
RWE Observational Study Report –Database Study

Drug Substance **Symbicort**

Study Code

Edition Number V1

Date

Adherence and COPD Exacerbation Rates in Patients Initiating ICS/LABA Therapy

Product Name: **Symbicort**

RWE Project Team Members:

Requesting department

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Date	<input type="text"/>
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Date of clinical challenge	n/a
Date of protocol approval	<input type="text"/>
Content approved by study team	<input type="text"/>
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1.1 PRIMARY OUTCOME: COPD exacerbation rate during the 12 month post-index period

During follow-up, no significant difference in COPD exacerbation rate was seen between the adherent and the mildly non-adherent cohort, rate ratio, 1.07, 95% CI (0.98, 1.18), $p=0.1356$. However, the moderately and highly non-adherent cohorts had a significantly higher rates of COPD exacerbations compared with the adherent cohort (vs. moderately non-adherent: rate ratio, 1.11, 95% CI [1.01, 1.21], $p=0.0263$; vs. highly non-adherent: rate ratio, 1.11, 95% CI [1.01, 1.21], $p=0.0231$), mainly driven by significantly higher rates of COPD-related hospitalizations (vs. moderately non-adherent: rate ratio, 1.36, 95% CI [1.02, 1.82], $p=0.0335$; vs. highly non-adherent: rate ratio, 1.48, 95% CI [1.13, 1.93], $p=0.0038$) and COPD-related ED visits (vs. moderately non-adherent: rate ratio, 1.33, 95% CI [1.10, 1.62], $p=0.0039$; vs. highly non-adherent: rate ratio, 1.25, 95% CI [1.05, 1.50], $p=0.0142$).

Table 1 PRIMARY OUTCOME: COPD exacerbation rate during the 12 month post-index period

	Adjusted Rate ¹		Rate ratio \pm 95% CI	<i>p</i> -value ¹
	Adherent	Non-adherent		
Adherent (PDC \geq0.8) vs. Mildly Non-adherent (0.5\leq PDC <0.8), n (average follow-up years)	1,572 (0.92)	1,572 (0.96)		
COPD exacerbation Rate	1.03	1.09	1.07 (0.98, 1.18)	0.1356
Due to COPD-related inpatient hospitalization	0.06	0.07	1.13 (0.85, 1.51)	0.3948
Due to COPD-related ED visit	0.14	0.16	1.09 (0.89, 1.34)	0.4209
Due to COPD outpatient visit + OCS and/or antibiotics	0.82	0.86	1.07 (0.97, 1.18)	0.1990
Adherent (PDC \geq0.8) vs. Moderately Non-adherent (0.3\leq PDC <0.5), n (average follow-up years)	1,604 (0.92)	1,604 (0.97)		
COPD exacerbation Rate	0.97	1.08	1.11 (1.01, 1.21)	0.0263
Due to COPD-related inpatient hospitalization	0.05	0.07	1.36 (1.02, 1.82)	0.0335
Due to COPD-related ED visit	0.13	0.18	1.33 (1.10, 1.62)	0.0039
Due to COPD outpatient visit + OCS and/or antibiotics	0.77	0.81	1.04 (0.94, 1.15)	0.4432
Adherent (PDC \geq0.8) vs. Highly Non-adherent (PDC <0.3), n (average follow-up years)	1,755 (0.92)	1,755 (0.99)		
COPD exacerbation Rate	1.03	1.13	1.11 (1.01, 1.21)	0.0231
Due to COPD-related inpatient hospitalization	0.06	0.09	1.48 (1.13, 1.93)	0.0038
Due to COPD-related ED visit	0.14	0.18	1.25 (1.05, 1.50)	0.0142
Due to COPD outpatient visit + OCS and/or antibiotics	0.80	0.86	1.06 (0.97, 1.17)	0.2109

COPD: chronic obstructive pulmonary disease; PDC: proportion of days covered; ED: emergency department; OCS: oral corticosteroids; CI: confidence interval

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1: Adjusted rates and rate ratios were from negative binomial regression models. Statistical comparisons were comparing non-adherent to adherent (reference group), where rate ratio is $\text{Rate (non-adherent)} / \text{Rate(adherent)}$. The models controlled for all unbalanced pre-index factors and analogous pre-index variable (i.e. when analyzing the number of COPD related hospitalizations in the post-index, the model controlled for the number of pre-index COPD related hospitalizations).

