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A Healthcare Improvement Initiative to Increase Multidisciplinary Pain Management Referrals of Youth with Sickle Cell Disease



SCHOOL OF NURSING

UNIVERSITY OF MINNESOTA
Driven to DiscoverSM

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Background

- Youth with Sickle Cell Disease (SCD) are at risk for chronic pain
- SCD is the most common inherited blood disorder affecting ~ 100,000 Americans
- The most common complication of SCD is periodic episodes of pain (Dampier et al., 2017)
- Youth with SCD report persistent pain on most days of their lives (Sil, Cohen, & Dampier, 2016)
- As life expectancy has improved, the experience and impact of chronic pain has become more prevalent
- Certain characteristics can be helpful in identifying youth at greater risk for chronic pain
- Only 3.9% of the local SCD population have been referred for multidisciplinary pain management services

Purpose & Aims

Purpose:

To implement a system of change to drive multidisciplinary pain management referrals

Aims:

- To implement an evidence-based screening tool to facilitate early identification of youth with SCD at risk for chronic pain
- To increase the number of patients with SCD and chronic pain that are referred for multidisciplinary pain management services.

Methods

Participants:

- > 2 years of age and < 21 years of age
- Confirmed SCD
- Not previously screened in the past 12 months

Setting:

- One Midwest Regional Sickle Cell Treatment Center

Screening Tool:

- 8-item, evidence-informed tool inclusive of factors associated with painful episodes
- 30 day pilot by key stakeholders prior to implementation

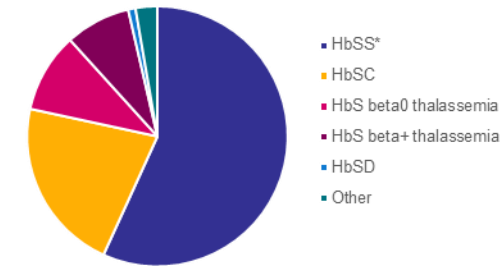
Process/Intervention:

- Yearly assessment of risk
- REDCap based screening completed by clinic Psychologists or Social Workers

Results

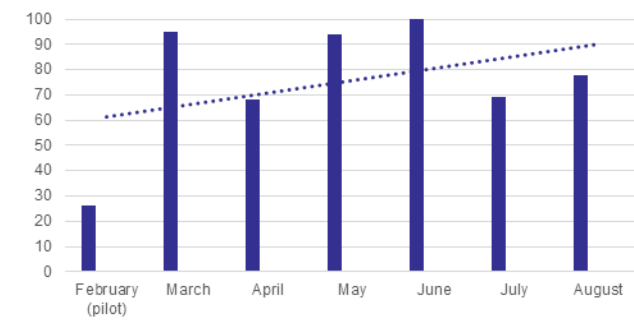
- 84% (N=111) of eligible youth ages 2-20 years (M=11.75, SD=5.34) were screened
- 51.4% female
- 56/111 (50%) screened positive for ≥ 2 risk factors
- 57.7% were hospitalized in the past 1- year
 - Nearly half (43.8%) had > 3 hospitalization *
 - Hospitalizations were ≥ 5 days * in 51.6%
 - 16.2% endorse pain ≥ 15 days/month *
- 46% (N=12) with a positive screen referred to pain management clinic
- We saw a 200% increase in referrals during project implementation

SCD Type

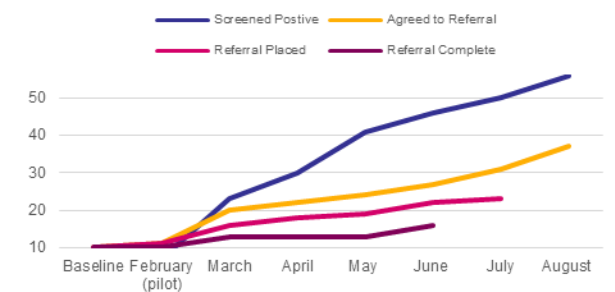


Risk Factors	%
Medical History	
Acute chest syndrome	24.1
Chronic headache / migraine *	15.7
Anxiety *	13
Avascular necrosis *	10.2
CVA / Abnormal TCD	8.3
Depression *	6.5
Iron overload	4.6
Gallbladder disease	4.6
Trauma / PTSD	3.7
Pulmonary hypertension	1.9
Chronic skin ulceration	0.0
Are you currently prescribed any of the following?	
Daily short-acting opioids *	38.1
Hydroxyurea *	23.8
PRBC transfusion protocol *	7.6
Long-acting opioids *	5.7

Percent of Eligible Sickle Cell Patients Screened



Cumulative Number of SCD patient referrals to the Multidisciplinary Pain Clinic



Discussion

- Implementation of an evidence-based risk screening tool, within a quality improvement framework, results in a steady upward trend in multidisciplinary pain management referrals
- This project has reinforced the value of team communication when applying a system change and provides the infrastructure to launch future tests of change
- Long-term targets are aimed at decreasing the number of SCD pain related hospitalizations, readmissions, and total hospital days.