year. In an adjusted Cox regression model, Cluster 3 had an increased risk of any adverse outcome compared to Cluster 1, Hazard Ratio 1.8 (1.1–2.9), p=0.02. This group were notable for high anxiety scores and mild cognitive impairment. There was a stepwise increase in mortality across groups, from 11% in Cluster 1% to 33% in Cluster 4, p<0.001. Cluster 4 was older, female, with higher co-morbidity and cognitive impairment. We have identified four clusters of adherence behaviour. There is an association between adherence patterns and clinical outcomes. Each cluster also exhibits distinct clinical and psychosocial traits which may act as drivers of their behaviour. Personalised interventions targeting these specific adherence behaviour patterns may prove a cost-effective strategy to curtail COPD-related healthcare costs.

P269 DESCRIBING ADHERENCE DATA IN A CLINICAL EFFECTIVENESS TRIAL: THE SALFORD LUNG STUDY IN COPD (SLS COPD)

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Background Adherence to inhaled therapy is key to effective COPD management; poor adherence is associated with suboptimal outcomes. While adherence may be more accurately measured in traditional double-blind randomised controlled trials (RCTs) than in effectiveness trials conducted in everyday clinical practice, the latter may more closely reflect "typical" patient adherence.

Aim To describe adherence in SLS COPD, a 12 month open-label effectiveness RCT that evaluated initiating fluticasone furoate/vilanterol (FF/VI) vs continuing usual care (UC) in COPD patients in UK primary care.

Methods Adherence was estimated by proportion of days covered (PDC; based on study medication prescribing data from patients' electronic case report forms [eCRFs]/electronic health records [EHRs] during the study) and the MARS-A 9 questionnaire. Selected outcomes were descriptively analysed by PDC <80% or≥80%.

Results Mean PDC during the study was similar for FF/VI and UC; the proportion of patients with PDC≥80% was high in both groups (Table). Summary statistics showed little change in MARS-A 9 during the study and similar responses in both treatment arms. Clear relationships between PDC category and exacerbations, healthcare resource utilisation, and COPD Assessment Test were not observed.

Conclusions In SLS COPD, adherence estimated by PDC was high and there was no clear association between PDC and outcomes. Limitations include adherence based on patients' self-reporting and eCRF/EHR prescribing data.

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Please refer to page A260 for declarations of interest in relation to abstract P269.

Abstract P269 Table 1 Adherence by treatment group *(ITT analysis)*[*]

	FF/VI (n=1396)		UC (n=1403)	
PDC[†] n	1378		1361	
Mean (SD),% <80%, n (%)	84.99 (22.29) 346		82.40 (23.11) 447	
≥80%, n (%)	(25)		(33)	
	1032 (75)		914 (67)	
MARS-A 9 score	1393		1402	
Baseline (randomisation) n	4.42 (0.677) 1318		4.44 (0.666) 1324	
Mean (SD)	4.61 (0.563) 1315		4.44 (0.664) 1324	
Study end[¶] n	0.20 (0.730)		0.00 (0.750)	
Mean (SD)				
Difference (baseline → study end[¶]) n				
Mean (SD)				
Outcomes in patients with PDC<80% and≥80% by treatment arm (ITT analysis)[*†]	**PDC<80% (n=793)**		**PDC≥80% (n=1946)**	
	FF/VI (n=346)	**UC (n=447)**	**FF/VI (n=1032)**	**UC (n=914)**
LS mean annual rate of moderate/severe exacerbations, n *(PEA population)*[‡]	n=282 1.68	n=364 1.87	n=839 1.77	n=738 1.93
Rate ratio (95% CI)	0.90 (0.78–1.04)		0.92 (0.84–1.01)	
HRU				
LS mean COPD-related primary care contacts, n	2.13	2.46	2.51	2.45
Rate ratio (95% CI)	0.87 (0.76–0.98)		1.03 (0.95–1.11)	
LS mean COPD-related secondary care contacts, n	1.31	1.24	1.64	1.53
Rate ratio (95% CI)	1.06 (0.75–1.49)		1.07 (0.87–1.33)	
CAT score[§] n	345	447	1031	913
Baseline score, mean (SD) n at endpoint	22.9	22.4	21.1	21.6
Responder, n (%)	(9.10)	(9.02)	(8.78) 990	(8.57)
Non-responder, n (%)	312	415	456 (46)	876
	133 (43)	165 (40)	534 (54)	304 (35)
	179 (57)	250 (60)		572 (65)
Adjusted odds ratio (95% CI)	1.07 (0.78–1.46)		1.71 (1.40–2.07)	

CAT, COPD Assessment Test; CI, confidence interval; HRU, healthcare resource utilisation; ITT, intent-to-treat; LS, least squares; MARS-A 9; Medication Adherence Report Scale for Asthma (modified for use in COPD, 9-item questionnaire used [omitting score for Question 'Before doing something']; higher MARS-A 9 scores indicate better adherence); PEA, primary effectiveness analysis; SD, standard deviation. [*]Based on a total of 2739 patients in the ITT population with available treatment adherence data, unless otherwise stated. [†]PDC determined at study end, using all prescriptions during the study treatment period. [¶]Based on last available MARS-A 9 measurement post-randomisation. [‡]Based on a total of 2223 patients in the PEA population with available treatment adherence data. [§]Post-hoc summary/analysis of CAT data by PDC category; all other summaries/analyses were pre-specified. CAT responder is defined as a change from baseline of ≤ −2 at endpoint (last available on-treatment measurement).