of COPD exacerbations, lung function, health status and safety.
Results: 2224 patients were randomized, 63.3% completed. Rate of all COPD exacerbations was significantly reduced with QVA149 versus glycopyrronium (rate ratio [RR] 0.85, 95% CI: 0.77, 0.94; p=0.001) and tiotropium (RR 0.86, 95% CI: 0.78, 0.94; p=0.002). QVA149 showed clinically meaningful and statistically significant improvement in pre- and post-dose FEV_1 vs. GLY and TIO (all p<0.001); there were significant improvements in SGRQ score at Wk64 vs. GLY (p<0.01) and TIO (p<0.001). The frequencies of adverse and cardio/cerebrovascular events were similar across treatment groups.
Conclusion: Superior improvements in lung function with QVA149 leads to fewer exacerbations and improved health status vs. GLY and TIO in patients with severe-to-very severe COPD. QVA149 was safe and well tolerated.
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IPCRG13-1096

PREDICTORS FOR TREATMENT WITH ANTIBIOTICS AND SYSTEMIC CORTICOSTEROIDS IN ACUTE EXACERBATIONS OF COPD AND ASTHMA IN GENERAL PRACTICE (PEXACO STUDY)

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Aim: To investigate the antibiotic and oral corticosteroid prescribing rate in patients with acute exacerbations of COPD and asthma in general practice, and to identify predictors for antibiotic and corticosteroid prescribing.
Methods: 380 patients participated in baseline registrations. The patients were asked to visit their GP during exacerbations the following 12 months. At these visits, the GP registered symptoms, chest findings, pulse oxymetri and CRP.
Results: Out of the included patients, 99 patients visited their GP due to one or more exacerbations. Antibiotics were prescribed at the first consultation in 24.2% and systemic corticosteroids in 38.4%. 42.5% of patients with $FEV_1/FVC < 0.7$ at baseline were treated with antibiotics compared to 12.3% among patients with $FEV_1/FVC \geq 0.7$ (p=0.001). A similar tendency was shown in prescribing systemic corticosteroids (p=0.007). The antibiotic prescription rate increased with increasing symptoms from 14.1% in patients with Anthonisen type 3 to 30.8% in type 1 (p=0.4). Wheezes/rhonchi predicted the prescribing of both with p-value of 0.004 and 0.003 respectively. Among the patients with CRP ≥ 8mg/L, 48.4% were treated with antibiotics compared to 14.5% among those with CRP < 8 (p=0.001), whereas the CRP value did not significantly predict the prescribing of systemic corticosteroids. Both the prescribing of antibiotic and systemic corticosteroids were significantly associated with oxygen saturation below 93% (p-value 0.01 and 0.02 respectively).
Conclusion: Patients with COPD were treated with antibiotics and systemic corticosteroids more often within our cohort. Chest findings and biomarkers were stronger predictors of prescribing of antibiotics and systemic corticosteroids than were the Anthonisen criteria.
Disclosure of Interest: None declared

IPCRG13-1097

TREATMENT OF COPD BASED ON HEALTH STATUS - A RANDOMIZED CONTROLLED PILOT STUDY

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Aim: COPD treatment strategies were traditionally based on lung function impairment alone. In the GOLD 2013 guidelines health status is incorporated as measurement of severity and with that as a disease management modulator. There is no evidence that management based on health status is superior. The aim of the current study is pilot testing this hypothesis.
Methods: We enrolled 53 COPD patients in a single blind randomized controlled pilot trial. GPs of patients in both groups received specific predefined treatment advice, based on either health status (measured by the Clinical COPD Questionnaire, health status group: HG) or regular GOLD 2009 based care (control group: CG). This included: diagnosed COPD, ≥10 pack years. Excluded: asthma, severe co-morbidities, and regular oxygen use. Three visits in 6 months were completed. Each visit encompassed spirometry and questionnaires (disease specific health status (St. George's Respiratory Questionnaire (SGRQ)). The primary outcome was change in SGRQ after 6 months. Univariate analyses were performed using the Mann-Whitney U test.
Results: Twenty-eight patients were randomized to CG, and 25 to HG. 58% were male; mean 64yrs and 40 packyrs; GOLD I 38%, GOLD II 57%, GOLD III 6%. SGRQ changed 0,74 in HG and 3,4 in CG (ns). Treatment advice was implemented by the GP in 78,8 % of cases.
Conclusion: This pilot study showed no beneficial effect of 6 months treatment based on health status, possibly due to low numbers, but proved that health status based advice for treatment of COPD was acceptable to the GP. A much larger further-developed follow-up study will show if these advice are also beneficial for patients.
Disclosure of Interest: None declared

IPCRG13-1098

REAL-WORLD MANAGEMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE: IS THERE A ROLE FOR INHALED CORTICOSTEROID TREATMENT?

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Aim: To compare two inhaled corticosteroid (ICS) treatments: fluticasone propionate (FP) and extrafine hydrofluoroalkane beclometasone dipropionate (EF HFA-BDP, Qvar®) in real-life management of chronic obstructive pulmonary disease (COPD).

Methods: Pooled data from the UK's General Practice and Optimum Patient Care Research Databases. Patients initiated or increased their ICS dose, were ≥40 years with ≥3 years continuous practice data (1 baseline year, 2 outcome years); a COPD diagnosis; ≥2 COPD baseline prescriptions and no co-morbid respiratory disease. Primary outcome was exacerbation rate (hospital admission, emergency room attendance for COPD or lower respiratory [LR] reasons, oral corticosteroids and/or LR antibiotics). Secondary outcomes: treatment success (no exacerbations, ICS dose increase or initiation of additional COPD therapy), change in therapy, median ICS dose and adherence. Patients were matched 1:1 on baseline demographics and disease severity.

Results:

	ICS INITIATION		ICS INCREASE	
	FP n=334	EF HFA-BDP n=334	FP n=189	EF HFA-BDP n=189
Exacerbations, RR (95%CI)	1.00	1.07 (0.87-1.33)	1.00	0.98 (0.79-1.23)
Treatment success RR (95%CI)	1.00	2.50 (1.32-4.73)	1.00	2.28 (1.02-5.09)
>70% ICS adherence* n(%)	179 (53.5)	227 (68.0)	121 (64.0)	148 (78.3)
Therapy change*n(%)	222 (66.5)	193 (57.8)	129 (68.3)	108 (57.1)
Average yearly ICS dose median (IQR)*, mcg	315.1 (150.7-458.9)	435.6 (205.5-739.7)	876.7 (548.0-1238.4)	1068.5 (657.5-1684.9)

*Statistically significant results. RR = rate ratio

Conclusion: This large, up-to-date observational study suggests EF HFA-BDP patients achieve at least as good outcomes as FP patients in treating COPD, despite a statistically significantly lower median ICS daily dose. Enhanced adherence and lower therapy change may also indicate greater treatment satisfaction compared with FP patients.

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IPCRG13-1100

PRISMS: A RAPID SYSTEMATIC META-REVIEW OF THE EVIDENCE FOR SUPPORTED SELF-MANAGEMENT FOR COPD

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Aim: To undertake a rapid, systematic meta-review of the evidence for self-management (SM) support interventions for COPD to inform commissioners and healthcare providers about what works, for whom, in what contexts and why.

Methods: We searched the Cochrane Database of Systematic Reviews, MEDLINE, CINAHL, and DARE from 1993 onwards. A PICOS search strategy was used to identify systematic reviews of RCTs reporting interventions promoting aspects of SM for COPD in any healthcare setting. Citations were screened against inclusion criteria, quality assessed and data extracted.

Results: 6,435 citations were found and 5 reviews were included (reviews published 2005-2012; RCTs published 1987-2011). One review focused specifically on SM interventions, two on education, one on action plans and one on outreach nursing. The SM interventions included a wide range of components (education, self-help, therapy, action plans, group sessions, exercise, relaxation, imagery, smoking cessation, inhaler use) and were delivered within diverse healthcare contexts (integrated care, disease-management, telehealthcare, home care, oxygen therapy services). Review conclusions varied: one found that action plans improved reaction to exacerbations with no significant effect on admissions; one reported that SM education reduced hospital admissions. Lack of detail meant that is was often not clear which component of the heterogeneous interventions were, or were not, effective.

Conclusion: The lack of clear definitions, the heterogeneity of COPD SM RCTs and the paucity of RCTs examining specific components of SM in COPD, mean that we cannot yet answer our review question. Further high quality research is needed to define the nature of effective SM for COPD and the context in which it should be delivered.

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IPCRG13-1101

ONCE-DAILY GLYCOPYRRONIUM IMPROVES LUNG FUNCTION AND REDUCES EXACERBATIONS IN PATIENTS WITH COPD: A POOLED ANALYSIS OF THE GLOW1 AND GLOW2 STUDIES

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Aim: Glycopyrronium (NVA237) is a recently approved once-daily (OD) long-acting muscarinic antagonist for the treatment of COPD.

Methods: This is a pooled analysis of the GLOW1 and 2 studies which assessed the efficacy of Glycopyrronium 50 µg OD (GLY) vs placebo (PBO) and open-label tiotropium 18 µg OD (TIO) over 26 to 52 weeks in COPD patients.

Results: 1888 subjects were randomized, 98.2% analyzed (GLY=1059, TIO=267, PBO=528); male: 71.5%, mean age: 63.9yr, mean post-bronchodilator FEV_1: 55.5% predicted. Trough FEV_1 values for GLY and TIO were significantly greater than PBO ($p<0.001$) and GLY was numerically higher than TIO at all-time points. FEV_1 improvement with GLY was seen immediately

after the first dose on Day 1 (90mL at 5min and 144mL at 15min versus PBO, p<0.001) and sustained throughout the 52-week period. GLY statistically significantly prolonged the time to first moderate/severe exacerbation vs. PBO (Week 26: hazard ratio [HR] 0.64; Week 52: HR 0.67, both p<0.001), which was comparable to TIO (Week 26: HR 0.70, p=0.026; Week 52: HR 0.61, p<0.001). GLY had a statistically significantly lower rate of moderate/severe exacerbations vs. PBO (Week 26: rate ratio [RR] 0.66; Week 52: RR 0.66; both p<0.005). The overall incidence of AEs was similar across treatment groups.

Conclusion: Glycopyrronium once daily was safe and significantly improved lung function and reduced COPD exacerbations versus PBO over 52 weeks. Overall, the effects of glycopyrronium were similar to tiotropium.

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IPCRG13-1102

SUPPORTING SMOKING CESSATION IN AUSTRALIAN PRIMARY CARE: EARLY RESULTS OF THE QUIT IN GENERAL PRACTICE STUDY

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Aim: Despite falling prevalence of smoking in developed countries, tobacco use remains one of the major preventable causes of death and illness. General practice interventions to support smoking cessation can be effective but are often underutilised. New models, such as practice nurse (PN) involvement, are needed of enhanced cessation support in primary care.

Methods: A three-arm cluster RCT compared support provided by the PN with Quitline referral and with usual GP care. PNs in the Quit with PN arm undertook 6 hours of education and were then supported by mentoring phone calls. Participants were recruited in the practice by trained research assistants. All study participants were offered free nicotine patches. Outcome assessment was by computer assisted telephone interview conducted by research staff blind to group allocation. Primary outcome measures were self-reported sustained and point prevalence abstinence at three month and 12-month follow up points.

Results: A total of 101 practices and 2390 patients took part in the study. The loss to follow-up at 12 months was 17.6%. Assuming all those lost to follow-up have relapsed the sustained abstinence rate at three months for all participants was 7.7% and at 12 months was 4.4%. The point prevalence abstinence at three months was 15.2% and at 12 months was 17.5%.

Conclusion: The results show substantial point prevalence cessation rates across all three arms of the study. Multilevel regression analysis is being conducted to examine differences between intervention groups.

Disclosure of Interest: None declared

IPCRG13-1103

COMPARATIVE EFFECTIVENESS OF EXTRAFINE HYDROFLUOROALKANE BECLOMETASONE (EF HFA-BDP) AND FLUTICASONE PROPIONATE (FP) IN SMOKING ASTHMATIC PATIENTS — A RETROSPECTIVE, REAL-LIFE OBSERVATIONAL STUDY IN A UK PRIMARY CARE ASTHMA POPULATION

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Aim: Smoking is a common reason for poor asthma control, and associated with corticosteroid resistance, yet smokers are usually excluded from asthma trials. This study investigates the effect of stepping up inhaled corticosteroid (ICS) dose for smokers, non-smokers and ex-smokers.

Methods: Retrospective study using the UK Clinical Practice and Optimum Patient Care Research Databases. Adult patients (≥30 years) stepped-up their existing ICS (≥50% increase in dose) as either EF HFA-BDP or FP. Patients were required to have ≥2 prescriptions for ICS during both the year prior to and following step-up, and/or a diagnostic code for asthma. Smoking status was defined by database codes, with ex-smokers first recorded as ex-smokers over age 30. EF HFA-BDP patients (step-up year post 2005) were matched 1:1 to FP patients on demographic, disease and smoking characteristics in the baseline year. Exacerbation rates (asthma-related inpatient admissions; emergency room attendances; or use of acute oral steroids) were calculated for outcome year and adjusted for baseline confounders. Modeling explored interactions between treatment effects and smoking status.

Results: Median (IQR) doses (mcg) at step-up were 400 (200, 400) for EF HFA-BDP and 500 (500,1000) for FP. Exacerbation rates were comparable for non-smokers with rate ratio (95% CI) 0.84 (0.68, 1.03) for EF HFA-BDP compared with FP; n=575 per treatment arm, but significantly lower for EF HFA-BDP for current and ex-smokers 0.64 (0.48, 0.85); n=314.

Conclusion: Results suggest a differential treatment effect between ex-smokers/smokers and non-smokers. It is likely that the smaller particle formulation of EF HFA-BDP plays some role in this effect.

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IPCRG13-1105

PATIENTS' AND DOCTORS' OPINION ABOUT THE DISEASE PROGNOSIS IN STABLE COPD PATIENTS IN GREECE

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Aim: Patients and doctors opinion on the COPD status and management are rarely assessed. This study aimed to find out levels of agreement and satisfaction on COPD prognosis between doctors and patients.

Methods: A total of 544 stable COPD patients from Greece were assessed through a cross-sectional study. Patients' demographic data, previous

treatment, lung function testing and co-morbidity were recorded. Every patient and doctor completed an additional questionnaire respectively regarding satisfaction issues. Descriptive were estimated as well as chi-square test, which was applied on variables regarding the patients' and doctors satisfaction about the disease.

Results: An agreement between patients and doctors was found in most of the answers. Agreement was found in 31.5% of the answers on issues as: enough worries about the disease's status. 53.1% of the doctors believed that their patients' disease status could be improved while the 39.4% of the patients shared the same opinion. Only, 13.7% of the doctors and 6.8% of the patients thought that the disease's status couldn't be improved in the future.

Conclusion: Patients' and doctors' opinions about the prognosis of the disease were significantly similar, with the doctors being more positive regarding possible disease improvement. Finally, most patients gave answers of medium or high levels of satisfaction referring to the way of coping with their disease.

Disclosure of Interest: None declared

IPCRG13-1106

IMPLEMENTING ASTHMA SELF-MANAGEMENT– A SYSTEMATIC REVIEW OF MRC PHASE IV IMPLEMENTATION STUDIES

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Aim: Asthma self-management is widely recommended by guidelines but poorly implemented. Medical Research Council (MRC) Phase IV studies which accommodate the diversity of patient, professional and healthcare contexts in order to inform implementation in real-life settings are relatively uncommon. We undertook a systematic review of implementation studies of asthma self-management support interventions to explore what works for whom and why.

Methods: We searched and screened records from 7 electronic databases, and performed snowball and manual searches. We quality assessed all eligible papers, and extracted and synthesised data. Outcomes of interest included asthma-related symptoms and use of health services.

Results: 14 studies were included in the review. The healthcare contexts included primary, secondary, community and private care settings and targeted children/adults. Strategies encompassed one-to-one, telephone or group interventions and/or professional training. Physician only targeted interventions increased the number of action plans and medication prescription but did not appear to influence patient outcomes. Improved patient outcomes, including reduced health services and costs and enhanced QoL, were observed with one-to-one SM interventions delivered either by telephone or face-to-face. During these interventions clinicians provided asthma education, and discussed the management of exacerbations, action plans, and medication and reviewed inhaler technique.

Conclusion: Simply training physicians around SM support is insufficient to influence patient outcomes. Healthcare contexts and culture need to be adapted to allocate specific time, resources and processes to enable specific to asthma SM support.

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IPCRG13-1108

THE INFLUENCE OF ORGANISATION OF CARE IN PRIMARY CARE ON ASTHMA CONTROL

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Aim: In Sweden nurse based asthma/COPD clinics in primary care are common. However, the organisation looks different even in the same region. There are national, regional and international guidelines for treatment of asthma. In the national guidelines for an asthma/COPD clinic allocated time for the nurse is highlighted. There is still insufficient evidence of the impact of asthma/COPD clinics on asthma control. The aim of this study was to evaluate the effect of nurse based asthma/COPD clinics in primary care on asthma control.

Methods: In 2011 every primary health care center (n=25) in the region of Sormland answered a questionnaire about the organisation of care to asthma patients. Two groups with 160 patients each were randomly selected to answer a questionnaire in 2012. One group with patients from five primary health care centres (PHCC) which had asthma/COPD clinics with 0.9 to 2.0 hours/week and 1000 patients (Group A). The other group with patients from PHCC without an asthma/COPD clinic or with < 0.6 hours/week (Group B). Asthma Control Test (ACT) was included in the questionnaire.

Results: Of all 25 centres 76 % had an asthma/COPD clinic. Mean allocated time for the nurse was 0.9 hours/week and 1000 patients. The questionnaire was completed by 179 patients (56%), mean age 52.3 years (range 19-75), 56% women. Of patients from centres from an asthma/COPD clinic (group A) 58% had asthma control (ACT >19) compared with 36% of the patients from centres without an asthma/COPD clinic (group B) (p=0.005). Mean ACT in group A was 19.6 and in group B 16.9 (<0.001).

Conclusion: In this study asthma control was influenced by organisation of care.

Disclosure of Interest: None declared

IPCRG13-1111

LUNG FUNCTION AMONG RUBBER FACTORY WORKERS IN WEST BENGAL

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Aim: The aim of this study was to investigate whether there is any relationship between working in the rubber industry and having respiratory symptoms.

Methods: The study was carried out on the 256 workers exposed to dust at the rubber factory. Spirometry (FVC, FEV_1) was performed on 16 workers with moderate exposure and 240 Workers with high exposure. Information on occupational history, duration of exposure, smoking habits, alcohol consumption, respiratory symptoms (breathlessness, cough and rhinitis) and self reported symptoms with disease were collected. By employing multiple linear regression modeling the potentially confounding effects of age, sex and body mass index were also incorporated into the analysis. Odds ratio were calculated for FVC<80% predicted in different exposure subgroups.

Results: Statistically significant reduction in FVC, FEV_1 and PEFR were found when compared to age, small airway obstruction, and also in shortness of breath. Small airway obstructions were found in dust fume (27.2%), smoking (30.3%), alcohol (29.3%). Lung function indices were found to be reduced with increasing duration of exposure to the working environment. The FVC of the workers exposed to factory had a mean of 3.6 ± 0.6. The FEV_1 for workers exposed had a mean of 2.4 ± 0.6. The mean value of the ratio of FEV_1/FVC in exposed workers was 76.8 ± 8.2: there was no statistical difference between these two means.

Conclusion: Due to high ambient dust concentration and the observed adverse effects on lung functions worker exposed to dust have more respiratory symptoms and a grater risk of airflow obstruction. A reduction of dust exposure and secondary preventive measure is advised.

Disclosure of Interest: None declared

IPCRG13-1113

NAVIGATING THE REALITIES OF LIVING WITH COPD: STORIES OF PATIENTS AND FAMILY CAREGIVERS

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Aim: Acute exacerbations of COPD (AECOPD) are the most common reason for hospitalization, readmission, physicians visits, emergency room utilization and mortality in Canadians with COPD. The purpose of this study, a component of a larger initiative to examine the way in transitions from

hospital to home affect patient outcomes, is to describe COPD patients' stories of the care transition experience following acute care hospitalizations for AECOPD.

Methods: The study's ethnographic design and structural narrative analysis process allowed for focused examination of 26 patients' and 12 family carers' experiences of care transitions. Over 600 stories were identified. All participants shared compelling stories about the transition process from hospital to home within the context of the initial diagnoses of chronic lung disease, hospital experiences for acute exacerbation events, and the ongoing necessity of self-medication management.

Results: The patient and family carer stories of navigating a reality of illness characterized by frequent transitions between acute care and home revealed a complex interplay of uncertainty, struggle, and/or resignation. Understanding the experiences of individuals living with COPD during the transition between hospital and home offered opportunities to develop strategies to facilitate the patients' passage through significant care transitions within the continuum of care.

Conclusion: Care transitions to home are frequently chaotic and do not account for the individual's ability to manage at home, where supports may be minimal and feel precarious to the patient and caregiver.

Disclosure of Interest: None declared

IPCRG13-1115

PAIN AND CO-MORBIDITIES IN COPD

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Aim: To determine if pain and pain interference are associated with co-morbidities in people with COPD and secondly, to determine if specific types of co-morbidities are associated with more pain and a particular location of pain.

Methods: Patients with moderate to severe COPD were recruited to perform a mail survey that included: the McGill Pain Questionnaire (MPQ), the Brief Pain Inventory (BPI), and a form to list co-morbidities and medications. The MPQ and BPI provide measures of pain intensity and the BPI provides a measure of pain interference and indicates pain locations using a body diagram.

Results: A 72% response rate was achieved in return of survey questionnaires. Of 54 COPD patients (FEV_1 48.3±18.2% predicted; 72 years), 44 reported pain. On the BPI, 81% of COPD patients self-reported pain, of whom 66% had moderate to very severe pain and 73% had moderate to very high pain interference with daily activities. In those who experienced pain, 73% reported >2 co-morbidities and 46% reported >3 co-morbidities. Cardiovascular (29%) and musculoskeletal disorders (20%) were the most common co-morbidities followed by endocrine disorders. Those with musculoskeletal or endocrine disorders reported higher levels of pain compared to COPD patients without these types of conditions. COPD patients with musculoskeletal disorders tended to have more pain in the lower extremities and trunk. Pain treatments were used by 64% of patients; acetaminophen and ibuprophen were most common followed by prescription non-steroidal anti-inflammatory and narcotic medications.

Conclusion: Significant pain and multiple comorbid conditions are common in people with COPD. Pain associated with comorbid conditions likely compromises full participation in rehabilitation and physical activity in some people with COPD.

Disclosure of Interest: None declared

IPCRG13-1116

THE CONTROL OF ALLERGIC RHINITIS AND ASTHMA TEST: VALIDATION OF THE DUTCH VERSION

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Aim: The Control of Allergic Rhinitis and Asthma Test (CARAT) was developed to monitor the control of both asthma and allergic rhinitis in primary and secondary care. The objective of this study was to evaluate the psychometric properties of the Dutch version of the CARAT.

Methods: The study consists of three measurements with one month intervals. Patients (n=176) diagnosed with asthma and/or rhinitis from three primary and three secondary care centers were approached. Cronbach's · was used to evaluate internal consistency. CARAT scores were compared to the Asthma Control Questionnaire (ACQ) and VAS scores on airway symptoms. Spearman's correlation coefficients were used to determine construct and longitudinal validity. Delta scores of the CARAT, ACQ and VAS were analyzed. Test-retest reliability and Minimal Important Difference (MID) were evaluated using Global Rating of Change (GRC) scores to define categories according to change in symptoms.

Results: A total of 93 patients were included. Cronbach's · was 0.82. Correlation coefficients between CARAT and the ACQ and VAS questions ranged from 0.64($p<0.01$) to 0.76($p<0.01$). Longitudinally, correlation coefficients between delta CARAT scores and delta ACQ and VAS ranged from 0.41 to 0.67($p<0.01$) for both one month intervals. Calculations for test-retest reliability showed ICC's of 0.74($p<0.01$) and 0.78($p<0.01$) between CARAT scores of stable patients. The MID for the CARAT was 3.50.

Conclusion: The Dutch CARAT is a valid and reliable tool for use in clinical research and practice to monitor asthma and allergic rhinitis symptoms simultaneously.

Disclosure of Interest: None declared

IPCRG13-1117

PATIENTS' DESCRIPTIONS OF LIVING WITH COPD IN VARIOUS STAGES OF THE ILLNESS

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Aim: To explore which problems patients with COPD in all four stages express and describe during visits at nurse-led COPD clinics in primary health care.

Methods: A prospective qualitative observational study comprising two videotaped consultations, first and third re-visit, with each of 20 patients (13 women), all smokers (n=11) or former smokers diagnosed with COPD. The consultations were conducted by six COPD-nurses in primary health care and analysed byqualitative content analysis.

Results: Smokers wished to quit smoking but expressed motivational difficulties in fighting cravings. Concerns about the visits were mainly about the spirometry examination, which they found exhausting and difficult to perform. Also, they expressed that they were worried about the results. Other concerns included the prospect of increasing symptoms and fears about future health. Symptoms described in all stages were cough, phlegm and shortness of breath connected even with light physical exertion. In stage III and IV, dyspnea was the most severe symptom affecting daily activities. Patients expressed concern about symptoms that could be dangerous or fatal. Previously independent activities necessitated planning and help from others. They wished to learn about self -management and used various strategies to handle their disease even when offered support and assistance. Patients told that information about COPD, how to handle symptoms and treatment in daily life increased their security and control.

Conclusion: Patients were concerned about their smoking habits and subsequent symptoms being dangerous or fatal. Shortness of breath was troublesome and limited everyday life already in early stages of COPD, thus not always correlated to the severity of the disease.

Disclosure of Interest: None declared

IPCRG13-1118

FOLLOW-UP PROGRAMME FOR PATIENTS USING SYMBICORT® TURBUHALER® MAINTENANCE AND RELIEVER THERAPY IN REAL-WORLD CLINICAL PRACTICE

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Aim: To investigate extent of budesonide/formoterol (B/F; Symbicort® Turbuhaler®, AstraZeneca, Sweden) use among asthma patients (pts) prescribed B/F maintenance and reliever therapy (MRT; Symbicort SMART™) in real-world European clinical practice.

Methods: 12-month, observational study on pattern of maintenance and as-needed inhaler use with 3 B/F MRT regimens (NCT00505388): 80/4.5µg 1 inhalation (inh.) bid; 160/4.5µg 1 inh. bid; 160/4.5µg 2 inh. bid (all plus as-needed inh.). Pts were treated according to normal clinical practice. Total daily number of B/F maintenance and as-needed inh. was recorded using an interactive voice system. Descriptive statistics are presented.

Results: Full analysis set included 4581 pts (64% female; mean age 48.4 [range 17–89] yrs; MRT regimen: 80/4.5µg, n=119; 160/4.5µg, n=3106; 2x160/4.5µg, n=1355) with diary data (median exposure 344 days). Respective median (mean) B/F inh. use in patients prescribed MRT 80/4.5µg, 160/4.5µg, 2x160/4.5µg was: total maintenance + as-needed use 2.11(2.48), 2.14(2.53) and 4.05(4.27) inh./24h; total daily B doses 169(198), 342(405) and 648(683)µg. As-needed use was higher with higher-maintenance dose 0.17(0.68), 0.26(0.73) and 0.45(1.08) inh./24h, respectively. As-needed-free (maintenance-only) days/yr were higher with lower maintenance dose 242(66.3%), 231(63.2%) and 224(61.4%), respectively. Days/yr with high as-needed use (>4 inh./day) were lower with lower maintenance dose: 1.5(0.4%), 4.3(1.2%) and 9.0(2.5%), respectively.

Conclusion: As-needed use is low irrespective of Symbicort SMART™ regimen. High levels of asthma control were suggested by high percentages of reliever-free and low incidence of high-reliever-use days in all Symbicort SMART™ regimens.

Disclosure of Interest: B. Ställberg Consultant for: AstraZeneca, I. Naya Employee of: AstraZeneca, J. Ekelund Employee of: AstraZeneca, G. Eckerwall Employee of: AstraZeneca

IPCRG13-1119

REAL-LIFE COPD PATIENTS COMPARED TO LARGE COPD STUDY POPULATIONS: AN UNLOCK EXTERNAL VALIDITY STUDY

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Aim: To investigate the external validity of six large COPD studies (ISOLDE, TRISTAN, TORCH, UPLIFT, ECLIPSE, POET-COPD) compared to the COPD population seen in the community and to examine the proportion of community patients that would be selected for these studies based on inclusion criteria.

Methods: We combined 7 primary care databases from the Netherlands, Sweden, the United Kingdom and Greece including 3508 COPD patients in the UNLOCK study and compared baseline characteristics of 6 large COPD studies (LCS) to UNLOCK patients.

Results: LCS included more male subjects (73%) with more pack years (39-49), whereas in the community 46% were females with 39 pack years. Community based data showed a majority of GOLD 1 (24%) and GOLD 2 (54%) patients, in LCS GOLD 1 was absent with 35-48% GOLD 2, 42-49% GOLD 3 and 8-15% GOLD 4. Mean exacerbation rates were higher in LCS (0.9-1.19 vs. 0.8), with an overrepresentation of patients with ≥2 exacerbations (29-32% vs. 19% community). Exacerbation rates increased per GOLD stage however mean rates in the community were lower in all GOLD stages compared to the LCS, except in UPLIFT. The proportion of COPD patients from the community eligible for inclusion in LCS ranged from 17% (TRISTAN) to 48% (ECLIPSE, UPLIFT).

Conclusion: Large COPD studies included highly selected COPD populations. These are predominantly men with worse lung function; more pack years and more exacerbations per year. It still remains highly uncertain if results of these studies can be applied to all COPD patients.

Disclosure of Interest: None declared

IPCRG13-1125

CLINICALLY RELEVANT EFFECT OF A NEW INTRANASAL THERAPY (MP29-02†) IN ALLERGIC RHINITIS (AR)

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Aim: To compare the efficacy of MP29-02† (a novel intranasal formulation of azelastine hydrochloride (AZE) and fluticasone propionate (FP)) with marketed FP, AZE and placebo (PLA) in SAR patients using novel clinically-relevant analyses.

Methods: 610 moderate-to-severe SAR patients (≥12 years old) were randomized to 14 days treatment with MP29-02†, FP, AZE or PLA. Efficacy was assessed by change from baseline (CFB) in reflective total nasal symptom score (rTNSS) over 14-days, time to achieve ≤1 point remaining in all rTNSS symptoms (complete/near to complete relief) and by severity (baseline rTNSS 18.9 or >18.9).

Results: 17.8% of MP29-02† patients (1 out of 6) achieved complete/near to complete relief vs 8.3%, 9.2% and 7.8% of those treated with AZE, FP and PLA, respectively, and ≤7 days faster than AZE (p=0.0152), and ≤8 days faster than FP (p=0.0262) or PLA (p=0.0094). Neither AZE nor FP differed from PLA. For less severe patients (≤18.9) rTNSS CFB was -4.68 for MP29-02† vs -3.21 for FP (Diff:-1.46;p=0.0188), -2.41 for AZE (Diff:-2.26;p=0.0002) and -1.16 for PLA (Diff:-3.51;p<0.0001);relative difference (RD):42% to FP; 64% to AZE. For more severe patients (>18.9) rTNSS CFB was -6.24 for MP29-02† vs -4.73 for FP (Diff:-1.52;p=0.0436), -4.11 for AZE (Diff:-2.13;p=0.0035) and -3.18 for PLA (Diff:-3.06;p<0.0001);RD: 49% to FP; 70% to AZE.

Conclusion: MP29-02† provided more complete symptom-control up to 8 days faster than firstline therapy, an important consideration as a typical SAR episode lasts 12.5 days on average. It was consistently superior irrespective of severity or response criterion and is the drug of choice for moderate-to-severe AR.

†Dymista

Disclosure of Interest: None declared

IPCRG13-1126

PNEUMONIA EVENTS AND CHOICE OF FIXED ICS/LABA COMBINATION IN COPD. INFLUENCE OF ICS DOSE AND BURDEN OF DISEASE AT TREATMENT START

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Aim: Fluticasone (F) alone or combined with salmeterol (S), but not budesonide (BUD) alone or combined with formoterol (FM), increases the pneumonia prevalence in COPD patients (pts). Comparisons between the drugs, however, have not been investigated in the same study population. This study investigated pneumonia outcomes in COPD pts treated with fixed

ICS/LABA combinations: F/S or BUD/FM.
Methods: In this observational, retrospective, matched-cohort study (NCT01146392), Swedish medical records data (1999–2009) from COPD pts were linked to hospital, drug and cause-of-death registry data. Pair-wise (1:1) propensity score matching was performed at index date (first prescription post-COPD diagnosis). This factorial analysis examined the influence of treatment, disease burden and ICS dose on pneumonia outcomes.
Results: A 73% higher rate of pneumonia was observed with F/S (n=2734) vs. BUD/FM (n=2734) treatment (11.0 vs. 6.4 events/100 pt-years; rate ratio 1.73 [95% confidence interval (CI): 1.57–1.90], p<0.001). Fatal pneumonia events were more frequent with F/S (97 deaths [3.54%]) than BUD/FM (52 deaths [1.90%]; hazard ratio 1.76; 95% CI 1.22–2.53; p=0.0025) and intra-class treatment differences increased disproportionately in pts with a higher disease burden, while the effect of ICS dose was less pronounced. The annual rate of pneumonia with F/S depended on both dose and overall disease burden, but this relationship was weaker for BUD/FM.
Conclusion: COPD pts treated with BUD/FM experienced significantly fewer pneumonia events, including fatal pneumonia, than pts treated with F/S. Fatal pneumonia event rates were influenced more by ICS/LABA type and baseline burden of disease than ICS dose.
Disclosure of Interest: G. Johansson Consultant for: AstraZeneca, K. Larsson Consultant for: AstraZeneca, K. Lisspers Consultant for: AstraZeneca, B. Ställberg Consultant for: AstraZeneca, L. Jørgensen Employee of: AstraZeneca, G. Stratelis Employee of: AstraZeneca, C. Janson: None declared.

IPCRG13-1127

SHORT- AND LONG-TERM SAFETY OF MP29-02†: A NEW THERAPY FOR THE TREATMENT OF ALLERGIC RHINITIS

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Aim: To evaluate short- and long-term safety of MP29-02† (a novel intranasal formulation of azelastine hydrochloride [AZE] and fluticasone propionate [FP]).
Methods: 4022 SAR patients (≥12 years old) were randomized to 14 days treatment with MP29-02†, AZE, FP or PLA nasal sprays (1 spray/nostril bid). 612 chronic rhinitis patients (≥12 years old) were randomized to 1yr, open-label treatment with MP29-02† (1 spray/nostril bid) or FP (2 sprays/nostril qd). Safety was assessed by incidence, type, and severity of adverse events, vital signs and nasal examination.
Results: Treatment-related adverse events (TRAEs) were those usually reported with AZE (dysgeusia) and FP (headache and epistaxis), often did not exceed PLA (Table) and were 'mild' in most cases. Long-term, there was no evidence of accumulation of TRAEs over time, any occurrence of late AEs and none were considered severe. <3% of subjects discontinued from the study due to an AE. A SAE was reported by 3 MP29-02 subjects and 1 FP subject, but none was considered treatment-related.

MP4002 SAR study (14 days) as a representative SAR study				
	MP2902† (n=207)	FP (n=207)	AZE (n=208)	PLA (n=210)
TRAE n (%)	17(8.2%)	14 (6.8%)	16 (7.7%)	8 (3.8%)
Dysgeusia	5 (2.4%)	2 (1.0%)	7 (3.4%)	1 (0.5%)
Epistaxis	2 (1.0%)	5 (2.4%)	4 (1.9%)	2 (1.0%)
Headache	1 (0.5%)	5 (2.4%)	1 (0.5%)	3 (1.4%)
Chronic rhinitis study (52 weeks)				
	MP2902† (n=404)		FP (n=207)	
TRAE n (%)	38 (9.4%)		23 (11.1%)	
Dysgeusia	10 (2.5%)		1 (0.5%)	
Epistaxis	5 (1.2%)		1 (0.5%)	
Headache	4 (1.0%)		9 (4.3%)	

Conclusion: MP29-02† was well tolerated following 14 day's use in SAR patients with a similar safety profile as standard therapies and placebo. MP29-02† is also safe for long-term use.
†Dymista
Disclosure of Interest: None declared

IPCRG13-1132

LONGITUDINAL EFFECTS OF A MULTIDISCIPLINARY PROGRAMME OF PULMONARY REHABILITATION FOR PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) IN PRIMARY HEALTH CARE

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Aim: To investigate the long-term effects of a multidisciplinary program of pulmonary rehabilitation (PR) on functional capacity, quality of life (QoL) and exacerbation frequency among patients with COPD in primary health care (PHC).
Methods: The study had a quasi-experimental design. Patients with COPD in GOLD stage 2 and 3 were included, 49 in the intervention group and 54 in the control group. The intervention consisted of PR containing a program over six weeks. At baseline, after one and three year the functional capacity was assessed with 6-minutes-walking-test (6MWT) and QoL was assessed with Clinical COPD Questionnaire (CCQ). Exacerbation frequency was calculated one year before the programme until three years after.
Results: No significant differences between the groups were shown in 6MWT and CCQ after one year or three years. Participants within both groups increased their 6MWT with statistical significance (p=0.004) and (p=0.002) from baseline to the one-year follow-up but no significances between baseline and after three years. The patients within the intervention group increased their QoL after one year (p=0.022) but no change was found within the control group (p=0.086). No significances between baseline and three years follow up within both groups. The exacerbation frequency decreased in the intervention group and increased in the control group (p=0.009) after one year but did not persist over a three-year period.
Conclusion: The positive outcomes of PR after one year do not remain after three years.
Disclosure of Interest: None declared

IPCRG13-1135

S.L.I.T. RUSH IMMUNOTHERAPY – FASTER REACH TO MAINTENANCE PLATEAU

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Aim: Sub-lingual immunotherapy (S.L.I.T.) Rush immunotherapy was tried on some patients to evolve some faster and affordable immunotherapy modality to make the patient achieve the maintenance plateau within a very short time. Conventional method of immunotherapy is administered with long durations; rush immunotherapy is a super-fast methodology in attaining the maintenance/boosting module, which requires hospitalization and other precautionary methods, and multiple allergen vaccines to be administered within short span of time. But in this method, it has been found that within 15-20 days the relief of the immunotherapy can be reached.
Methods: 186 patients out of which 48 with urticaria allergy and 138 with allergic rhinitis and bronchial asthma were selected. The therapy consists of administration of four vials of allergen extracts, 1st vial: 1:25,00, 2nd vial 1:2,50, 3rd vial 1:25, and 4th vial 1:10 dil. The 1st and the 2nd concentrations were administered in daily 6-hourly schedules in a graphically rising manner. The patients had been given pre-medication. Blood examination and IgG and IgE level estimation were done before and after 8 weeks.
Results: Some of the patients showed local skin reactions, which subsided without drugs, and no systemic reaction was noted.
Conclusion: There was substantial decrease in IgE, increased IgG level,

significant marked satisfactory relief was observed in the patients symptomatology, thus the procedure was graded as a very fast, affordable, safe immunotherapy.
Disclosure of Interest: None declared

IPCRG13-1140

COPD EXACERBATION RISK VARIES ACCORDING TO PATIENTS' CHARACTERISTICS

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Aim: Assessing annual exacerbations is important for COPD management; however, data connecting exacerbations with patients' characteristics, education level and other social and habit factors are scarce.
Methods: Data were selected from 544 stable COPD patients from Greece through a prospective cross-sectional study, with 50 private doctors as participants. Every patient and doctor completed an additional questionnaire respectively. Basic descriptive statistics were exported in SPSS 19.0 for all variables. Chi-square test and binary logistic regression were applied on several demographic and other patient characteristics to estimate risk for exacerbation.
Results: Most of the patients were of white/Caucasian race, married, living in urban regions, of lower or medium level of education and of stable current disease status. No significant variation between genders was found. Their disease was first diagnosed mainly in private clinics (65.2%) or public hospitals (21.9%). Higher risk for exacerbation was detected in patients of age >50 (R=1.4, 95% CI=1.032-2.482, p <0.001), pensioners (R=1.2, 95% CI=1.039-1.847, p <0.001), those of primary school education (R=1.3, 95% CI=1.038-1.593, p <0.001), those who lived in urban regions (R=2.1, 95% CI=1.428-3.124, p <0.001) and smokers (R=2.3, 95% CI=1.837-3.174, p <0.001).
Conclusion: COPD exacerbations vary according to different demographic characteristics, living conditions and tobacco habit among stable patients in Greece. The risk for exacerbation of the disease depends significantly on these characteristics.
Disclosure of Interest: None declared

IPCRG13-1147

CO-MORBID CONDITIONS ASSOCIATED WITH ASTHMA (OTHER THAN CATARACT): RESULTS FROM A 1-DAY, POINT-PREVALENCE STUDY IN 204,912 PATIENTS FROM 880 CITIES AND TOWNS IN INDIA.

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Aim: To explore the co-morbid conditions associated with asthma in a large, nationwide, one-day point prevalence, cross-sectional study in India.
Methods: 12,000 primary care physicians from 880 cities and towns were randomly selected and invited to participate in this one-day point prevalence study. On 1st Feb '11 all participating doctors captured presenting symptoms and diagnosis of all patients who visited them. Clean data transferred into the EPI INFO software was analyzed for associations between Asthma and other co-morbid conditions, using chi-square test.
Results: 7,400 doctors consented and provided clean data of 204,912 patients (M: 54.1%; F: 45.9%). 10595 (5.2%) patients were reported to have Asthma. Data on strong association found between Cataract and Asthma is being presented as a separate abstract at this meeting. The table shows association between Asthma and other co morbid conditions:

Co-morbid	OR	CI	p value
Social problems	1.51	1.26, 1.81	<0.0001
Congestive Heart Disease (CHD)	1.33	1.07, 1.65	<0.010
Ischemic Heart Disease (IHD)	1.27	1.1, 1.48	<0.001
Hypertension (HT)	1.26	1.18, 1.35	<0.0001
Anemia	1.21	1.12, 1.31	<0.001
Obesity	1.18	1.03, 1.36	<0.016
Redness/Rash on skin	0.85	0.73, 0.98	<0.029
Diabetes	0.89	0.81, 0.98	<0.020
Abdominal Pain	0.47	0.43, 0.52	<0.0001

Conclusion: Asthma is strongly associated with the presence of social problems, CHD, IHD, HTN, anemia and obesity in an Indian population. Primary care physicians in India must screen their patients with asthma for these co-morbid conditions.
Disclosure of Interest: None declared

IPCRG13-1150

HEATH-SEEKING BEHAVIOUR OF COPD PATIENTS AT PRIMARY CARE LEVEL IN BANGLADESH

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Aim: The study is designed to determine the pattern and percentage of presentation of different grades of COPD patients in a primary care respiratory centre.
Methods: This is a prospective study done in a well-established and busy primary care respiratory centre in Khulna; one of the largest cities of Bangladesh. Data was collected within the time duration of 25th February 2012 to 10th of March 2013.The source of data was an electronically-updated database. A total of 802 patients were included in the study all of whom visited the centre during this period. Among them 664 (82.8%) were male and 138 (17.2%) were female. All the patients were attended initially according to their priority and followed up there after. Most of the patients were treated on domiciliary basis while few requiring hospital admission. The age range of the patients was 31-100 years. The patients were included on the basis of clinical history; examination and diagnosis were confirmed by spirometry (as per GOLD criteria).
Results: Among the total patient (802) population, 53 patients were COPD-1 (6.6%); 153 COPD-2 (19.07%), 322 COPD-3 (40.14%) and 274 patients with COPD-4 (34.16%). 82.8% were male and 17.2% were female. Most of the female patients seek help in their grade 4 stage. Female patients are mostly non-smokers; their risk factor is biomass fume exposure in the kitchen.
Conclusion: COPD is a preventable and treatable disease. As such early detection and appropriate intervention will decrease the suffering of the patient and burden of COPD. A more structured nationwide study is necessary for further evaluation of the situation.
Disclosure of Interest: None declared

IPCRG13-1152

DEVELOPING A TOOL FOR RECORDING OF ASTHMA CARE IN THE ELECTRONIC MEDICAL RECORD IN PORTUGAL: A DELPHI STUDY

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Aim: To develop an effective tool for recording of asthma care in the electronic medical record.
Methods: A literature review was initially done to define a list of potentially

interesting items for the assessment of control of asthma. The formal consensus process was carried out in two rounds of experts' contribution with feedback after each round. A web form tool was used in this process. In both rounds 155 primary care and 64 secondary care physicians were invited to participate. In the second round the options to answer the questions were defined. The items were further divided into 3 sections to simplify the software development – patient background, consultation registry and consultation support.

Results: The initial study identified 29 potentially interesting items, divided into 3 sections – 13 items related to patient background, 8 items related to the consultation registry and 8 items related to the consultation support. The first round of experts' contribution had the participation of 92 primary care and 36 secondary care physicians; the second round had in total 79 participants. After the two rounds the questions and answer options were formulated. Some items were also excluded – 3 from the patient background and 2 from the consultation support. All the steps of the consensus process were completed in 4 months.

Conclusion: A tool to measure the control of asthma was developed with the support of a methodology that ensured its quality and validity. A study has now started that aims to evaluate the clinical control of a population of asthma patients using this tool.

Disclosure of Interest: None declared

IPCRG13-1154

PATIENTS' CONTACTS WITH PRIMARY HEALTH CARE REGARDING SPECIFIC LUNG CANCER SYMPTOMS IN THE YEAR PRIOR TO DIAGNOSIS

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Aim: To describe the contact patients had with primary health care retrospectively a year before lung cancer was diagnosed: number of contacts, specific symptoms of lung cancer and time from the first contact until referral to chest x-ray, specialized lung clinic and diagnosis.

Methods: The design was a retrospective medical record review with a quantitative approach. Ten records were selected from patients diagnosed with lung cancer in a mid-Swedish municipality from January to June 2011.

Results: Patients had on average eight primary health contacts (telephone advice and/or surgery visits) with a registered nurse or doctor the year before a lung cancer diagnosis was established. On average, four of these contacts could be linked with specific symptoms of lung cancer such as cough, dyspnea, fatigue, back/chest pain and hemoptysis. The average time span from the first contact about specific symptoms until diagnosis was 21 weeks. The average time from making a lung cancer clinic referral until establishing a diagnosis was three weeks.

Conclusion: The study showed a large discrepancy between practice and clinical guidelines on chest x-ray for smokers over 40 experiencing new respiratory symptoms. On average the patient had contact with primary health care showing specific lung cancer symptoms for eleven weeks until a chest x-ray referral was made and for 21 weeks until a diagnosis was established.

Disclosure of Interest: None declared

IPCRG13-1158

GOLD VERSUS GESEPOC: ARE THEY DIFFERENT?

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Aim: 1) Assess the possibility of applying guidelines in primary health care (PHC). 2) Assess whether there are differences implementing the baseline treatment between the two COPD guidelines.

Methods: The study took place in Barcelona city, in primary health care consultations. All patients diagnosed with COPD (from 6 practices) with a spirometry registered in the last 24 months were recruited. Patients signed informed consent so we could review their clinical history.

Results: We included in the study 64 COPD patients. The mean age was 73 (SD 9.2). 87.5% were men; 22% were smokers. The average post-bronchodilator FEV_1 was 60.5 %(SD 19.1%). About 41% had 2 or more exacerbations in the last year (mean 1.5). The average time it takes to apply the GOLD guidelines is 5 minutes and the GesEPOC guidelines 8 minutes (SD 1.8). GOLD classification: 31.3% stage A, 29.7% B, 4.7% C and 34.4% D. About 6.3% were very severe whereas 26.6% were severe, 46.9% were moderate and 20.3% were mild. GesEPOC classification: 51.6% stage A, 15.6% B, 9.4% C and 20.3% D. About 4.7% were very severe while 14.1% were severe, 26.6% were moderate and 54.7% were mild. BODE index: Mild 56%, moderate 23,4%. The patients' baseline treatment matched with GOLD guidelines in 50% and in the case of GesEPOC about 36%. About 33% of treatments recommended were the same between GOLD guidelines and GesEPOC guidelines.

Conclusion: 1. It is feasible to implement these guidelines in PHC consultation PHC

2. 80% have a BODE score $\leq$4 so they can be followed in PHC.

3. The stage A and B according to GOLD represents more than half of the patients and in the case GesEPOC guidelines predominately A stage (less than 2 exacerbations/year).

4. Half match with GOLD base treatment, and only 36% in case of GesEPOC.

5. Treatments and severity are different when applying the two guidelines.

Disclosure of Interest: None declared

IPCRG13-1162

THYROID GLAND PATHOLOGY WORSENING BRONCHIAL ASTHMA: DRAFT OF PATHWAYS

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Aim: To assess asthma control and immunity in patients with bronchial asthma with/without thyropathology.

Methods: Patients with bronchial asthma (BA, 17 prs.), with BA and hypothyroidism (BA+hypoT, 14), with BA and hyperthyroidism (BA+hyperT, 14), were tested for serum IgE levels, IL4/IL1 and IL4/INFÁ ratio and performed spirometry. We counted BA remission duration and number of BA attacks/year. Data are shown as mean±SEM.

Results: Thyropathology increases BA attack's frequency (4.5±0.5 in BA vs 6.25±0.65 in BA+hypoT group, p=0.04; and 5.08±0.4 in BA+hyperT, p=0.06) and decreases the remission duration (12.08±0.88 weeks/year in BA group vs 8.63±0.88 in BA+hypoT, p=0.02, and 9.33±0.76 in BA+hyperT, p=0.03). Patients with BA+hyperT had serum IgE levels greater than patients with BA and with BA+hypoT (266.7±17.3 IU/L vs 159.4±3.8 IU/L, p=0.01, and 122.5±9,8 IU/L, p=0.001, respectively). Serum IL4/IL1 ratio in BA+hyperT group was increased (36.16±1.21 BA+hyperT vs 27.02±0.79 BA, p=0.001), while in BA+hypoT lessened (12.76±0.93 BA+hypoT, p<0.0001 vs BA). Ratio IL4/INFÁ was decreased in BA+hypoT group (1.1±0.1 BA+hypoT vs 2.21±0.37 BA, p=0.01). FEV_1 showed no difference between groups. Patients with BA+hypoT had FEF50 and FEF75 reduction versus BA (48.91±3.02% vs 58.45±2.53%, p=0.04, and 35.24±1.78% vs 47.23±1.78% p=0.03, respectively).

Conclusion: In the BA+hypoT group BA attacks were more often and BA remission was shorter then in BA group; FEF50, FEF75 values and Th2-activity were reduced: possible BA worsening pathway may concerns with myxedema (especially bronchi oedema). BA remission was also shorter in BA+hyperT group; values of serum IgE and IL4/IL1 ratio were increased: Th2-response excessive stimulation may be possible BA worsening pathway.

Disclosure of Interest: None declared

IPCRG13-1165

SPIROSMART: DEVELOPMENT OF A MOBILE PHONE-BASED SPIROMETER WITH FEEDBACK CAPABILITY.

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Aim: Diagnostic spirometry is recommended for managing obstructive lung conditions. However, the cost of the device and lack of proper training and feedback on the maneuver impede diffusion of this technique-dependent test beyond specialists' offices. A cell phone-based spirometer using the phone's built-in microphone sensor has been validated against a standard device among healthy subjects at a US university. It is now being tested among youths and adults with obstructive lung disease, and interfaced with an existing feedback reporting system for purposes of remote coaching. The phone is being submitted for regulatory approval in the US.

Methods: The phone spirometer was concurrently compared against the pneumotach-based nSpire KoKo Legend as the "gold standard" among 52 healthy adults. Subjects held the phone at about arm's length, and after a full inspiration, forcibly exhaled at the phone screen until their volume was expelled. Audio data was recorded and sent to a server, which calculated flow by estimating models of the user's vocal tract, and sound reverberation around the head. Estimated exhaled volume was calculated by integrating estimated flow over time.

Results: The cell phone compared within 5.0% of the KoKo for FVC, FEV_1, PEF, and FEV_1/FVC. "Personalization" tended to enhance these models.

Conclusion: A phone-based spirometer with remote feedback capability may provide an alternative for collecting lung function from the home, and other remote or resource-poor settings.

Disclosure of Interest: None declared

IPCRG13-1166

PREDICTORS OF ICS/LABA PRESCRIBING IN COPD PATIENTS

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Aim: To study to which degree patients' characteristics predict GPs' prescribing of ICS/LABA

Methods: 380 patients aged 40 years or more with a diagnosis of asthma or COPD registered in the electronic medical record the last 5 years, were recruited in 2009 at seven Norwegian GP practices. Prescription of pulmonary medication, the patients' co-morbidities, spirometry results, and exacerbations the previous year were registered, and the patient answered questions on smoking and the Clinical COPD Questionnaire (CCQ). The predictive value of patient characteristics for the prescribing of ICS/LABA were evaluated by univariate and multivariate logistic regression among patients with post-bronchodilator FEV_1/FVC <0.7.

Results: Post-bronchodilator FEV_1/FVC <0.7 was found in 149 patients, and 55.6 % of these were on treatment with ICS/LABA. In the univariate analysis the strongest predictors of increased ICS/LABA prescribing were a diagnosis of asthma made by the GP, OR 3.1 (95% CI 1.6-6.2), and one or more exacerbations registered the previous year, OR 2.0 (1.0-4.1). Cardiovascular disease was associated with a decreased ICS/LABA prescribing, OR 0.4 (0.2-0.8), as was current smoking OR 0.3 (0.1-1.1). The significant ($p<0.05$) predictors of ICS/LABA prescribing in the multivariable logistic regression were asthma diagnosis (OR 3.3), FEV_1 % predicted <50 (OR 2.3) and current smoking (OR 0.2).

Conclusion: It was surprising that cardiovascular disease and current smoking was associated with decreased prescribing of ICS/LABA. Reasons for this may be an intention to avoid multi-pharmacy in patients with co-morbidities, and a wish to communicate to COPD patients that smoking cessation is first choice of treatment.

Disclosure of Interest: None declared

IPCRG13-1167

ASTHMA AND PNEUMONIA IN UNDER-FIVES ADMITTED WITH ACUTE RESPIRATORY INFECTIONS (ARI) IN UGANDA

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Aim: Asthma in under-fives may be under-diagnosed and mis-diagnosed and managed as bacterial pneumonia in children. To identify the magnitude of asthma and pneumonia among under-fives admitted with acute respiratory infections (ARI) in Mulago Hospital, Kampala, Uganda.

Methods: We used case definitions based on the history, clinical examination findings, laboratory results and response to treatment. A questionnaire on the extended history and physical examination, blood and radiological investigations were done. A panel of three paediatricians reviewed the case reports and guided by the study case definitions for pneumonia and asthma, categorized each participant as asthma, bacterial pneumonia, viral pneumonia or otherwise.

Results: 614 children aged 2-59 months presenting with cough and difficulty in breathing at the paediatric emergency unit of Mulago National Referral and Training Hospital. 253 (41.2%) of the children were classified as asthma syndrome, of which 50 (19.8%) had bacterial pneumonia as well. Pneumonia alone contributed 329 (53.6%) of the total diagnoses; 167 (27.1%) had bacterial pneumonia, and 163 (26.5%) had viral pneumonia. Only 9.5% of the children with asthma had been diagnosed previously. All children with viral pneumonia and 193 (95.1%) of those with asthma syndrome alone received antibiotics. 184 (90.6%) and 83 (40.9%) of the children with asthma syndrome alone received short-acting bronchodilators and steroids respectively

Conclusion: The magnitude of asthma and viral pneumonia among under-fives attending Mulago hospital seem surprisingly high. However, most are managed as bacterial pneumonia. There is need for diagnostic algorithms for asthma and pneumonia in resource limited settings.

Disclosure of Interest: None declared

IPCRG13-1168

PREVALENCE OF COPD AND ITS SOCIOECONOMIC AND LIFESTYLE DETERMINANTS IN BANGLADESH: PRELIMINARY RESULTS FROM A POPULATION BASED STUDY

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Aim: Chronic obstructive pulmonary disease (COPD) is a leading cause of adult mortality and morbidity globally but under diagnosed condition in low income settings. There is paucity of population-based data on COPD prevalence and its socioeconomic and lifestyle determinants in Bangladesh.

Methods: In a cross sectional population-based study, we measured lung function of 3758 randomly selected adults, 1715 males and 2043 females $\geq$40 years from rural Matlab (n=1849), Chandpur and urban Kamalapur (n=1909), Dhaka, Bangladesh, using handheld spirometer (EasyOne™, ndd Medical Technologies). COPD was defined as post-bronchodilator ratio of Forced Expiratory Volume in 1st second (FEV_1) to Forced Vital Capacity (FVC) $\leq$0.7. Socio-economic and lifestyle variables included educational status, household income, occupation, exposure to biomass fuel burning, and smoking history. Determinants of COPD were identified using multiple logistic regression model.

Results: Overall, 13.4% of the participants had COPD with higher prevalence among rural than urban residents (16.8% vs 10.1, $p<0.001$) and in males than females (21.9% vs 6.2, $p<0.001$). Univariate analysis showed significant association of COPD with illiteracy, manual work, ever smoker, biomass fuel use, underweight and history of asthma. In the adjusted model, older age (50-59 y: OR 2.2 95% CI 1.6 – 2.9; 60-69 y OR 4.4 95% CI 3.3 – 5.8), illiteracy

(OR 1.5 95% CI 1.2 – 1.8), underweight (OR 1.5 95% CI 1.1 – 2.1) as well as overweight (OR 2.8 95% CI 2.0 – 4.1), smoking (OR 3.2 95% CI 2.2 – 4.6), biomass fuel use (OR 1.4 95% CI 1.1 – 1.8) and history of asthma (OR 6.5 95% CI 4.7 – 9.0) were significantly associated with higher risk of COPD.
Conclusion: COPD is a significant public health problem in Bangladesh. Illiteracy, smoking and exposure to biomass fuel burning are independent modifiable risk factors. Further analyses are needed for better understanding the influence of socioeconomic and lifestyle factors on COPD in Bangladesh.
Disclosure of Interest: None declared

IPCRG13-1046

AN APPROACH TO IMPROVING ASTHMA PATIENT EDUCATION USING SMART PHONES

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Brief outline of context: Clinical studies show inadequate inhaler technique is one of the major causes of Asthma treatment failure. The traditional method of patient education on inhalers does not give proper time and opportunity for patients to learn and practice the correct technique. High rates of incorrect technique show the need of more effective educational tools.
Brief outline of what change you planned to make: Introducing a new platform for Asthma patients to use their daily utility tool like smart phones to learn correct inhaler technique in their regional language and practice using device camera to get visual feedback on their technique and share the results with their physicians.
Assessment of existing situation and analysis of its cause: Commonly used tools for education on inhaler technique include verbal/written instructions or a demonstration by healthcare workers. Online tools and videos have proliferated, but are mostly passive and lack important attributes such as ease of use, accessibility, and comprehensiveness. There is a need for more efficient tool to reduce time demands of busy practitioners.
Strategy for change: who, how, following what timetable: Our team brainstormed the education process to create interactive tools like "How to inhale", this tool addresses errors that result from failure to take deep breaths or identify the points of full inhalation, and the correct time to press inhaler. "Interactive Inhaler Quiz" points out common errors while inhaling and tips to avoid them.
Measurement of improvement: A new approach to inhaler training and asthma education is likely to be a more effective alternative to the conventional methods.
Effects of changes: Less misuse of inhalers, effective drug intake into the lungs, improved patient satisfaction and better treatment plan.
Lessons learnt: Patients need time and constant practice to perfect their technique. Using Smartphone apps for persistent training can give better treatment results.
Message for others: Use of smart phones has the potential to get patient education system to the next level where people can independently train themselves with better retention.
Disclosure of Interest: None declared

IPCRG13-1155

PHENOTYPE-BASED APPROACH TO CHILDREN'S ASTHMA THERAPY ADJUSTMENT IN COMMUNITY PRACTICE

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Brief outline of context: Asthma is a variable disease and has periods of exacerbation and remission. As to level of asthma control, each patient may need more or less anti-inflammatory (basic) drugs amount.
Brief outline of what change you planned to make: To provide individual, phenotype-based approach to asthma therapy adjustment in real clinical practice.
Assessment of existing situation and analysis of its cause: Currently controller therapy should be increased after exacerbation (lost of control) and/or before periods of expected exacerbations (pollen or viral epidemic seasons etc). Step-up is possible by ICS dose increase or by adding another controller medication. Treatment choice is not well predefined.
Strategy for change: who, how, following what timetable: During September 2012 in this 3-month interventional open real practice study 90 patients aged 4-7 yrs with moderate asthma (registered ≥12 month), controlled on ICS monotherapy, were assessed for the exacerbation rate in Oct-Dec 2011 and their major trigger (virus/allergens). All the patients had allergic rhinitis. ICS dose was not changed. Children were assigned to one of treatment groups: (A) predominant virus-induced exacerbations: +antileucotrien; (B) predominant allergen-induced exacerbations:+intranasal steroid; control A (CA): predominant virus -induced exacerbations:+intranasal steroid; control B (CB): predominant allergen-induced exacerbations:+ antileucotrien.
Measurement of improvement: Number of exacerbations and 3-month average ACT score were examined.
Effects of changes:

	n, persons	Number of exacerbations (±SD)	Mean ACT score (±SD)
Group A	24	0,8±0,3	21,6±1,0
Group B	26	0,9±0,1	22,3±1,3
Group CA	20	1,6±0,2	19,7±0,8
Group CB	20	1,4±0,1	22,0±1,1
p(A-CA)		0,025	0,06
p(B-CB)		0,03	0,42

Lessons learnt: AR directed drugs can improve asthma control. Virus-induced phenotype benefits more from antileukotriene supplementation.
Message for others: Early autumn asthma therapy individual adjustment can be useful in pre-schoolers.
Disclosure of Interest: None declared

IPCRG13-1137

HOW TO IMPROVE THE CARE OF COPD AND ASTHMA PATIENTS IN SWEDEN

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Brief outline of context: A tool for quality monitoring is the use of indicators. So far there have been no quality tools that provide opportunities to develop the quality of care in terms of respiratory diseases in Sweden.
Brief outline of what change you planned to make: ***Aims*** To build a National Quality Registry for COPD and Asthma in order to improve the quality of asthma and COPD care and to ensure equal treatment in all parts of Sweden.
Strategy for change: who, how, following what timetable: ***Methods*** A steering committee was appointed to select important indicators of quality. The committee was composed of specialists in general medical practice, allergologists, pulmonologists, paediatricians, asthma nurses and representatives of patient organizations. ***Results*** The registry was designed to fit the Health Care Centres in primary care, although the COPD part of the registry also has a hospital version. It contains personal information about diagnosis, treatment, and outcomes. When entering the registry you can choose between Asthma and COPD. You will only see and answer questions relevant for the certain disease. Many questions relates to both diagnosis such as spirometry data and smoking habits. Examples of registrations are: Time of diagnosis, smoking habits, lung function, basic allergy screening, health care consumption such as emergency visits and hospital treatments, patient reported outcomes and treatment.
Conclusions: The Swedish Association of Local Authorities and Regions (SALAR) now supports the results of the steering committee's work - "The Airway Registry". The feedback from the registry to the health care units will be of utter importance and enable development of the quality of care of patients with asthma and/or COPD in Sweden. It will also provide unique

opportunities for research. An official report of registry summaries will be presented every year.
Disclosure of Interest: None declared

IPCRG13-1129
ENABLING ONLINE SPIROMETRY TRAINING AND FEEDBACK FROM THE USA TO AUSTRALIA: E-QUALITY PROGRAMME RESULTS

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Brief outline of context: Clinical guidelines recommend routine use of spirometry for patients with obstructive lung diseases.
Brief outline of what change you planned to make: An online spirometry training and feedback program for general practices was developed at a university setting. It includes interactive online training materials, and remote customized feedback for tests performed. Colleagues in Australia and the USA received support through the IPCRG E-Quality programme to pilot use of these materials at general practices in Adelaide.
Assessment of existing situation and analysis of its cause: Spirometry is typically available in specialists' offices, though often not in general practices, where training in its proper use is often unavailable.
Strategy for change: who, how, following what timetable: Online training materials were distributed to four Adelaide practices. Over-reader training in technique interpretation and grading using the Feedback Reporting System (FRS) relied on monthly and "as needed" Skype sessions. Using ndd spirometers, tests performed from August to December 2012 at two general practices were graded by the Australia team using the FRS.
Measurement of improvement: These two practices produced a total of 513 tests, an average of 63 and 40 tests per month at Practice A and B, respectively. The combined proportion of acceptable tests was 77% in August, and 82% in December. A re-graded sample showed excellent concordance. Training materials were used extensively at only one of these practices.
Effects of changes: Above.
Lessons learnt: Accessing the recorded online resources was complicated, likely contributing to low uptake. A "dashboard" is now enables easy access. Training materials are now distributed on an interactive learning management system.
Message for others: Implementing spirometry in a general practice setting can be facilitated through online training and feedback. Furthermore, new test over-readers can be remotely trained to grade tests for technique.
Disclosure of Interest: None declared

IPCRG13-1090
DESCRIPTION OF A DUTCH WELL-ESTABLISHED ASTHMA/COPD SERVICE FOR PRIMARY CARE

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Brief outline of context: In 2007, the Asthma/COPD (AC)service was implemented in The North of the Netherlands to advice general practitioner(GP)s in diagnosing, treating and managing their asthma and COPD patients by involving local pulmonologists.
Brief outline of what change you planned to make: To describe the AC service and the patient population.
Assessment of existing situation and analysis of its cause: Diagnosing asthma and COPD is difficult, therefore many patients are still undiagnosed and untreated.
Strategy for change: who, how, following what timetable: GPs can refer patients with evidence of respiratory problems to the AC service for diagnostic or follow up assessment and advice. Patients complete a history questionnaire, the Clinical COPD Questionnaire (CCQ), the Asthma Control Questionnaire (ACQ), and a trained technician performs spirometry. The pulmonologist inspects the data online, without seeing the patient, and sends the GP the results along with a diagnosis and treatment advice. Finally GPs discusses these results with their patients.
Measurement of improvement: Until now, the service has included ~12.000 patients (mean age = 54±19 years, 44% male) from 359 GPs and ~2000 new patients are included yearly.
Effects of changes: In 78% assessments, the pulmonologist was able to diagnose patients based on online information (45% asthma, 17% COPD, 7% asthma/COPD overlap).
Lessons learnt: This Dutch AC service has proven to be a feasible collaboration system between GPs and pulmonologists.
Message for others: This service might also be feasible for the support of GPs in other chronic diseases and countries.
Disclosure of Interest: None declared

IPCRG13-1088
IMPROVING PRIMARY CARE RESPIRATORY SERVICES IN A LESS DEVELOPED COUNTRY

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Brief outline of context: Configuration of the healthcare system in a least developed country is different from that of a developed country. Although it is developed according to the need and available resources of the country, it has many advantages and disadvantages as well. To address the disadvantages, primary care respiratory group of Bangladesh (PCRG-BD) undertook a program named "Better Breathing Bangladesh (BBB)", which is recognized by WHO-GARD as a demonstration project. As a part of BBB project we have trained 200 primary care doctors and 50 have now successfully completed the asthma diploma level course. Approximately 200 nurses have attended asthma and inhaler workshops in Dhaka, Khulna and Rangpur and 25 pharmacists attended an inhaler workshop this year. We have also run COPD and spirometry workshops for about 200 doctors.
Brief outline of what change you planned to make: These doctors are setting up Community Respiratory Centres (CRC), the first of their kind in Bangladesh. So far, we have inaugurated 12 CRC and using a digital (electronic) recording system) in line with national policy. We also developed software for record-keeping and national database development. Every CRC has a structured protocol for the management of asthma and COPD with regular support from the central committee of IPCRG-BD.
Assessment of existing situation and analysis of its cause: Through the network of data from the CRCs we have got the primary response, which is encouraging for the project. People are becoming more aware of long-standing respiratory diseases like asthma and COPD. Health-seeking behavior is changing as well in the primary care level in a positive way.
Strategy for change: who, how, following what timetable: As described in the text
Measurement of improvement: Prevalence study
Effects of changes: We are expecting a very significant positive change on the management of respiratory diseases in Bangladesh in few years
Lessons learnt: Structured plan in the respiratory care at the primary care level is the key element of better care in the developing country
Message for others: As per the text
Disclosure of Interest: None declared

IPCRG13-1070
ACCURACY OF CASE-FINDING FOR COPD BY PRACTICE NURSES

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Brief outline of context: The importance of the availability of reliable spirometry in the community for the diagnosis of COPD has been highlighted in Australia by the publication of the burden of obstructive lung disease (BOLD) study.

Brief outline of what change you planned to make: Our aim was to assess the accuracy of case finding for COPD by practice nurses in the context of Australian primary care.

Assessment of existing situation and analysis of its cause: There is currently underuse of spirometry in Australian primary care related to problems in organisation and delivery of this service.

Strategy for change: who, how, following what timetable: Practice nurses (PNs) undertook 8+ hours of education in spirometry and case finding for diagnosis of COPD. Practices invited patients at risk of COPD to attend a case-finding visit. An expert provided quality control of spirometry traces.

Measurement of improvement: For patients identified by PNs as having COPD, spirometry was also performed by experienced project officers.

Effects of changes: PNs from 36 practices invited 10231 patients and 1629 (16%) attended for spirometry. Of these 287 (18%) were given a diagnosis of COPD. Of these, 254 were able to be visted by the project officers and the diagnosis of COPD was confirmed in 69% of cases. Patients for whom the diagnosis was not confirmed were younger, had higher post-BD FEV_1 and lower BD reversibility.

Lessons learnt: Screening in primary care can identify patients with undiagnosed COPD, but despite training and support, PNs had difficulty interpreting spirometry.

Message for others: More work is needed on developing models for providing high quality spirometry in primary care.

Disclosure of Interest: None declared

IPCRG13-1066

FAVOURABLE RESULTS FROM A DUTCH ASTHMA/COPD SERVICE FOR PRIMARY CARE

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Brief outline of context: In 2007, an asthma/COPD(AC) service was implemented in the North of the Netherlands to advice general practitioner(GP)s in diagnosing and treating their asthma and COPD patients by involving local pulmonologists.

Brief outline of what change you planned to make: Aim of this study is to examine longitudinal data on disease related outcomes.

Assessment of existing situation and analysis of its cause: Spirometry, medical history, health status (Clinical COPD Questionnaire (CCQ)) and asthma control (Asthma Control Questionnaire (ACQ)) were assessed by the AC service.

Strategy for change: who, how, following what timetable: GPs may refer patients for single/yearly follow up assessments. If so, patients are automatically scheduled for an additional 3 months assessment if a change in medication is advised by the pulmonologist. At the moment, ~12.000 baseline and ~1000 follow up visits are performed.

Measurement of improvement: Non-parametric tests were used for the evaluation of exacerbations and ACQ/CCQ scores between baseline and follow up.

Effects of changes: The proportion of patients with ≥1 exacerbation/year decreased from 37% at baseline to 26% at 12 months (n=1062, p<0.000). In COPD patients scheduled for the 3 months follow up, the proportion of stable COPD patients (CCQ<1) increased from 37% (baseline) to 51% (3 months, n=149 p=0.001). In asthma patients the proportion of patients with well-controlled asthma (ACQ <0.75) increased from 24% (baseline) to 49% (3 months, n=504 p<0.000).

Lessons learnt: Patients in the AC service improved on exacerbation/year. If change in medication was advised, COPD patients improved on health status and asthma patients improved on asthma control. Asthma and COPD patients referred to 12 months follow up stabilized in health status and asthma control.

Message for others: More research is needed to elucidate which factors contribute to the improvement of patients.

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