

**CONTROL ID:** 2469647

**TITLE:** Duke Hotspotting Initiative (DHSI): Integrating Medical Education with Community-Based Care Coordination

**ABSTRACT BODY:**

**Needs and objectives:** Amid challenges of rising costs, increasing fragmentation of care, and ongoing epidemics of preventable chronic illnesses, undergraduate medical educators recognize the tremendous need to prepare the next generation of doctors to practice cost-effective and coordinated preventive medicine. While most teaching strategies approach these topics through didactic instruction, medical students consistently attribute the difficulty in integrating these concepts into clinical care to the lack of practical training. Confronting these challenges, we seek to create a novel, hands-on approach to teaching population health and systems-based practice for first year medical students.

**Setting and participants:** We enrolled a pilot group of 8 students primarily for program evaluation in 2014. As part of a “phased adoption” strategy, the program commenced the following year, with an initial enrollment of 20 students out of 36 applicants.

**Description:** Duke Hotspotting Initiative (DHSI) was developed as a new curriculum based on “hotspotting,” a concept pioneered by MacArthur Genius Grant winner Dr. Jeffrey Brenner and the Camden Coalition of Healthcare Providers. Hotspotting provides comprehensive care management to the highest utilizing, medically-complex patients in order to reduce ED/hospital visits and improve care quality. Partnering with the Duke Outpatient Clinic (DOC), a hospital-based internal medicine clinic with an active care management program, DHSI incorporates medical students directly into care management services by having students work in pairs to improve the health of a high-utilizing patient. Over a 6-month period and under the supervision of a team consisting of a nurse care manager, psychiatrist, nurse practitioner and social worker, students elicit SMART self-care goals from their patients through motivational interviewing, particularly focusing on altering modifiable risk factors for chronic disease with behavioral modification strategies. Additional responsibilities include weekly communication with their supervisor; transportation arrangements for patient primary and specialty care appointments; and note-writing using electronic medical records (EMR). Supplemental didactic sessions focus on practical skills, including how to navigate EMRs, write progress notes, give oral presentations, assess major social factors determining their patient’s well being, and conduct home visits. In this way, students are able to impact the lives of some of the sickest patients at Duke, while occupying roles on the healthcare team appropriate to their level of training.

**Evaluation:** The overall curriculum and learning objectives were evaluated through a mixed methods approach, composed of analyses of student written reflections, and pre- and post-participation surveys assessing the acquisition of core competencies. Content analysis of written reflections indicated that participants felt more comfortable referring patients for social services and pain and/or drug rehabilitation, as well as obtaining a history, performing a physical examination, and communicating treatment plan options to at-risk populations than their peers, with high endorsement of the program over traditional didactic approaches. Core competencies reflecting the AAMC’s *Core Entrustable Professional Activities for Entering Residency* were specifically examined in targeted questionnaires, and results reflected an increase in competency domains such as patient-centered care, interpersonal and communication skills, professionalism, systems-based practice, and interprofessional collaboration. These preliminary results indicate high student satisfaction, improvement in quality measures, and an increase in students’ self-

assessment of their knowledge in the biopsychosocial determinants of health, prevention strategies, and skills in motivational interviewing. Additionally, several patient care factors are currently being evaluated, including SMART goal adherence 6-months post-participation; improvement in Patient Activation Measure<sup>®</sup> (PAM) scores pre- and post-participation; and decreases in ED utilization and admission rates at 6-months and 1-year post-participation.

**Discussion / reflection / lessons learned:** Medical students gain a deeper understanding of the biopsychosocial determinants of health and learn about critical local health resources. While not otherwise taught in a traditional medical school curriculum, such knowledge is essential for physicians to make authentic, sustainable improvements in their patient's well-being. Concomitantly, patients receive support to meet a self-determined health goal integral to their wellbeing and assistance coordinating care for complex health needs. Ultimately, this program is a low-cost mechanism to simultaneously train future physicians and improve the health of the system's most vulnerable members.

**Online resource URL (optional):** Syllabus: [bit.ly/1POE04s](http://bit.ly/1POE04s)

**PRESENTATION IP SHARED DETAILS PAGE URL:**

**AUTHORS (FIRST NAME INITIAL LAST NAME):** J. Lee<sup>2</sup>, M. Hardy<sup>2</sup>, J. Rivo<sup>2</sup>, M. M. Bratcher<sup>3</sup>, N. T. Cunningham<sup>1</sup>

**INSTITUTIONS (ALL):** 1. Psychiatry, Duke University Health System, Durham, NC, United States.

2. School of Medicine, Duke University Health System, Durham, NC, United States.

3. Community and Family Medicine, Duke University Health System, Durham, NC, United States.

**SGIM MEMBERSHIP STATUS (IME):**

Jerry Lee : Non-Member Medical Student

Morgan Hardy : Non-Member Medical Student

Julie Rivo : Non-Member Medical Student

Marigny Bratcher : Non-Member

Natasha Cunningham : Non-Member

**CURRENT PRIMARY CATEGORY:** Medical student education (UGME) - IME

**Please select a secondary category - IME:**

**Other (please specify) - IME:**

**PRESENTATION FORMAT:** No Preference

**Meeting Schedule/Scheduling Restrictions - IME:**

**Poster Presentation Walk-Throughs - IME:** Yes

**Accuracy-IME:** Yes

**Policy Verification-IME:** SGIM Presenter Registration Policy has been read.

**Non-Commercial Funding - IME:**