Underestimated Treatment Burden in Asthma Biologics: Gaps in Treatment Initiation and Adherence

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REAL WORLD GAPS

OVERVIEW OF BIOLOGIC THERAPIES FOR ASTHMA

- Biologics targeting inflammatory pathways (IgE, IL-5/IL-5R, IL-4/IL-13, TSLP) have revolutionized asthma treatment[1-3]
- Biologic therapies have been proven in clinical trials to significantly reduce exacerbations and the need for OCS,[4] also supported by USA pharmacy and medical insurance claims data.[5]
- However, adherence and persistence remain a challenge, which may negatively impact patient outcomes in severe asthma[6,7]

REAL-WORLD INITIATION RATES AMONG BIOLOGIC-ELIGIBLE PATIENTS ARE LOW

20% Biologic therapies are generally underutilized, with only 20% of potentially biologic-eligible patients with Type 2 severe asthma receiving biologic treatment.[8]

Delays in biologic initiation are also common, increasing the risk of exacerbations and disease progression.[8]

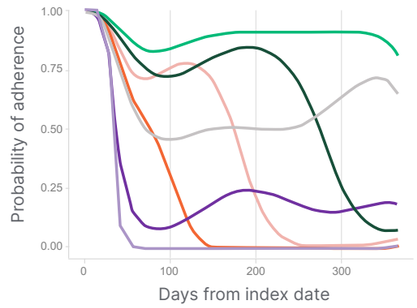
REAL-WORLD ADHERENCE IS LOW ACROSS BIOLOGICS

Most patients show intermittent use, gaps, or early/late stop patterns[7]

21.2% of patients maintained high adherence during the 12 month follow up

In the fixed model, <15% of patients were consistently adherent for each dosing interval over 12 months regardless of biologic type

Seven distinct adherence clusters among 9,553 patients without biologic switching revealed adherence patterns including consistent, intermittent, delayed, and low adherence[7]



Overall, 21.2% of patients demonstrated the highest adherence (MPR* of 91.6%) during 12-month follow-up, while the remaining 78.8% showed various patterns of non-adherence, with over half having an MPR below 50%.

*Defined as the ratio of days with medication possessed to the total number of days during the 12-month follow-up period for each type of biologic

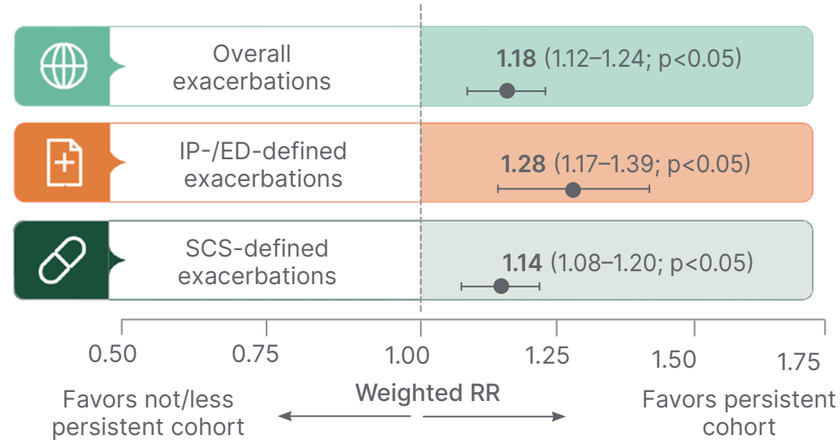
Persistence with biologic therapy varies by biologic agent[6,†]

Biologic treatments administered with less frequent dosing intervals are associated with

- Increased adherence
- Improved persistence
- Reduced discontinuation rates

†US pharmacy and medical insurance claims study investigating persistence to biologic therapy over 12 months (N=16,336 patients)

LACK OF PERSISTENCE MAY LEAD TO SOME PATIENTS NOT RECEIVING THE FULL CLINICAL BENEFIT OF THEIR BIOLOGIC THERAPY



Weighted RR (95% CI) not persistent/less persistent vs persistent (no treatment gaps of ≥2 doses and >50% refills cohort)[6,*]

*Not/less persistent includes partially non-persistent, non-persistent, and discontinuation groups.

KEY TAKEAWAYS

Identify at-risk individuals
Certain demographic characteristics and SDOH are associated with low initiation and non-adherence to biologic therapy.[9]

Consider therapy characteristics
Patients are more likely to initiate and stay on biologics with less frequent dosing intervals.[6]

Improve initiation and adherence
Low persistence is associated with increased risk of exacerbations and OCS use.[6]

RISK FACTORS ASSOCIATED WITH HIGHER ODDS OF POOR ADHERENCE[9]

Administration setting
- At-home administration (n=7,451): 1.27x higher odds (95% CI: 1.18–1.35; p<0.001) vs. office administration (n=8,885)

Age
- Younger adults (18–29 [n=1,485]) vs. ≥70 [n=1,256]) at higher risk (OR 2.02; 95% CI: 1.65–2.47; p<0.001)
- Patients <60 years have significantly higher odds of poor adherence vs. ≥70 years (all age groups p<0.05)

Social determinants of health
- Housing crowding: 10% reduction in biologic adherence in least-favored areas (4th SDOH quartile) vs. most-favored areas (1st SDOH quartile)
- Lack of high school diploma (≥25 years): 10% reduction in biologic adherence in least-favored areas (4th SDOH quartile) vs. most-favored areas (1st SDOH quartile)

Insurance type
- Medicaid (n=2,618): 1.16x higher odds (95% CI: 1.05–1.28; p=0.003) vs. commercial insurance (n=11,132)
- Medicaid (n=2,584): 1.16x higher odds (95% CI: 1.17–1.49; p<0.001) vs. commercial insurance (n=11,132)

Race/ethnicity
- Black/African American patients: (n=2,136) 1.32x higher odds (95% CI: 1.19–1.47; p<0.001) vs. White patients (n=8,258)
- Hispanic/Latino patients (n=1,468): 1.22x higher odds (95% CI: 1.08–1.37; p=0.001) vs. White patients (n=8,258)

Adherence was lower in patients living in less-favored areas vs. more-favored areas across all SDOH variables[9]

References

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Abbreviations:

IgE: immunoglobulin E; IL: interleukin; IP/ED: inpatient/emergency department; MPR: medication possession ratio; OCS: oral corticosteroid; OR: odds ratio; RR: rate ratio; SCS: systemic corticosteroid; SDOH: social determinants of health; TSLP: thymic stromal lymphopoietin; vs.: versus.