



# Implementation and Evaluation of a Pediatric Observation Unit Using Condition Specific Guidelines

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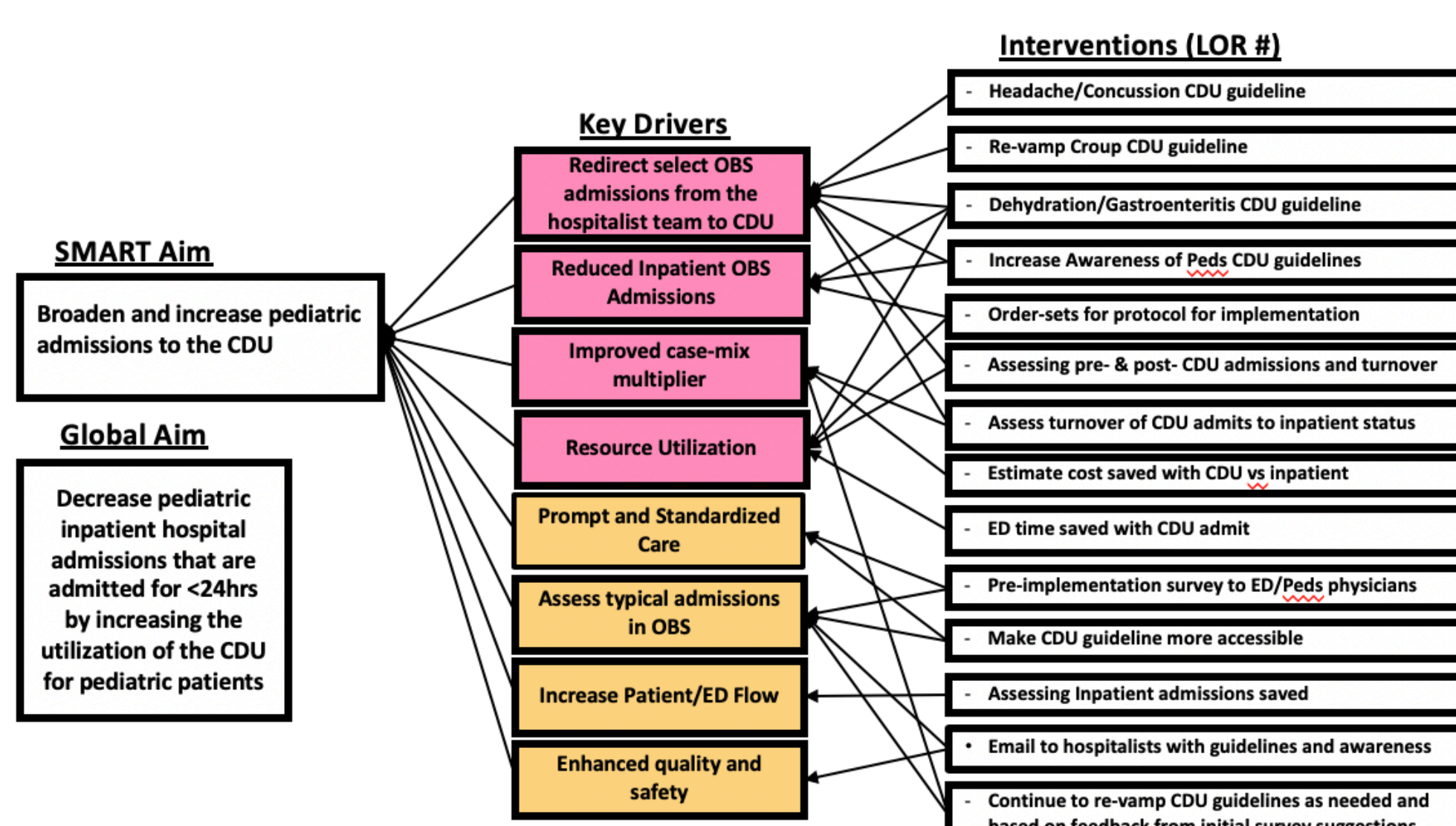
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## BACKGROUND

- ED and inpatient settings have had increased system stress in part due to:
  - Lack of patient care capacity in both settings
  - Increased cost of care with higher level of care
- This has led to unnecessary utilization of higher level care for patients
- Goals for this study:
  - Determine which pediatric conditions and care needs could benefit from the use of a newly established pediatric clinical decision unit (CDU) staffed by pediatric emergency medicine physicians
  - Assess the implementation of condition specific guidelines for care management

## METHODS

- We created a key driver diagram to initially analyze how to go about addressing our goals in a practical and systematic fashion.
- A retrospective analysis of all pediatric inpatient unit admissions at a the UW AFCH ED during the 2017-2018 calendar year was performed using a self-service reporting tool (EPIC SlicerDicer).
- Upon review of the generated data, the shortest LOS conditions and conditions with lower level nursing care needs were selected to create condition specific guidelines in order to establish CDU protocols.
- Descriptive analysis of the pre/post implementation of CDU protocols was performed to assess admissions saved with pediatric CDU management of the specific conditions using a visualization and exploration tool (QlikView) for operational metrics pertaining to the pediatric ED and CDU patient flow.



During the study period, we observed an **85% decrease** in short LOS admissions to the pediatric hospitalist service by utilizing the CDU and the nine condition specific protocols created.

## RESULTS

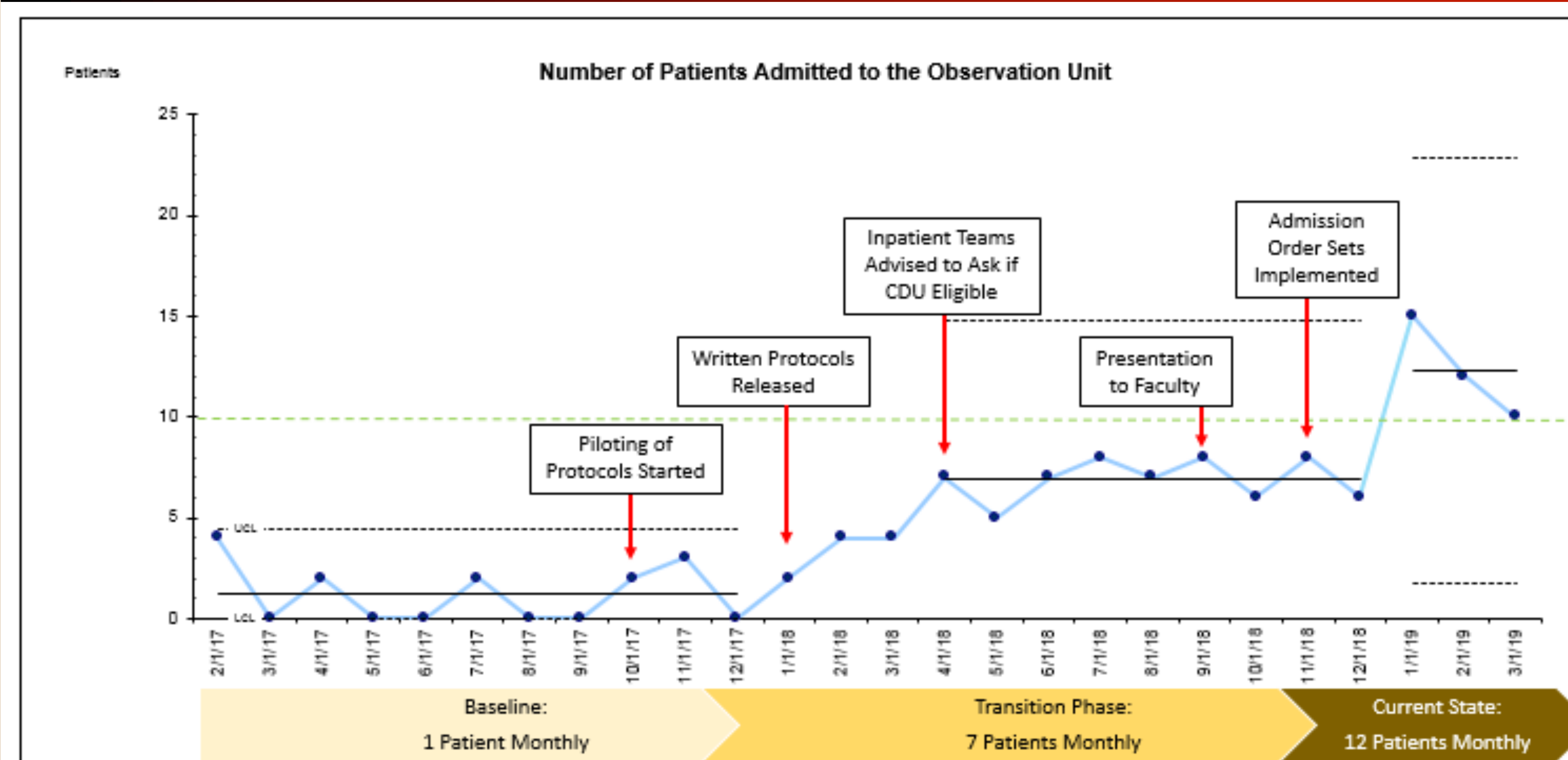


Figure 1: Standardized Process Control C-Chart showing the number of patients admitted monthly to the Clinical Decision Unit. Boxes outline interventions and time of occurrence. Dotted green line signifies goal line.

## CONCLUSIONS

- A systematic approach using operational metrics paired with expert care can lead to successful implementation of an observation unit.
- Use of an observation unit staffed by pediatric emergency medicine physicians can safely save inpatient admissions.
- Use of statistical process control charts and visual management boards aid in tracking and improving appropriate utilization.

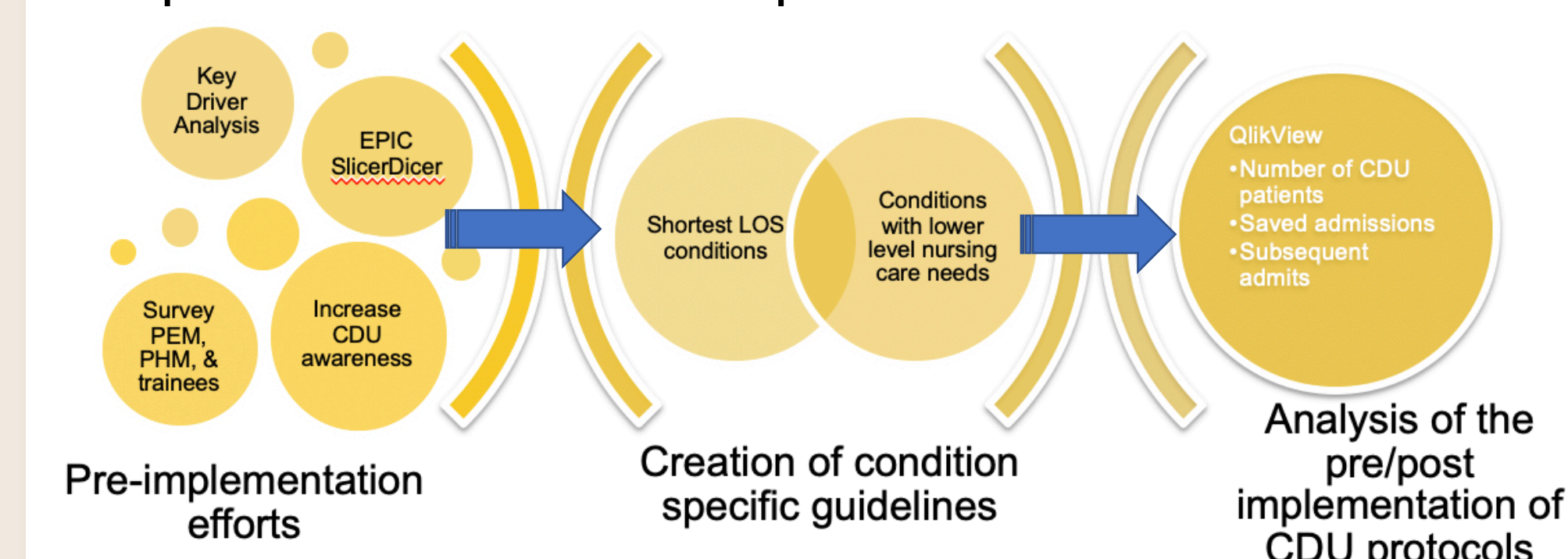
## ADDITIONAL KEY INFORMATION

CDU Protocols Utilized & Saved Admissions:

Protocol	Patients Observed in CDU	Saved Admissions	Patients Admitted to Inpatient
Dehydration	41	36	5 (12%)
Observation	26	22	4 (15%)
Cellulitis	11	7	4 (36%)
Asthma	9	8	1 (11%)
Pyelonephritis	7	7	0 (0%)
Croup	7	5	2 (29%)
Intussusception	7	7	0 (0%)
Anaphylaxis	1	1	0 (0%)
Migraine	1	1	0 (0%)
Total	110	95	16 (15%)

Table 1: Table showing all patients admitted to CDU arranged from most common to least common protocol used. Saved admissions are patients that would have otherwise been admitted inpatient prior to CDU development.

Implementation Flow Map:



Acknowledgements: Many thanks to the many unnamed providers who helped utilize the CDU and staff who cared for the patients!