

A Comparison of Short-acting β -Agonist Utilization among Fluticasone/Salmeterol versus Mometasone/Formoterol Users with Moderate Persistent Asthma

Kayla Dowell, PharmD, MBA Candidate 2021

Mentor: Harold Carter, PharmD

BACKGROUND

- Per CDC, 7.7% of US adults (18 and older) have asthma
- Asthma is a chronic, inflammatory condition affecting the lungs, associated with airway narrowing and difficulty breathing
- Controller inhalers like fluticasone/salmeterol and mometasone/formoterol are used to manage everyday asthma symptoms
- Short-acting β -agonist (SABA) inhalers are used for quick relief of asthma symptoms
- Generally, the more controlled the asthma, the less frequent the SABA use.

OBJECTIVE

- Compare the SABA refill histories of fluticasone/salmeterol and mometasone/formoterol utilizers

METHODS

- Study Design:** 2 armed retrospective study
- Data Source:** Express Scripts commercial plans' pharmacy claims data
- Inclusion criteria:** Plan members 18 and older, consecutive plan member from 01/01/19 to 12/31/19, ≥ 1 claim with diagnosis code of moderate persistent asthma, utilizing 1 of the controller inhalers in Table 1, met predetermined adherence rate of at least a 90-day supply of their controller inhaler

METHODS

- Exclusion criteria:** Switched therapy between mometasone/formoterol and fluticasone/salmeterol during study period, ≥ 1 claim for antidepressant or anti-anxiety medication or nitroglycerin, ≥ 1 claim for F41.0, F41.1, F41.3, F41.8, F41.9 (anxiety disorders), J44.9 (asthma with COPD), J44.1 (COPD), or I20 (angina pectoris), I50 codes (heart failure)
- Independent variables:** age and gender
- Dependent variable:** SABA utilization. SABA days of supply calculated from pharmacy claims refill history was used as a proxy of SABA use. The SABA inhalers listed in Table 2 and their associated generics were included in the study.

Table 1. Controller Inhalers for Study Inclusion

Mometasone/Formoterol	Fluticasone/Salmeterol
Dulera 100-5 mcg	Advair Diskus 100-50 mcg
Dulera 200-5 mcg	Advair HFA 45-21 mcg
	Fluticasone/salmeterol Diskus 100-50 mcg
	Fluticasone/salmeterol HFA 55-14 mcg
	Wixela Inhub 100-50 mcg

Table 2. SABA Inhalers for Study Inclusion

Proventil HFA
Proair HFA
Ventolin HFA
Xopenex HFA

DATA

Table 3. Baseline Characteristics

Characteristic	Mometasone/Formoterol (N= 1,651)	Fluticasone/Salmeterol (N=3,362)
Male, % (N)	49% (809)	47% (1580)
Age (mean \pm std dev)	39.9 \pm 19.3	39.9 \pm 19.1

Table 4. Refill History in Average SABA Days of Supply

	Mometasone/Formoterol	Fluticasone/Salmeterol	p-value
SABA Days of Supply, mean (CI) t-test	104.13 [83.17, 125.09]	119.09 [110.11, 128.07]	< 0.0001

RESULTS

- Baseline characteristics between the two groups are similar
- The mometasone/formoterol group refilled a statistically significantly lower average SABA days of supply

CONCLUSION

- Results suggest that mometasone/formoterol is more effective at controlling asthma symptoms than its counterpart
- More studies are needed to determine the clinical significance of the differences in SABA refill histories between the two groups.