

Fast-Track Stroke Rehab Referral Project

Final Evaluation Report



Sept 2021

Updated June 2022:

Patient Experience Tracer added

Updated Monitoring Report Process added

**Providence Care Hospital (PCH)
Kingston Health Sciences Centre (KHSC) -
Kingston General Hospital (KGH) Site
Stroke Network of Southeastern Ontario (SNSEO)**



Submitted by: The Fast Track Working Group (full membership list in [Appendix A](#))

Key contacts:

Dr. Ben Ritsma, Psychiatrist, PCH

Jessica Bonney, Clinical Business and Patient Flow Manager (previously Shannon Rubino), PCH

Anne Dube and Jennifer Holliday, Stroke Specialist Case Managers, KHSC

Shelley Huffman, Regional Stroke Rehabilitation Coordinator, Stroke Network of Southeastern Ontario (SEO)

Table of Contents

Executive Summary.....	4
Background	5
Table 1: Onset to Admission – Pre “Fast Track”	5
Graph 1: Stroke Wait Time – Pre-Fast Track	6
Project Summary.....	6
Diagram 1: Fast Track Project Road Map	7
1) Identify the cohort of patients	8
2) Determine process changes/tests of change	9
3) Create a new FAST Track Process Map	9
Diagram 2: Fast Track Process – New Elements.....	9
4) Mitigate risk arising from changes in the process (e.g. removal of in person assessment)	10
5) Determine a sustainable monitoring process	10
A Quality Improvement Approach	10
Plan-Do-Study-Act (PDSA) Cycles	11
Table 2: Success measures	12
Diagram 3: Fast Track Project – Driver Diagram	13
Results.....	13
Meeting the Project Aim	13
Graph 2: Referral to Decision (Minutes)	14
Summary of Project Outcomes	14
Graph 3: Volumes of Referral – By Referral Type	15
Graph 4: Median Stroke Onset to High Intensity Stroke Rehab Admission.....	15
Ongoing Monitoring.....	15
Data Reporting - Future (Updated May 2022)	16
Lessons Learned	16
Initial Project Team Recommendations	17
Patient Experience – Follow up – 2021/2022 (updated May 2022)	18
Diagram 4: Stroke Patient Experience Tracer Outline	19
Diagram 5: Stroke Patient Experience Tracer - Acute to Rehab Transition Portion Only	20
Final Recommendations.....	20

Appendix A: Fast Track Project Team and Integrated Stroke Care Clinical Task Team Members	22
Appendix B: Acute-Rehab-Community (ARC) Stroke Services and Transitions	23
Appendix C: Initial team communication	24
Appendix D: PCH Referral to Inpatient Rehabilitation Form.....	25
Appendix E: Fast Track Process Map.....	26
Appendix F: Acute Care to Rehab Flow Driver Diagram.....	27
Appendix G: Samples of Fast Track Reporting and Monitoring	28
Appendix H: Automated Fast Track and Rehab Referral Monitoring Report Sample.....	31
Appendix I: Patient Tracer Summary	33

Executive Summary

Background:

The length of time to access inpatient stroke rehabilitation had been a longstanding issue for the KHSC Acute Stroke Unit and PCH Inpatient Stroke Rehabilitation Unit. At the time of project inception, the most recently published provincial best practice target was for transfer to inpatient rehabilitation to take place from 5 to 7 days from stroke onset¹. The provincial median had been stable at 8 days (Ontario Stroke Report 2017/18) while the local median was 13 days in 2018/19.

Project Summary:

A “Fast Track” Working Group was established in July 2019 to improve referral to admission times for a subset of rehabilitation patient referrals. The joint project team, comprised of KHSC and PCH stroke team members, successfully implemented a new Fast Track rehab referral process to enable earlier transfer to rehabilitation. The project began in September 2019 and the new process was recommended for full adoption less than one year later. For a specific cohort of referrals, the new process replaced a PCH onsite assessment at KHSC with a more robust referral package. This process achieved the new target of acceptance in less than 4 hours in alignment with regional goals. The project was successful due to an established trust and improved communication between teams. A thorough process review contributed to collaborative solution finding. Three time-intensive key elements were removed from the process: 1) Detailed KHSC chart review by PCH; 2) Onsite patient assessment by PCH at KHSC and 3) Written patient summary by the PCH onsite assessor for the PCH Rehab Team/Physician. The following **FAST Track Processes** were implemented in lieu:

- 1) An enhanced referral package from KHSC;**
- 2) A new KHSC Neurology Form to capture key stroke-specific medical items previously identified as missing in the referral form/package and**
- 3) The Rehab Team received the full referral package in lieu of a patient summary.**

Results:

In the first year 64 patients were referred as Fast Track. Decisions to admit for fast track occurred under the 4 business-hour target with a median of 77.5 minutes in the first year. While the main focus of the project was to decrease the time to decision, other secondary impacts were also observed. The project aim was met, improved flow to rehab was observed and relationships were improved between acute and rehab teams. Several learnings were shared throughout the project including the use of data for process monitoring. Joint monitoring contributed to sustaining set targets. Patient and family “tracer” interviews were more recently introduced to contribute to ongoing learning about the experience of care transitions.

Final Recommendations:

The [final recommendations](#) listed below focus on sustaining success, supporting spread within and beyond stroke services, and regular monitoring.

1. Sustain adoption of Fast Track Processes.
2. Spread elements to regular stroke rehabilitation referrals.
3. Sustain the Joint Rehab Referral Data Set for active monitoring.
4. Include front line team members in ongoing Quality Improvement.
5. Continue to collect and use Patient/Family Experience feedback.
6. Share the results and lessons learned with other teams/programs.

¹ *Quality Based Procedures – Stroke Clinical Handbook*

Background

Stroke patients in the Kingston area experienced a longer stay in acute care before transferring to rehabilitation. The length of time to access inpatient stroke rehabilitation had been a longstanding issue for the KHSC Acute Stroke Unit and PCH Inpatient Stroke Rehabilitation Unit. At the time of project inception, the most recently published provincial best practice target was for transfer to inpatient rehabilitation to take place from 5 to 7 days from stroke onset². The provincial median had been stable at 8 days (Ontario Stroke Report 2017/18) while the local median was 13 days in 2018/19 (see Table 1).

Table 1: Onset to Admission – Pre “Fast Track”

Joint KHSC and PCH Stroke Flow	Q1	Q2	Q3	Q4	2018/19
Stroke onset to admission to inpatient rehabilitation (days) <i>Target 5-7 days</i> <i>Provincial Median: 8 days</i> <i>(2017/18 Stroke Report Card)</i>	16.0	12.0	9.5	22.0	13.0

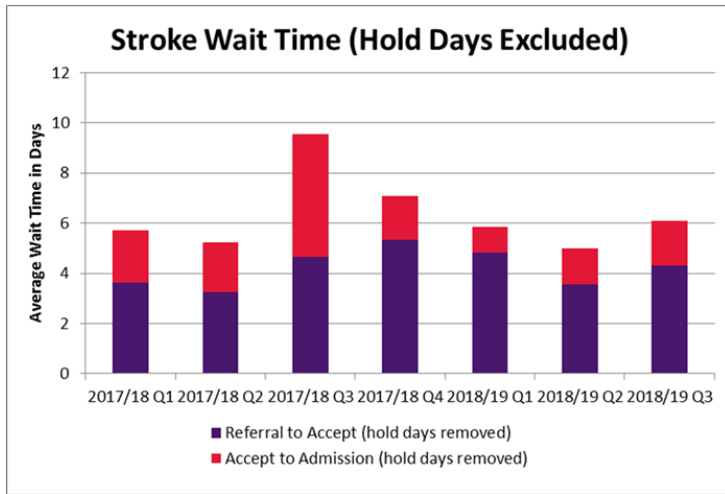
In 2018, the Stroke Network of Southeastern Ontario (SNSEO) collaborated with partners to describe a best practice pathway for flow from acute care to inpatient rehabilitation and community rehabilitation. This “ARC” pathway included key best practice activities and timeframes. (see ARC - [Appendix B](#)). The following regional “targets” were outlined in support of best practice flow to inpatient rehabilitation:

- Determination of rehabilitation readiness and referral within 4 days;
- Rehabilitation referral to acceptance decision within 4 hours
- Acceptance to admission to inpatient rehab within 1 to 2 days

A “Fast Track” Working Group was established in July 2019 to improve referral to admission times for a subset of rehabilitation patient referrals. This subset represented the most straight-forward, rehab ready stroke patients receiving care with the KHSC Acute Stroke Team. Review of process components revealed that most of the “wait time” after referral to rehabilitation at PCH was associated with waiting for assessment and acceptance, not waiting for an available bed. (See Graph 1). The process to be accepted for admission included an onsite assessment by a staff member from PCH.

² Quality Based Procedures – Stroke Clinical Handbook

Graph 1: Stroke Wait Time – Pre-Fast Track



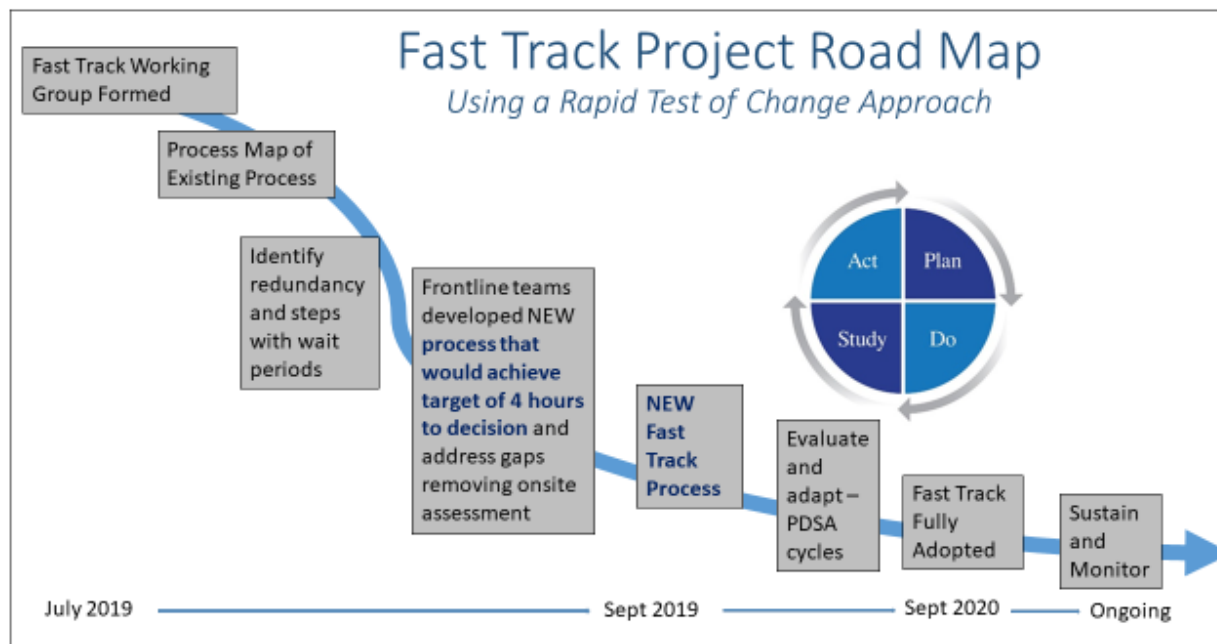
Note: After the referral, most of the “wait time” was waiting for acceptance (purple) – not waiting for a bed (red)

The working group reviewed the regional Acute, Rehabilitation, and Community (ARC) Pathway and compared the current state with regional targets. Based on data, process review, alignment with regional process targets and factors within control of the group, it was evident that the highest impact would be to focus improvement efforts on the time from referral to acceptance. This portion of the process had the longest time window above target at an average of 3 – 5 days compared to the regional target of 4 hours.

Project Summary

A joint project team, comprised of KHSC and PCH stroke team members, successfully implemented a new Fast Track rehab referral process to enable earlier transfer to rehabilitation. The project began in September 2019 and the new process was recommended for full adoption less than one year later. For a specific cohort of referrals, the new process replaced an onsite assessment by PCH at KHSC with a more robust referral package to achieve acceptance in less than 4 hours. The project was successful due to an established trust and improved communication between teams. The Fast Track Project Road Map shows the steps of the quality improvement approach used (see Diagram 1).

Diagram 1: Fast Track Project Road Map



Project Details

In July 2019, a joint Fast Track Working Group was established with PCH and KHSC stroke teams with project coordination from SNSEO. This Working Group reported to an Integrated Stroke Care Clinical Task Team established at the request of senior leaders. The group included front line clinical stroke team members, a physiatrist, Access to Care Specialists (PCH), Stroke Specialist Case managers (KHSC), patient flow/transfer team (PCH and KHSC) with the SNSEO Rehabilitation Coordinator as project coordinator. (See [Appendix A](#) for members of both the Fast Track Project Team and the Integrated Stroke Care Clinical Task Team)

“Fast Track” AIM: Patients meeting the “Fast Track Criteria” referral to acceptance will occur in < 4 hours.

The aim recognized that not ALL stroke patients are the same. The group chose to focus on the most straightforward rehabilitation candidates comprising a significant volume of patients. The hope was to learn from this subset and use this learning to scale to other groups.

Project Planning – Determining a New Process

In order to achieve the aim, the group needed to

- 1) identify the cohort of patients;
- 2) determine process changes/tests of change;
- 3) confirm risk mitigation to changes in the process (e.g. removal of in-person assessment);
- 4) create a new process map and
- 5) determine a sustainable monitoring process.

1) Identify the cohort of patients

Patient criteria were determined by consensus of the project team. Patients needed to meet rehabilitation readiness criteria as listed on the PCH referral form (see [Appendix C](#)). This form now includes a Fast Track check box that has been added since project implementation.

The team focused on two elements to ensure patient safety and ability to participate in high intensity rehabilitation upon transfer: Rehabilitation Readiness and Medical Stability.

Rehabilitation Readiness:

Historical review of previous stroke patients transferred to all PCH programs provided insight into the stroke rehab patient cohort. Approximately 72% of patients referred to PCH had an Alpha FIM® score over 40, and 60% of the 72% referred had an Alpha FIM score over 60. Clinically, there was felt to be more certainty about readiness for high intensity rehabilitation for patients with AlphaFIM® scores over 60. In other regions, the use of AlphaFIM® 60 – 80 had been used successfully as the selection criteria for “automatic” acceptance.

Medical Stability:

One of the most difficult factors to assess was medical stability for the rehabilitation setting. To address this team conversations occurred to understand what was uncovered during the on-site assessment process versus what was included in the regular referral. The following factors were determined to be key elements: ensuring patient vitals had been stable; a clear medical plan was in place; no investigations were pending that might change the medical plan significantly; and the medical team agreed with progression to rehabilitative care.

For the **first change cycle**, criteria for the Fast Track Cohort patient selection included the following patient characteristics:

1. Alpha FIM® ≥60 *;
2. Acute Length of stay of 14 days or less prior to referral**;
3. PT and OT Assessment were complete;
4. Rehab candidacy was confirmed by the Acute stroke team including anticipated tolerance of one hour of therapy and reasonable sitting tolerance;
5. Medically stable;
6. Patient was admitted under Neurology;
7. If NG tube was in place, SLPs across sites had already connected and a plan was in place;
8. Discharge plan had been considered and was relatively clear.

NOTE: During the first few weeks of testing the Fast Track process the team debriefed on cases.

Changes were made to the first two criteria.

* **Criteria 1:** Clinical judgment was to be used to allow for flexibility on the Alpha FIM® score based on rehab progress and readiness. Some patients had been identified as Fast Track candidates with scores below 60 in the latter portion of the tests of change (e.g. 58).

** **Criteria 2:** The limited acute LOS requirement was removed during the test of change/pilot. The team felt it was confusing and not as relevant a predictor of medical complexity as initially expected.

2) Determine process changes/tests of change

To achieve the goal of meeting referral acceptance in 4 business hours, it was determined that the process of a PCH Access to Care and Transition (ACT) Specialist “assessing the patient” would end. The patient would be “automatically” accepted. The ACT Specialist role now functioned to confirm that specified information had been received and to perform a high-level review versus a detailed assessment. There were three key elements that were removed: 1) Detailed chart review; 2) Onsite patient assessment at KHSC and 3) Written patient summary for the PCH Rehab Team/Physician.

In lieu of these time-consuming steps the following **FAST Track Processes** were planned:

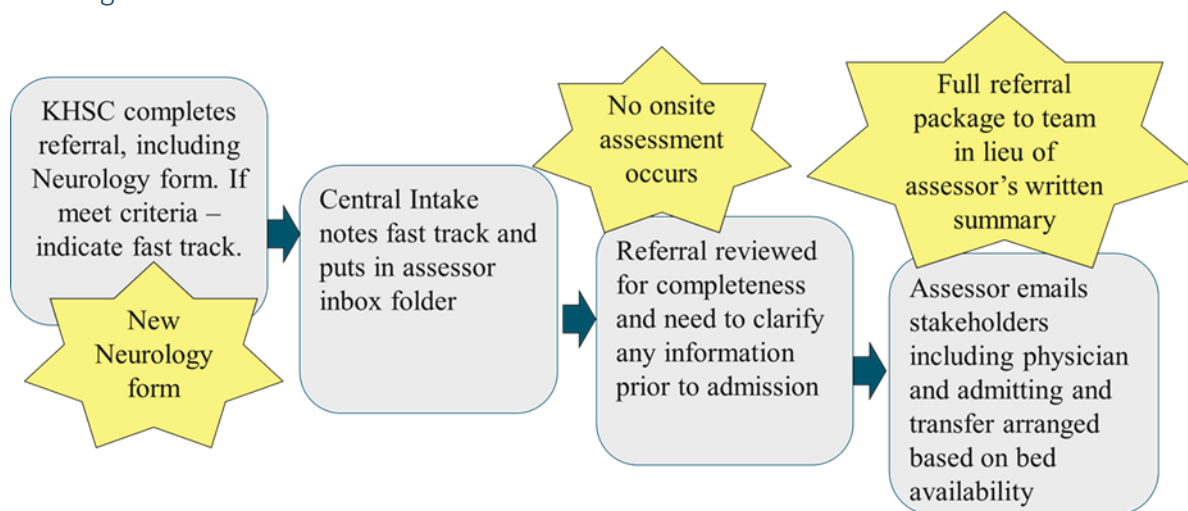
- 1) **Enhanced Referral Package:** This included a fully completed referral form (see [Appendix D](#)), Medication Record, Therapy Notes, Nursing/Team Progress Notes, Flow Sheet (vitals etc.) and a new Neurology Form. This package now contained key information that would previously have been extracted from a chart review and/or onsite assessment.
- 2) **Neurology Form:** This was developed to capture key stroke-specific medical items previously identified as missing in the referral form/package. This information was now to be sent WITH the referral instead of at the time of bed offer/transfer, allowing more time to consider medical needs.
- 3) **Full referral package in lieu of a patient summary:** Once the transfer date was known, the physicians and full PCH stroke rehabilitation team were now to receive the full referral package. Previously this was information was only available to the ACT Specialist and the physician reviewing admission referrals.

Note: There remained a physician approval for admission given this was a requirement for hospital admission, but this was now considered to be part of offering the bed. The physician approval was not felt to be delaying the “acceptance” given it now formed part of the bed availability and transfer process.

3) Create a new FAST Track Process Map

A new joint FAST Track Process Map was created. This also assisted the teams to establish joint metrics. Key elements of the Fast Track Process described below. (For full process map see [Appendix E](#))

Diagram 2: Fast Track Process – New Elements



4) Mitigate risk arising from changes in the process (e.g. removal of in person assessment)

A crucial conversation for the project team was to consider how to mitigate potential risks arising from the new process. This was done iteratively as the process developed and reviewed again before going live.

Key considerations included:

1. Using the Alpha FIM® score over 60, helped to select the most appropriate rehab patients.
2. Including more information with the referral offset the detailed chart review and information gathered during an onsite assessment
3. Providing a tour of the rehabilitation unit for the Stroke Specialist Case Managers leading the process at KHSC provided a better understanding of the rehab environment and factors that might influence rehab readiness
4. Adding the neurology form at referral ensured that all pertinent medical information was available given patients could transfer the same day with automatic acceptance.
5. The project team agreed to debrief after the first few transfers and regularly thereafter to ensure open dialogue about the process and patient selection.

5) Determine a sustainable monitoring process

The project team identified the key process metrics to be measured. In order to monitor the selected metrics, manual data collection was required from frontline staff as key data fields were not available in any electronic data base or existing tool. A process was developed for data collection and the project coordinator was responsible for compiling raw data and producing reports for monitoring by the team. This enabled close to real time monitoring and feedback to the team. Over the course of the project frequency of monitoring reports progressed to quarterly given the process was stable. For more details, see the results section.

Core Metrics included:

- KHSC Admit to Fast Track Referral (measured in days)
- Fast Track Referral to PCH Decision to Accept (measured in minutes)
- PCH Decision to Accept to Admit to Rehab (measured in days)

Given Fast Track Aim of acceptance in 4 hours, the process needed to be measured in minutes. Detailed time stamps were required but were not available in existing data entry. The project team used manual reporting such as times of emails to report at the minute level. In addition, early on, validation also occurred between the documented times referrals were sent by KHSC and received by PCH Central Intake. Initially, the time was also monitored from referral receipt at PCH Central Intake to the time it was accessed by the ACT Specialist. These early indicators helped to understand potential delays that needed to be resolved and assisted in determination of process stability.

A Quality Improvement Approach

The project was effective with almost immediate results as the concepts applied were developed directly by the front-line team members conducting the process. Once the goal was clear, the new Fast Track process was identified very quickly. The teams planned, implemented, debriefed, and adjusted together in a timely way.

This led to trust between the teams and enabled flexibility to make small adjustments that made a difference. Key tests of change in processes were selected based on a thorough understanding of the impact of various tasks. If a task was removed or changed, the project team needed to understand the impact and mitigate associated risk. For example, saving the ACT Specialist assessment time removed the step of producing a summary note for the team. The risk mitigation was to pass on the full referral package to the team in lieu of the note to enable them to plan for the patient's arrival.

Plan-Do-Study-Act (PDSA) Cycles

A PDSA cycle describes the process used by the project team. The team carefully but quickly considered their initial plan (Plan); completed the new process (Do); met to debrief what was working and what needed to change (Study) and adjusted and continued (Act). Key team members met regularly early on to 1) review data 2) discuss process and improvement opportunities for subsequent tests of change.

A few small changes were made to the process based on team experience during these PDSA cycles.

1. **Visual Cue for Electronic Referral:**

To facilitate a visual cue for the incoming referral, **FastTrack** was typed into the scanner when KSHC team sent the referral through the “fax – email” process. This assisted central intake to easily identify the fast-track referrals. This flag and an email to the ACT Specialist on referral, were effective cues to support timely acceptance.

2. **Removal of the 14-day Acute LOS criterion:**

After team discussion, the acute LOS criterion was removed. The team determined that the other criteria of rehabilitation readiness and medical stability were sufficient. As the KHSC team gained experience selecting Fast Track referrals, LOS was not determined to be as relevant as initially expected. Communication was also needed to clarify that “usual care” rehab applied without arbitrary LOS restrictions.

3. **Flexibility with criterion of Alpha FIM 60® or greater**

While there was not an official expansion of the criterion, permission was provided for the KHSC Stroke Specialist Case Managers to use their discretion to refer Fast Track patients that met all other Fast Track criteria but had an Alpha FIM® score close to 60. In some cases, the PCH team also considered referrals received and “switched” to the Fast Track process, bypassing detailed and/or onsite assessment to expedite admission during high flow periods. This was helpful for managing COVID mandates. Typically, these cases might have required some additional discussion and communication but not the detailed assessment process.

4. **Data Collection/Reporting Adjustments**

Throughout the project, data collection and reporting were adjusted to meet the needs of the team while balancing the data collection workload. Once processes such as receipt of referral were considered stable those data elements were no longer collected. An example of the data collection success measures is outlined in Table 2. After 6 months, the team recognized the need to compare Fast Track referrals to regular rehab referrals. This data element was then added to reporting. After 1-year, detailed reporting of acceptance in minutes was dropped as

it was not possible to collect this in a data field. Due the highly stable nature of the process, there was agreement to report this field in days and to revisit it if process became unstable in the future. At project completion, quarterly reporting was taking place, Individual patient level reporting ended with the understanding that specific concerns could be investigated as needed.

Table 2: Success measures

Success Measures						
Referral Package Complete? Yes/No	KHSC Admit to Referral	Referral to Decision (Business hours 730 - 1530)	Decision to PCH Admit	Rehab Referral to Admit	Acute Admit to Rehab admit	Any issues arising

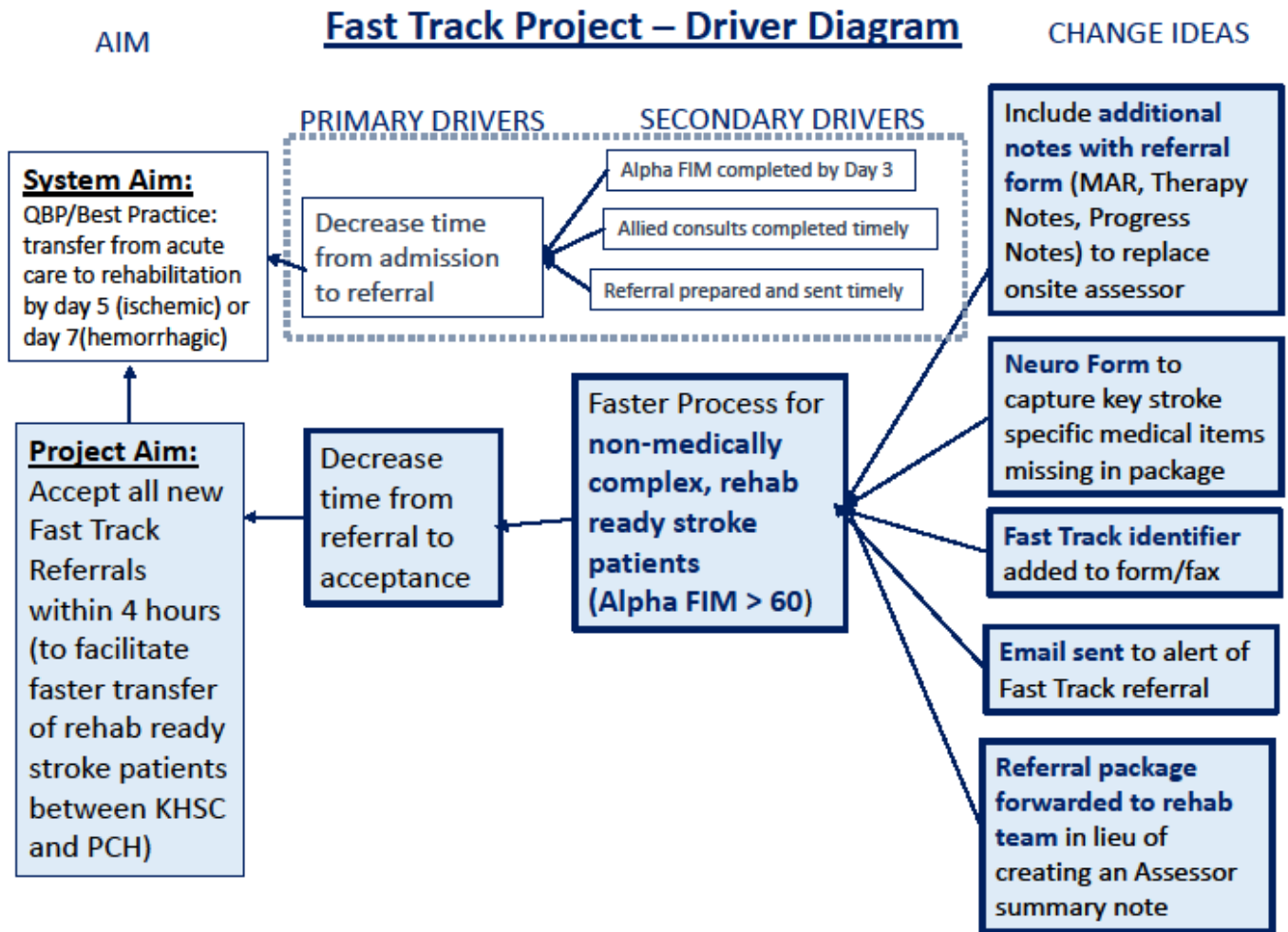
Feedback from Rehab Team during PDSA cycles

In addition to reviewing the documented process, the project team sought feedback from the PCH Stroke Rehabilitation Team receiving the Fast Track patients on the unit. In general, the team was pleased with the process and confirmed patients were appropriate for rehabilitation. The team identified that patients were moving faster but also that some only required a short rehab stay. As a result, the PCH team adapted their team goal setting and conference processes to facilitate shorter predicted discharge dates than they were accustomed to. The PCH team was satisfied with receipt of the full referral package in lieu of the ACT specialist summary note, reflecting that the only occasional challenge was reading handwritten scanned notes. The team continued to monitor admitted Fast Track patients and provided feedback to the Acute Care team if they experienced referrals that were not inpatient rehabilitation appropriate.

Driver Diagram

The following Driver Diagram (see Diagram 3) demonstrates the relationship between the overall aim, the sub-process identified for improvement and the tests of change that collectively were used to facilitate that change. This one project was taking place in context with other quality initiatives to support access to rehabilitation. For example, efforts were being made by KHSC to refer earlier and to complete Alpha FIM® assessments in a timelier manner. For additional context please see the Acute to Inpatient Rehab Flow Driver Diagram in [Appendix F](#).

Diagram 3: Fast Track Project – Driver Diagram



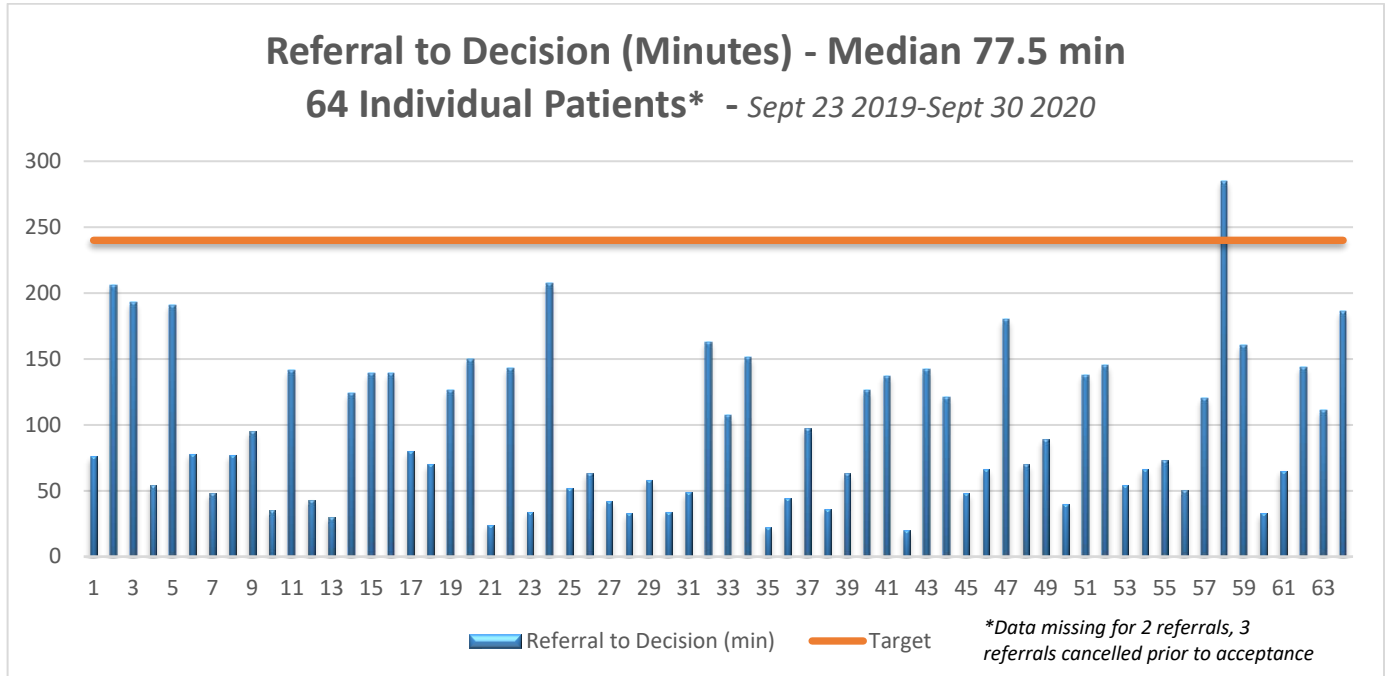
Results

While the main focus of the project was to decrease the time to decision, other secondary impacts were observed. The project aim was met, improved flow to rehab was observed and relationships were improved between acute and rehab teams. Several learnings were shared throughout the project including the use of data for process monitoring.

Meeting the Project Aim

In the first year there were 64 patients referred as Fast Track. Decisions to admit for fast track occurred under the 4 business-hour target with a median of 77.5 minutes in the first year. All but 1 patient was accepted in under 4 hours with a range of 22 mins to 4 hr. 45 min with 64% accepted in less than 2 hours and 34% accepted in less than 1 hour. The one case that did not meet target acceptance time was only slightly outside at 4 hr. 45 min (see Graph 2).

Graph 2: Referral to Decision (Minutes)

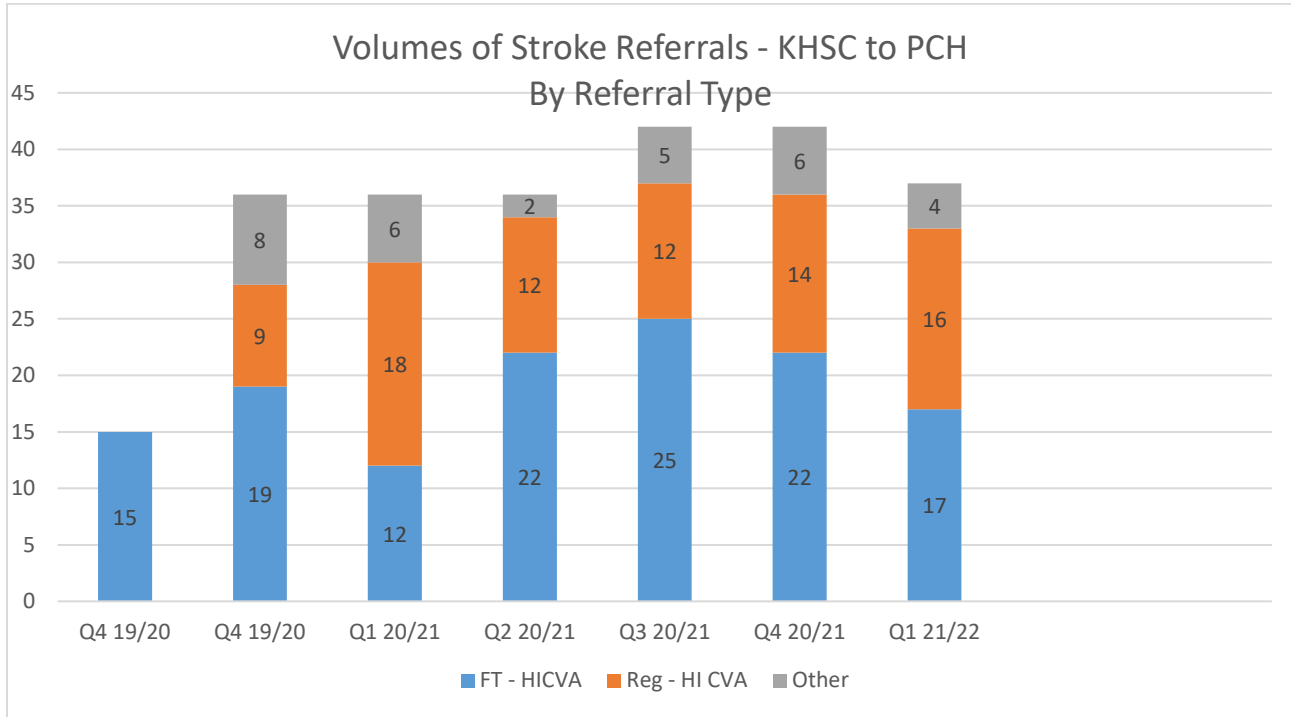


Summary of Project Outcomes

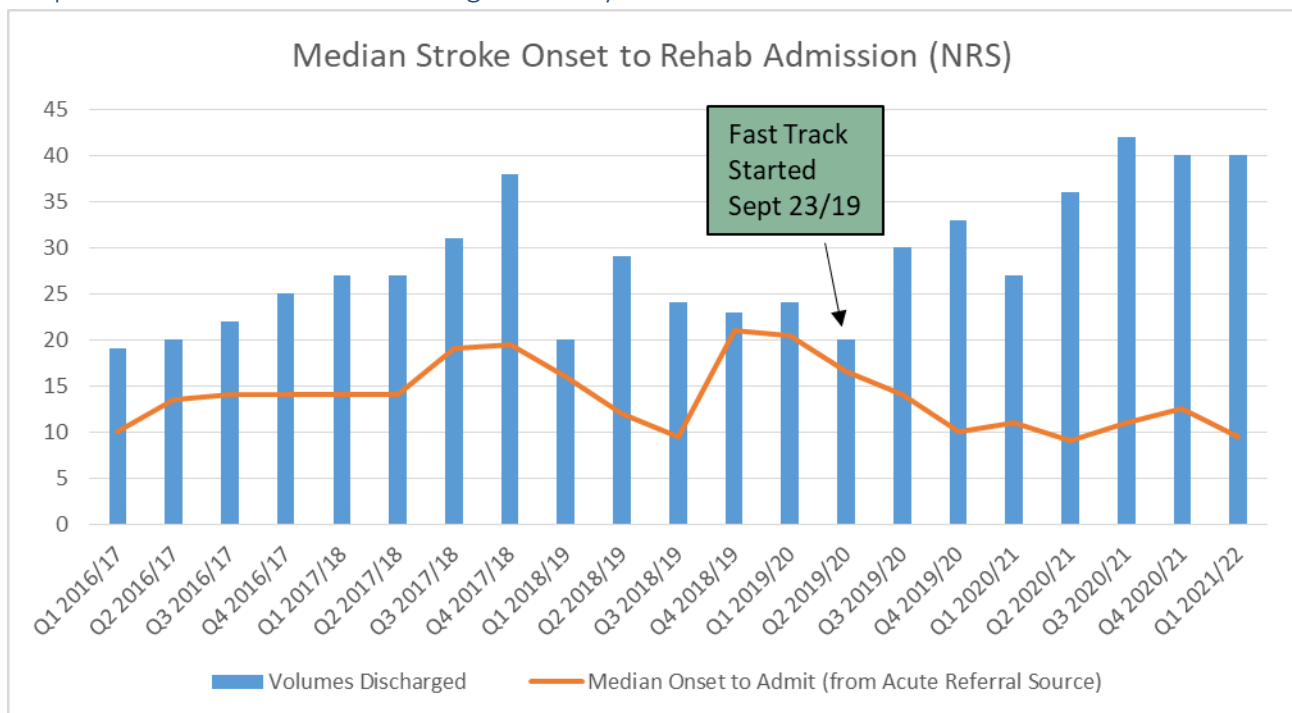
The Fast Track process was considered to be operational and working well with positive outcomes. The following is a summary of project outcomes.

- The process spread to apply to a broader cohort of patients; the initial restriction of Acute LOS of <14 days was removed. This new change was endorsed for continuing operations.
- Each clinical team reported that the existing process was sustainable
- The Fast Track patients were noted to be appropriate rehabilitation referrals based on analysis of the rehabilitation patient groups and associated LOS and based on the experience of the rehab team. There were very few clinical concerns that arose during transfers.
- Observations included a decrease in rehabilitation referral processing time, more timely access to rehabilitation, decreased acute length of stay, an increase in the acute stroke unit utilization rate with an associated decrease in acute stroke mortality. **The median time from stroke onset to rehabilitation decreased from 18.5 to 10 days for all stroke patients and to 7 days for the Fast Track subgroup.**
- Fast Track referrals have typically represented over half the rehab referrals each quarter (see Graph 3)
- With improved flow to rehab, the team also observed an increase in volumes transferred. Access to rehabilitation beds and access to the acute stroke unit each improved. Graph 4 depicts ALL stroke patients transferred to high intensity stroke rehab and indicates the upward trend in volumes and shortened time from stroke onset to rehab admission.

Graph 3: Volumes of Referral – By Referral Type



Graph 4: Median Stroke Onset to High Intensity Stroke Rehab Admission



Ongoing Monitoring

Given project results stabilized quite quickly, the team reviewed the manual data collection processes. After 1 year, the referral to decision time was stable and did not warrant detailed manual tracking in minutes. The

team recognized that Fast Track information alone was insufficient to understand project success, so collection of non-Fast Track referral data began. For several months, metrics were monitored through manual data collection. As part of the initial recommendations, the team identified an opportunity to move to more automatic reporting. This required additional data elements to be added into the PCH electronic record referral tracker in order to be pulled into automated data reports. While this work was underway, manual data reporting continued. Examples of quarterly reports are included in [Appendix G](#).

Data Reporting - Future (Updated May 2022)

In order to continue regular monitoring of Fast Track and regular rehab referral processes an automated report was created to ease the data collection burden. Over the course of the project, three key elements needed to be added into the PCH Referral Tracker to facilitate availability of the essential joint data elements within one organization. The three elements were Fast Track Referral Type, Alpha FIM Score and KHSC Discharge date. This was essential given there was not a shared data platform or infrastructure between the two sites. PCH took on the responsibility for the ongoing reporting. Project team members worked collaboratively with the PCH Decision Support team to replicate the desired reports. Using the manual reports identified by the Fast Track working group the Automated Fast Track and Rehab Referral Monitoring Reports were created (see [Appendix H](#) for the Automated Fast Track and Rehab Referral Monitoring Report Sample). These will be produced quarterly for review by the Fast Track Working group and the Integrated Stroke Care Clinical Task Team. The reports include a snapshot of volumes of Fast Track referrals as well as other referral streams, time from referral to admission for Fast Track and Regular stroke rehab referrals as well as key sub-components. This will enable monitoring of the process at a level sufficient for identifying opportunities for improvement and will support early identification of any unintended shifts in the process.

Lessons Learned

The project team collectively reviewed project learnings. These have been summarized in 4 categories: Process/Clinical Success, Project Success, What we wish we had done

Process/Clinical Success

- Identified changes were developed jointly by the team members doing the work from both organizations.
- A process map outlining key steps was drafted to identify changes and jointly understand impact.
- Prior to testing the process, consultation took place with both teams to help identify areas of risk and how to mitigate risk (e.g., risk of not having assessor summary was offset with sending therapy notes; risk of not having medical information and plan was offset by sending new neurology form).
- The team met to debrief after the first few transfers and process changes were made immediately to address issues (e.g., use of subject line on fax machine; addition of contacts on email notifications).
- KHSC Stroke Specialist Case Manager resources were enhanced to enable collection of referral information, therapy notes, neurology form given there was an increased burden for the referring team.
- KHSC team Stroke Specialist Case Managers were provided with a tour of the rehabilitation facility to help learn about the site where patients receive rehabilitation.
- Regular communication took place between team members to address issues as they came up.
- More than one person at each site could complete required tasks.

Project Success

- Common goals were identified based on best care for patients.
- The project team included frontline staff involved in the process from the beginning to discuss and design change ideas.
- Project support was provided by the Stroke Network to coordinate meetings, support data collection and analysis, create and maintain project documents and communication.
- The project team included managers who supported process changes.
- The project was linked to a corporately sponsored joint workgroup with representation from both acute and rehab leaders.
- For each transfer there was willingness to support manual data collection from the staff completing the process at each site.

What we wish we had done

Ask patients how their transfer went? Did they have the information they needed?

Note: Please see project follow up and update for Patient Experience Tracer work later in the report.

Advice for another team

- The Fast Track process was not possible to track in existing data sets. No data set showed the integration between KHSC and PCH teams. It was essential to consider what data was needed to know whether a selected change was effective. A process had to be created to collect the relevant data across organizations.
- Manual data collection was labour intensive but very valuable and multiple roles contributed data elements. It was important to commit to manual data collection to get started, to support debriefs and to communicate success. Elements of data were then dropped once no longer needed.

Initial Project Team Recommendations

The project team reported their initial findings and made the following recommendations which were all endorsed in the Fall of 2020 and were actioned.

1. Fast Track Process Adopted

Upon review of the results and provider experience, the group recommended that:

- a) the Fast Track Process be adopted on a permanent basis given it had been used, tested, and proven to be successful in achieving a 4- hour target of rehab referral to decision;
- b) the current Fast Track Process map be adopted and include additional communication to support timely and effective referral processes.

2. Fast Track Data Elements, Collection and Reporting:

In order to continue adequate process monitoring of the Fast Track process and enable further evaluation, there was a recommendation to move from resource intensive manual data collection, collation, and analysis to an automated report. To achieve this, it was recommended that:

- a) three missing data elements be added to the PCH Referral Tracker in the electronic record to enable fulsome reporting given they did not exist in any administrative data set:

- **Alpha FIM score** linked to referral process dates;
- **KHSC stroke onset/admission date** given this was not currently available in the PCH referral information system;
- The coding of **Fast Track vs Regular** referral for ongoing monitoring;

*Note: **Time in minutes versus days for tracking process times** was originally captured. On review, it was not feasible to add minutes to the time stamp. Given the value add, this element was not pursued. In lieu, the team suggested that monitoring of referral to acceptance have a median of <1 day as a proxy for the continued achievement of acceptance within 4 business hours; this assumed that most referrals arrive before 1 pm. A QI project resuming enhanced manual tracking was to occur if the median was not maintained or worsened over 2 quarters.*

- b) the Project Lead work with PCH team members and PCH decision support to create a report to be used for ongoing monitoring;
- c) quarterly reports be submitted to the Integrated Stroke Care Clinical Task Group.

3. **Regular Rehab Referral vs Fast Track – Process Map**

The project team recommended that the full rehabilitation referral process be mapped through to PCH admission, embedding the Fast Track option within the flow. The Fast Track Workgroup had previously mapped only the portion of the process up to the point of decision.

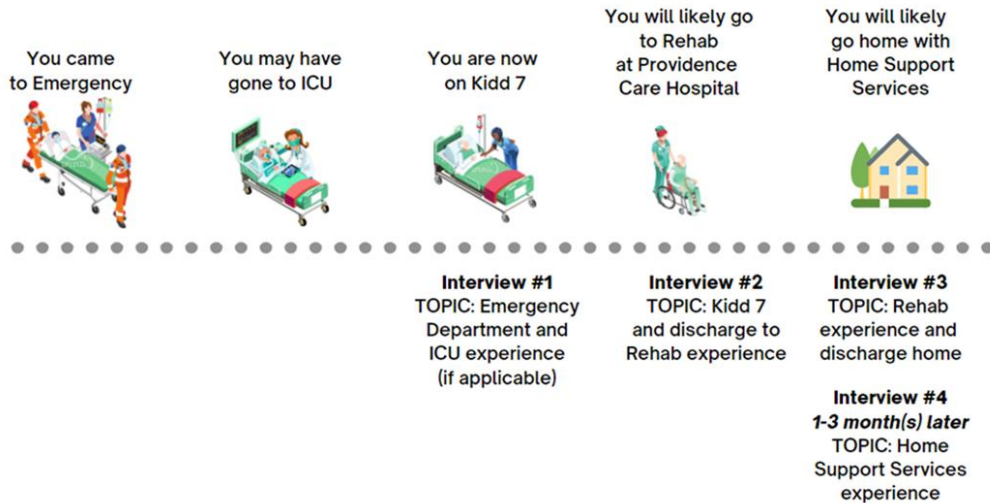
[Patient Experience – Follow up – 2021/2022 \(updated May 2022\)](#)

As the Fast Track Process moved into operations with many patients transferring the next day after referral, the need was identified to learn more about the patient experience and to consider how it might be optimized. Work began to create an interview tool/guide to support a patient tracer activity across the continuum. Questions within the survey tool were created with the support of the patient advisor on the Integrated Stroke Care Clinical Task Group as well as patient advisors and team members from across the care continuum. This would enable patients and their families to share their experience in almost real time. With patient consent to participate, the Patient Safety and Quality Specialist conducted interviews during the acute phase, rehab phase and after return home with community stroke rehabilitation (see Diagram 4 for outline of tracer activity). The tool captured the patient’s emotions and key experiences from their perspective along the care pathway. The summary of the information was shared back with the Integrated Stroke Care Clinical Task Group, the KHSC Patient and Family Advisory Council and the Regional Stroke Community Reintegration Leadership Team (a council of stroke survivor and community advisors). The approach was well received, and the information was deemed to be extremely valuable in identifying potential opportunities for improvement.

Diagram 4: Stroke Patient Experience Tracer Outline

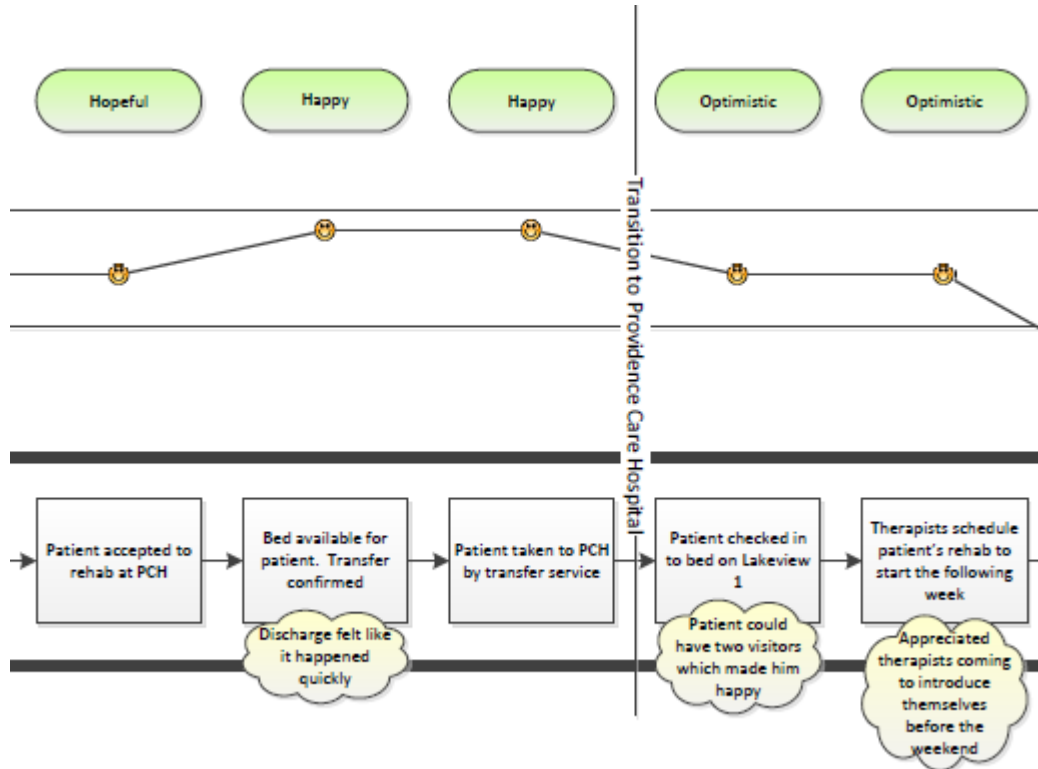
STROKE PATIENT EXPERIENCE TRACER

Patient Flow and Interviews



At the transition phase between acute and rehab, we learned the patient felt the transition to rehab seemed “quick” but reported being “happy and optimistic” to get to rehab. The emotions for this transition were quite positive. The patient tracer activities will continue to be pursued. Though time consuming, they provide valuable information. The patient tracer approach, by conducting conversations in the moment, was found to uncover rich information. Further patient tracers will be performed, and modifications will be made in the template as needed. The intent over time is that themes from these tracers will be used to co-design an improved patient experience. See [Appendix I](#) – for the patient tracer results. An excerpt for the transition from acute to rehab is shared below in Diagram 5.

Diagram 5: Stroke Patient Experience Tracer - Acute to Rehab Transition Portion Only



Final Recommendations

The final recommendations focus on sustaining success, supporting spread within and beyond stroke services, and regular monitoring.

1. Sustain adoption of Fast Track Processes.

A regular connection between the acute and rehab site teams should continue to provide a mechanism to discuss any issues that arise. In the foreseeable future, this can be accomplished through the bi-monthly meetings of the Fast Track and Rehab Referral Working group and/or the Integrated Stroke Clinical Task Team. Regular updates to key messages and process information should be easily available and updates maintained. The Regional Stroke Network team is well positioned to provide leadership to facilitate any required team discussions.

2. Spread elements to regular stroke rehabilitation referrals.

The team is now reviewing the "regular" stroke rehabilitation referral processes. A similar quality improvement methodology and key lessons learned should be applied to this stream of referrals to consider any potential expansion of the Fast Track cohort.

3. Sustain Joint Rehab Referral Data Set for active monitoring.

During the Fast Track project, a reporting mechanism was implemented that covered both the acute and rehabilitation referral process elements. This "joint" view of the process is essential to ongoing monitoring and to future improvements. The new automated report developed and managed by PCH makes monitoring the process sustainable and informative. This report should be shared quarterly. It is feasible for this to be run monthly should the need arise to monitor the process more closely (e.g., during surge pressures, and/or quality improvement activities). The report was built such that it could be pulled for different rehabilitation services in future.

4. Include front line team members in ongoing Quality Improvement.

All future work related to referral processes should include front line team members who are part of the process. In addition, the team members need support from managers to encourage their participation, enable removal of identified barriers, and support staff time for meetings or other project activities specific to their roles.

5. Continue to collect and use Patient/Family Experience feedback.

Use of the patient tracer methodology should continue to be integrated into care processes to enhance the understanding of the patient experience through transitions. Patient perceptions of the process and how they felt during the experience provide excellent information on opportunities for improvement. Patient input should also be sought as improvements are planned and implemented. The stroke teams are fortunate to have a patient experience advisor on the Integrated Stroke Clinical Task Team and access to Patient and Family Advisory Committees. In addition, the Stroke Network can seek advice from the Community Re-Integration Leadership Team.

6. Share the results and lessons learned with other teams/programs.

Fast Track project approaches, processes and/or results may be applicable to support other local acute to rehab processes. All team members are encouraged to share key process improvement information. The results and team processes have been shared and will continue to be shared with other stroke networks and rehab teams across the region and province. This report will be posted on the Stroke Network website for future reference.

Project Reflection:

"Our goal with this pilot was to explore a local system-based change with the potential to improve the transition of patients from KHSC to PCH during their post-stroke care. The results suggest that the initiative has contributed to earlier access to inpatient stroke rehabilitation for patients in need of and ready for the rehabilitative phase of their care. This occurred over a time frame in which there was also an increase in the number of patients receiving stroke rehab at PCH.

Based on the literature and Canadian stroke best practice recommendations, our hope is that creating more timely access to rehabilitation, for more patients, has improved patient-related outcomes, recovery/functional independence, and community reintegration. The project has also fostered added communication and collaboration between our acute and rehab stroke teams. We see this as a definite positive for current and future care provision and anticipate that this will facilitate ongoing initiatives to advance the quality of care along the stroke continuum for patients in our region."

Dr. Benjamin Ritsma

Department of Physical Medicine & Rehabilitation Queen's University - Assistant Professor Clinical Director - Rehabilitation; Director - Stroke Rehabilitation - Providence Care Hospital

Appendix A: Fast Track Project Team and Integrated Stroke Care Clinical Task Team Members

Fast Track Project Team Members

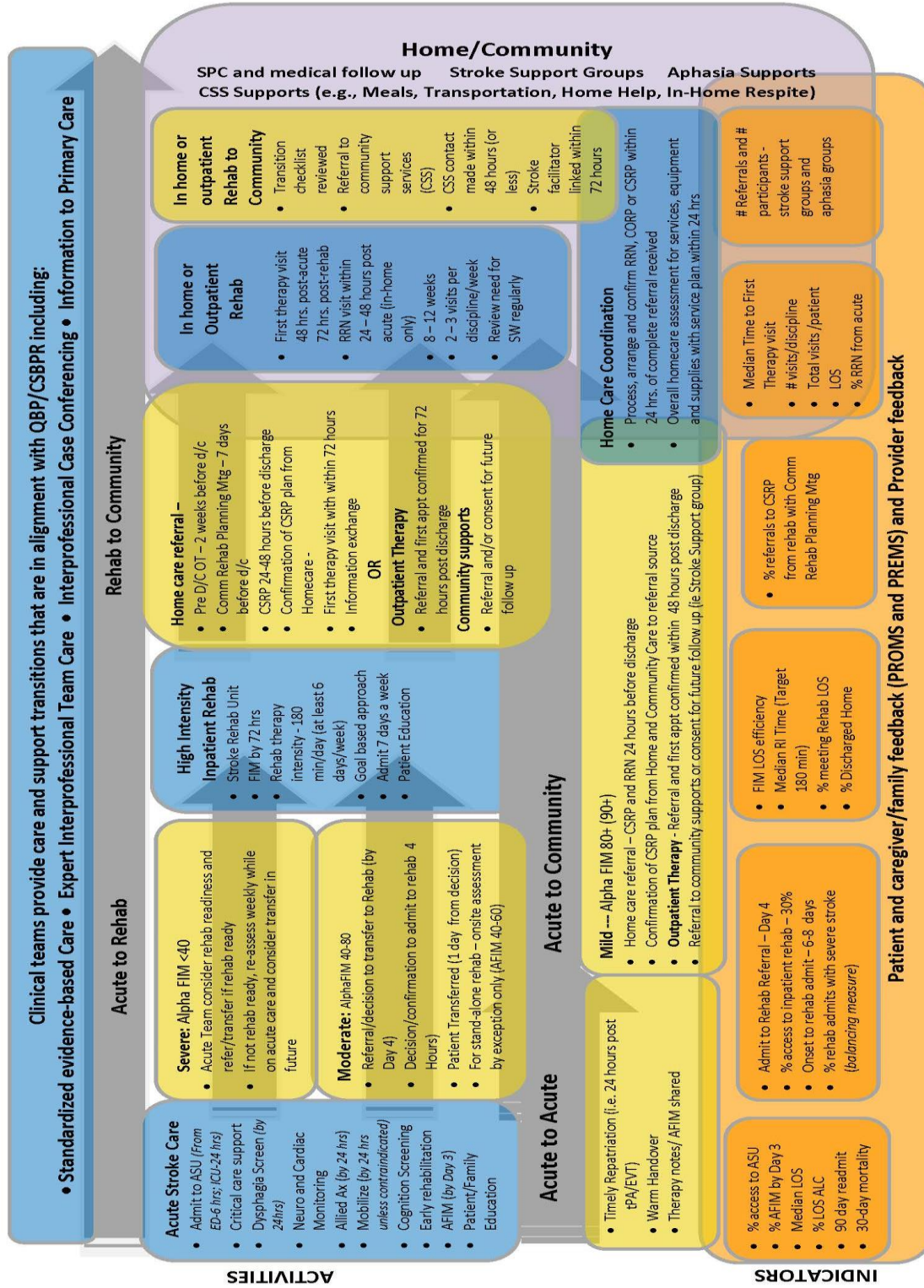
Clinical Business and Patient Flow Manager, PCH - Jessica Bonney (Shannon Rubino Previously)
Stroke Physiatrist & Clinical Lead, Physical Medicine & Rehab, PCH - Dr. Ben Ritsma – Physician Champion
Access to Care Specialist, PCH – Debbie Cooke
Program Manager, Heritage 1/Lakeview 1, PCH - Kate Morris (Previously Lori Kimmett, Kathi Colwell)
Lakeview 1 Charge Nurse, PCH – Ryan Sabourin (previously Alison White)
Stroke Specialist Case Managers, KHSC – Anne Dube and Jennifer Holliday
Director of Patient Transition & Clinical Resources, KHSC – Dan Hogan (Tom Hart Previously)
Patient Safety & Quality Specialist, KHSC - Dana MacPhail
Regional Stroke Rehabilitation Coordinator, Stroke Network of SEO - Shelley Huffman (Project Coordinator)
Adhoc consultation with patient admitting, stroke team members at both PCH and KHSC.

Integrated Stroke Care Clinical Task Team

Jessica Bonney – Clinical Business and Patient Flow Manager, PCH
Dr. Daniel Brouillard - Stroke Survivor, Patient Experience Advisor
Sarah DaCosta - Manager Kidd 7, Neurosciences Unit, KHSC
Janna Dolphin, Program Manager, Rehabilitative Services, PCH
Tyler Hands – Program Operations Director, Medicine, KHSC
Tom Hart – Executive Director of Patient Care, KHSC Executive Support
Patti Harvey - Director, Rehabilitative Care, PCH – Co-Chair
Dan Hogan - Director of Patient Transition & Clinical Resources, KHSC
Shelley Huffman - Regional Stroke Rehabilitation Coordinator, Stroke Network of SEO
Dr. Albert Jin - Stroke Neurologist, KHSC & Medical Director, Stroke Network of SEO
Jennifer Loshaw - Director, Home & Community Care, HCCSS- South East
Dana MacPhail - Patient Safety & Quality Specialist, KHSC
Cally Martin - Regional Director, Stroke Network of SEO – Co-Chair
Kate Morris – Program Manager, Heritage 1/Lakeview 1, PCH
Catherine Nicol - Manager, Home & Community Care, HCCSS- South East
Diana O’Grady – Vice President of Patient Care, PCH Executive Support
Kim Perrett - Executive Director, Kaymar
Dr. Ben Ritsma - Stroke Physiatrist & Clinical Lead, Physical Medicine & Rehab, PCH

Sept 9 2019

Acute - Rehab - Community (ARC) Stroke Services and Transitions



Effective **September 23, 2019** KHSC and PCH teams will be piloting a new process for stroke patients with an Alpha FIM 60+ who are “ready for rehab” to improve timely access to intensive rehabilitation.

Key changes:

- KHSC team has responsibility to confirm patient meets Fast Track characteristics and is ready to transfer as early as same day
- KHSC notes fast track on first page of referral
- Additional notes to be sent with PCH Rehab Referral:
 - *therapy assessment and/or most recent note (PT and OT, SLP as appropriate)*
 - *neurology form*
- Referral reviewed for completeness but there will be **NO ONSITE VISIT** to see the patient/chart/team
- Any flags related to admission or transition shared with unit and patient placed directly on “ready to admit” list (target 4-8 business hours from referral)

“Criteria” for Alpha FIM 60+ Fast Track stream

Patients should have the following characteristics:

1. Alpha FIM 60+
2. Length of stay of 14 days or less
3. PT/OT Assessment complete
4. Acute stroke team considers patient a rehab candidate (see criteria on referral form – team anticipates tolerating 1 hour of therapy and reasonable sitting tolerance)
5. Medically stable: - vitals stable, treatment for stroke in place and /or plan
6. Patient is admitted under neurology.
7. If have NG tube – SLPs have already connected and a plan in place
8. Discharge plan has been considered and is relatively clear at time of referral

Teams will be connecting weekly to monitor and adjust process as needed.



PROVIDENCE CARE INPATIENT REFERRAL FORM

PERSONAL HEALTH INFORMATION

Indicate the Providence Care Inpatient Service the patient may benefit from:

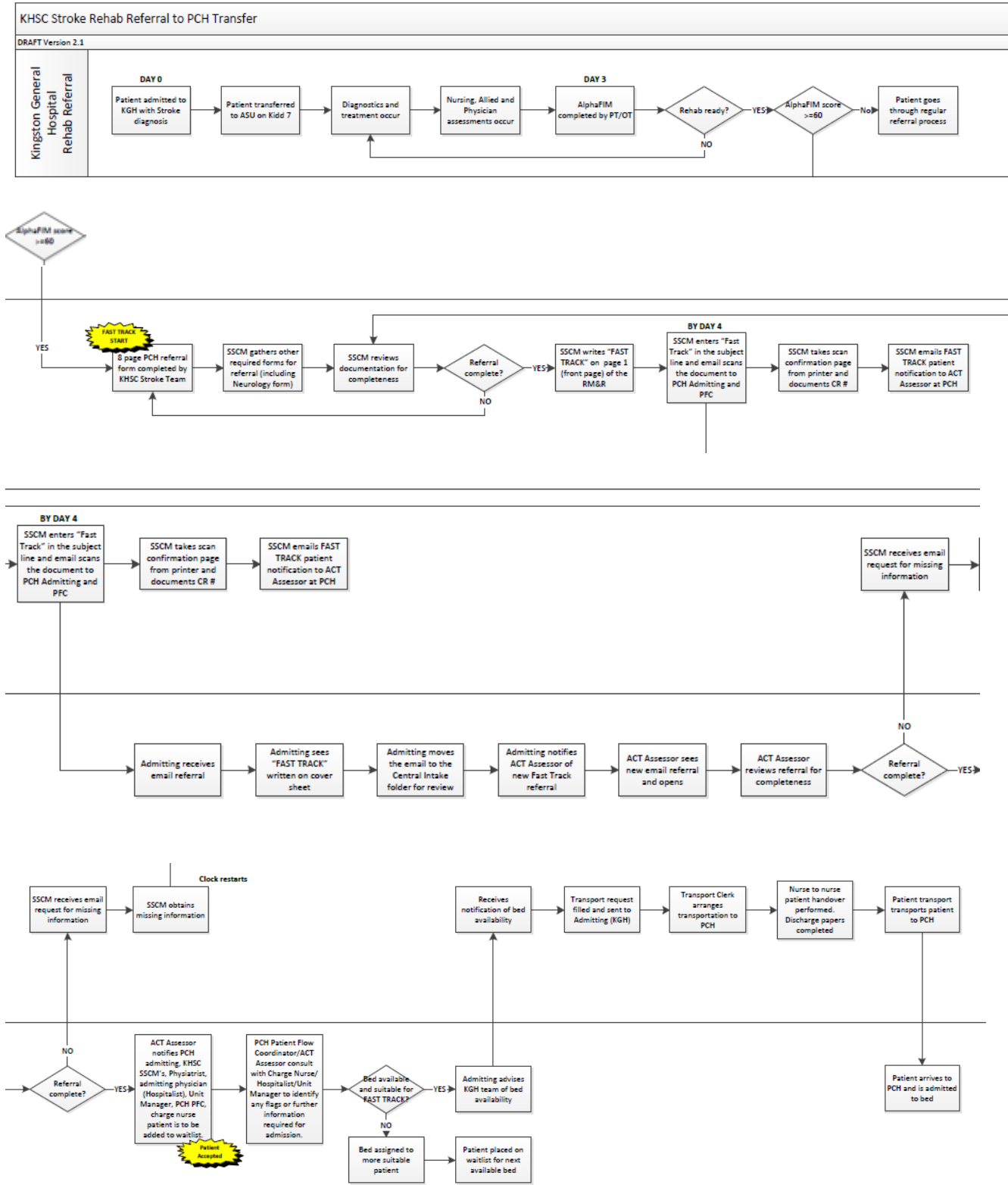
- CVA (Cerebrovascular Accident (Stroke))
- Fast Track CVA (KHSC only)
- Fast Track Total Joint Replacement (KHSC Only)
- ABI (Acquired Brain Injury)
- SCI (Spinal Cord Injury)
- MSK (Musculoskeletal)
- GM (Geriatric Medicine)
- CM (Complex Medical)
- Providence Transitional Care Center
 - Restorative Transitional Care
 - Restorative Convalescent Care
 - Short Stay Respite
 - Cognitive Behavioral Support

Please note an incomplete referral and missing documentation will result in requests for additional information and a delay in processing your referral.

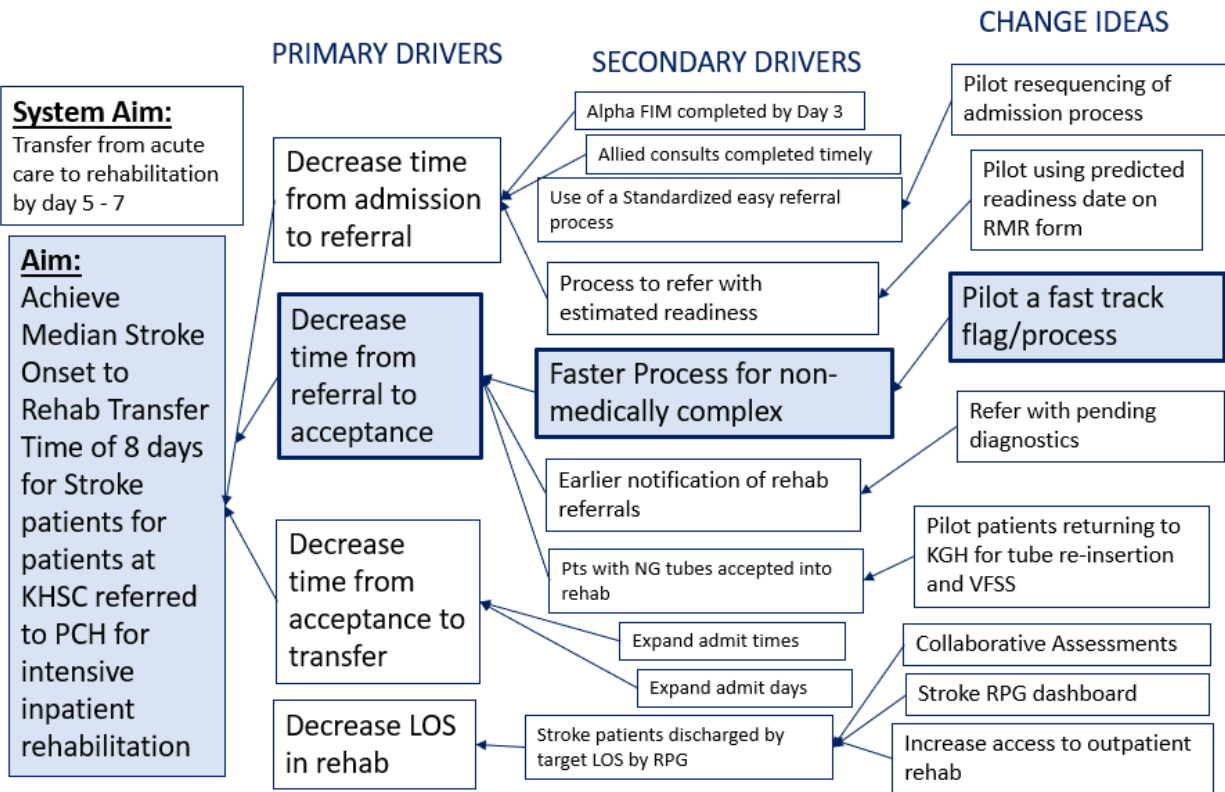
Providence Care Criteria (all boxes must be checked to proceed with the application)

- 16 years of age or older
- The patient must have a physical impairment requiring rehabilitation/activation OR have a known cognitive and/or communication impairment requiring ongoing rehabilitation/activation support or services
- The patient is medically stable:
 - A clear diagnosis and co-morbidities have been established
 - At the time of discharge from acute care, acute medical issues have been addressed: disease processes and/or impairments are not precluding participation in rehabilitation or restorative program
 - Patient's vital signs are stable
 - No undetermined medical issues (e.g. excessive shortness of breath, falls, congestive heart failure)
 - Medication needs have been determined
- The patient or a substitute decision-maker (SDM) and medical team have identified realistic, specific, measurable and timely, functional goals for the rehabilitation process
- The patient must have the cognitive ability to participate in and benefit from a rehabilitation/activation program
- Behavioral or mental health issues which can be managed through strategies, resources and modifications and do not limit patients ability to participate in therapy and/or their care
- Has the ability to improve in terms of functional status
- Consistently motivated to participate in therapy

Appendix E: Fast Track Process Map



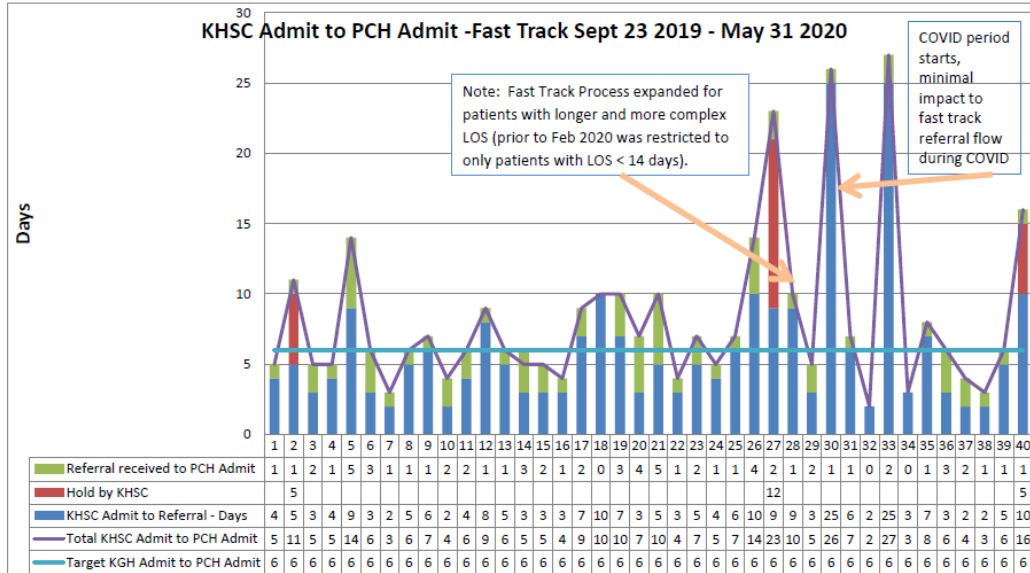
Driver Diagram – Acute to Inpt Rehab Flow



Appendix G: Samples of Fast Track Reporting and Monitoring
 Sample of a Quarterly Report (including rehab portion)

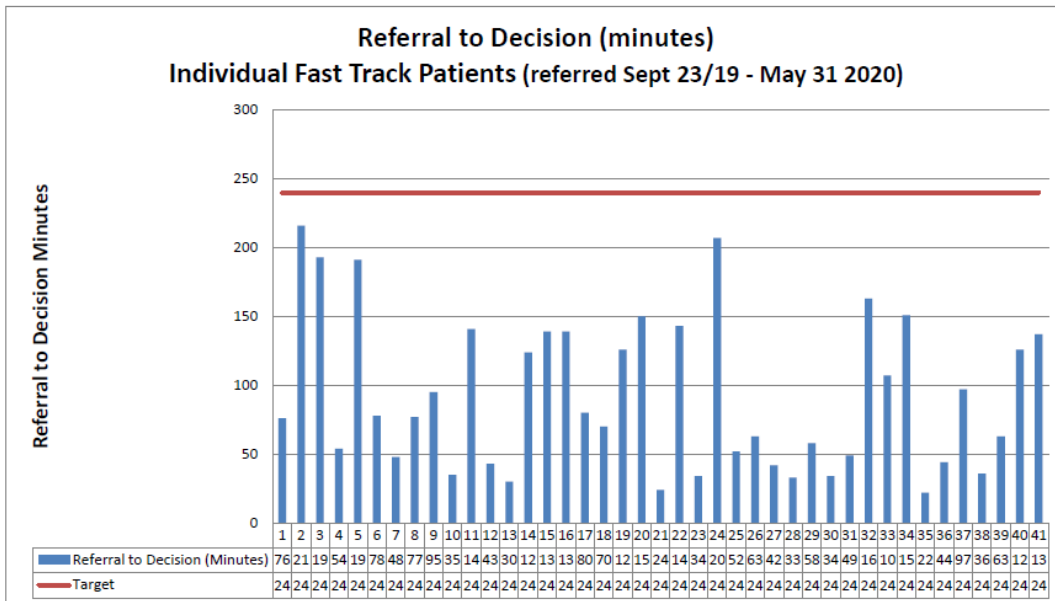
Fast Track Update – May 31 2020

- For Fast Track patients – the median for KHSC Admit to PCH Admit is 7 days, NOTE: Fast Track process expanded to broader rehab cohort including some with more complex acute stay after Feb 20 2020. Range is now 2 to 27 days)
- Median KHSC Admit to referral is 5 days (with range from 2 – 27)
- Median Rehab Referral to PCH Admit is 1 days (with range from 0 – 5 days) , 22/40 patients admitted next or same day



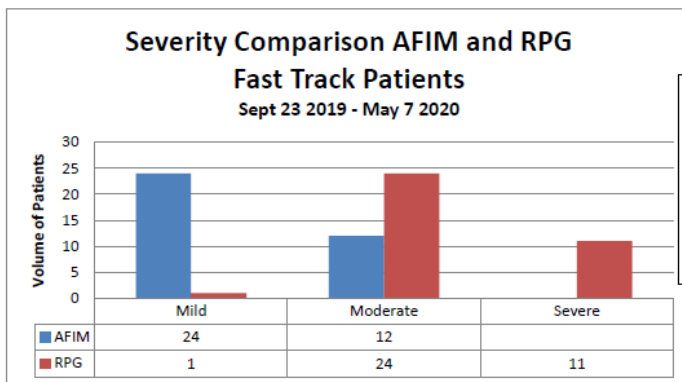
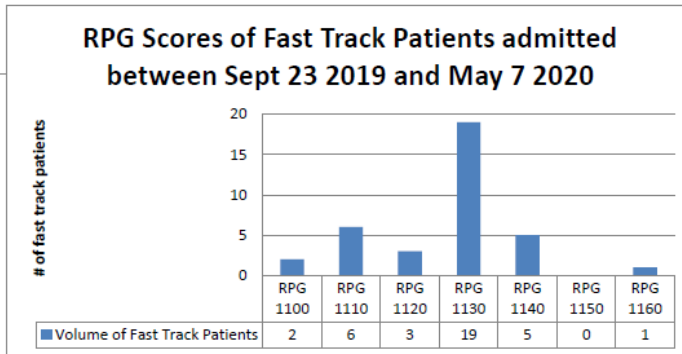
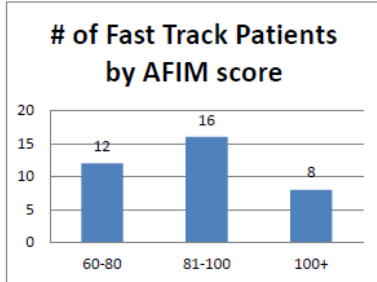
Fast Track Update – May 31 2020

- 44 referred and 40 transferred to date (3 patient d/c home/referral cancelled, 1 pending transfer)
- 32 patients have been discharged home, (3 returned to KHSC during their rehab), 7 are still in rehab as of May 31 2020
- All decisions to admit have occurred under the 4 business hour target with a median of 77 minutes (range 22 min to 3h36 min), 63% less than 2 hours, 34% less than 1 hour



Fast Track Update – May 31 2020

Fast Track – Severity Distribution by Alpha FIM (Acute) and RPG (Rehab)

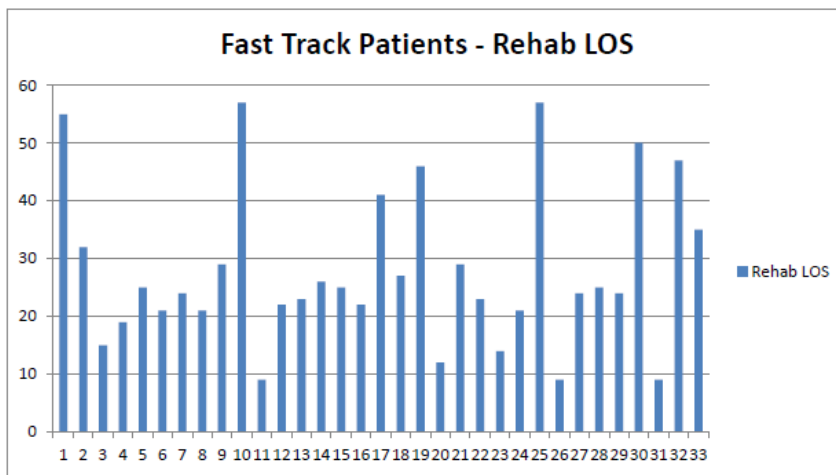


	Severe	Moderate	Mild
AFIM	0-39	40-80	81+
RPG	1100, 1110	1120, 1130, 1140	1150, 1160

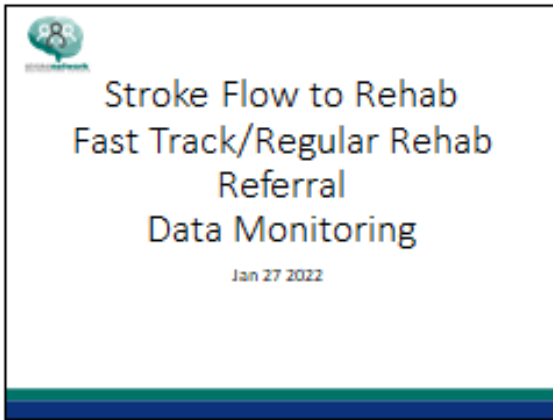
Fast Track Update – May 31 2020

Fast Track Rehab Stay

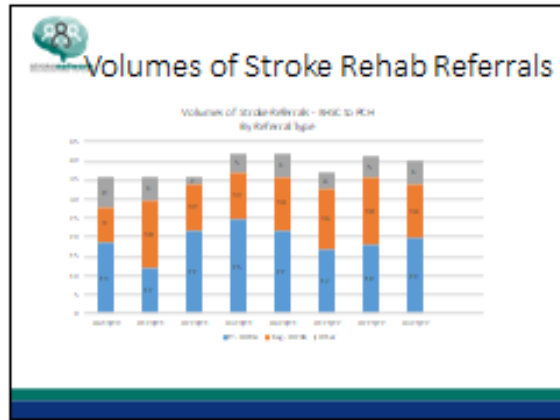
For 33 patients with discharge dates recorded as of May 31 2020; Median LOS was 24 days, Average LOS was 28 days with a range of 9 to 57.



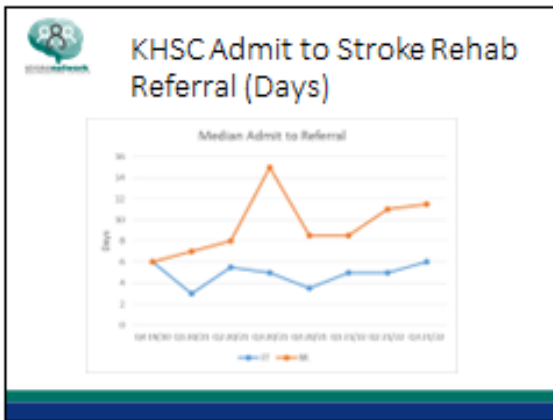
Sample of Quarterly Graphs – Manually collected but enhanced to include Fast Track and Regular Rehab



1



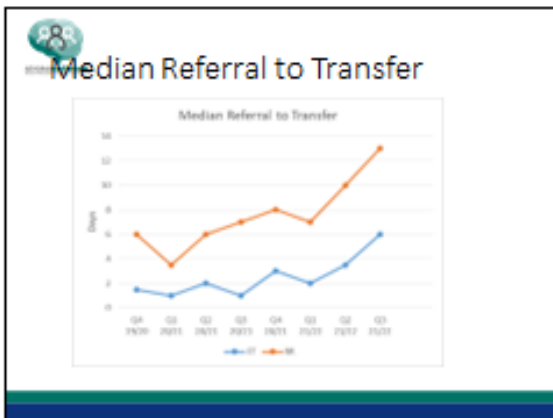
2



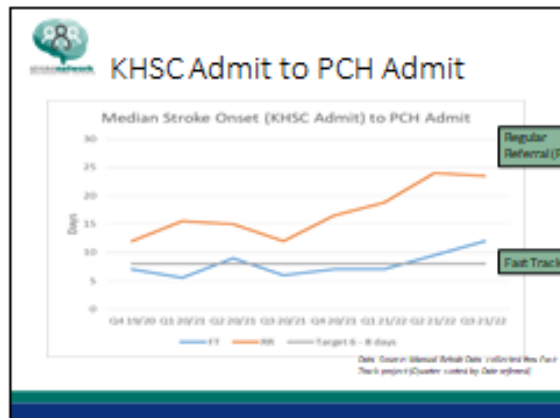
3



4

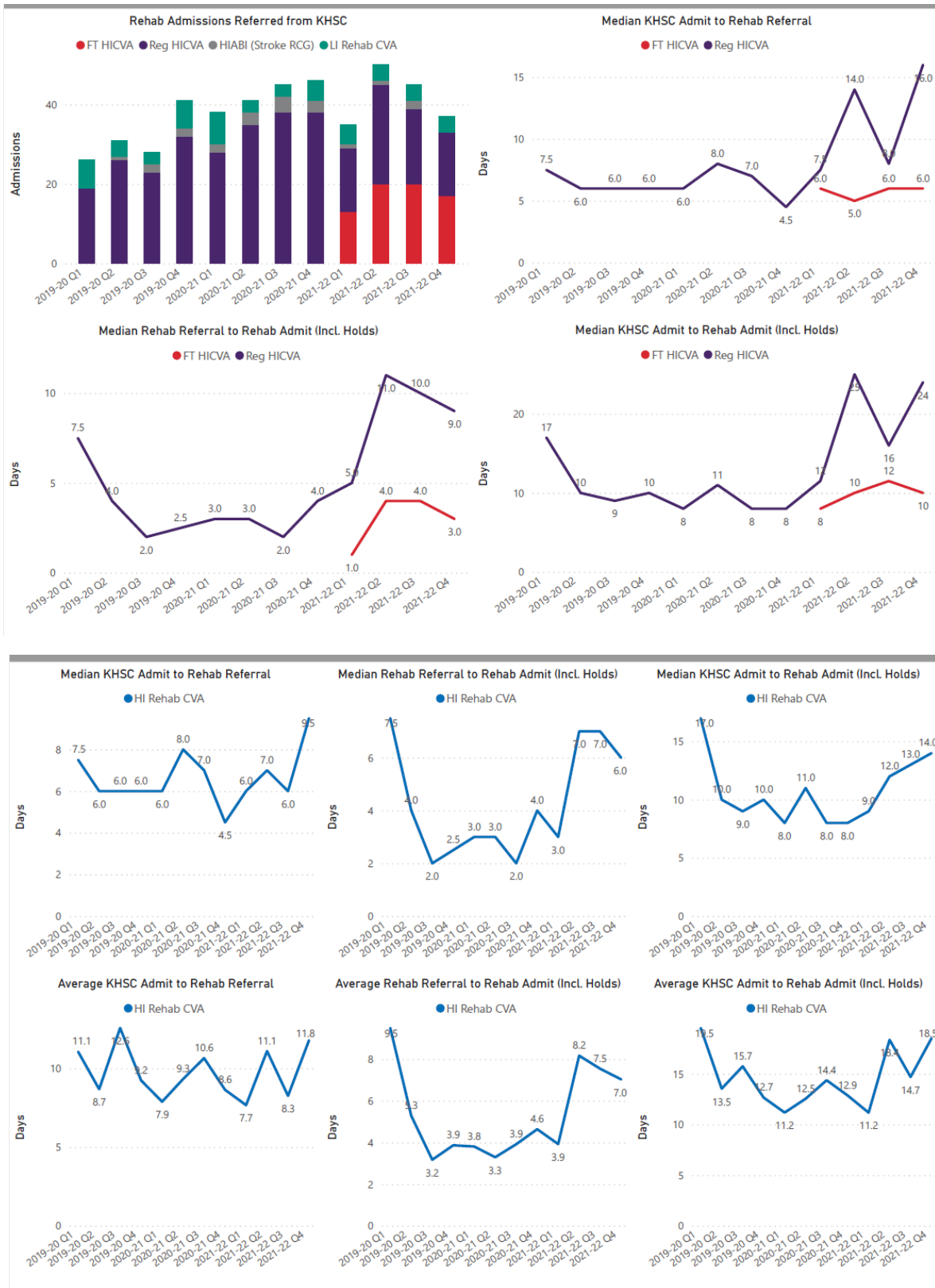


5



6

Appendix H: Automated Fast Track and Rehab Referral Monitoring Report Sample



KHSC Admit to Rehab Referral (Days)

Service	Volume (Rehab Adms from KHSC)	AVG KHSC Adm to Rehab Ref	MED KHSC Adm to Rehab Ref	MIN KHSC Adm to Rehab Ref	MAX KHSC Adm to Rehab Ref
FT HICVA	17	7.6	6.0	2	19
Reg HICVA	16	16.5	16.0	5	32
LI Rehab CVA	4	24.0	31.0	9	32
Total	37	12.8	10.0	2	32

Rehab Referral to Decision (Days, Incl. Holds)

Service	Volume (Rehab Adms from KHSC)	AVG Rehab Ref to Dec	MED Rehab Ref to Dec	MIN Rehab Ref to Dec	MAX Rehab Ref to Dec
FT HICVA	17	0.5	0.0	0	4
Reg HICVA	16	7.2	4.0	1	24
LI Rehab CVA	4	7.0	7.0	4	10
Total	37	3.8	1.0	0	24

Rehab Referral to Rehab Admit (Days, Incl. Holds)

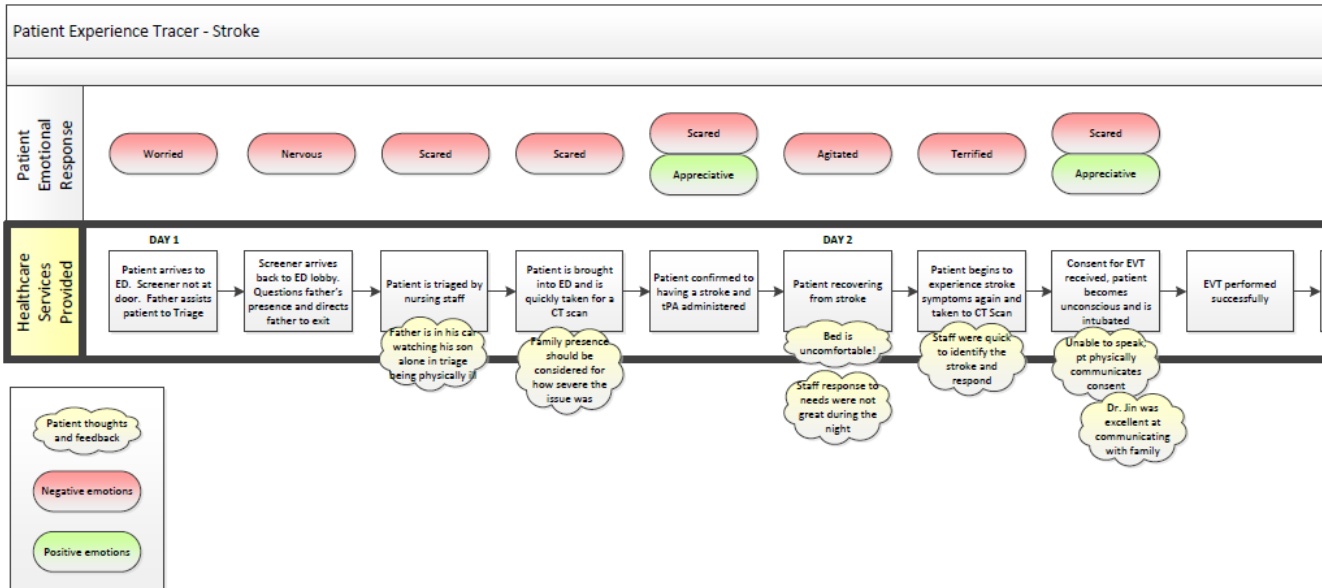
Service	Volume (Rehab Adms from KHSC)	AVG Rehab Ref to PCH Adm	MED Rehab Ref to PCH Adm	MIN Rehab Ref to PCH Adm	MAX Rehab Ref to PCH Adm
FT HICVA	17	3.9	3.0	1	7
Reg HICVA	16	10.5	9.0	2	29
LI Rehab CVA	4	11.3	11.0	10	13
Total	37	7.4	7.0	1	29

Total Days - KHSC Admit to Rehab Admit (Incl. Holds)

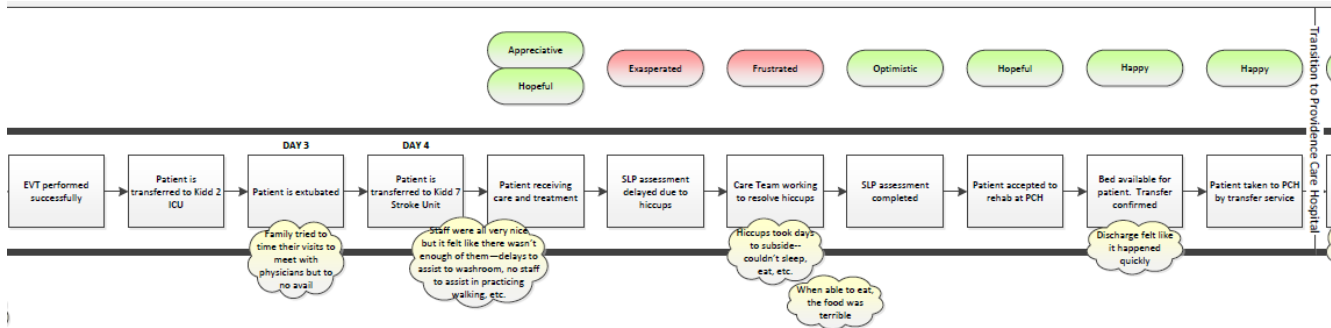
Service	Volume (Rehab Adms from KHSC)	AVG KHSC Adm to PCH Adm	MED KHSC Adm to PCH Adm	MIN KHSC Adm to PCH Adm	MAX KHSC Adm to PCH Adm
FT HICVA	17	11.5	10.0	3	22
Reg HICVA	16	25.9	24.0	9	48
LI Rehab CVA	4	27.3	31.0	3	44
Total	37	19.5	18.0	3	48

Appendix I: Patient Tracer Summary

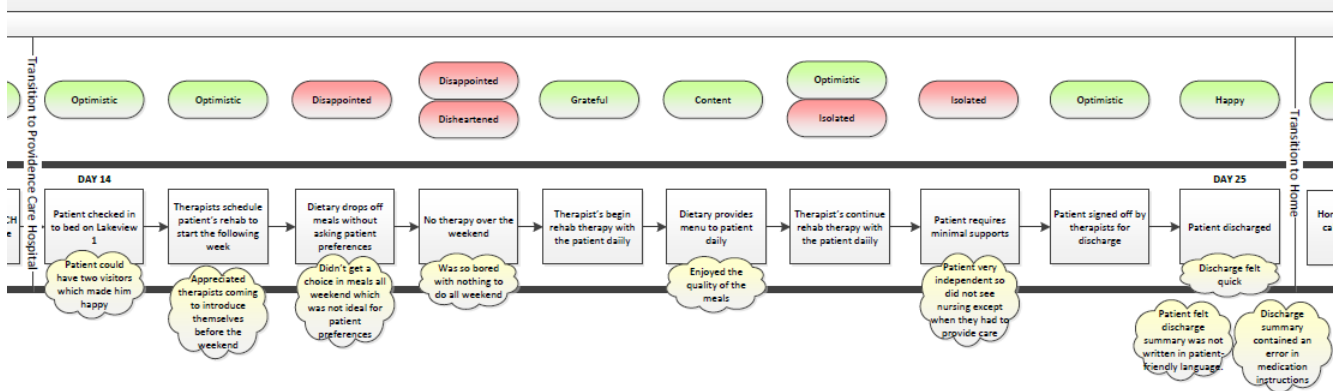
Arrival in ED and Hyperacute Treatment



Acute Stroke Unit Stay



Inpatient Rehab Stay



Community Stroke Rehab – Home Care

