OCTOBER 2021

A COLLABORATIVE MODEL OF CARE BETWEEN PRIMARY CARE AND INPATIENT MANAGEMENT FOR CHILDREN WITH MEDICAL COMPLEXITY

ADAM ROSENBLOOM MD MPH
Complex Care Pediatrician

RAHEL BERHANE MD
Director, Children's Comprehensive Care

Disclosures

- We have no actual or potential conflict of interest in relation to this program/presentation.

“One gets in the habit of using the oil immersion lamp instead of the low power, and focuses too intently in the center of the field….

The institutional eye tends to become focused on the lung, and it forgets that the lung is only one member of the body.”

Sir Francis Peabody 1927 [1]

1. Peabody FW. The Care Of The Patient. JAMA. 1927;88(12):877–882. doi:10.1001/jama.1927.02680380001001

The Child With Medical Complexity (CMC)

- Have complex and chronic health conditions that often involve multiple organ systems and severely affect cognitive and physical functioning.
- 1% of all children they account for nearly one-fifth of all pediatric admissions and one-half of all hospital days and charges in the United States. [1]

1. Berry JG, Hall M, Hall DE, et al. Inpatient growth and resource use in 28 children's hospitals: a longitudinal, multi-institutional study. JAMA Pediatr. 2013;167(2):170–177.

The Hospitalized CMC

- Longer and more frequent hospitalizations
- Higher severity hospitalizations
- Prolonged recovery time
- Higher risk of adverse events
- Difficult to determine discharge readiness, given that many CMC do not return to a completely healthy baseline. [1]

1. Berry JG, Ziniel SI, Freeman L, et al. Hospital readmission and parent perceptions of their child's hospital discharge. Int J Qual Health Care. 2013;25(5):573–581.

Hospitalist Care of the CMC

- Advantages
  - Hospitalists have familiarity with hospital systems
  - Increased availability to patients
  - Experience with common hospital problems
- Disadvantages
  - Discontinuity of care
  - Tendency to see events as episodic
  - Unfamiliarity with patients wishes and core values
  - Difficulty in designing a complex discharge plan suitable to the patients' ability and resources

Children's Comprehensive Care (CCC)

- A primary care medical home for 850 CMCs in the Central Texas Area
- Devoted Nurse Case Managers with a 50 RNCM : 1 patient ratio
- Clinical Providers, Social Workers, Child Life, Psychologist, Counselors, Researcher

- Outpatient Clinic, Sick and Well
- Story holding
- Accessibility
- Family Support
- Advocacy
- Navigation

- Justification of Care Workload
- Quality improvement
- Systems Innovation
- Subspecialist Extensionist
- Value Multiplier

Challenge 1 : Knowing our patients

- Have regular family centered goals of care conversation by spending time to listen to families.
- Build up to date plans of care that are easily accessible by provider and patient
- Iteration 1: Put that plan of care in the PMH history section of the outpatient EMR
- Iteration 2: Build “High Alert” Plans of care in the inpatient EMR
- Iteration 3: Build a cloud based, universally accessible “Story” application

Challenge 2 : Knowing when our patients are admitted/discharged in real time

- Establish a 24/7 accessible direct line from parents to the clinic
- Iteration 1: Encourage parents to notify the clinic if they are going to the emergency room
- Iteration 2: Scan the inpatient list at the Children’s hospital every morning for new admits
- Iteration 3: Build a real time population based dashboard that queries an up to date patient list and pulls directly from the in inpatient EMR

Challenge 3 : Getting the right information to the right person

- Iteration 1: Calling the ED MD ahead, giving a synopsis, faxing the “face sheet”
- Iteration 2: Communicating with the admissions and inpatient team Ad Hoc
- Iteration 3: Using telemedicine to “Co Round” with patients in the hospital

Challenge 4 : Cohorting patients in the hospital to overcome efficiency barriers

- Establish an inpatient Complex Care Team (CCT) run by Hospitalists
- Criteria based on need with overlap with the CCC
- Lower census, more time
- A devoted cadre of Attendings that would get to know the population
- Residents only in their 2nd and 3rd year of training
- Justification for increased resources: A devoted nurse navigator/ case manager
- A single point of contact in the hospital for the PCP

Challenge 5 : Moving from communication to coordination

- Iteration 4: A morning huddle that gathers the inpatient team with the outpatient team, including primary outpatient nurse case managers and social workers.
- Formalizing a communication process at transitions
- Mediation reconciliation
- Barriers to discharge
- Case management needs
- Placing the current acute exacerbation in the context of a chronic illness
- Coordinating with primary subspecialists

Challenge 6 : Moving from coordination to collaboration

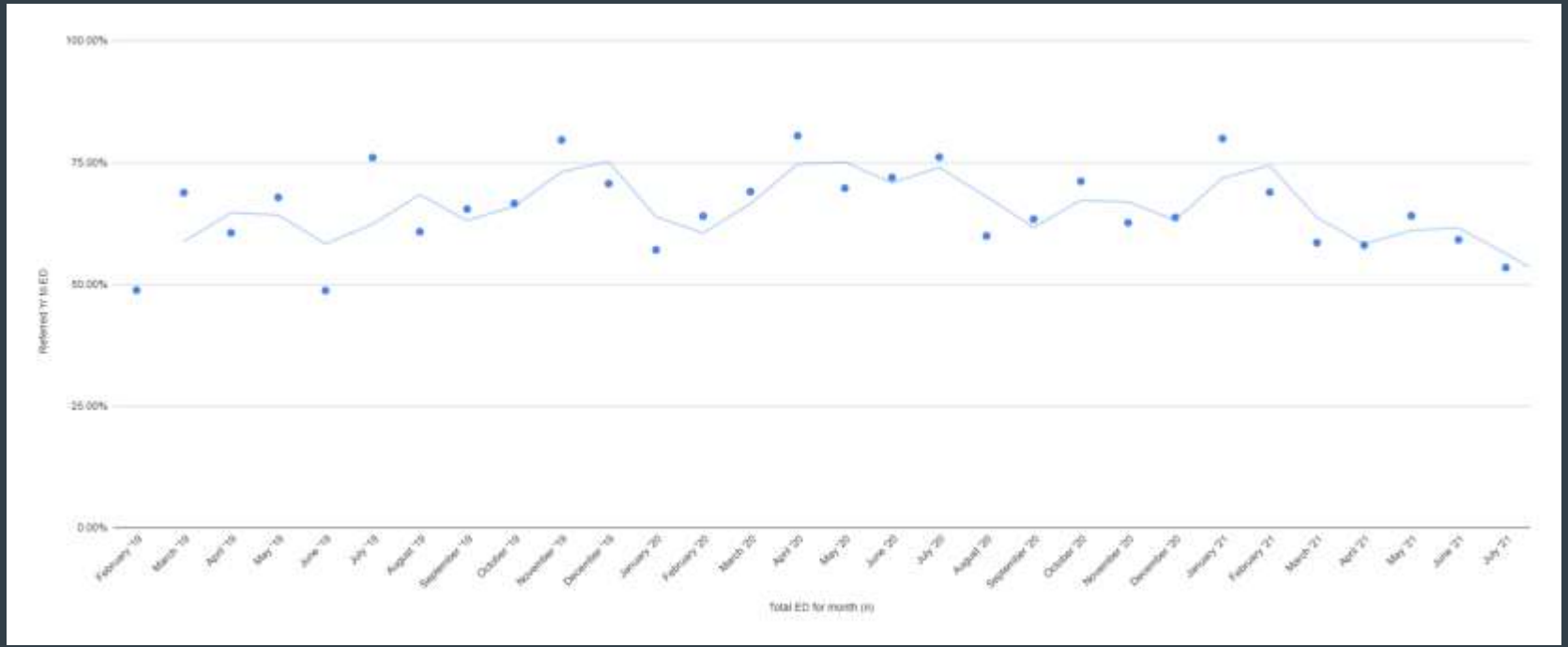
- Readmission prevention: a monthly M+M with inpatient QI teams and champions that studies high utilizers, and makes system wide improvements
- End of life care: Involving outpatient team members in conversations

Challenge 7 : Defining and Monitoring Outcomes

- Have a QI effort in House, a full time Research PHD, Mari-Ann Alexander
- Audits of data using a case definition in the EMR and monthly queries
- Regular feedback of data to the entire clinic staff

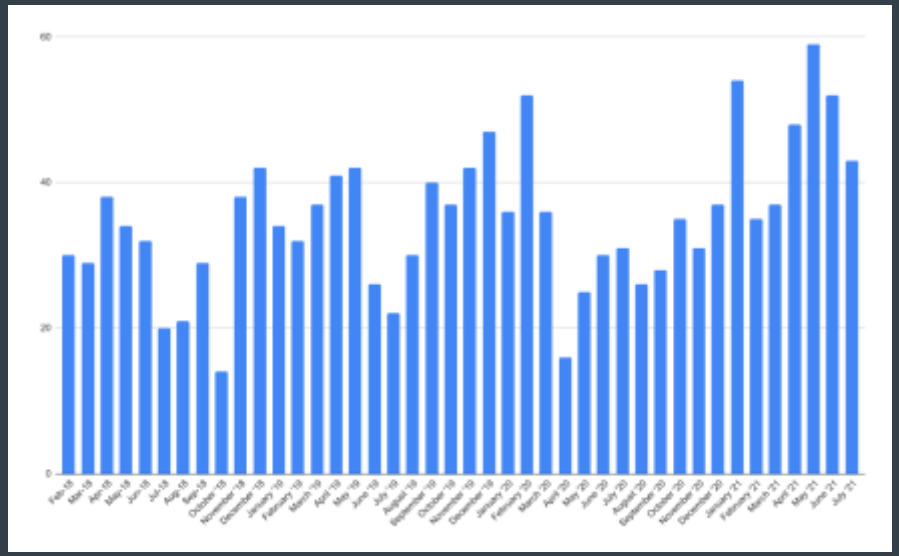
Challenge 7 : Defining and Monitoring Outcomes

- % of ED visits that are “referred”

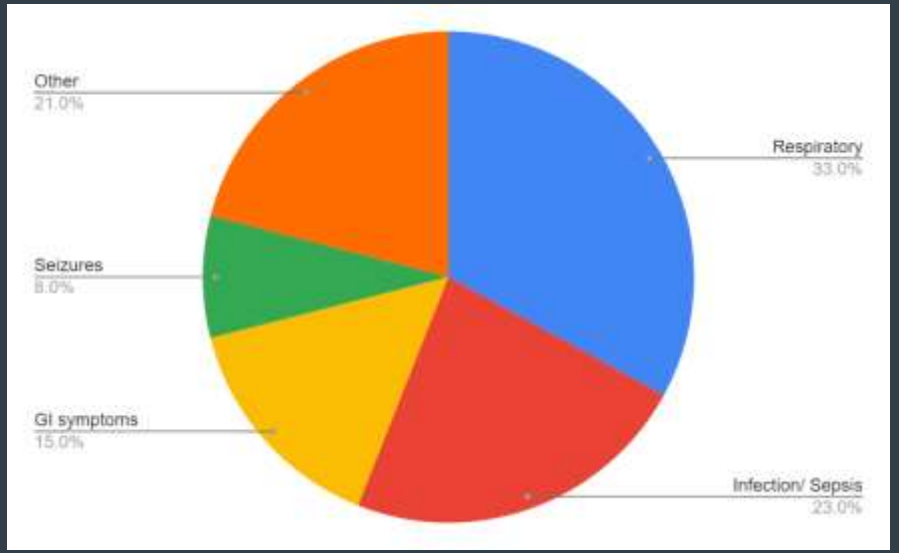


Challenge 7 : Defining and Monitoring Outcomes

- 1468 Hospitalizations over 42 months (7/2018-7/2021)
- Average of 35 hospitalizations/ month
- Of ~850 patients, 4% are hospitalized

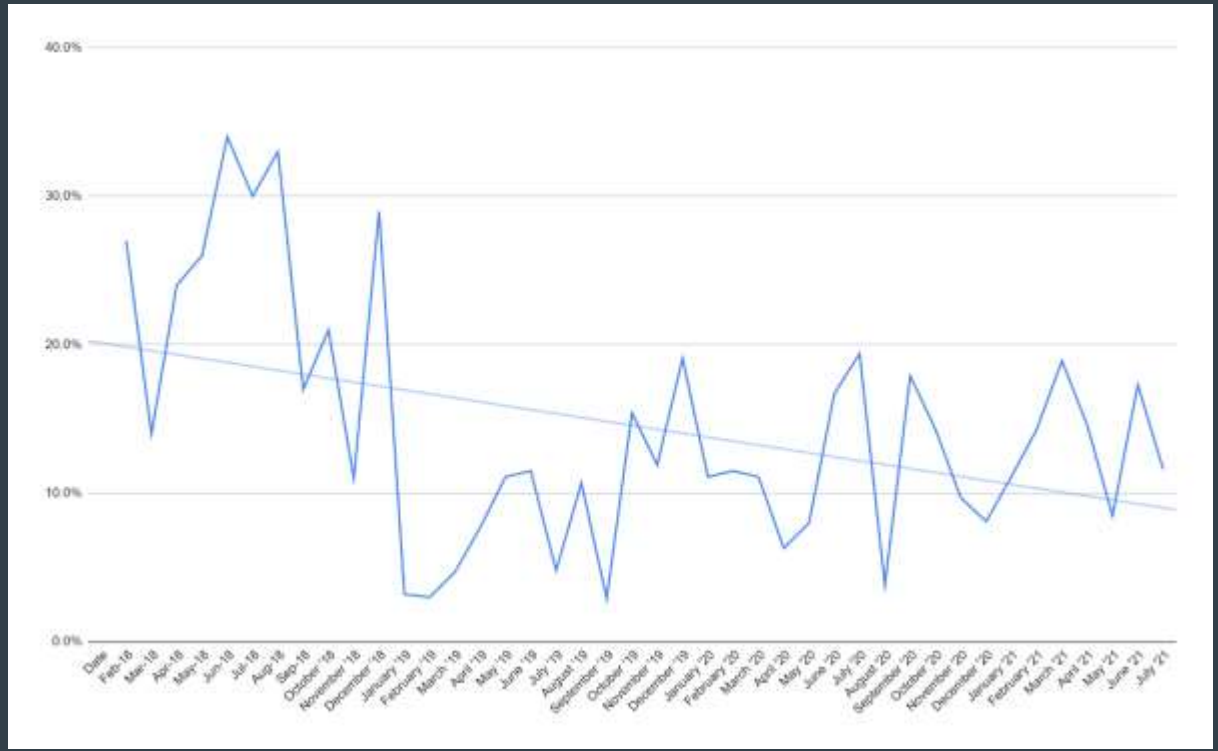


- Reasons for Hospitalizations



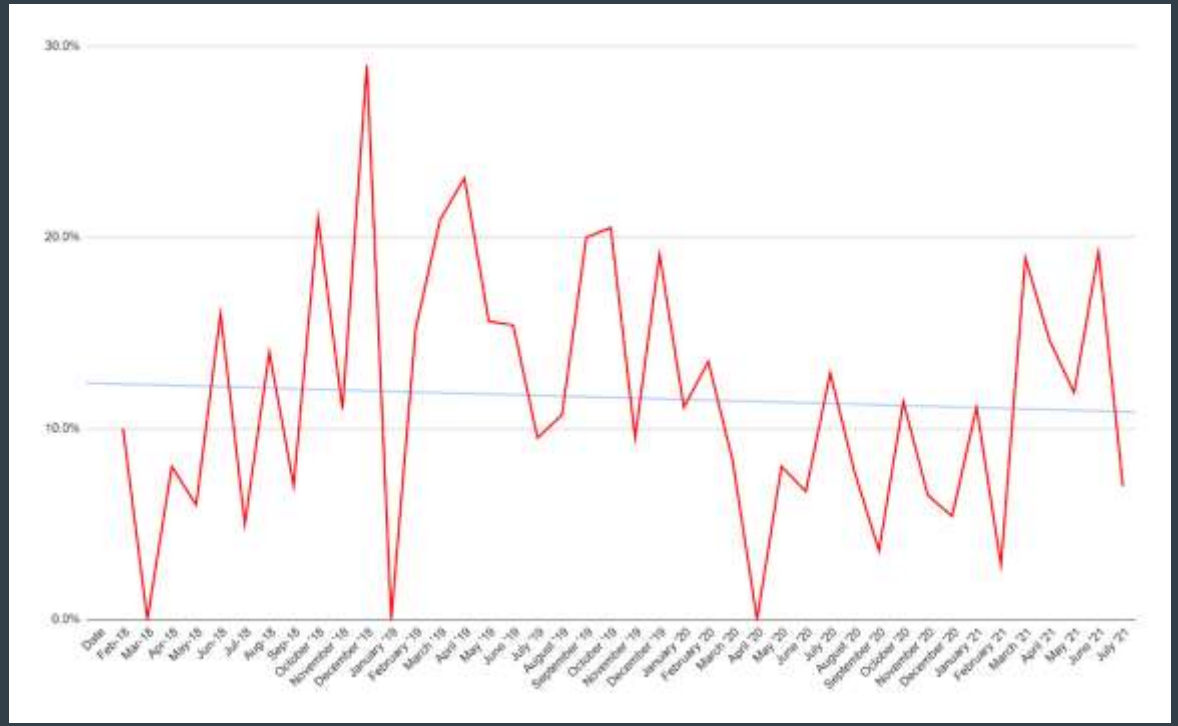
Challenge 7 : Defining and Monitoring Outcomes

- 30 Day Readmission Rate



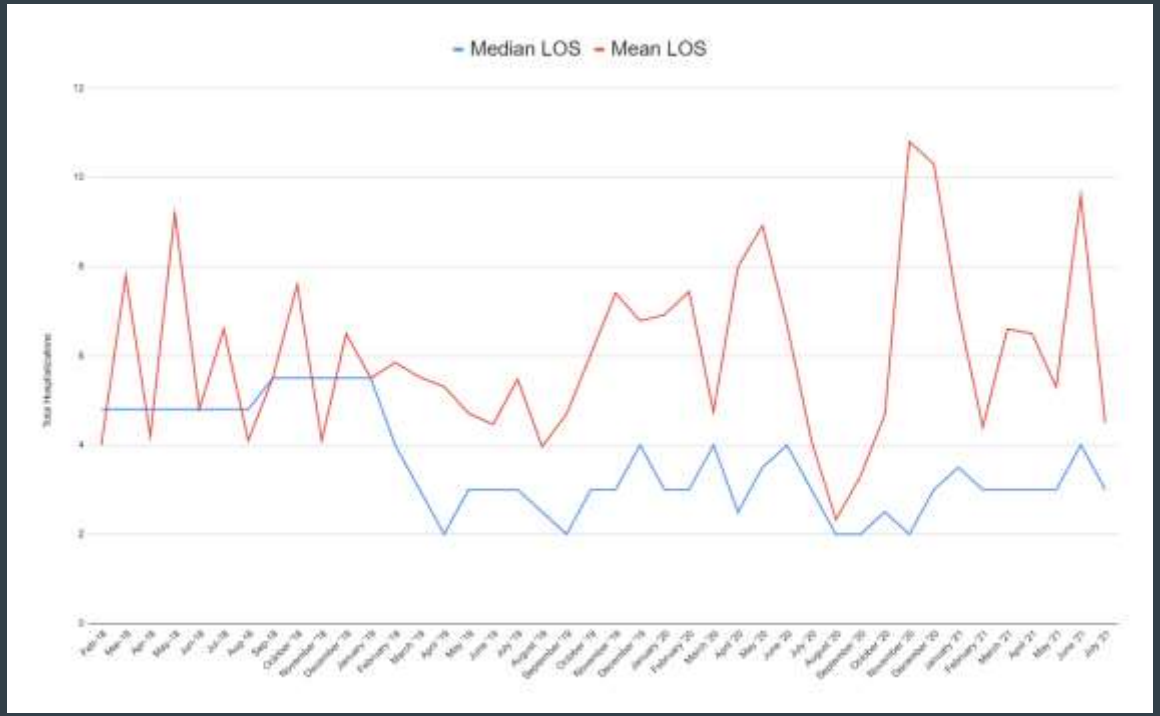
Challenge 7 : Defining and Monitoring Outcomes

- 7 Day Readmission Rate



Challenge 7 : Defining and Monitoring Outcomes

- Length Of Stay



Challenge 8 : Proving Value

- Ineffable value: The qualitative improvement in sharing insight that comes from knowing the narrative
- Unclear which outcomes are measurable, impactable
- Small Sample Sizes with wide variability in courses
- No clear matched control
- Defining value that matters to parents, Capability, Comfort and Calm
- Demonstrating value to the entire system.

Conclusions

- Children with Medical Complexity are acutely vulnerable to the purposeful discontinuity designed in Hospitalist inpatient care.
- A robust Medical Home can bridge that discontinuity with
  - A strengthened medical home in a system that values knowing the child and the family
  - An open and accessible line of communication between patient and primary care provider
  - A strong QI approach with multiple iterations on the PDSA cycle
  - Relationship building with inpatient colleagues that add value
  - Information Technology solutions to streamline communication and data gathering
- Proving value is hard