

# IMPROVING PATIENT FLOW IN A PEDIATRIC HOSPITAL



**Editor's Summary:** In *Improving Patient Flow in a Paediatric Hospital*, Children's Hospital of the London Health Sciences Centre used process improvement methods to coordinate a child's journey through the care process more efficiently and safely with reductions in wasted time and effort. Under the umbrella of a larger corporate initiative and using the services of an external consultant, a number of process improvements were implemented that could facilitate the care of a larger number of patients by freeing capacity. The results were an increase in the ability to discharge more patients by 2:00 pm from 46% of patients to 60% of patients. The average length of stay decreased from 5.5 to 5.2 days and on 3 of the 4 units, the average length of stay in the hospital was only 2.8 days. The initiative also reduced the amount of paperwork needed in a 24 hour period from 50-200 pages to 9-64 pages.

**Contact:**

Neil Johnson

[Neil.Johnson@LHSC.on.ca](mailto:Neil.Johnson@LHSC.on.ca)

**Authors:**

- Patrice Kean – Patient Access Facilitator, Children's Hospital
- Carol McIntosh – Coordinator Level 7 West/North, Children's Hospital

<b>Purpose:</b>	This project was designed to coordinate the patient journey through the care process more efficiently and safely with reductions in wasted time and effort in the process. It was also intended to address a problem with communication between interdisciplinary healthcare providers as well as the patient and family by beginning discharge planning soon after admission to improve patient outcomes as well as access and flow of all patients within inpatient medicine. Problems had been identified through observations and practices of ensuring patients were physically on the mend prior to initiating discharge planning. There were also corporate access concerns with boarded admitted patients in the Emergency Department (ED) as well as surgery cancellations.
<b>Context:</b>	Children's Hospital is a program within the Women and Children's Clinical Service Area at London Health Sciences Centre. London Health Sciences Centre is a multisided acute care academic health sciences centre with the widest array of clinical programs of any single hospital in Ontario. In 2007/8, it embarked on a corporate wide initiative to improve patient access and flow supported by Ministry of Health Funds and hospital operating funds. Growing demands in LHSC's emergency, medicine and surgery programs were threatening quality of care and the academic mission of the organization.
<b>Population group:</b>	The population group and scope of this project was pediatric inpatients.

<b>Patient flow entry and end points:</b>	From the time the patient arrived in the bed until he/she was discharged and the bed ready for the next patient.
<b>Description/ approach:</b>	An external consulting firm was hired and facilitated the project work. A unique approach was utilized in this project as it focused on the patient flow from the intake source, the ED, through the admission processes to the inpatient unit and disposition. This was one of the first times that work spanned across programs/departments to address the issues that were interdependent. Each project team consisted of a coordinator/manager as Team Lead who would then become the process owner, a Communication and Change Lead, other interdisciplinary team members including nurses, allied health professionals, support staff, physicians and other clinical leaders. The approach consisted of a 12 week process utilizing lean techniques including a diagnostic phase, solution design phase, pilot phase and hand-off (sustainability) phase. A core principle was creating capacity within LHSC staff and leaders. The initial project began in the inpatient general medicine unit at one hospital. The tools developed then evolved during the second wave and were implemented throughout the hospital including both adult and pediatric as well as mental health programs during subsequent waves.
<b>Tools and tactics:</b>	The tools that were developed and implemented include the use of a red/yellow/green discharge staging tool that was visually displayed on each unit as well as within LHSC's electronic patient record. Written procedures and guidelines were also developed. Ongoing education of new staff and physicians continues to occur. A new role, Nurse Case Manager, was developed and piloted with a goal to provide continuity of patient care and improve communications between families, staff and multi disciplinary teams. The NCM role supported the general surgery and clinical teaching unit (CTU) teams. Focusing again on improving communications, unit clipboards and text (alpha) pagers were given to the Senior Resident of the CTU. Text pagers would allow for quick dissemination of information and the ability to prioritize calls to return.
<b>Measurement approach:</b>	Number of discharges before 1100 and 1400 and reasons for delay in discharge, average length of stay (ALOS), staff survey's (Likert scale data) and Picker reports were used to monitor and evaluate the impact.
<b>Impact/ evaluation:</b>	<p>Children's Hospital saw a decrease in discharges by 1100 from 19% to 16% but an increase in discharges by 1400 from 46% to 60%. The reasons for late discharges included &gt; 70% unexpected, early discharge or care map related. The corporate goal was 50% discharges by 1100 and 75% discharges by 1400.</p> <p>Average length of stay increased from 5.2 days to 5.5 days. On 3 of 4 units, the ALOS was 2.8 days. The fourth unit averaged &gt; 15 days due to an acute rise in the number of premature and low birth weight infants. Prior to clipboards and text pagers Senior residents received between 50-200 pages in a 24 hour period. Following the implementation of communication tools the Senior residents received between 9-64 pages in a 24 hour period. The role of the NCM was evaluated to be successful based on a high volume of testimonials from patients, families, front line staff and multidisciplinary team members.</p>
<b>Observations/ discussions:</b>	The use of tools and strategies around patient access and flow changes discharges from a reactive process to proactive process. Communication tools and roles designed to improve continuity of care help provide patients, families and all staff with a more improved coordination of services, improved discharge planning and decreased LOS. <i>Communication is the key to success.</i>

<b>Critical success factors/ lessons:</b>	It is imperative to free up and involve the process owners (the team leads who work in the area). These are the people who do the work so should be involved in the solutions. The development of a stakeholder analysis and change and communication plan was very useful. Communication was frequent and informative allowing buy in from those impacted. A strong sustainability plan is instrumental to ensure new processes are upheld through ownership and accountability.
<b>Limiting factors:</b>	Fiscal resources can be a limiting factor when introducing new roles into the organization. An increase in patient acuity and complexity may also limit the ability for these initiatives to provide their full impact.