A model for short term medical missions: Utilizing patient data to optimize providers' experience and patient care

WAYNE STATE
School of Medicine

World Health Student Organization

Leedor Lieberman[1], Chih Chuang, MD[1]
[1] School of Medicine, Wayne State University, Detroit, MI

TRIP OVERVIEW

From February 22 - March 2, 2014, a team of nineteen first-year medical students, two fourth-year medical students and two physicians set up medical clinics in Arreti and Zimba, two indigenous communities in Panama's Darién Province, located east of Panama City and bordering Colombia. We partnered with Global Brigades to organize a clinic including physician consultation, dentistry, and an on-site pharmacy. Additionally, we distributed water filtration systems and solar-powered lanterns to the community members.

OBJECTIVE

To collect patient demographics, relevant clinical findings, diagnosis, and medications prescribed in order to optimize future medical mission trips. With the data collected we will be able to organize focused pre-trip learning sessions and efficiently direct our medications and supplies to meet the community's needs.

CLINIC SETUP

Figure 1: Patient flow. Triage: Students obtained the patients' chief complaints and vitals. Consult: Students interviewed patients, performed focused review of systems, and used non-invasive techniques to diagnose patients. MS1s worked alongside, MS4s, and both American and Panamanian physicians. Charla: Children learned about good hygiene and nutrition. Pharmacy: Patients received their prescribed medications, along with an anti-parasite and vitamins.

MATERIALS

Patient data was collected using the Global Brigades electronic medical record program provided.

RESULTS

265 patients were seen at our two clinic sites in Arreti and Zimba. Ages of the patients ranged from 4 months old to 80 years old. The average age (years) in both clinics was 27.1 ± 22.8, and 69.8% of the patients were females. Table 1 shows the demographics of the patients seen at each clinic site.

Table 1: Patient demographics at each clinic site.

	Arreti (n = 153)	Zimba (n = 112)
Age (y), Mean ± SD	28.1 ± 22.6	25. 6 ± 21.8
% Female	59.6%	83.9%

Relevant Systems of Patient Diagnoses

- Gastrointestinal — 30%
- Respiratory — 16%
- Musculoskeletal — 14%
- Dermatological — 14%
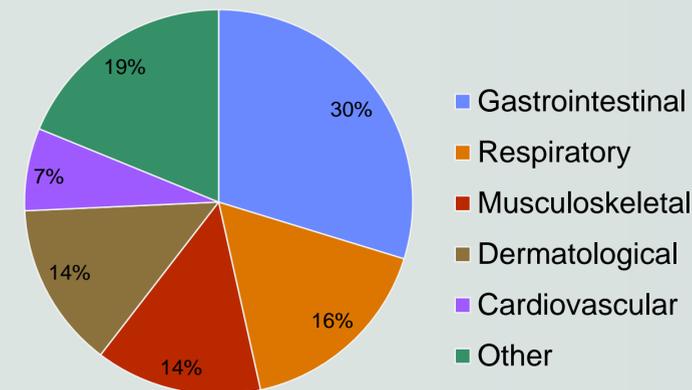- Cardiovascular — 7%
- Other — 19%

Figure 2: Summary of relevant systems of patient diagnoses. Other diagnoses were related to: neurology, genitourinary, metabolism, ophthalmology, otolaryngology, or dental. Additionally, 8% of patients were in good health.

RESULTS CONTINUED

Medications Prescribed

- Analgesic/Anti-Inflammatory — 50%
- Anti-Fungal — 13%
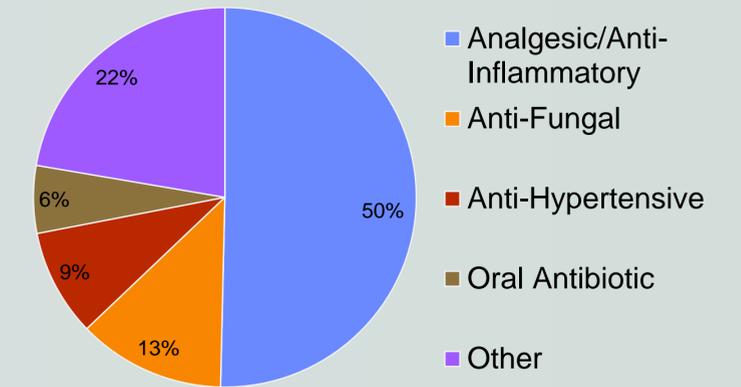- Anti-Hypertensive — 9%
- Oral Antibiotic — 6%
- Other — 22%

Figure 3: Summary of the medications prescribed to patients at both clinic sites. Other medications prescribed included those to treat gastrointestinal symptoms, cough/asthma, diabetes, topical antibiotics, topical anti-parasitic topical steroid, topical anti-viral, and hypolipodermics. Additionally, every patient was given an oral anti-parasitic and vitamins.

CONCLUSIONS

Using the collected patient data will allow us to:
1. Organize pre-trip learning sessions for medical students focused on:
   - Physical examinations related to the most prevalent systems affecting patients
   - Relevant medications, drug-drug interactions and side effects
2. Organize sustainability projects that will best suit the health needs of the community
3. Be more efficient with the medications and supplies we transport to the country

This project was developed as a program improvement project. Future studies will focus on the efficacy of integrating our work into prospective medical missions.