

Asthma Visits More Common After Flovent No Longer Manufactured

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Last updated 17 October 2024 • Check for updates at EpicResearch.org

Key Findings:

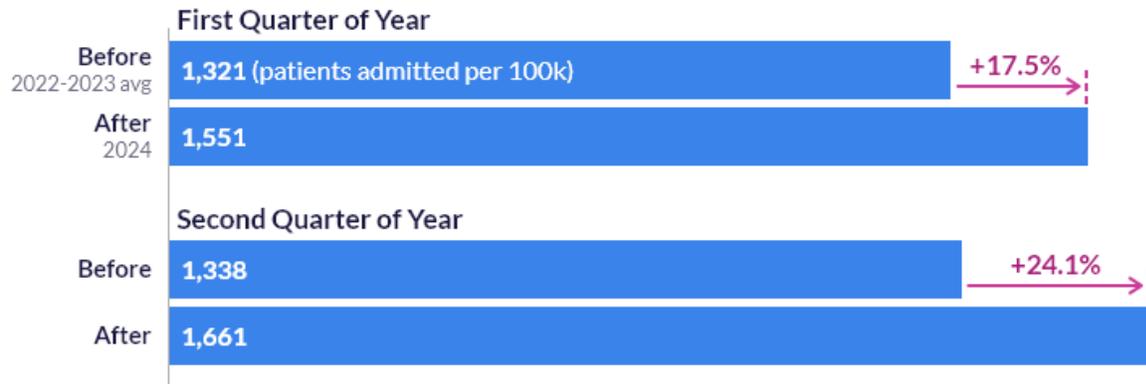
- Among patients prescribed fluticasone propionate, the rate of asthma-related admissions, ICU stays, and ED visits was greater in the first and second quarters of 2024, after Flovent stopped being manufactured, than the average rates of the same quarters in 2022 and 2023.

Asthma management often includes long-term control medications to prevent asthma attacks and rescue medications for acute episodes.¹ On January 1, 2024, the Flovent metered-dosed inhaler and the dry powder inhaler, both used for long-term asthma control, were discontinued and are no longer manufactured.² The manufacturer is encouraging use of an authorized generic version of fluticasone propionate, but some providers and patients have shared concerns about insurance coverage for and effectiveness of the available alternatives on the market.^{2,3}

To understand the effect on patients with asthma who depend on these long-acting medications, we looked at the rate of emergency department (ED) visits, admissions, and ICU stays for asthma in the periods before and after the change in availability of Flovent. We studied 3,312,869 patients who were prescribed fluticasone propionate within the six months preceding the quarter of interest. We studied only the first and second quarter of each year to control for seasonality. A patient's fluticasone propionate prescription may have been for Flovent, the authorized generic, another brand, or an independent generic.

In the first and second quarters of 2024, the rates of all types of visits were higher than the same periods averaged over 2022 and 2023. When looking at inpatient admissions, the rate of visits which were asthma related increased 17.5% for Q1 and 24.1% for Q2 compared to the average of the same quarters in 2022 and 2023.

Asthma-Related Inpatient Admission Rates Among Patients Prescribed Fluticasone Propionate



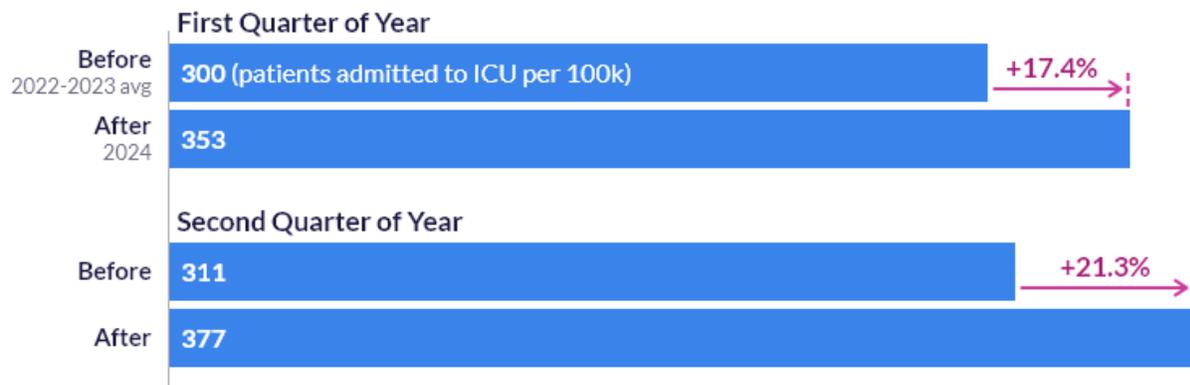
N=3,312,869 patients

"Asthma-Related Inpatient Admission Rates Among Patients Prescribed Fluticasone Propionate," 2024. EpicResearch.org

Figure 1. The rate per 100,000 inpatient admissions that were asthma-related among patients prescribed fluticasone propionate.

Asthma-related ICU admissions also increased in 2024. In the first quarter, the rates were 17.4% higher than the average of the same quarters in 2022 and 2023, while they were 21.3% higher in Q2.

Asthma-Related ICU Admission Rates Among Patients Prescribed Fluticasone Propionate



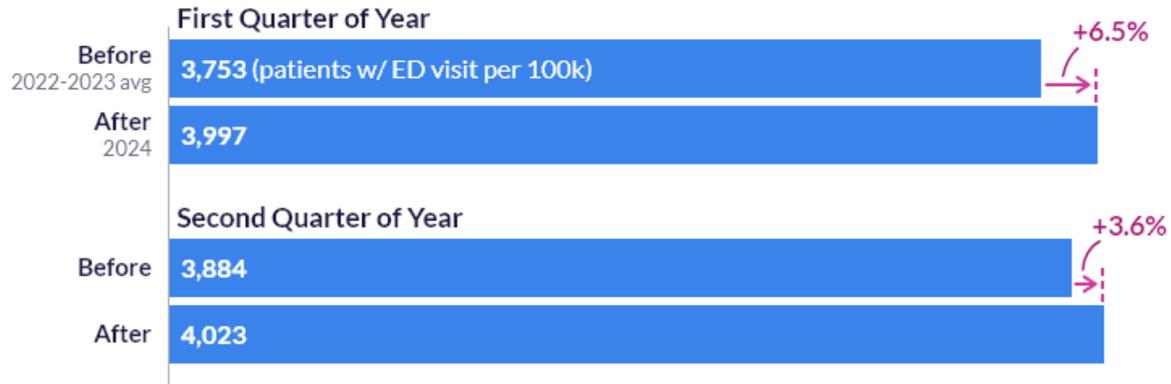
N=3,312,869 patients

"Asthma-Related ICU Admission Rates Among Patients Prescribed Fluticasone Propionate," 2024. EpicResearch.org

Figure 2. The rate per 100,000 ICU admissions that were asthma-related among patients prescribed fluticasone propionate.

Lastly, while still increased, the rate of asthma-related ED visits had the lowest increase of the encounter types. In Q1 2024, the rate was 6.5% higher than the average of the same quarter in 2022 and 2023, while in Q2 2024, the rate was 3.6% higher.

Asthma-Related ED Visit Rates Among Patients Prescribed Fluticasone Propionate



N=3,312,869 patients "Asthma-Related ED Visit Rates Among Patients Prescribed Fluticasone Propionate," 2024. EpicResearch.org

Figure 3. The rate per 100,000 ED visits that were asthma-related among patients prescribed fluticasone propionate.

These data come from Cosmos, a dataset created in collaboration with a community of Epic health systems representing more than 274 million patient records from 1,500 hospitals and more than 36,000 clinics from all 50 states, Lebanon, and Saudi Arabia. This study was completed by two teams that worked independently, each composed of a clinician and research scientists. The two teams came to similar conclusions. Graphics by Brian Olson.

References

1. Asthma medications: Know your options. Mayo Clinic. Published July 2, 2024. <https://www.mayoclinic.org/diseases-conditions/asthma/in-depth/asthma-medications/art-20045557>. Accessed September 4, 2024.
2. Coltrera F. Still confused after Flovent discontinuation? What to know and do. Harvard Health. Published February 16, 2024. <https://www.health.harvard.edu/blog/still-confused-after-flovent-discontinuation-what-to-know-and-do-202402163016>. Accessed September 4, 2024.
3. Treatment with FLOVENT HFA (fluticasone propionate inhalation aerosol). Flovent.com. <https://www.flovent.com/>. Accessed September 4, 2024.

Data Definitions

Term	Definition
Study period	Q1 and Q2 for 2022, 2023, and 2024
Study population	<p>Patients who were prescribed a medication with a simple generic name containing "fluticasone propionate"</p> <p>Fluticasone propionate order was active in the six months prior to first day of quarter, determined by medication order start date, end date, and refills</p> <p>At least one face-to-face outpatient encounter in the quarter or in the year preceding quarter</p> <p>Visits were excluded if they were within 30 days following a hospital admission</p>

Asthma	A diagnosis with ICD-10-CM code J45*
Confounders	Age (on the first day of the quarter): <ul style="list-style-type: none"> • Under 4 • 4-11 • 12-17 • 18-34 • 35-64 • 65+ <p>Sex: male/female</p> <p>Race and ethnicity</p> <p>Social Vulnerability Index quartile</p>
Race and ethnicity	Patients classified based on race (Asian, Black, Native American, Pacific Islander) and ethnicity independent of race
Social Vulnerability Index	The social vulnerability quintile for the ZIP Code of the patient's most recent address
Model Specifications	Logistic regression (all outcome types) and logistic regression stratified by patient outcomes: ED visits, Admissions, ICU stays.
	For the regression, each patient was included in at most one quarter in the study period. Patients who had multiple quarters of eligibility only had data from a single quarter used, chosen at random from their eligible quarters.

Table 1. Asthma-Related Visit Rates Among Patients Prescribed Fluticasone Propionate

Quarter	Patients	All Visits	ED Visits	Admissions	ICU Stays	All Visits (%)	ED Visits (%)	Admissions (%)	ICU Stays (%)
2022 Q1	686,707	27,239	24,657	8,513	1,907	3.967	3.591	1.240	0.278
2022 Q2	713,397	31,730	28,842	9,448	2,220	4.448	4.043	1.324	0.311
2022 Q3	717,675	30,210	27,308	9,709	2,402	4.209	3.805	1.353	0.335
2022 Q4	738,902	38,154	35,163	11,367	2,706	5.164	4.759	1.538	0.366
2023 Q1	751,414	32,338	29,419	10,530	2,429	4.304	3.915	1.401	0.323
2023 Q2	758,676	31,317	28,259	10,260	2,351	4.128	3.725	1.352	0.310
2023 Q3	736,821	26,862	23,880	9,381	2,034	3.646	3.241	1.273	0.276
2023 Q4	724,889	34,024	30,937	11,516	2,683	4.694	4.268	1.589	0.370
2024 Q1	681,818	30,151	27,254	10,577	2,405	4.422	3.997	1.551	0.353
2024 Q2	621,240	27,871	24,994	10,318	2,341	4.486	4.023	1.661	0.377