Kids in Transition: The Rehab Experience

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Holland Bloorview Kids Rehabilitation Hospital (formerly Bloorview Kids Rehab) is Canada's largest teaching hospital for pediatric rehabilitation and the only in-patient pediatric rehabilitation centre in Ontario. SickKids is a quaternary-level academic health sciences centre. The acute care neuroscience and trauma patient population at SickKids represents the largest volume of transitioning clients between the two organizations. For years, the number of medically unnecessary days associated with patients awaiting transfer from SickKids to Holland Bloorview for off-site rehabilitation was consistently driven by inefficient processes, multiple handovers, duplicitous efforts, fragmented communication and a lack of timely or complete referral information. Recognizing this situation as a threat to access, as well as a significant risk to patient health outcomes, SickKids and Holland Bloorview embarked on an exciting partnership (Kids in Transition: The Rehab Experience) as part of a larger Ministry of Health and Long-Term Care–funded initiative, the Flo Collaborative.

Results of this partnership have exceeded expectations, and concerted efforts have since been directed at sustaining and spreading improvements as well as forging further partnerships across teams at both organizations. This article provides an overview of the Kids in Transition initiative, highlighting the improvement team's efforts, the outcomes and, most importantly, the factors considered critical to the success of implementing and sustaining process improvements on an ongoing basis.

Patient Population

The pediatric neurosurgery patient population represents the largest volume of clients that transition from SickKids to the Brain Injury Rehab Team (BIRT) at Holland Bloorview each year. Delays in transferring these patients to a rehabilitation setting impedes timely access to therapy, generates unnecessary acute healthcare costs and can ultimately impact the quality of care and threaten health outcomes for the child who awaits transition to a less acute level of care. Due to the volume of patients managed by both organizations as well as the concerns about the impact of delayed transition, the neurosurgery in-patient population and the associated "home units" at SickKids and Holland Bloorview were selected for the launch of the pediatric Flo Collaborative project in 2007.

The Flo Collaborative

The Flo Collaborative was inspired by an actual patient, Flo, who experienced great difficulty navigating her way through acute care to long-term care following discharge. In May 2007, invitations were sent by the Centre for Healthcare Quality Improvement (formerly the Ontario Health Performance Initiative) calling upon acute care hospitals, community care access centres and other sectors (complex continuing care, rehabilitation, long term care) to join the collaborative and start improving patient transitions from acute care facilities to subsequent care destinations in Ontario. SickKids and Holland

Bloorview agreed to join the Flo Collaborative, forging the only pediatric partnership within the 29 quality improvement partnerships that were established across the province.

Improvement Team

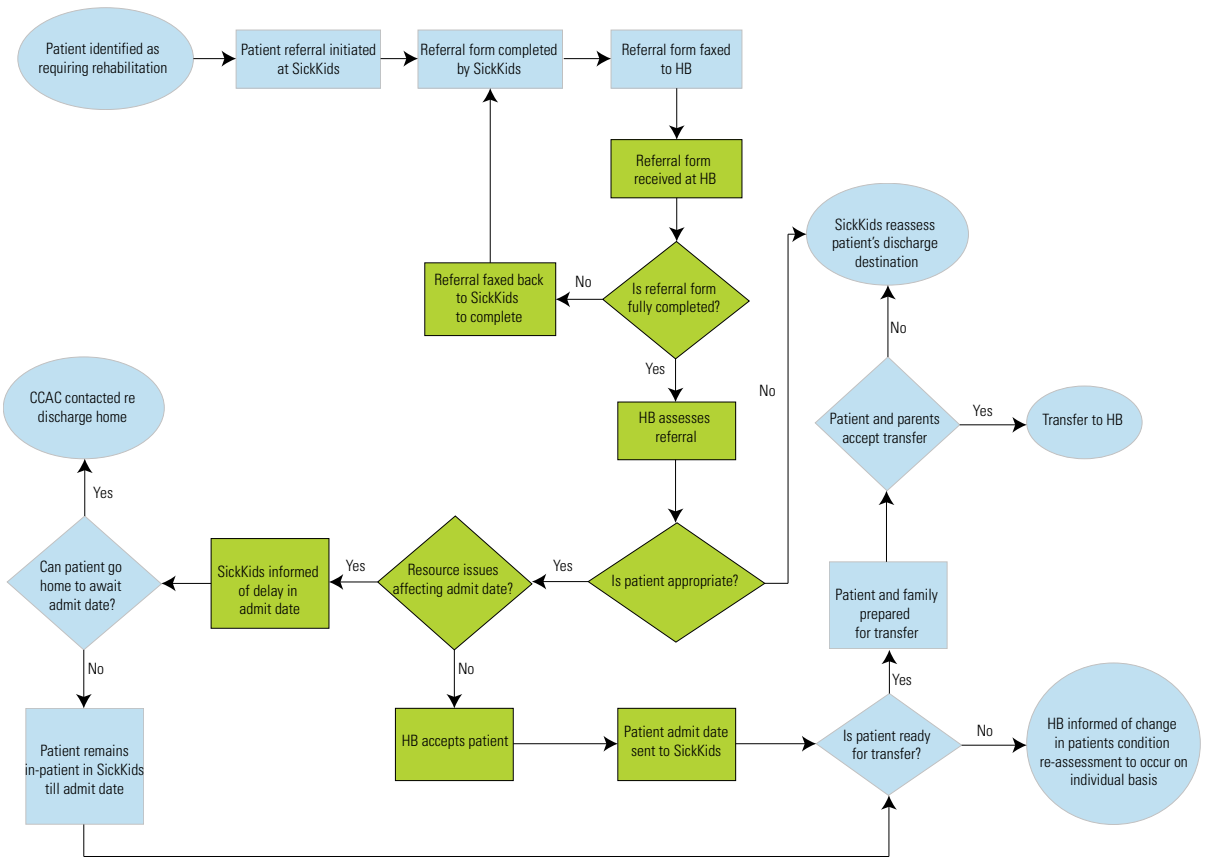
In order to adequately support the collaborative, an Improvement Team and a Steering Committee were struck, both with leadership and representation from Holland Bloorview and SickKids. Members of the Improvement Team remained committed to working together for a period of 18 months, assessing the transition process, identifying delays and bottlenecks and implementing the necessary improvements to reduce the number of medically unnecessary days (target of 50% reduction) for neurosurgery patients transitioning to Holland Bloorview. The Improvement Team was co-chaired by two team leads (one from each institution). These leads were essential in helping to maintain momentum and move the project forward and in ensuring the team remained on task, on time and on budget. The leads also met with the Steering Committee once a month to report on the progress of the project.

The Steering Committee consisted of senior leaders and senior champions with overall accountability for achieving the desired goals associated with the project. The committee provided both strategic and tactical support for the Improvement Team and served as "process owners" for the project, removing barriers and making sure the appropriate resources were allocated to ensure success.

Further guidance was provided by an improvement advisor (IA) – a member of both the Improvement Team and Steering Committee, who had the opportunity to participate in additional training and education as part of the ministry-funded collaborative. The IA helped with data collection and analyses and facilitated the communication of results and ongoing measurement between improvement team members, the ministry and the Steering Committee.

Front-line staff nurses, physicians and other members of the

FIGURE 1.
Flow diagram tool



CCAC = community care access centre; HB = Holland Bloorview Kids Rehabilitation Hospital.

inter-professional practice team from both institutions were engaged as Improvement Team members. They were encouraged to provide their perspectives and input regarding process issues and also came to serve as champions when implementing, communicating and sustaining change.

Team and Steering Committee meetings were pre-set and convened biweekly (Improvement Team) or monthly (Steering Committee), rotating between the two institutions. Each institution also had smaller task groups that met on the alternate weeks to focus on specific initiatives and detailed work. During each meeting, individuals were assigned tasks with the accountability to follow through for the next meeting.

Process Improvement

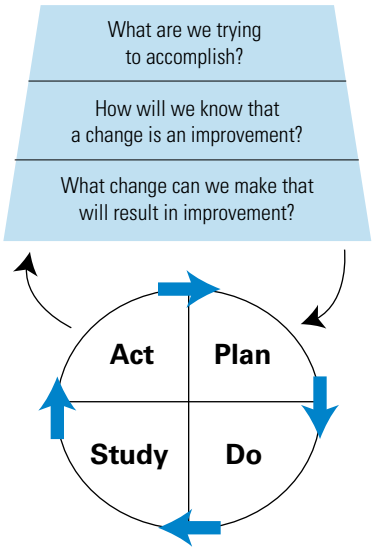
During one of the preliminary meetings, the improvement team engaged in flow mapping and used a flow diagram tool (Figure 1) that helped to highlight the issues associated with the transition of patients between SickKids and Holland Bloorview. In addition to the obvious transfer delays, team members were able to identify other issues including significant duplicity of workload, a lack of accurate and timely referral and transfer information, and fragmented communication between teams, patients and families.

The team identified that multiple people were doing various aspects of the same job and that, although information was being shared, no one quite knew the context of what was being communicated. This resulted in wasted time, effort and resources. Flow mapping also helped the team identify inconsistent use of the Holland Bloorview referral form: SickKids used the form to gain acceptance into the BIRT program (a referral form), and Holland Bloorview used the form as a source of patient information to prepare for admission (a transfer form). Team members identified a lack of consensus among staff at each organization regarding what was considered "medical stability" and "rehabilitation readiness." There was no clear process on how to identify patients who were "medically ready" for rehabilitation. For example, staff at SickKids considered a patient on triple intravenous antibiotics as being medically ready for rehabilitation, whereas Holland Bloorview staff perceived such a patient as not medically ready since this level of medical intervention would prevent the child from participating in rehabilitation activities. Based on Holland Bloorview's in-patient referral guidelines, a comprehensive checklist was created that outlines candidacy criteria for determining both patients' medical stability and their rehabilitation readiness. Once patients meet the criteria, they are then deemed appropriate to be transferred to Holland Bloorview. This change has enhanced communication and provided more timely patient information, resulting in an expedited receipt of referral, acceptance and patient transfer – the three steps that previously drove the medically unnecessary days at SickKids.

Reflecting upon each of the issues identified, the Improvement Team decided to focus attention on streamlining the referral process and improving communication between the two organizations. The exercise began by investigating the reasons for transfer delays and determining how medically unnecessary days could be reduced by a target of 50%. It became clear that there needed to be mutually agreed upon medical and rehabilitation readiness criteria to ensure more appropriate referrals. Medical staff at Holland Bloorview and SickKids worked together to establish guidelines and then turned their attention to the actual process and tools associated with making a referral.

The referral form, which was previously used by SickKids to gain acceptance into BIRT and by Holland Bloorview to prepare for admission to BIRT, required four pages of in-depth information that had to be completed by approximately four people and could take up to 72 hours to finalize. The information was usually quite outdated by the time of transfer, undermining its utility as a source of accurate patient information. The team decided to revise the referral form, and using the model for improvement shown in Figure 2, engaged in multiple Plan-Do-Study-Act (PDSA) cycles to ensure that the most appropriate information was captured on the form. This framework also encouraged front-line staff involvement, providing them with an opportunity to be part of the decision-making process. The changes resulted

FIGURE 2.
Model for improvement



IHI uses the Model for Improvement as the framework to guide improvement work. The Model for Improvement, developed by Associates in Process Improvement, is a simple, yet powerful tool for accelerating improvement. This model is not meant to replace change models that organizations may already be using, but rather to accelerate improvement. Accessed from http://www.ihi.org/knowledge/Pages/HowtoImprove/default.aspx.

in a shorter referral form, from four pages to two, which requires one person approximately one hour to complete.

Although the revised referral form enabled Holland Bloorview to provide a more timely response with regard to the acceptance of patients into the program, it did reduce the amount of information Holland Bloorview received regarding patients' conditions and care, leaving it somewhat unprepared for patients at the time of transfer. The team determined that additional information, closer to the time of transfer, was required, and a new handover tool was developed. This tool became an essential document, providing the most up-to-date clinical picture of the patient 48 hours prior to transfer. The new process allows the time to plan more appropriately for patients, thereby ensuring a safer and more seamless transfer.

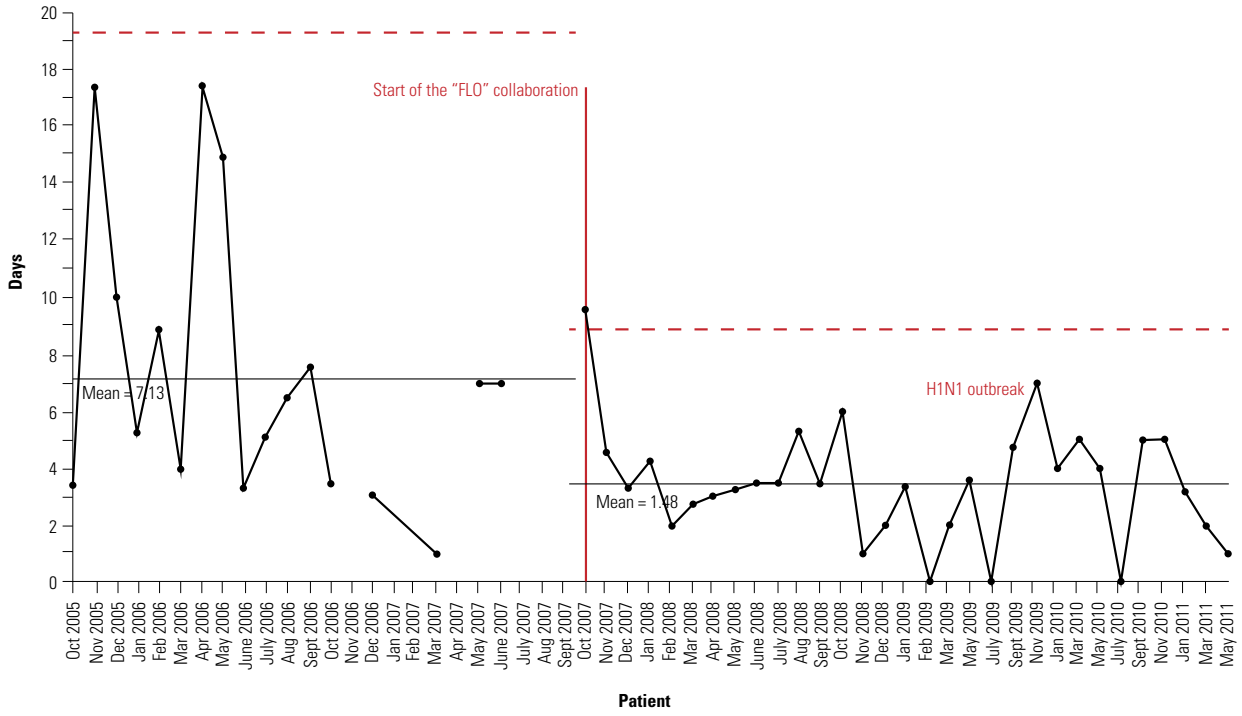
In addition to the handover tool, the team also felt that it was important to create a one-page transfer form that would accompany patients on the day of transfer, essentially documenting a report of status that day, particularly any changes in nursing care that may have occurred during the 48 hours since the handover tool was sent.

Concurrent progress at SickKids included the improvement of the existing patient identification board, with the intent to augment communication within the inter-professional practice team. Previous practice had been for all communication regarding patient transfers to be documented in different sections of the patient chart, making ready access somewhat difficult. It was therefore decided to make the communication board magnetic and increase it in size to incorporate extra columns – one of which was dedicated to the Holland Bloorview transfer process. Magnets were developed to graphically depict where patients were in the transfer process, from questioning whether Holland Bloorview is appropriate to ending with an ambulance to indicate transfer day. Prior to this change, there was no centralized location to display information regarding the transfer process.

Results

SickKids has the capacity to monitor delays in access and transition and is able to track the number of medically unnecessary days through the Medical Care Appropriateness Protocol (MCAP). This protocol is a bed use tool developed by the Oak Group (Wayland, Massachusetts) and adopted several years ago at SickKids. MCAP includes a set of criteria that provides information about the patterns of in-patient bed use and enables the identification of areas of efficiency, effectiveness and improve-

FIGURE 3.
Reduction in the number of medically unnecessary days



LCL = lower control limit; mR = moving range; UCL = upper control limit.

ment. Baseline data were initially gathered at the launch of the partnership. Subsequently, when improvements were implemented and tested, MCAP was used as one of the measures to track reductions in the number of medically unnecessary days of care on the neurosciences and trauma unit while patients awaited transfer to Holland Bloorview's BIRT.

To date, the efforts and outcomes of this partnership have exceeded expectations. The team was successful in reducing the number of medically unnecessary days from a mean of 7.13 to 2.99 days per patient, representing a 58% reduction; this exceeds the original target of 50% (Figure 3).

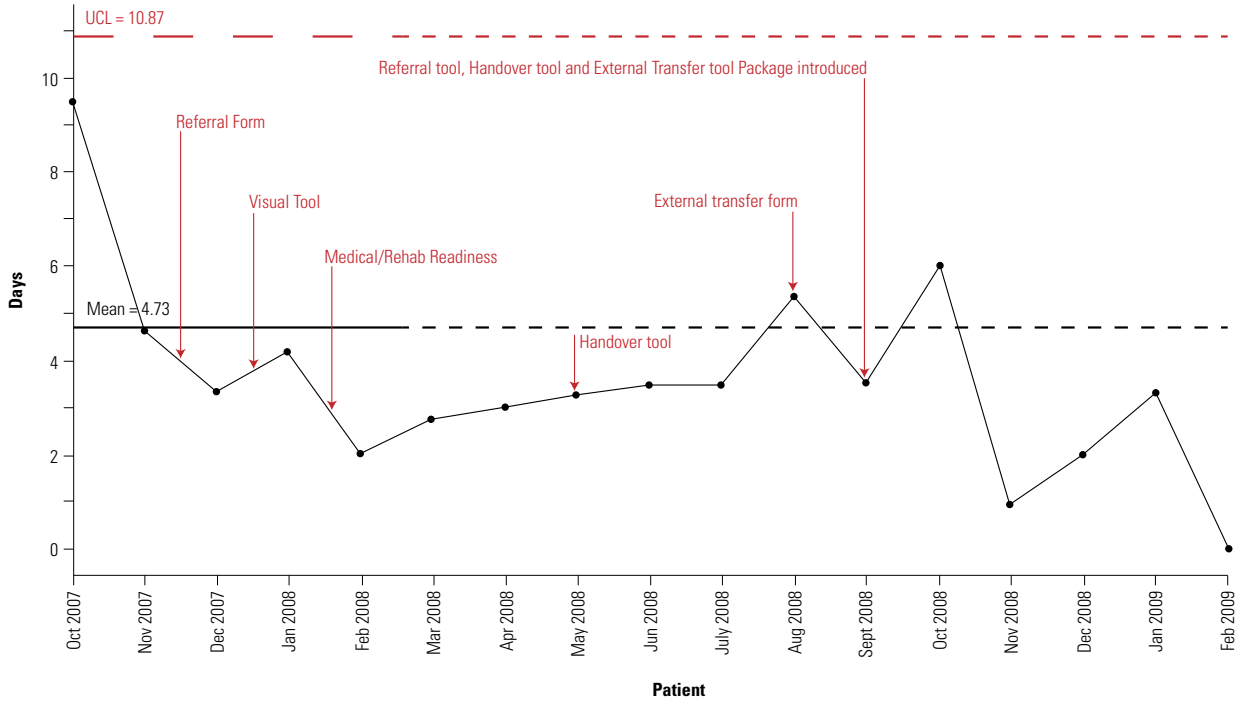
As well, the time required to process a referral to Holland Bloorview has been reduced from four people and 72 hours to one person and one hour (Figure 4). These changes have now resulted in SickKids sending more appropriate referrals in a shorter period of time, and allowed Holland Bloorview to make more timely decisions regarding acceptance of patients into their programs. In the past, the process from initiation of referral to acceptance into the program took up to eight days, with multiple people engaging in several phone calls, faxing and photocopying. Presently, the referral process is now completed in approximately four days, involves half the number of people and has all but eliminated extraneous photocopying and faxing.

Lessons Learned

Reflecting on this partnership, there are a number of lessons learned that others may find helpful when considering such an initiative:

- Developing clear collaborative goals and checking back with the group on a regular basis to ensure the group stays on track
- Spending time understanding each organization's perspective, culture and values, to promote the sharing of a common vision and commitment to follow-through
- Using the model for improvement PDSA cycles as a framework for developing, testing, learning and refining the initiative before final implementation
- Focusing on process issues as well as tasks to enhance interprofessional collaboration
- Pre-booking meetings to accomplish goals and specific activities, and to help build and maintain momentum
- Always keeping the needs of clients and families at the forefront as a way to establish common ground when making decisions and resolving conflict

FIGURE 4.
Comparison of time to complete new referral form versus old referral form



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- Engaging organizational, physician and senior leadership support to help reduce barriers and obstacles that may occur
- Focusing on strategies to facilitate spread and sustainability

Critical Success Factors

Factors considered critical to the success of this partnership and felt to be instrumental in replicating this initiative elsewhere include strategic leadership as well as the creation of a highly functioning improvement team. With regard to the former, a Steering Committee was established including physician and senior leaders from Holland Bloorview and SickKids. This committee met on a monthly basis and helped to ensure that the infrastructure was in place to facilitate the work of the improvement team, and that the respective boards at each organization were made aware that the Flo Collaborative was an organizational priority focused on improving access to services for clients and families.

In terms of the Improvement Team, recruitment of membership focused on people who were committed and actively engaged and who had the skills and influence to facilitate change at both organizations. Members had to demonstrate a systematic, focused approach to their work, including an unwavering commitment to achieve the expected deliverables. There also needed to be demonstrable respect for the individual culture of each organization as well as an understanding and enactment of the principles of effective team functioning. Members were challenged by senior leaders to continually seize opportunities to profile their work externally and to celebrate their successes with their colleagues, maintaining momentum and laying the foundation for spread and sustainability. To continue the gains that have been realized, the referral process time as well as the medically unnecessary days for SickKids patients awaiting transfer to Holland Bloorview will continue to be tracked and reported. The Steering Committee remained in place, even after the official close of the Flo Collaborative project, in order to support these gains as well as "spread" improvement to further units at SickKids and Holland Bloorview. Subsequent oversight has since transitioned to the operational leaders at SickKids and Holland Bloorview.

Conclusions

Throughout the course of the collaborative, the Kids in Transition team identified and tested several improvement initiatives, including the development of standard definitions for *medically ready* and *rehabilitation ready*, the use of visual clues to identify pediatric neurosurgery patients who are ready for transition and the simplification of the Holland Bloorview referral form. Results far exceeded expectations, and the partnership and outcomes continue to be sustained due to the focused effort on staff education, ongoing communication (formal and informal) and the development of guidelines and ongoing measurement that have helped to "hardwire" the improvements in the transition process. In addition to the impressive numbers associated with reducing medically unnecessary days, there have been collateral benefits that contribute to the continued success of this partnership and the desire to engage in further cross-organizational improvements. The staff at SickKids and at Holland Bloorview have gained a greater understanding and respect for the perspectives, culture and values that are held at the other organization. The experience has helped promote a common vision with enhanced commitment and accountability to make sure that staff, physicians and leaders continue to collaborate to ensure safe, timely and effective access to care.

Currently, we have successfully spread the Flo initiative to the orthopedic, cardiac and endocrine/transplant units, with plans to incorporate all other SickKids units. HQ

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