

Appendix I: Dose equivalency medication

DIN	category	canister1*	canister2**	DIN	category	canister1	canister2
00374407	ICS	0.0010	-	02303671	ICS	0.0031	-
00828521	ICS	0.0010	-	02243595	ICS	0.0080	-
00828548	ICS	0.0020	-	02243596	ICS	0.0160	-
00851752	ICS	0.0050	-	02438690	ICS	0.0040	-
00851760	ICS	0.0100	-	02446561	ICS	0.0040	-
00852074	ICS	0.0025	-	02446588	ICS	0.0080	-
00872334	ICS	0.0010	-	02467895	ICS	0.0220	-
00893633	ICS	0.0010	-	02467909	ICS	0.0045	-
00897353	ICS	0.0050	-	02467917	ICS	0.0093	-
01949993	ICS	0.0010	-	02240835	ICSLABA	0.0040	0.0167
01950002	ICS	0.0020	-	02240836	ICSLABA	0.0100	0.0167
01978918	ICS	0.0125	-	02240837	ICSLABA	0.0200	0.0167
01978926	ICS	0.0250	-	02245126	ICSLABA	0.0050	0.0083
02174731	ICS	0.0010	-	02245127	ICSLABA	0.0100	0.0083
02174758	ICS	0.0020	-	02245385	ICSLABA	0.0025	0.0020
02174766	ICS	0.0050	-	02245386	ICSLABA	0.0050	0.0020
02174774	ICS	0.0100	-	02408872	ICSLABA	0.0040	0.0042
02213583	ICS	0.0010	-	02444186	ICSLABA	0.0080	0.0042
02213591	ICS	0.0020	-	02361744	ICSLABA	0.0020	0.0017
02213605	ICS	0.0050	-	02361752	ICSLABA	0.0040	0.0017
02213613	ICS	0.0100	-	02361760	ICSLABA	0.0080	0.0017
02213710	ICS	0.0010	-	02248218	ICSLABA	0.0100	0.0040
02213729	ICS	0.0020	-	02136139	LABA	0.0083	-
02215039	ICS	0.0010	-	02136147	LABA	0.0167	-
02215047	ICS	0.0020	-	02211742	LABA	0.0083	-
02215055	ICS	0.0050	-	02214261	LABA	0.0167	-
02216531	ICS	0.0010	-	02230898	LABA	0.0040	-
02229099	ICS	0.0063	-	02231129	LABA	0.0167	-
02237244	ICS	0.0020	-	02237224	LABA	0.0040	-
02237245	ICS	0.0040	-	02237225	LABA	0.0020	-
02237246	ICS	0.0100	-	02376938	LABA	0.0125	-
02237247	ICS	0.0200	-	02407868	LABA	0.0008	-
02242029	ICS	0.0020	-	02246793	LAMA	0.0333	-
02242030	ICS	0.0040	-	02435381	LAMA	0.0006	-
02244291	ICS	0.0020	-	02423596	LAMA	0.1157	-
02244292	ICS	0.0050	-	02394936	LAMA	0.0926	-
02244293	ICS	0.0100	-	02418282	LAMA	0.0926	-
02285606	ICS	0.0063	-	02409720	LAMA	0.0333	-
02285614	ICS	0.0125	-	02418401	LAMALABA	0.1157	0.0042
02441888	LAMALABA	0.00463	0.00083	02261324	SABA	0.0100	-
02439530	LAMALABA	0.03333	0.00400	02326450	SABA	0.0050	-
00790419	SABA	0.00500	-	00576158	SAMA	0.0050	-
00812463	SABA	0.00500	-	00731439	SAMA	0.0625	-
00832758	SABA	0.02000	-	00824216	SAMA	0.0050	-
00832766	SABA	0.01000	-	01950681	SAMA	0.0625	-
00851841	SABA	0.00500	-	02026759	SAMA	0.0313	-

DIN	category	canister1	canister2	DIN	category	canister1	canister2
00867179	SABA	0.00500	-	02097141	SAMA	0.0625	-
00874086	SABA	0.00500	-	02097168	SAMA	0.0625	-
01938851	SABA	0.02000	-	02097176	SAMA	0.0313	-
01938878	SABA	0.01000	-	02126222	SAMA	0.0625	-
02084333	SABA	0.01000	-	02163705	SAMA	0.0053	-
02148617	SABA	0.01000	-	02163713	SAMA	0.0105	-
02212315	SABA	0.01000	-	02210479	SAMA	0.0063	-
02212323	SABA	0.01000	-	02216221	SAMA	0.0625	-
02213478	SABA	0.00500	-	02231135	SAMA	0.0313	-
02214997	SABA	0.01000	-	02231136	SAMA	0.0625	-
02215004	SABA	0.01000	-	02231244	SAMA	0.0625	-
02215616	SABA	0.01000	-	02231245	SAMA	0.0625	-
02215624	SABA	0.01000	-	02231494	SAMA	0.0625	-
02215632	SABA	0.01000	-	02231785	SAMA	0.0625	-
02216949	SABA	0.01000	-	02236934	SAMA	0.0313	-
02231430	SABA	0.01000	-	02236935	SAMA	0.0625	-
02231488	SABA	0.01000	-	02237134	SAMA	0.0625	-
02231678	SABA	0.01000	-	02237135	SAMA	0.0625	-
02231783	SABA	0.01000	-	02239131	SAMA	0.0625	-
02231784	SABA	0.01000	-	02239627	SAMA	0.0053	-
02232570	SABA	0.00500	-	02240072	SAMA	0.0053	-
02236931	SABA	0.01000	-	02240508	SAMA	0.0053	-
02236932	SABA	0.01000	-	02243827	SAMA	0.0313	-
02236933	SABA	0.01000	-	02246083	SAMA	0.0053	-
02239365	SABA	0.01000	-	02246084	SAMA	0.0105	-
02241497	SABA	0.00500	-	02247686	SAMA	0.0050	-
02243115	SABA	0.01000	-	02148633	SAMASABA	0.0156	0.0078
02243828	SABA	0.01000	-	02163721	SAMASABA	0.0050	0.0060
02244914	SABA	0.00500	-	02419106	SAMASABA	0.0050	0.0050
02245669	SABA	0.00500	-	02231675	SAMASABA	0.0156	0.0156
02259583	SABA	0.01000	-				

\*coefficient to convert quantity of medications to the reference medication

\*\*coefficient to convert the second component of inhaler in case of combined inhaler

Appendix II: Relative risk of outcome trends

Outcome	Relative Risk	Confidence interval	
		Lower Bound	Upper Bound
Canister ICS	1.003	1.002	1.005
Canister LABA	1.049	1.047	1.050
Canister LAMA	1.078	1.061	1.095
Canister SAMA	0.937	0.934	0.939
Canister SABA	0.962	0.961	0.963
LAMA Cost	1.130	1.126	1.133
SAMA Cost	0.977	0.974	0.979
SABA Cost	1.009	1.007	1.011
LABA Cost	0.893	0.889	0.897
ICSLABA Cost	1.116	1.114	1.117
LAMALABA Cost	5.602	4.443	7.062
SAMASABA Cost	0.815	0.813	0.818
ICS Cost	0.930	0.928	0.931
Triple therapy	1.132	1.129	1.136
ICS/LABA Therapy	1.076	1.074	1.077
LAMA/LABA Therapy	1.041	1.030	1.052
ICS/LAMA Therapy	1.042	1.034	1.049

Appendix III: Factors associated with filling prescriptions for combination therapies under combination therapy with inhaled therapy in COPD patients.

	<b>ICS/LABA/LAMA</b>	<b>ICS/LABA</b>	<b>LAMA/LABA</b>	<b>ICS/LAMA</b>
<b>Age (per 10 years)</b>	8.48% (7.21, 9.76%)*	8.80% (8.14, 9.46%)*	19.99% (14.92, 25.29%)*	13.80% (10.59, 17.10%)*
<b>Sex ( Female vs male)</b>	-8.91% (-11.63, -6.12%)*	1.54% (0.01, 3.10%)*	0.51% (-9.86, 12.08%)	9.01% (1.19, 17.44%)*
<b>Rural vs Urban</b>	6.93% (2.64, 11.40%)*	-0.44% (-2.52, 1.68%)	57.73% (37.74, 80.63%)*	35.52% (23.44, 48.78%)*
<b>Socio Economic Status **</b>				
Quantile 1			reference	
Quantile 2	5.43% (0.79, 10.29%)*	3.66% (1.33, 6.03%)*	-11.25% (-24.40, 4.20%)	-1.89% (-11.73, 9.04%)
Quantile 3	7.54% (2.62, 12.69%)*	5.81% (3.36, 8.32%)*	-0.26% (-15.53, 17.78%)	6.02% (-5.38, 18.78%)
Quantile 4	14.84% (9.62, 20.32%)*	9.01% (6.47, 11.62%)*	6.54% (-9.87, 25.94%)	1.56% (-9.42, 13.87%)
Quantile 5	15.05% (9.63, 20.73%)*	12.71% (10.01, 15.48%)*	-0.11% (-16.34, 19.27%)	3.32% (-8.60, 16.79%)
Unknown	-8.55% (-18.21, 2.27%)	-5.53% (-10.80, 0.06%)	-16.09% (-43.70, 25.07%)	-19.82% (-37.73, 3.25%)
<b>Calendar year</b>	8.44% (8.05, 8.83%)*	5.63% (5.46, 5.79%)*	-0.24% (-1.52, 1.06%)	0.07% (-0.80, 0.94%)
<b>Year from COPD Diagnosis</b>	9.37% (9.07, 9.68%)*	5.56% (5.39, 5.72%)*	10.07% (8.90, 11.25%)*	9.56% (8.74, 10.39%)*
<b>Death</b>	-6.16% (-8.72, -3.54%)*	-12.01% (-13.30, -10.70%)*	-8.38% (-17.22, 1.41%)	2.68% (-4.20, 10.04%)
<b>COPD hospitalization</b>	44.46% (41.28, 47.70%)*	15.02% (13.74, 16.32%)*	42.74% (31.31, 55.16%)*	69.61% (60.31, 79.45%)*
<b>COPD related outpatient visits</b>				
No Outpatient visit			reference	
≥1 GP visit	263.10% (251.71, 274.87%)*	99.77% (97.03, 102.54%)*	196.93% (166.71, 230.58%)*	198.27% (176.91, 221.29%)*
≥1 Specialist visit	719.91% (690.82, 750.08%)*	188.67% (183.96, 193.46%)*	613.01% (529.31, 707.84%)*	354.77% (316.52, 396.55%)*
<b>Charlson comorbidity score</b>	-3.34% (-3.85, -2.83%)*	-2.17% (-2.42, -1.91%)*	-4.84% (-6.64, -3.01%)*	-3.96% (-5.18, -2.73%)*
<b>History of asthma diagnosis</b>	10.98% (8.15, 13.88%)*	73.98% (71.96, 76.03%)*	2.28% (-6.77, 12.21%)	44.20% (36.09, 52.81%)*
<b>Pulmonary function Test</b>	44.68% (41.40, 48.04%)*	32.36% (30.86, 33.87%)*	73.60% (59.42, 89.03%)*	54.23% (45.04, 64.01%)*