

**Trends in Prescribing As-Needed Inhaled Corticosteroid (ICS)-Formoterol for Patients with Asthma**

Jiaying Li, PharmD, Sandra Garner, PharmD, Erin Weeda, PharmD, Katelyn Price, PharmD Candidate

**Background**:

Studies have demonstrated the utility of using ICS-formoterol combinations as reliever agents in mild asthma and using ICS-formoterol combinations as single maintenance and reliever therapy (SMART) for patients with mild-to-moderate asthma. This evidence led to a change in recommendations in the 2019 Global Initiative for Asthma (GINA) guidelines. However, real world evidence of the implementation of the new recommendation is missing. Therefore, this study was designed to fill the gap in the current literature and assess the real-world utilization of as-needed ICS-formoterol in patients with asthma.

**Methods**:

This study was a retrospective evaluation of approximately 276 prescription records of patients with a diagnosis of asthma from March 2017 to August 2021 at a large, academic medical center in the Southeastern United States. We compared the difference in the rates of as-needed ICS-formoterol prescribing in the 26 months prior to and after the change in the 2019 GINA recommendations. Patients who have an ICD-10-CM diagnosis of asthma and an ICS-formoterol prescription filled at our institution’s outpatient pharmacies will be included. Patients with an ICD-10-CM diagnosis code of chronic obstructive pulmonary disease will be excluded. Eligible patients were divided into the group with the first ICS-formoterol prescription dispensed prior to the guideline recommendation changed or the group with first ICS-formoterol prescription dispensed after the guideline recommendation changed. Manual chart review was done to confirm the prescribed directions for use of ICS-formoterol. The primary outcome was the difference in the rate of prescribing as-needed ICS-formoterol in the two time periods of interest. Subgroup analysis based on payor status and age will be conducted. Other secondary outcomes included the use of single maintenance and reliever therapy (SMART) defined as patients whose ICS-formoterol is prescribed for both scheduled and as-needed use.

**Result:**

The study reviewed a total of 276 ICS-formoterol prescription records during the time of interest. The median age of the studied population was 27 years in the before guideline changed group and 32 years in the after guideline changed group. The result showed that there was 1 as-needed ICS-formoterol prescription dispensed before the guideline changed (0.88%) and 3 as-needed ICS-formoterol prescriptions dispensed after the guideline changed (1.85%). All the as-needed ICS-formoterol prescriptions were used in patients with age greater than 18 years and with drug benefit insurance coverage.

**Conclusion:**

The new recommendation of the use of as-needed ICS-formoterol has not been well implemented since the guideline was published. More education and insurance assistance should be provided by the pharmacists to expand the implementation of the new recommendation to improve patients’ quality of life.