Lean Implementation in a Nurse Practitioner Led Pediatric Primary Care Clinic: A Case Study

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Abstract: Objective: To describe how the Lean approach can be applied to improve access, quality and safety of care in an ambulatory pediatric primary care setting. Background: Lean was originally developed by Toyota manufacturing in Japan, and subsequently adapted for use in the healthcare sector. Lean is a systematic approach, focused on identifying and reducing waste within organizational processes, improving patient-centered care and efficiency. Limited literature is available on the implementation of the Lean methodologies in a pediatric ambulatory care setting. Methods: A strategic continuous improvement event or Rapid Process Improvement Workshop (RPIW) was launched with the aim evaluating and structurally supporting clinic workflow, capacity building, sustainability, and ultimately improving access to care and enhancing the patient experience. The Lean process consists of five specific activities: Current state/process assessment (value stream map); development of a future state map (value stream map after waste reduction); identification, quantification and prioritization of the process improvement opportunities; implementation and evaluation of process changes; and audits to sustain the gains. Staff engagement is a critical component of the Lean process. Results: Through the implementation of the RPIW and shifting workload among the administrative team, four hours of wasted time moving between desks and doing work was eliminated from the Administrative Clerks role. To streamline clinic flow, the Nursing Assistants completed patient measurements and vitals for Nurse Practitioners, reducing patient wait times and adding value to the patients visit with the Nurse Practitioners. Additionally, through the Nurse Practitioners engagement in the Lean processes a need was recognized to articulate clinic vision, mission and the alignment of NP role and scope of practice with the agency and Ministry of Health strategic plan. Conclusions: Continuous improvement work in the Pediatric Primary Care NP Clinic has provided a unique opportunity to improve the quality of care delivered and has facilitated further alignment of the daily continuous improvement work with the strategic priorities of the Ministry of Health.

 $\textbf{Keywords:} \ \textbf{ambulatory care, lean, pediatric primary care, system efficiency}$

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