of budesonide/formoterol in the post-bronchodilator $FEV_1$50–<70% of predicted normal (PN) subpopulation versus the all-patient population. This analysis supported the EU label change for Symbicort® Turbuhaler® to: 'symptomatic treatment of patients with COPD with FEV_1 < 70% PN (post-bronchodilator) and an exacerbation history despite regular bronchodilator therapy'.

Methods Four randomised, double-blind, active- and/or placebo-controlled, studies in patients with moderate to very severe COPD were analysed. Key study inclusion criteria were pre-bronchodilator FEV_1 ≤50% PN; use of short-acting bronchodilator; ≥1 exacerbation in the past 12 months. Primary endpoints for the analysis were 3-month pre- and 3- and 12-months post-bronchodilator FEV_1 and exacerbation rates at 3- and 12-months. Secondary endpoints included dyspnoea score, total symptom score, reliever medication use, night-time awakening and St George's Respiratory Questionnaire. Results for the post-bronchodilator $FEV_1$50 – <70% PN subpopulation were compared with the all-patient population.

Results Of 3787 randomised patients, 832 (22.0%) had post-bronchodilator $FEV_1$50 – <70% PN. Baseline characteristics of the $FEV_1$50 – <70% subpopulation and the all-patient population were similar, except for baseline FEV_1 parameters. The benefit of budesonide/formoterol versus placebo and formoterol on the primary and secondary endpoints were generally consistent between the $FEV_1$50 – <70% subpopulation and the all-patient population across all four studies and in the pooled analysis (Figure 1). No new safety signals were identified.

Conclusions In patients with COPD, the clinical efficacy and safety of budesonide/formoterol compared with placebo and formoterol was consistent between the post-bronchodilator FEV_1 50 – <70% PN subpopulation and the all-patient population, confirming the positive benefit/risk ratio in COPD patients with a post-bronchodilator FEV_1 <70% PN and a history of exacerbations.

P59 FACTORS INFLUENCING STEP-UP TO LAMA+LABA/ICS IN COPD PATIENTS INITIALLY ON LAMA MONOTHERAPY: A THIN DATABASE STUDY

[1]JR Hurst, [2]M Dilleen, [2]K Morris, [2]S Hills, [2]B Emir, [3]R Jones. *[1]University College London, London, UK; [2]Pfizer, New York, USA; [3]Plymouth University Peninsula School of Medicine and Dentistry, Plymouth, UK*

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The potentially inappropriate use of inhaled long-acting beta agonist/corticosteroid (LABA/ICS) combinations in COPD patients for whom this treatment is not recommended has clinical and economic implications.

This retrospective analysis of anonymized electronic medical records in the UK Health Improvement Network (THIN) database was conducted to identify factors associated with step-up from long-acting muscarinic antagonist (LAMA) to LAMA +LABA/ICS therapy. Secondary objectives included time to step-up, Global Initiative for Chronic Obstructive Lung Disease (GOLD) and Medical Research Council (MRC) classification. Data were included from COPD patients between 1 June 2010 and 4 September 2014, aged ≥35 years at first LAMA treatment, with continuous enrolment >360 days before the index event (date of first LAMA prescription) who received LAMA monotherapy only prior to step-up. Time to step-up was analysed using a Cox regression model with time-varying covariates using a stepwise model selection procedure.

Data from 8773 patients (6199 LAMA [136 deaths]; 2438 LAMA+LABA/ICS) were included. Multivariable analysis revealed that exacerbations (composite), elective secondary care contact, markers of COPD proactive planned care, and reactive COPD care within the primary care setting were clinically and statistically significantly associated with step-up. Statistically significant factors negatively associated with step-up were being female and having diabetes (Table). Univariate analysis revealed FEV1, COPD severity and MRC classification to be significant predictors of step-up. These were not included in the multivariable model due to reduced observations, but sensitivity analyses including each in turn confirmed the above predictors. 28% of the cohort received step-up therapy, the majority (23%) within 2 years of LAMA monotherapy initiation. Assessment per GOLD classification suggests that step-up was appropriate in most patients (group A, 18%; B, 21%; C, 26%; D, 35%). Assessment of MRC score (mean, median) in the step-up group (baseline: 2.45, 2.00; follow-up: 2.74, 3.00) suggests that patients who were stepped-up became more symptomatic prior to step-up.

These results show that COPD exacerbations were the most significant predictor of therapy step-up and that patients with initially stable disease are unlikely to require step-up. Therapy step-up appears to be appropriate in the majority of, but not all patients, and may reflect adherence to national guidelines.

Abstract P59 Table 1

Variable	Multivariate Cox Regression Analysis		
	HR	95% CI	P-value
Composite: exacerbations[a]	2.380	2.170, 2.611	<0.0001
Elective secondary care contact	1.445	1.305, 1.601	<0.0001
Markers of COPD proactive planned care within primary care setting	1.268	1.231, 1.305	<0.0001
Reactive COPD care within primary care setting	1.155	1.115, 1.198	<0.0001
Composite: cardiovascular[b]	1.150	1.025, 1.291	0.0175
Number of cough symptoms	1.086	1.046, 1.128	<0.0001
Number of short-acting bronchodilator prescriptions	1.033	1.027, 1.038	<0.0001
Age at index date[c]	0.992	0.988, 0.995	<0.0001
Sex (female)	0.798	0.735, 0.867	<0.0001
Diabetes	0.685	0.530, 0.886	0.0039

AECOPD, acute exacerbation of COPD; CI, confidence interval; HR, hazard ratio.
[a]Exacerbations (COPD emergency admission or AECOPD or lower respiratory tract infection or oral corticosteroid + antibiotic)
[b]Combined comorbidity for cardiovascular risk (heart failure, congestive heart disease, hypertensive disease, cerebrovascular disease, atrial fibrillation)
[c]HR relative to change to every 1 year difference in age.

P60 EFFECT OF INDACATEROL/GLYCOPYRRONIUM (IND/GLY) ON PATIENT-REPORTED OUTCOMES IN MEN AND WOMEN WITH COPD: A POOLED ANALYSIS FROM THE IGNITE PROGRAMME

[1]K Kostikas, [2]I Tsiligianni, [3]S Fucile, [1]K Mezzi, [3]S Shen, [3]D Banerji, [3]R Fogel. *[1]Novartis Pharma AG, Basel, Switzerland; [2]Clinic of Social and Family Medicine, University of Crete, Heraklion, Crete, Greece; [3]Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA*

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Introduction Literatures, although limited, suggest differences in the manifestations of COPD in terms of symptoms and health-related quality of life between men and women. Moreover, a

Abstract P60 Table 1 Effects of IND/GLY on PROs in men and women compared with other comparators at Week 26

Parameters	IND/GLY vs SFC		IND/GLY vs GLY		IND/GLY vs TIO		IND/GLY vs PBO	
	Men	Women	Men	Women	Men	Women	Men	Women
TDI total scores	0.46	0.65	0.23	1.31	0.51	1.39	0.66	2.51
	(0.06, 0.85)*	(−0.12, 1.43)	(−0.23, 0.68)	(0.52, 2.10)†	(0.05, 0.97)*	(0.63, 2.15)‡	(0.05, 1.26)*	(1.52, 3.51)τ
SGRQ total scores	−0.93	−1.93	−1.36	−2.83	−2.51	−1.83	−2.27	−6.82
	(−2.53, 0.66)	(−4.92, 1.06)	(−2.57, −0.14)*	(−4.91, −0.75)†	(−3.72, −1.31)τ	(−3.90, 0.24)	(−4.59, 0.06)	(−10.6, −3.01)‡
Symptom scores (total) via e-diary	−0.37	0.06	−0.34	−0.40	−0.39	−0.62	−0.22	−0.31
	(−0.82, 0.09)	(−0.60, 0.73)	(−0.60, −0.08)†	(−0.82, 0.02)	(−0.65, −0.13)†	(−1.05, −0.19)†	(−0.79, 0.35)	(−1.30, 0.68)
Rescue medication use	−0.14	−0.03	−0.66	−1.22	−0.53	−1.13	−0.66	−1.12
	(−0.45, 0.17)	(−0.74, 0.67)	(−0.89, −0.43)τ	(−1.66, −0.78)τ	(−0.76, −0.30)τ	(−1.56, −0.69)τ	(−1.03, −0.29)‡	(−1.84, −0.40)†

*p < 0.05; †p < 0.01; ‡p < 0.001; τp < 0.0001; data presented as LSM (95% confidence interval); e-diary, electronic diary; IND/GLY, indacaterol/glycopyrronium (110/50 µg once daily); LSM, least square mean; PBO, placebo; PRO, patient-reported outcome; SFC, salmeterol/fluticasone (50/500 µg twice daily); SGRQ, St. George's Respiratory Questionnaire; TDI, transition dyspnoea index; TIO, tiotropium (18 µg once daily)

pooled analysis of 6 randomised trials from the IGNITE programme showed a lower baseline dyspnoea index (greater dyspnoea) and higher baseline St. George's Respiratory Questionnaire (SGRQ) total scores (worse health related quality of life) in women compared with men[1]. Here, we report the treatment impact in patient-reported outcomes (PROs) in men and women by further investigating data from the aforementioned pooled analysis.

Methods Six trials of 24 to 62 weeks duration (ENLIGHTEN, SHINE, ILLUMINATE, ARISE, SPARK and LANTERN) from the IGNITE programme were included. Effects of IND/GLY on PROs, such as transition dyspnoea index (TDI) and SGRQ total scores, symptoms scores via electronic diary and rescue medication use, were assessed, compared with salmeterol/fluticasone (SFC), glycopyrronium (GLY), tiotropium (TIO) and placebo (PBO) in both men and women with moderate to very severe COPD.

Results Data from 6108 patients were pooled and analysed (men, n = 4719; women, n = 1389). Overall, IND/GLY showed better improvement in dyspnoea and health status at Week 26 compared with other treatments. Although, there was some variability, the effect size was generally larger in women compared with men (Table). In addition, a higher percentage of women than men treated with IND/GLY achieved the minimal clinically important difference (MCID) from baseline in TDI and SGRQ total scores versus other comparators. Similarly, there was a greater reduction of rescue medication use in women than in men that received IND/GLY versus other treatments (Table). The reduction of symptom scores in the e-Diary with IND/GLY was comparable in both genders (Table).

Conclusions IND/GLY demonstrated superior improvement in dyspnoea and health status in both men and women with COPD compared with SFC, GLY, TIO and PBO. Furthermore, the efficacy of IND/GLY in terms of PROs was found to be better in women than in men and IND/GLY could be considered as a start-up treatment vs monotherapy for women with COPD. If confirmed in further studies these data may support gender differences in PROs response to bronchodilator therapy.

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P61 COMMUNITY OXYGEN PRESCRIPTIONS AND DNACPR DISCUSSIONS IN STOCKPORT; AN OPPORTUNITY TO IMPROVE END OF LIFE CARE PLANNING?

C Morris, S Parry, P Holmes, V Gupta. *Stockport NHS Foundation Trust, Manchester, UK*

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Introduction Many patients who are prescribed home oxygen are symptomatic from progressive, life-limiting disease. The GMC recommends "if cardiac or respiratory arrest is an expected part of the dying process and CPR will not be successful, making and recording an advance decision not to attempt CPR will help to ensure that the patient dies in a dignified and peaceful manner".[1] In addition, patients who are at risk of death or declining are identified on the gold standard framework (GSF) and future care planned according to their wishes.[2]

Objectives To investigate whether patients prescribed oxygen in the community had Do Not Attempt CPR (DNACPR) discussed and recorded; and secondly to investigate the length of time these patients were on oxygen and had DNACPR discussed/recorded prior to death.

Methods Patients who died between January and June 2016 on home oxygen were identified from the Stockport Home Oxygen Service records. The Stockport Health Record (SHR) and GP practices were consulted to find patients' primary diagnoses and DNACPR status.

Results 43 patients (mean age 73.8 ± 1.8) were identified. The overall median (range) length of time on home oxygen was 191 (5–3617) days. 14 (32.6%) had a community DNACPR form present or discussed 60.7 ± 24.4 days (mean ± sem) prior to death.

Most common diagnoses were COPD (n = 19), malignancy (n = 14), ILD (n = 5) and other eg CF, PE (n = 3). Results for these groups are shown in Table 1.

Conclusion Patients are prescribed home oxygen for many reasons and for variable amounts of time. For many the prescription represents a deterioration in their health. In our cohort of patients only 32.6% had DNACPR discussed/present at death, and median survival after initiation of oxygen was only 191 days.