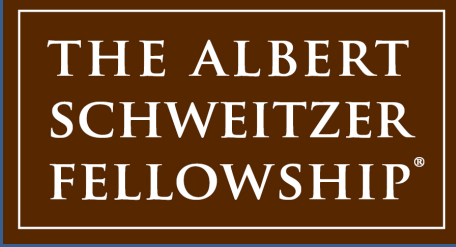


# The Duke Hotspotting Initiative: Medical Students Improving Patient Care Utilization and Health Maintenance



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## Program Objectives

### Objectives for Patients

- Set and maintain personalized goals related to health
- Prioritize preventative health, access to care, food and housing security, and forming healthy habits
- Utilize primary care and avoid unnecessary Emergency Department visits
- Receive high-quality, compassionate, cost-conscious care from an interprofessional team

### Objectives for Medical Students

- Early practical experience with patient-centered interviewing, longitudinal care, and management of chronic health conditions
- Specialized didactic training in motivational interviewing, behavior change counseling, and medical documentation
- Navigate the health system first-hand from the patient's perspective
- Real-life experience on an interprofessional health care team of physicians, APPs, care managers, social workers, and other students

## Intervention

- Patients are identified from the Duke Outpatient Clinic by a clinician mentor based on the following characteristics:
  - High needs
  - Complex medico-social background
  - High utilization of the ED
- Pairs of first-year medical students serve as a patient liaison to one patient
- Each team of first-year students is supervised by an upperclass medical student and a clinician mentor that is familiar with the patient (Figure 1).

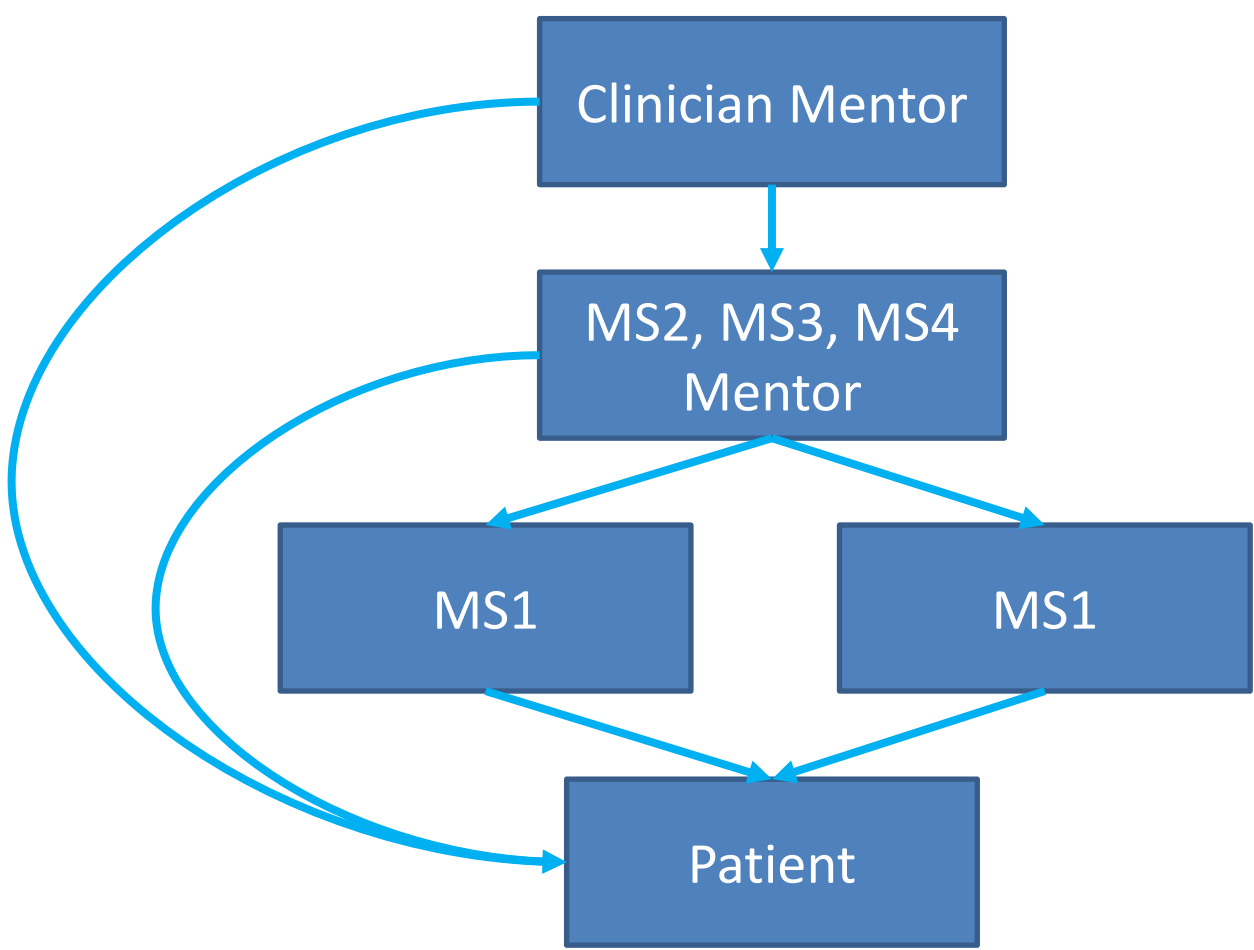


Figure 1. Leadership structure of a DHSI patient team



## Project Goals

### Goals for Patients

- 7 of the 10 patients will be seen in the ED fewer times than last year
- 7 of the 10 patients will reduce their percentage of outpatient no-shows
- 3 of the 10 patients will go to the ED two or fewer times during the year

### Goals for Medical Students

- 18 of 20 enrolled MS1s will self-report an improvement in 3 of the following:
  - Comfort assessing and managing common chronic disease states
  - Comfort addressing goal setting and health maintenance with patients
  - Comfort connecting underserved patients to local community resources
  - Comfort with medical documentation in the electronic health record

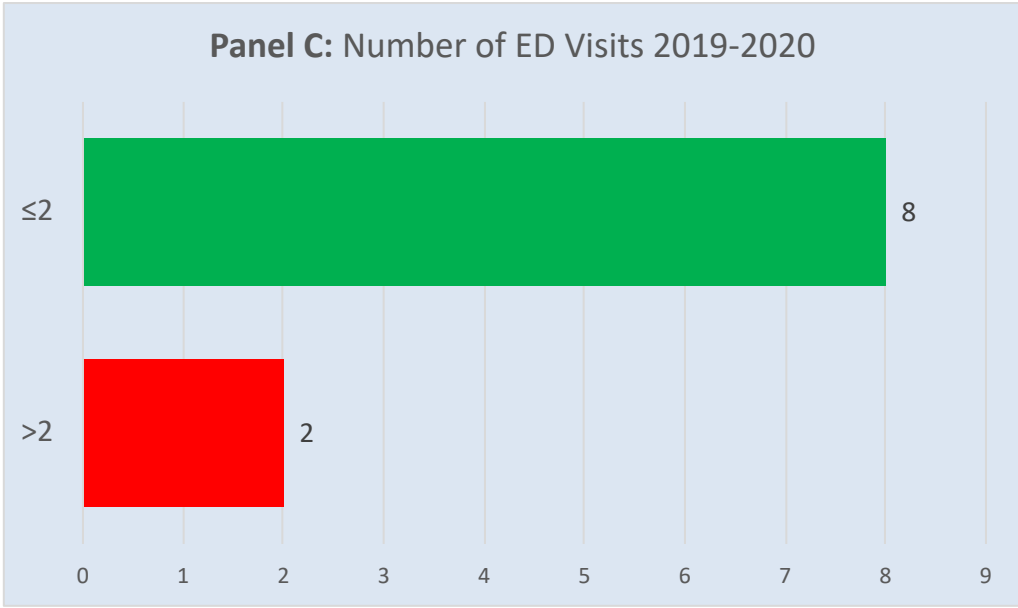
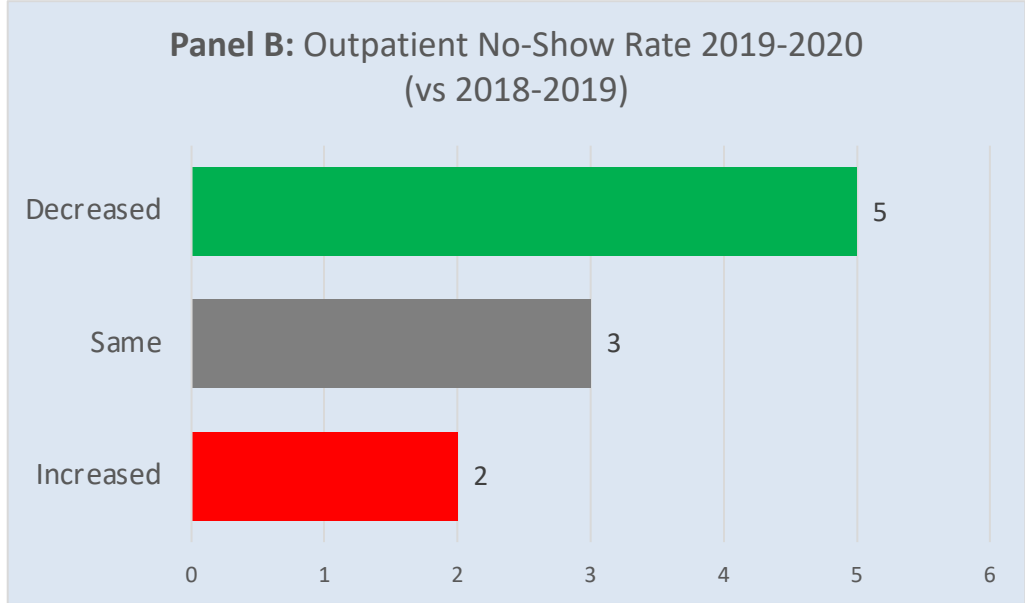
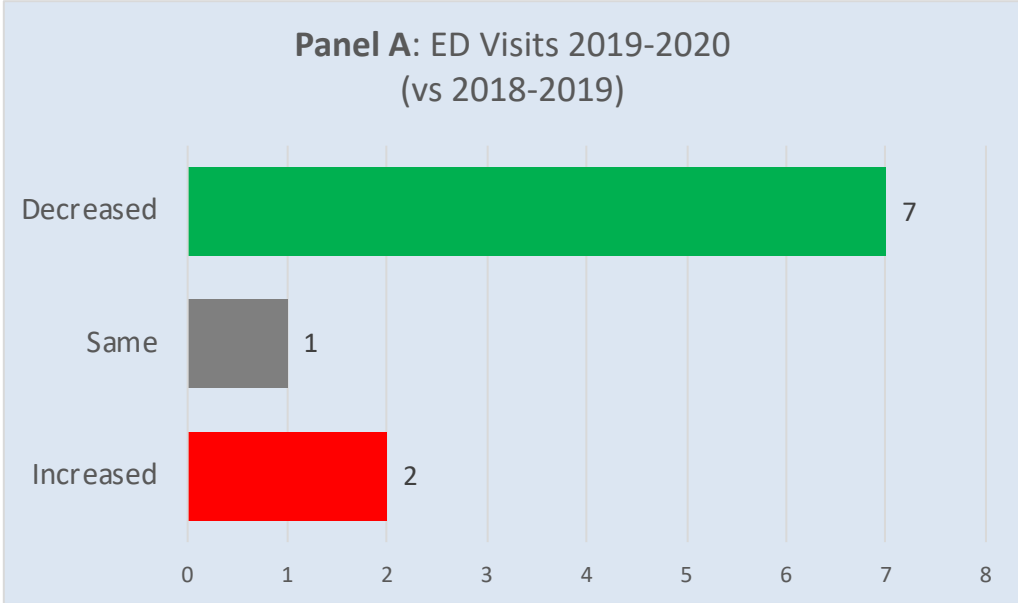


Figure 2. Results of Patient Outcomes Goals. (A) 7 of 10 patients reduced their number of ED visits compared to last year. (B) 5 of 10 patients reduced their frequency of no-shows, but 8 of 10 patients did not increase their frequency of no-shows. (C) 8 of 10 patients were seen in the ED 2 or fewer times during the year. 4 of 10 patients were not seen in the ED at all during the year (not shown).

Figure 3. Results of student surveys before and after participating in Hotspotting, reflecting comfort with various key clinical skills. Green bars show the number of students that reported improved comfort in each skill. Red bars show the number of patients that did not report improve comfort in that skill.

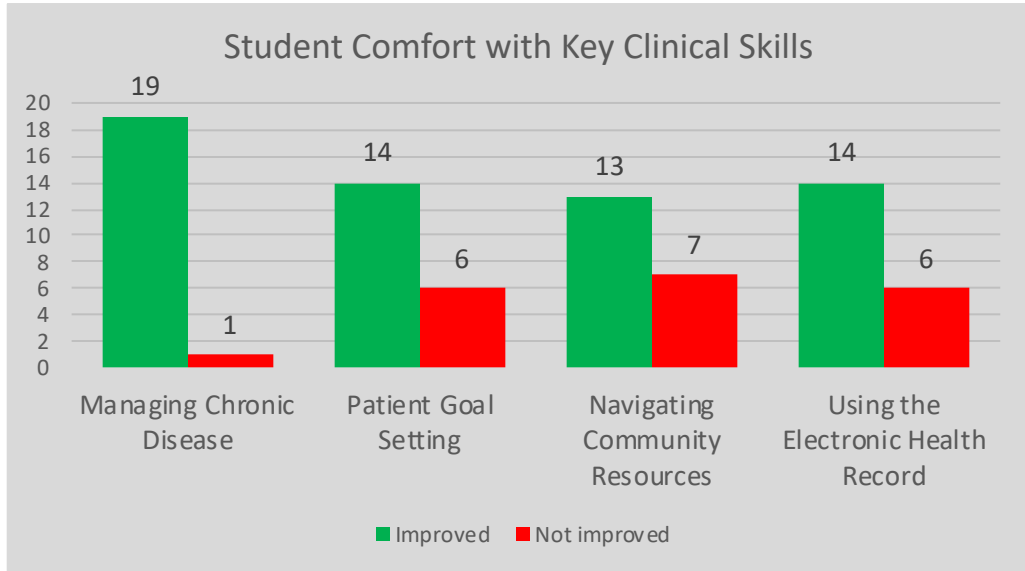
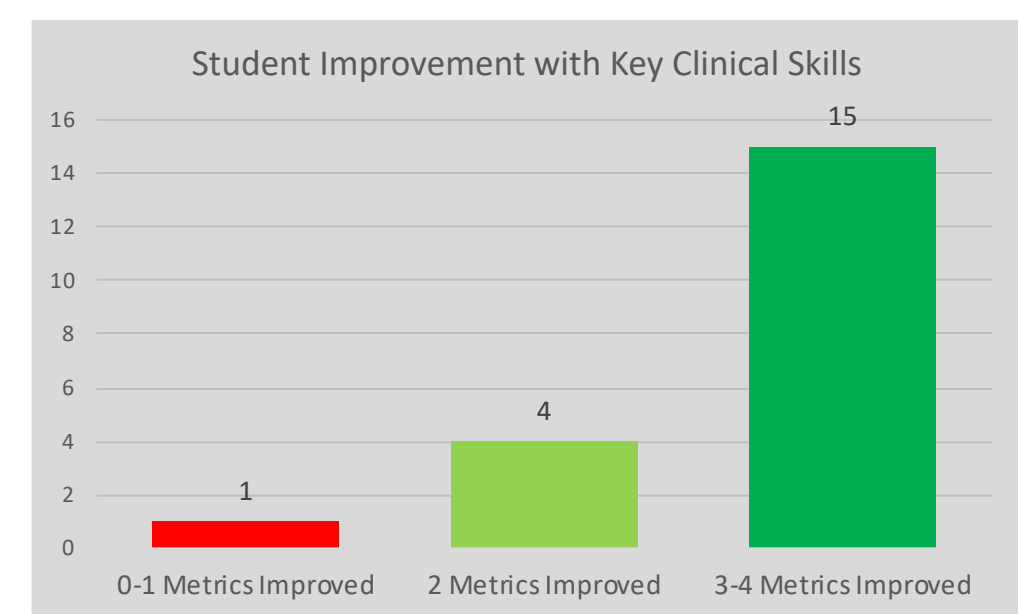


Figure 4. Results of student surveys before and after participating in Hotspotting, reflecting comfort with various key clinical skills. Of the 4 skill areas analyzed, 15 students improved in 3-4 skill areas, 4 students improved in 2 skill areas, and 1 student improved in 0-1 skill areas.

## Sustainability & Future Directions

### Continuity of Leadership

- The student executive leadership committee maintains primary ownership of program leadership, and this group consists of students across multiple academic years.
- Next year's leadership team (2020-2021) has been recruited and will consist of 2 MS4s, 3 MS3s, and 5 MS2s.
- The program's core faculty leadership remains constant from year to year.

### Opportunities for Improvement

- Interprofessional collaboration with students from other schools, i.e. nursing, PT, and MSW students
- Expansion of eligible patient population to additional clinical sites
- Further integration in the medical school curriculum, formal student leadership opportunities
- Formal partnership with other student groups, i.e. Root Causes, Fresh Produce Program

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Protocols for the collection of patient and student outcomes separately reviewed and determined exempt by the Duke University Health System IRB.