

# Needs Assessment in Accident & Emergency and Physical Medicine at Komfo Anokye Teaching Hospital

Global Health Design Initiative 2018  
Sophia Li, Junior in School of Nursing

Course: (If applicable)

## City/Country

- Project Location: Kumasi, Ghana
- This internship took place in the Accident & Emergency (A&E) and Physical Medicine Rehabilitation (PMR) departments at Komfo Anokye Teaching Hospital (KATH), in Kumasi, Ghana.

## Other Important Background

There has been a strong partnership of 11 years with the OB/GYN Department at KATH, but this is the first year that the Global Health Design Initiative (GHDI) established a relationship with the ED and PMR departments.



## Experience

### Information

The main objective during the internship was to conduct a needs assessment in the A&E and PMR departments of KATH. The ultimate goal with the needs assessment was to determine a challenge that would be suitable for a mechanical engineering team from the ME450 course to design a mechanical solution to address the challenge. In addition, in PMR, a hand rehabilitation prototype that a 2017 ME450 team designed was brought and shown to providers at KATH to elicit user feedback, redefine the project definition, and refine user requirements and engineering specifications (URES).

Agency/Community Partner: While at KATH, the team worked closely with the providers at A&E and PMR.

### Purpose of Trip: Internship

### Outcomes

The team came up with two project definitions for ME450:

1. A way to properly align and support the humeral head in the glenoid cavity and strengthen the shoulder muscles to prevent and correct shoulder subluxation in stroke patients.
  2. A non-invasive method to prevent deep vein thrombosis in low-resource settings.
- URES were also refined for the hand rehabilitation prototype, and a report was written for it as well as the work done in A&E, and the report regarding the needs assessment in PMR is currently in progress.

### Skills Utilized/Developed

1. Communicating between interprofessional healthcare providers
2. Performing formal and informal interviews to gather data and elicit user feedback
3. Refining observational skills

### Classroom Connections

NURS 421: Perspectives in Global Health

### Lessons Learned

Contextual design is incredibly important to the success and implementation of a device, especially in low-middle income countries. The devices have to be made for the setting that they will be used in, otherwise they will not be effective and no improvements will be made.



## Career Connections

I see myself pursuing a nursing career in a global health manner. I also had the opportunity to do some observations with the team in OB/GYN, so I am also interested in pursuing maternal health on a global scale due to the efforts made to improve it worldwide.

## Advice

Talk and interact with the locals of the community!  
Keep an open-minded perspective regarding the environment.  
Understand that generally, we will gain much more from the experience than the hosting community will.

## ACKNOWLEDGEMENTS

I would like to acknowledge GHDI and its sponsors for making this opportunity possible and the mentors for making it such an enriching experience.

I would also like to acknowledge the team I worked with as well as all the providers at KATH who were gracious with their time in working with us.

