MONTANA
CHRONIC DISEASE PREVENTION & HEALTH PROMOTION BUREAU

Asthma Medication Claims Among Montana Medicaid Recipients, 2018-2022

Report Highlights

- There were **808** distinct claims for asthma medication submitted to Montana Medicaid between 2018 and 2022.
- The most common type of asthma medication within claims were biologics.
- Albuterol sulfate and omalizumab alone made up nearly 60% of the medication claims.
- Rescue medications were present in more claims for both male and female Medicaid members.
- **44%** of Medicaid claims for females contained biologics, while claims for males saw a similar percentage for glucocorticoids (injected, oral) and SABAs (42% and 43%, respectively).
- Biologics were the most expensive medications, with an average charge of **$5,040.**

Background

While asthma is a chronic medical condition with no cure, there are a variety of medications which may be used to mitigate symptoms and prevent serious outcomes of asthma attacks. There are several different types of medications, which are individually prescribed and tailored to a patient's asthma severity.

The most broad categorization of asthma medications classify them into rescue (quick relief) and controller (long-term). Rescue medications are used to quickly relax the patient's airways and make breathing easier. Controller medication, on the other hand, needs to be taken every day to reduce swelling and inflammation[1]. Biologics are a newer type of long-term medication, which target the source of the allergic inflammation by an injection every two to four weeks[2].

Examples of rescue medication include short-acting beta-agonists (SABA), anticholinergics, and injected or oral glucocorticoids. Typically, rescue medications should not be used often; it is advised that if rescue medication is taken more than twice a week (except for pretreatment for exercise), the patient should see a doctor since their asthma isn't well-controlled[3]. Controller medications can include inhaled corticosteroids (ICS), leukotriene modifiers, long-acting beta agonists (LABAs), and long-acting muscarinic antagonists (LAMAs)[4].

Asthma medication is an important aspect of asthma control. This report describes current asthma medication claims submitted to Montana Medicaid from 2018 to 2022.

Methods

This report utilized Montana Medicaid claims data from 2018 to 2022 from Medicaid members under 65 years of age who were continuously enrolled from 2018 to 2022 (N=386). Among these individuals, claims were included in the analysis if they were final, paid claims for a Montana resident, had a primary or secondary diagnosis of asthma (ICD-10 codes J45.0 — J45.998); and the claim was for asthma medications (N=808). All analyses were performed in SAS 9.4.

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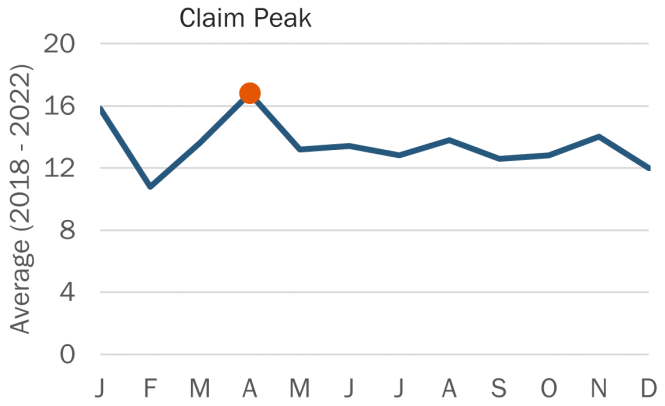
Asthma Medication Claims

There were 808 distinct asthma-related medication claims among Medicaid members under 65 years of age who were continuously enrolled from 2018 to 2022. Of those claims, Over this 5-year period, the number of claims each year ranged from 303 claims in 2018 to 197 claims in 2021 and 2022.

Over the 5-year period, April had the highest average number of monthly claims at 17 per year (Figure 1). The higher number of claims in April may be due to a multitude of reasons, such as an increase in pollen count, temperature changes, and air polution[5]. January was the second highest month with an average of 16 claims each year.

Figure 1. Between 2018 and 2022, April had the highest monthly average of asthma-related medication claims.



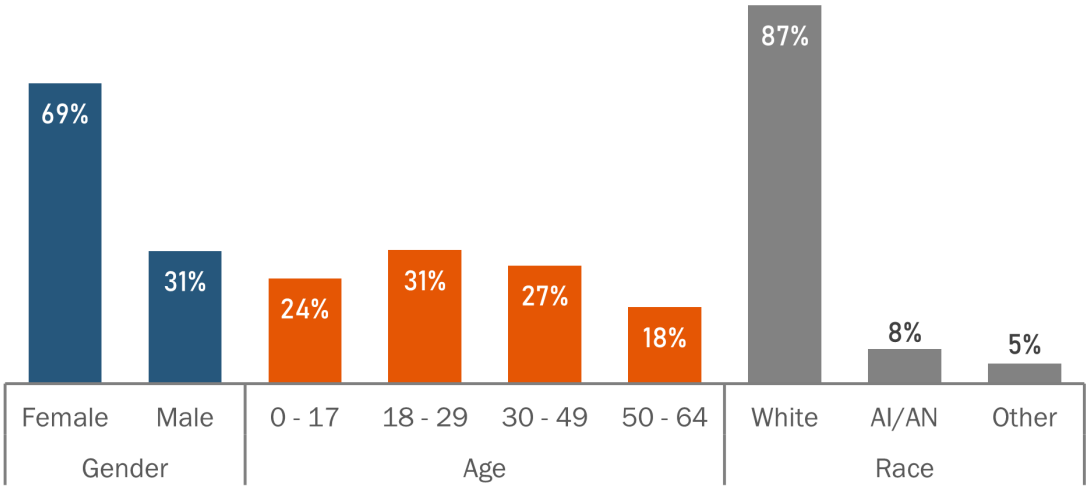
Demographics of Members Submitting Asthma Medication Claims

The 808 distinct asthma-related medication claims submitted to Montana Medicaid between 2018 and 2022 were from 386 continuously enrolled Medicaid users. The total number of asthma-related medications prescribed within those claims were 1,169. Over half of the claims (69%) were submitted by women.

The age group of 18 to 29 years made up the largest percent of medication claims, at 31%. The age group of 50 to 64 years had the smallest percent, with 18%.

The racial demographics of the medication claims were similar to the state demographics, with 87% of the claims coming from white Medicaid members, 8% coming from American Indian and Alaska Native members, and 5% from other racial backgrounds (Figure 2).

Figure 2. Females submitted more than two-thirds of asthma-related medication claims in Medicaid.



Medication Types

The most common types of asthma medication claims were for biologics (35%), but SABAs and injected or oral glucocorticoids had similar percentages at 31% and 30%, respectively. LABAs were the smallest category at only 0.09% (Figure 3).

Figure 3. Biologics were the most common type of asthma medication.

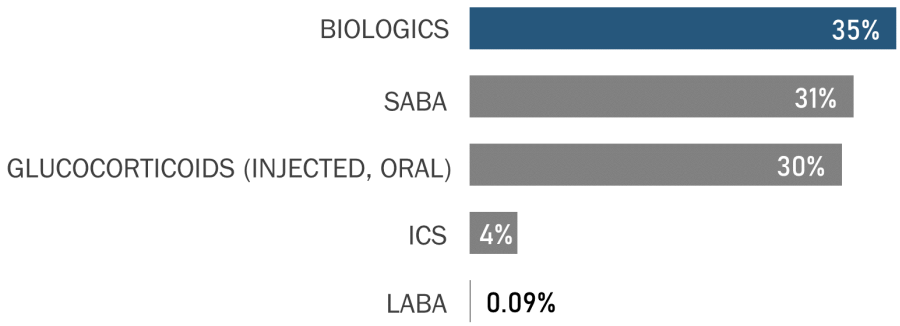
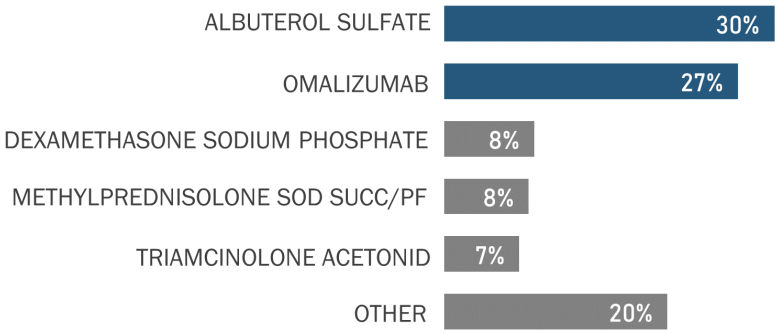


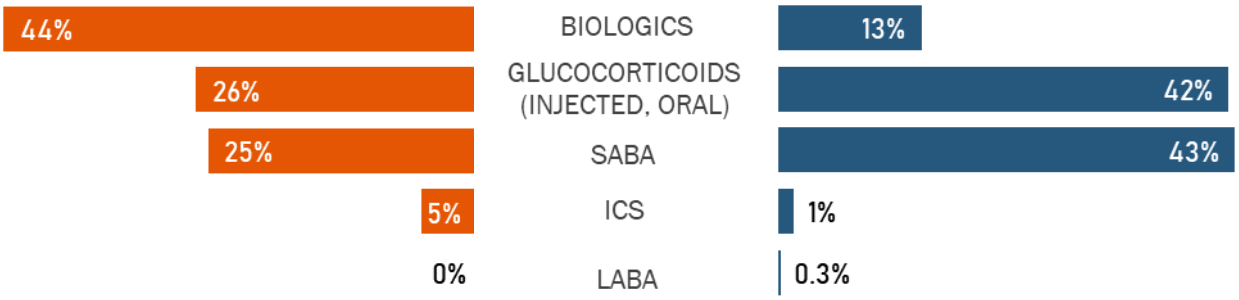
Figure 4. Albuterol sulfate and omalizumab were the most common asthma medications in medicaid claims.



Albuterol sulfate and omalizumab were the two most common medications in claims, making up more than half of all claims together (30% and 27%, respectively). The other three most common medications used were dexamethasone sodium phosphate, methylprednisone sod succ/pf, and triamcinolone acetonid (Figure 4). Dexamethasone and methylprednisolone are likely from treating asthma exacerbations.

There was one notable difference in the asthma medication claims submitted by males and females. Males had higher percentages of claims for glucocorticoids (injected and oral) and SABAs, while females had a higher percentage of claims for biologics (Figure 5).

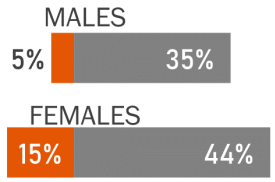
Figure 5. Medication claims for females more frequently contained biologics, while males claims were more likely to include injected and/or oral glucocorticoids.



Branded and Generic Medications

Claims for generic asthma medications were more common than branded medications, accounting for 80% of all medication claims submitted (Figure 6). Of all the branded medication claims, female members submitted over two-thirds (69%) of claims. Medicaid prefers prescribers and pharmacies to prescribe and dispense generic forms of medications whenever possible. Since all biologics recorded were branded medication, this could explain some of the gender difference in branded versus generic medications (Figure 5).

Figure 6. The majority of claims were for generic asthma medications rather than brand name for both males and females.



Controller and Rescue Medications

Medicaid claims for male Medicaid members were primarily for rescue medications (85%), while females were nearly the same for controller and rescue medications (Figure 7). In total, a little more than three in five (61%) medication claims were for rescue medication. Members aged 18 to 29 years had the highest number of controller medication claims out of all age groups at 19%, and the lowest rescue medication claims at just 12%. Those between 0 and 17 years of age saw the highest percentage of rescue medications (Figure 8).

Figure 7. Female medication claims were nearly equal for controller and rescue medications while male saw a majority of controller medications.

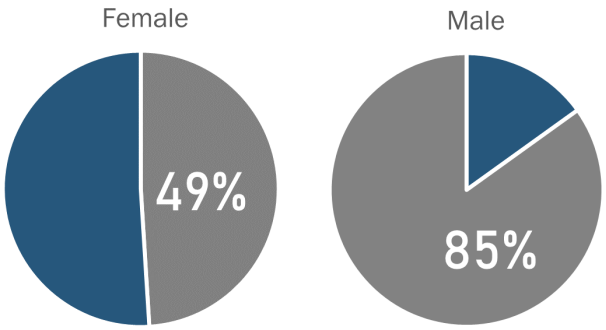
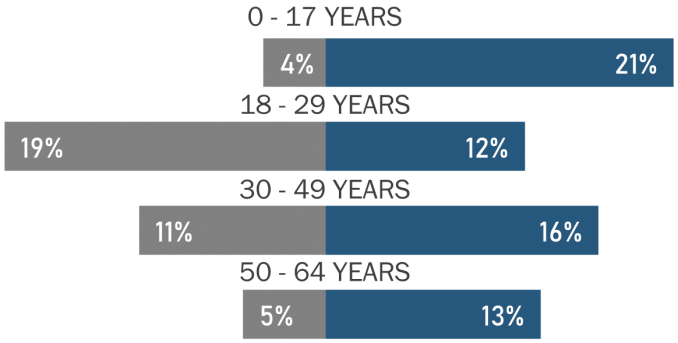


Figure 8. Only those in the age groups 18 to 29 years of age received more controller than rescue medications.



Cost by Medication Types

Biologics were the most expensive, averaging $5,040 charged per dispensed medication. LABAs were the next most expensive at $836. Conversely, SABAs were the lowest at an average of $24 charged per dispensed medication. They had the lowest allowable cost at just $0.91 (Table).

Table. Biologics had the highest average charged and allowed amount paid by Medicaid of all asthma medication types.

	Charged	Allowed
BIOLOGICS	$ 5,040	$ 2,233
LABA	$ 836	$ 142
ICS	$ 463	$ 18
GLUCOCORTICOIDS (INJECTED, ORAL)	$ 22	$ 4
SABA	$ 24	$ 0.91

Discussion

An important factor in consistently controlling asthma is regular usage of a controller medication. One way to assess that is using the Asthma Medication Ratio (AMR), defined by The National Committee for Quality Assurance (NCQA) in their Healthcare Effectiveness Data and Information Set (HEDIS)[6]. The medication ratio of greater than 0.5 for controller medications to the total asthma medications may be an effective way for populations who would benefit from increased use of controller medications to reduce future emergent asthma visits[7]. Studies have suggested asthma medication ratio can be a significant predictor of ED visits and hospitalizations in children. Results from this analysis, when following the NCQA definition of those between the ages of 5 to 64 and not including injected or oral glucocorticoids, suggest that people with asthma who are continuously enrolled in Medicaid are being prescribed slightly more controller medication than rescue medication (58% and 42%, respectively). This indicates controller medication may be either refilled or prescribed more often than rescue medication.

Another notable difference in asthma medication claims by sex is the volume of claims between males and females, which was 31% versus 69% respectively (a 453 medication claim difference). While females do have higher rates of current asthma in adulthood, the higher volume of claims submitted by females may indicate a gender difference in health-seeking behaviors. Females have more eligibility for Medicaid than men due to pregnancy being one of Medicaid's eligibility categories, leading to an enrollment bias in Medicaid. Pregnancy can also complicate asthma.

Another key finding was the difference between asthma medication claims submitted by males compared to females. Females had a larger proportion of claims related to controllers than males. This may indicate greater proportion of uncontrolled asthma, more health-seeking behaviors, or they may be prescribed controller medication more often among females compared to men.

This report only describes asthma claims submitted to Montana Medicaid. Additional analysis could be done utilizing asthma medication claims from private insurers to review Montana asthma medication usage more thoroughly or to compare private insurance claims to Medicaid claims.

Limitations

This analysis was conducted using Montana Medicaid claims and is only applicable to this population. Medicaid claims are intended to justify payment and do not indicate a definitive diagnosis. While a claim may be submitted for an asthma medication, it does not indicate that the medication was taken correctly nor at all. Claims include the year of 2020, which was the start of the COVID-19 pandemic and thus may be different than a typical year. Lastly, as of 2020, Medicaid stopped requiring copays for Medicaid recipients, so medication costs are covered by Medicaid in any data from 2020 to 2022.

Clinical Recommendations

- In accordance with EPR-3 (National Asthma Education and Prevention Program's Expert Panel Report) guidelines, all patients with persistent asthma should be given appropriate rescue and controller medication and provided education with an asthma educator, if possible.
- Develop an Asthma Action Plan and discuss with patients.
- Inform patients of any potential risks associated with forgoing asthma medications (lack of asthma control, increased risk of hospitalization, etc.).
- If patients are forgoing asthma medication, ask about the reasons they choose to not use asthma medication (high cost, distaste for medications, etc.) and determine if changes can be made.

Citations

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