

## Background

- Many patients with sickle cell disease rely heavily, often in the event of vaso-occlusive pain crises, on treatment in the emergency department that can often lead to hospitalization.
- In the United States it is estimated that in one year approximately 21% of adult patients with sickle cell disease will experience at least three acute care encounters while 5% will have ten or more such encounters<sup>1</sup>.
- The high frequency of these visits is indicative of inadequate management of the disease and can place substantial cost and quality of life burdens on patients.
- Our project aims to address the problem of acute care overutilization that occurs in the absence of coordinated and effective outpatient management of sickle cell disease.

## Objectives

- Improve scheduling of post-discharge hematology appointments for patients with sickle cell disease
  - Schedule appointments for within 14-28 days of discharge from hospital for a SCD related visit
- Improve patient adherence to hematology follow-up appointments
- Establish standard discharge procedures for sickle cell disease with pain crisis in both the ED and inpatient services
- Provide a more coordinated, more outpatient-based system of care for patients with sickle cell disease
- Reduce the 30-day emergency department re-representation rate for patients with sickle cell disease that have been hospitalized for pain crisis
- Help patients to experience a greater quality of life in lieu of the many burdens associated with sickle cell disease

## Methods

The IHI Model for Improvement was used as the framework for guiding this effort.

**Population:** All adult patients with sickle cell disease that present to Boston Medical Center for SCD related complaints

**Data Sources:** Inpatient discharge summaries, hematology clinic notes, outpatient appointment scheduling system

**Variables of Interest:** Duration to scheduled post-discharge follow-up appointment, follow-up visit adherence, 30-day emergency department re-representation rate

Additional qualitative observations were made from EMR chart review, provider and patient interviews, and medicine / hematology consult rounds.

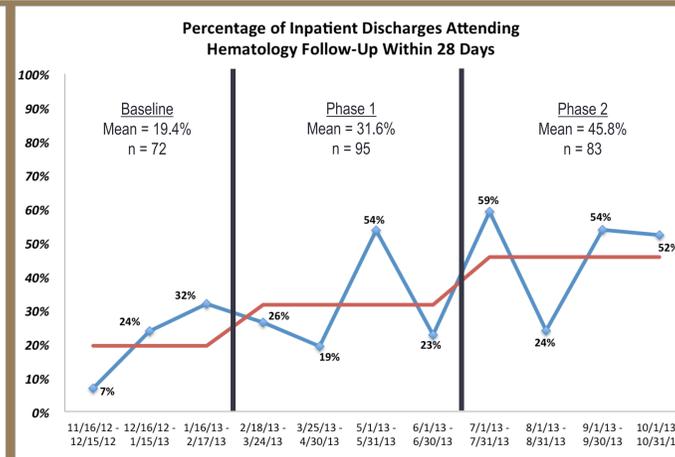
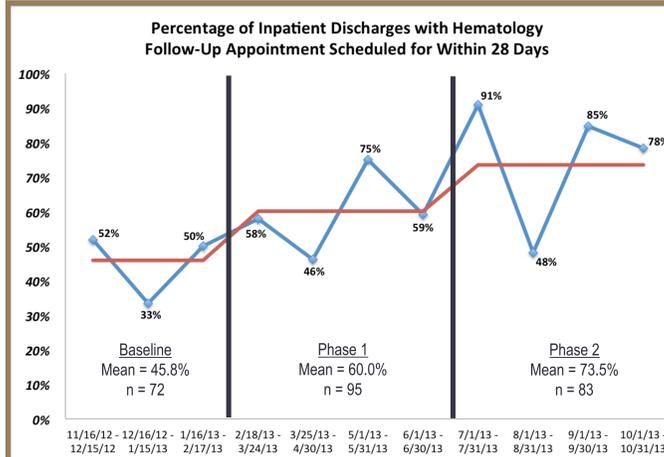
## Problems Identified

- Limited availability of hematology appointments
  - Only two hematologists at Boston Medical Center regularly see patients with SCD in the outpatient clinic
- Considerable time constraints for both residents and interns, who are primarily responsible for scheduling appointments
- A cumbersome process for the scheduling of appointments
  - Providers were being placed on hold for extended periods of time and were asked to respond to multiple automated prompts before speaking with someone.
  - Ambiguity with regards to when it was appropriate to request a double booking
- No reliable means by which appointments may be booked on weekends
  - A significant problem based on the fact that Mondays serve as one of the two weekly clinic dates
- Many of the patients face a variety of socioeconomic challenges that affect their ability to adhere to follow-up appointments and treatment regimens.

## Actions Taken

- Reserved appointment slots strictly for post-discharge follow-up
- One hematologist has begun to set aside three appointments in her clinic every Monday.
- The other has agreed to allow double booking of appointments in her clinic for all post-discharge patients without requiring her approval in each individual case.
- Direct contact with the hematology office staff
  - A determination of a direct set of pager numbers for contacting the hematology office staff was made and conveyed to the medicine interns and residents.
  - This removes a time-consuming facet of the cumbersome scheduling process.
- A standard set of instructions for follow-up scheduling
- Now included in individualized patient care plans for SCD patients that visit BMC with high frequency
- A set of the patients that present frequently with a significant number of SCD related complaints are now being admitted to the hospitalist service.

## Analysis



### Phase 1 Adjustments

Introduction of open Monday hematology appointments (11:30a – 12:00 p) for follow-up

Individualized care plans for high frequency visitors

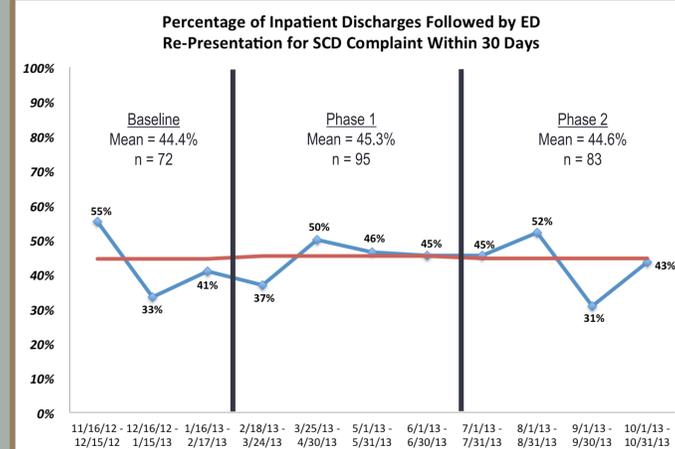
### Phase 2 Adjustments

Standardized instructions for post-discharge follow-up scheduling, with direct pager numbers, were uploaded into individualized care plans

Approval of double booking Friday clinic slots for follow-up appointments in all cases of inpatient SCD visits

High frequency visitors for sickle cell disease related complaints begin to be preferentially admitted to the hospitalist service

\*August 19 – September 9, 2013: The hematologist at BMC who follows the vast majority of patients with sickle cell disease was unable to see patients in clinic



## Standardized Scheduling Instructions

### Hematology Follow-Up Appointment Scheduling:

For sickle cell disease, early follow-up with hematology has been shown to prevent subsequent hospitalization and improve care quality.

**All patients that are admitted with a SCD related complaint should have a hematology follow-up appointment scheduled for within 14 days of discharge.**

To book an appointment call Tania (8-9590) or Iris (8-5758).

For Monday Clinic (Dr. McMahon):

Appointment slots between 11:30 AM and 12:00 AM are set aside for post discharge follow-up. State that you are seeking a POST DISCHARGE appointment within one of these slots.

For Friday Clinic (Dr. Ngo):

Dr. Ngo has given approval to overbook her patients for a follow-up appointment within 14 days of inpatient discharge. Clearly state that you are seeking a POST DISCHARGE appointment.

If you are having problems getting an appointment, please page Dr. McMahon (0400) or Dr. Ngo (8431).

## Conclusions / Looking Forward

- Our interventions have been successful in improving the rate at which post-discharge follow-up appointments for patients with sickle cell disease are being appropriately scheduled and attended by patients.
- No significant change has been observed in the 30-day emergency department re-representation rate for patients with sickle cell disease related complaints.
- Further interventions are warranted to build upon the moderate strides we have made in improving the coordination of care for patients with sickle cell disease, with a goal of reducing both the 30-day ED re-representation and 30-day readmission rates. These include:
  - Real time data tracking and direction of attention towards individual cases of poor follow-up appointment scheduling
  - An added focus on improved patient adherence to follow-up appointments
  - Patient education efforts by which we may improve outpatient management of pain and other complications due to sickle cell disease

## References

- Brousseau DC, Owens PL, Mosso AL, Panepinto JA, Steiner CA. Acute Care Utilization and Rehospitalizations for Sickle Cell Disease. *JAMA*. 2010;303(13): 1288-1294.
- Leschke, J., Panepinto, J. A., Nimmer, M., Hoffmann, R. G., Yan, K. and Brousseau, D. C. (2012), Outpatient follow-up and rehospitalizations for sickle cell disease patients. *Pediatr. Blood Cancer*, 58: 406–409.

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