

Children's Cancer Center as a Clinical Microsystem: Patient Flow

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Children's Cancer Center as a Clinical Microsystem: Patient Flow

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Introduction

- Established the Children's Cancer Center (CCC) as a clinical microsystem, or a group of professionals who work together on a regular basis to provide healthcare services to a specific population of patients¹, that functions as a part of the larger LVHN macrosystem.
- Patient flow is an important process within a clinical microsystem that can have a large impact of a patient's level of satisfaction with their visit.
- Previous data from May 2019 demonstrated long wait times to see providers within the Children's Cancer Center.²

Purpose: to assess possible areas of quality improvement in the CCC and improve patient flow as measured by cycle times and family perception.

Methods

Pre-Intervention

- Created a time study to determine wait times between each step in a patient's visit. They were placed in folders and given to each patient to carry throughout their visit. We collected data from 156 patients with ages ranging 0-25 and with varying diagnoses as well as different types of visits.
- Collected data regarding huddle efficiency through a post-assessment survey that was provided at the end of each daily huddle to all staff in attendance. Scores were analyzed using a 1-5 numerical scale corresponding to possible responses.
- Patient surveys were created and distributed to assess satisfaction with various aspects of their visits.
- Generated staff surveys to evaluate colleague engagement, high-reliability, and process inefficiencies.
- Staff interviews were conducted with each member of the CCC staff to validate conclusions drawn from surveys.

Interventions

- Established goal of <30 minute patient wait time.
- Implemented patient visibility boards to provide an alternate way for staff to communicate and update each other regarding progression of patient visits.
- Introduced a huddle bundle consisting of:
 - New location for daily morning huddles to provide more privacy and allow patients to enter CCC immediately upon arrival
 - Set start time to promote consistency and punctuality
 - Huddle checklist to provide more uniform structure to daily huddles
 - Standardization of key elements to reduce day-to-day variability

Post-Intervention

- Repeated both the time studies and huddle surveys to compare to pre-intervention data.

Task	Time	Comments	Initials
Arrival/Check in			
Vitals Started			
Placed in Chair			
Taken for Diet Access/Labs Draw			

Figure 1: CCC Time Study Sheet

Statement	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree
Huddle was effective this morning					
Huddle was run efficiently this morning					
Only pertinent patient/appointment information was reviewed during huddle					
All of my questions for the day were answered					
I was able to voice any concerns I had					
Everyone stayed on task during huddle					
Everyone was engaged during huddle					
I feel prepared for the day after huddle					

Figure 2: CCC Huddle Survey

Results

Patient Wait Times by Visit Type

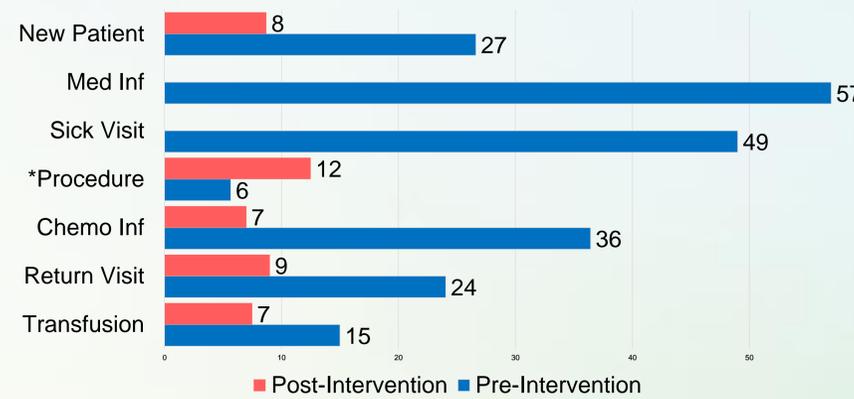


Figure 3: graph showing post-intervention and pre-intervention wait times, grouped by visit type

Daily Physician Wait Times



Figure 4: control graph showing daily physician wait times compared to total 3 week average

Check-in Time vs Scheduled Appointment Time

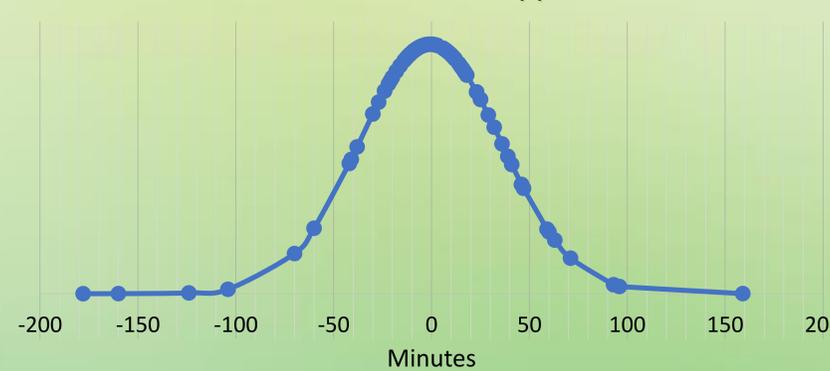


Figure 5: bell curve showing amount of time patients arrive early or late to scheduled appointments in the CCC

Time spent before seeing the clinician.	4.34
Length of time waiting at the office.	4.45
Getting through to the office by phone.	4.48
Ease of scheduling an appointment.	4.67
The satisfaction with getting any help and information that you or the patient needed.	4.73
All questions or concerns were addressed and well explained.	4.73
Explanation of what was being done during your visit.	4.75
Quality of the visit overall.	4.8
The personal manner (courtesy, respect, sensitivity, friendliness) of the clinician seen.	4.86
The personal manner (courtesy, respect, sensitivity, friendliness) of the nurse/s seen.	4.9

Figure 6: data collected from patient surveys show low scores regarding wait times

Discussion

- All patient wait times recorded post-intervention were <30 minutes, however, variability between visit processes and physician work flows may have contributed to some of the discernible differences from previous studies.
- Recently hired physician may have acted as a positive deviance due to different approaches to huddle and patient flow.
- Hawthorne effect, defined as the concept that people perform better when they know they are being watched or are part of a study, may have also had significant impact on results of this study.³
- High variability in patient arrival times can cause delays and affect wait times.

Conclusion

Overall, the Children's Cancer Center is a fairly efficient microsystem and provides personal and quality care to patients and their families. Patient flow and daily huddles were identified as areas with potential for improvement. Interventions were put in place to test for change in these categories and have shown early improvement post-implementation.

Recommendations

In addition to continuing current countermeasures, it is recommended that staff download Tiger Connect to provide an alternative way for members to communicate about patients in a timely and secure fashion. Improved communication between providers should help to further improve patient flow, overall efficiency, and decrease wait times.

References:

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