



Real World Treatment Patterns, Healthcare Resource Utilization, and Costs Among Patients with Asthma Receiving Biologic Therapy: A Targeted Literature Review

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Background

- Asthma biologics have transformed the management of moderate-to-severe asthma, particularly among patients with severe or uncontrolled disease
- Despite increasing use, real-world evidence (RWE) on treatment patterns, healthcare resource utilization (HCRU), and economic outcomes remains limited and heterogeneous
- Understanding persistence, treatment switching, and cost burden is critical for informing payer, provider, and health system decision-making
- Biologic therapies represent a substantial and growing component of asthma-related healthcare costs

Methods

- Targeted literature review of PubMed and conference proceedings
- Timeframe: January 2015 – January 2026
- Included: Real-world observational studies (claims, registries, retrospective cohorts)
- Outcomes assessed:
 - Treatment persistence/discontinuation
 - Switching patterns
 - Healthcare resource utilization (HCRU)
 - Costs
- Qualitative synthesis due to heterogeneity in populations and outcome definitions

Results (Treatment Patterns, HCRU, and Costs)

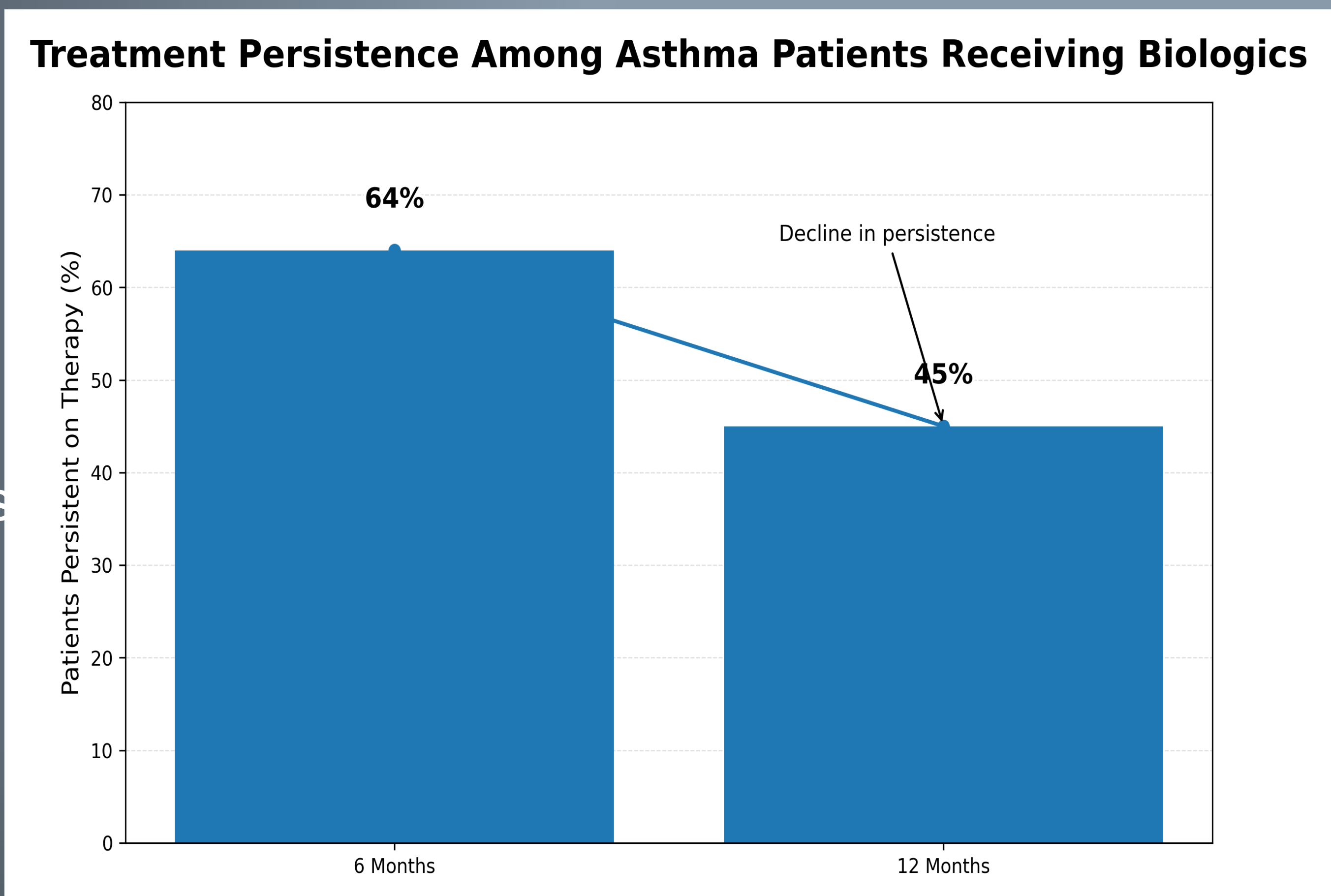


Figure 1. Treatment persistence among patients receiving asthma biologics decreased from 64% at 6 months to 45% at 12 months across real-world data sources.

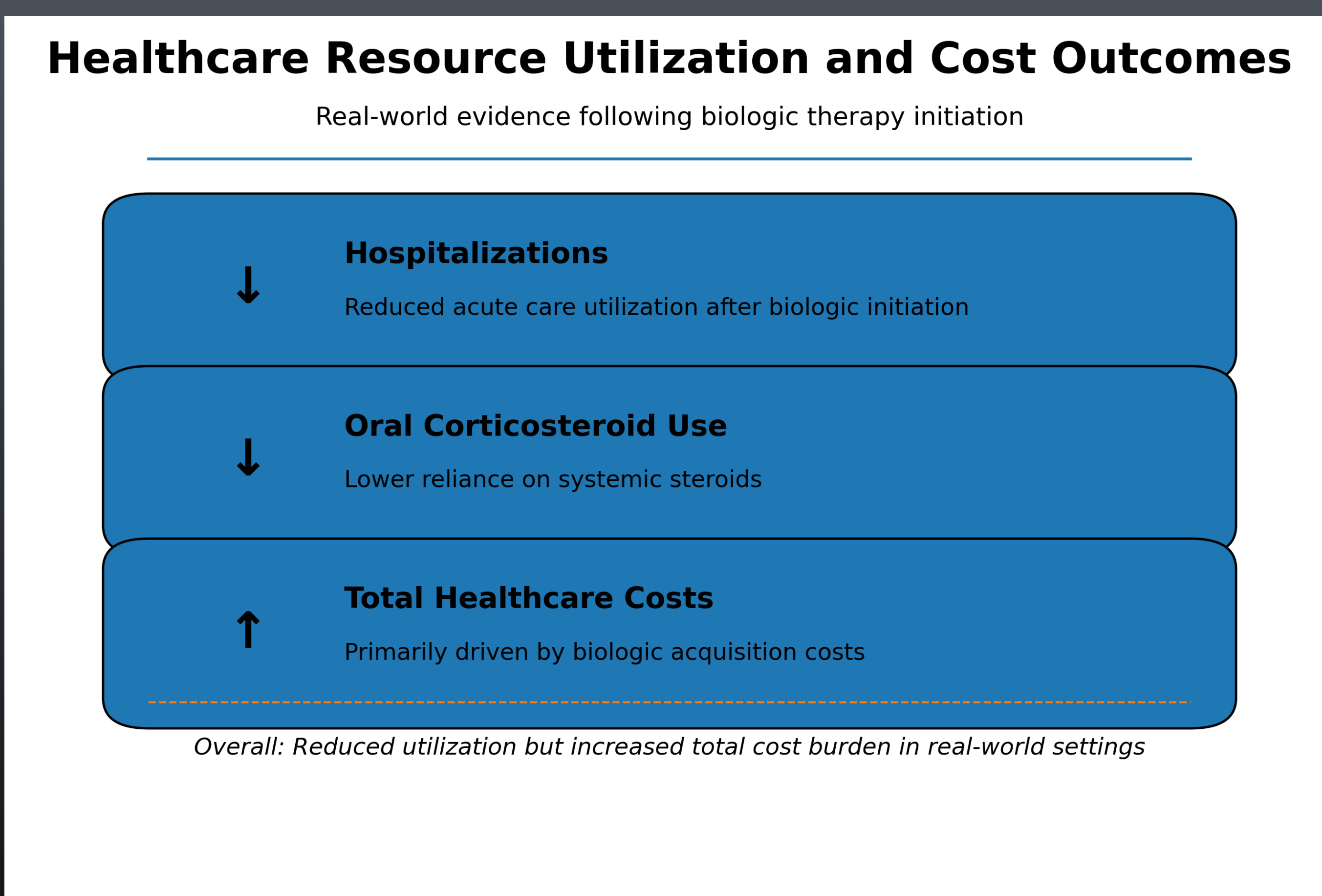


Figure 2. Real-world studies consistently report reductions in healthcare resource utilization, including hospitalizations and oral corticosteroid use, following biologic initiation; however, total healthcare costs increase, largely driven by biologic therapy acquisition.

Discussion

1. Treatment Patterns
 - Persistence varied substantially across studies
 - ~64% persistent at 6 months
 - ~45% persistent at 12 months
 - Discontinuation driven by:
 - Lack of effectiveness
 - Clinical factors
 - Frequent switching observed, especially between:
 - Anti-IL-5 therapies
 - IL-5 receptor-targeted therapies

- Real-world persistence is suboptimal, highlighting challenges in long-term biologic use
- Switching patterns suggest unmet clinical needs or variability in response
- Reduced hospitalizations indicate clinical benefit, but cost burden remains high
- Findings reinforce the importance of **value-based decision-making in biologic therapy use**

Conclusions

2. Healthcare Resource Utilization (HCRU)
 - Reductions observed in:
 - Hospitalizations
 - Oral corticosteroid use
 - Suggests improved clinical control following biologic initiation
3. Costs
 - High economic burden across studies
 - Costs primarily driven by:
 - Biologic therapy acquisition
 - Despite reduced utilization:
 - Total healthcare costs increased post-initiation
 - Severe asthma populations had significantly higher costs

- Biologic-treated asthma patients show:
 - Variable persistence
 - Frequent treatment changes
 - High economic burden
 - Cost increases are primarily driven by drug acquisition despite reduced utilization
- Standardized and comparative RWE studies are needed to guide payer and health system decisions