

Improving Pediatric Asthma Outcomes: The Impact of Standardized Education on Length of Stay Reduction



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BACKGROUND: Why did we choose this project?

Asthma is a leading cause of pediatric hospitalizations, contributing to increased healthcare utilization and prolonged length of stay (LOS).

This project aimed to improve asthma education for the pediatric population, focusing on standardized education for patients, families, and healthcare providers.

SMART OBJECTIVE:

Specific: Implement a standardized asthma education program for pediatric patients, families, and healthcare providers at WVU Children's Hospital.

Measurable: Achieve a measurable reduction in pediatric asthma length of stay (LOS) and a stabilized Pediatric Asthma LOS Index (O:E ratio) closer to benchmark levels.

Achievable: Utilize interactive learning tools, structured discharge planning, and follow-up support to reinforce asthma self-management strategies.

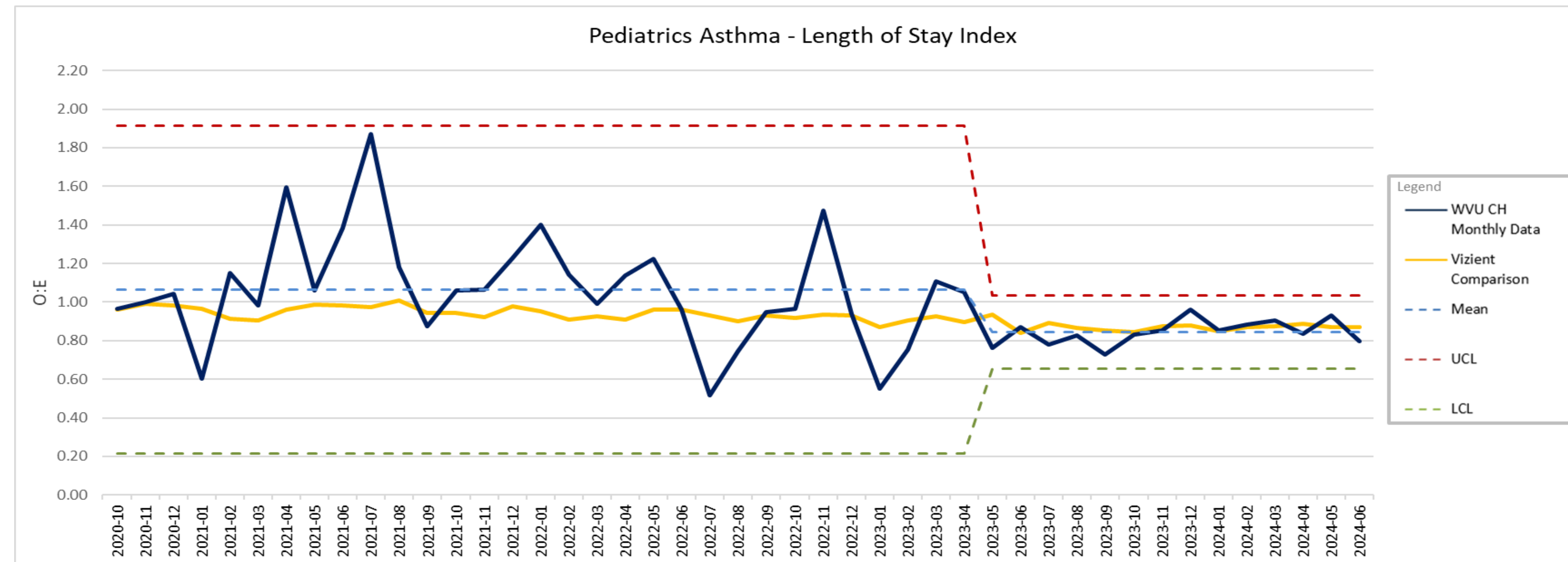
Relevant: Address the high burden of pediatric asthma hospitalizations by standardizing education and improving care efficiency.

Time-bound: Evaluate program effectiveness over a 12-month period with quarterly assessments of LOS trends and patient outcomes.

Evaluated: Continuously monitor data on LOS and patient outcomes, comparing pre- and post-intervention metrics to assess impact.

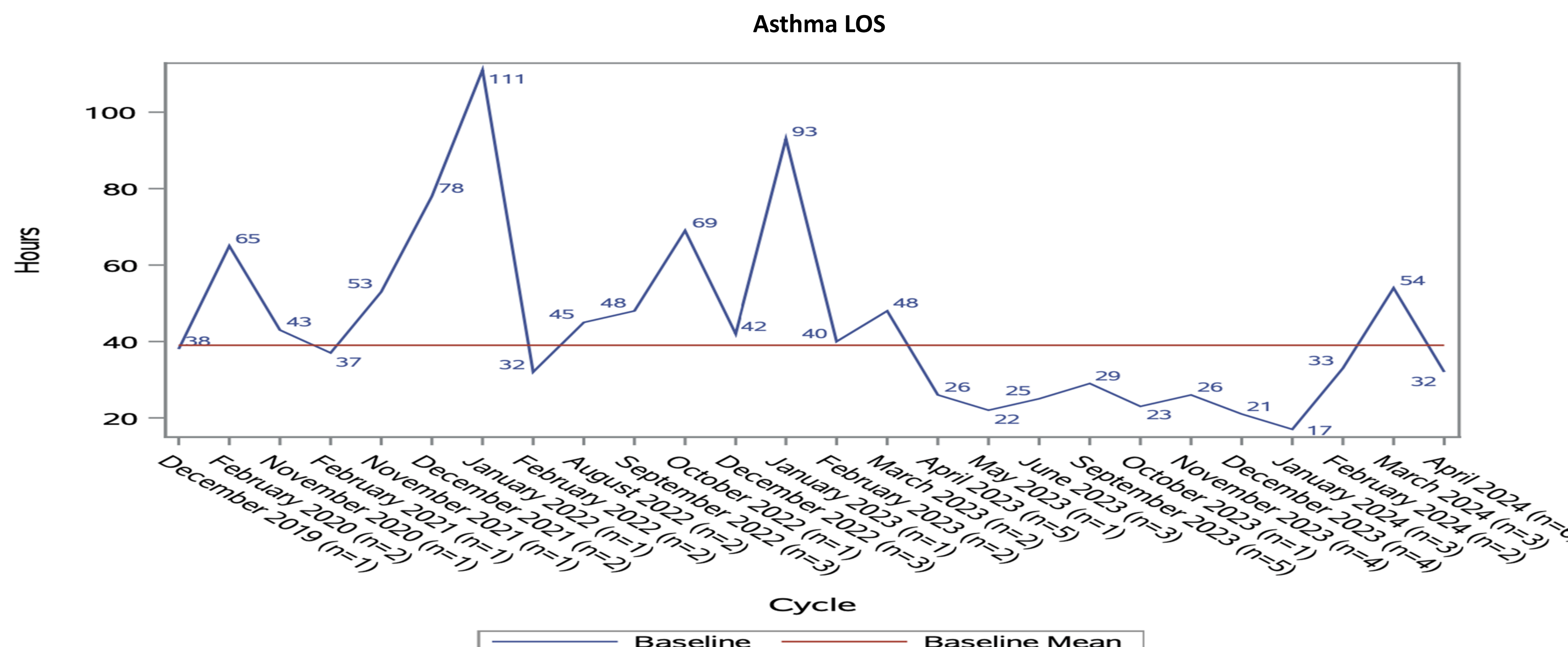
Revised: Adapt and refine the education program based on ongoing data analysis and stakeholder feedback to ensure sustained improvements.

RESULTS: What did we find?



Following the intervention, a significant reduction in LOS was observed. The first graph demonstrates initial high variability in LOS, with some patients experiencing prolonged hospital stays exceeding 100 hours. Over time, LOS stabilized and declined, with recent months showing consistently lower values, reflecting improved asthma management and timely discharges.

Similarly, the second graph, representing the Pediatric Asthma LOS Index (O:E ratio), highlights substantial fluctuations before the intervention, with peaks reaching nearly 1.8 in 2021. Post-intervention, the LOS Index steadily declined and stabilized closer to the benchmark (Vizient Comparison), indicating improved efficiency and standardization in asthma care.



IMPROVEMENT ACTION PLAN WITH ACTIONS TAKEN:

Enhanced standardized education for patients and families by providing tailored education sessions prior to discharge.

Standardized inpatient asthma care with the implementation of a standardized asthma pathway.

Optimized discharge planning by implementing a standardized discharge checklist to ensure readiness for home management.

Monitored length of stay trends and pediatric asthma LOS index (O:E ratio) pre and post intervention.

CONCLUSIONS:

This initiative led to a measurable improvement in pediatric asthma LOS, aligning patient outcomes with state and national benchmarks.

The project's success underscores the importance of structured asthma education in reducing hospital stays, optimizing resource utilization, and improving patient quality of life.

Future efforts will focus on sustaining these improvements and expanding education programs to outpatient settings.

LESSONS LEARNED:

Implementing a structured asthma education program led to more consistent patient knowledge, better self-management, and a significant reduction in hospital length of stay (LOS).

Engaging physicians, nurses, respiratory therapists, and educators fostered a cohesive approach to asthma management and patient education.

Continuous tracking of LOS trends and Pediatric Asthma LOS Index (O:E ratio) allowed for real-time adjustments, ensuring lasting improvements in care quality.