In the spring of 2015, the Emory Global Health Institute made its first call for the Combating Childhood Illness Seed Grants, funded by the Marcus Foundation, to enable Emory faculty members to conduct preliminary research or implement a program aimed at reducing child morbidity and mortality through long-term, sustainable global health partnerships.

Dr. Andi Shane, from the Emory University School of Medicine, responded to that call and received one of the initial awards for work in Ethiopia. Dr. Tal Berkowitz (a second year emergency medicine fellow in the Emory School of Medicine Department of Pediatrics) and Dr. Shane proposed a triage care improvement process for Black Lion Hospital (associated with Addis Ababa University). The study, entitled RAPPID: Rapid Assessment of Pediatric Patients with Infectious Diseases/Immune Deficiency in Ethiopia, aims to improve patient triage and delivery of antibiotics upon arrival to the hospital emergency department (ED).

Drs. Berkowitz and Shane seidentified this as an area for improvement through numerous discussions with physicians in Ethiopia. In the early stages of the study, Drs. Workeabeba Abebe and Tigist Bacha from Addis Ababa University visited Emory to learn about and observe how triage processes work in Emory’s three affiliated hospitals to determine how certain procedures could be implemented in Ethiopia.

The study began in January 2016, and will continue through December 2016. The ultimate goal is to standardize triage approaches through guidelines to expedite care and optimize the evaluation and management of children who meet identified criteria. These criteria were identified because they may make children more vulnerable to infection and therefore, triaging and timely management including the administration of antibiotics is of utmost importance. The criteria identified include children who have: a) cancer and received chemotherapy, b) leukemia, or c) neutropenia (an abnormally low count of white blood cells).

Black Lion Hospital was selected as an optimal study site. As the only tertiary care referral hospital for pediatric oncology patients in Ethiopia, the hospital...
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and staff are committed to reducing the risk of infections in their oncology population.

During the first of three phases, study investigators collected baseline data on current triage procedures, time to antibiotic delivery, choice of antibiotics, hospital length of stay, and mortality rates. Baseline data collection revealed, among other things, consistent issues with the recording of timing (time stamping) of patient interactions. Within patient records, hospital staff were tracking patient arrival date to the Emergency Department (ED), rather than precise documentation of time and date. Such precision would allow the hospital to increase attention toward time from arrival to receiving antibiotics. Based on the study’s hypothesis, this decreased time to antibiotic administration would lead to lower morbidity and mortality rates.

According to Dr. Berkowitz, it actually may not be so difficult to change the current time stamping methods for patient interactions. Currently, the ED in Black Lion Hospital doesn’t have wall clocks. By purchasing basic wall clocks and orienting nurses to record various times in patient care, such time stamping issues may be mitigated or reduced.

Based on findings from phase one, phase two of the project, scheduled for April-July 2016, involves the implementation of guidelines for effective triage and assessment. Dr. Berkowitz is working closely with physicians at AAU to create procedures to shorten the time it takes for patients to receive antibiotics when they enter the ED. At Black Lion Hospital, the current sequence to obtain antibiotics in the ED is as follows: the physician orders antibiotics, the patient’s family goes to the pharmacy to receive the antibiotics, and then the family returns to the ED to provide those self-purchased drugs to the original attending doctor to administer to the patient. Working within this framework, the goal of phase two is to create guidelines and protocols that empower nurses to assess patients and administer antibiotics, increasing the role of nurses in patient care. This phase is the most complicated, according to Dr. Berkowitz, because “you’re trying to get people to do things differently.”

Phase three of the project will involve the continuation of guidelines while trying to secure a stock of specific antibiotics within the ED itself, eliminating the time consuming step of filling an antibiotic prescription at an off-site pharmacy. Through improving patient documentation, increasing involvement of nurses, and streamlining the processes, Drs. Berkowitz and Shane hope to have antibiotic infusions initiated or oral antibiotics consumed less than an hour after arrival.

The study is being conducted in three phases in order to determine what aspects have the biggest impact on time to antibiotics. Dr. Berkowitz hypothesizes that the combination of antibiotics in the ED and guidelines for care will be the most effective changes, but believes that the evidence-based guidelines on their own will improve care and make the process more efficient. Additionally, Drs. Berkowitz and Shane hope to expand upon the limited duration of the Marcus Seed Grant and establish a teleconferencing relationship with trainees at Black Lion Hospital to create a sustainable and mutually beneficial learning environment.

Emory University, along with Black Lion Hospital, are now leaders in the fight to help Ethiopian children survive treatable conditions through triage process changes.