

# Evaluation of a Distance-Based Education Program For Ghanaian Nurse Anesthetists: Clinical Capacity

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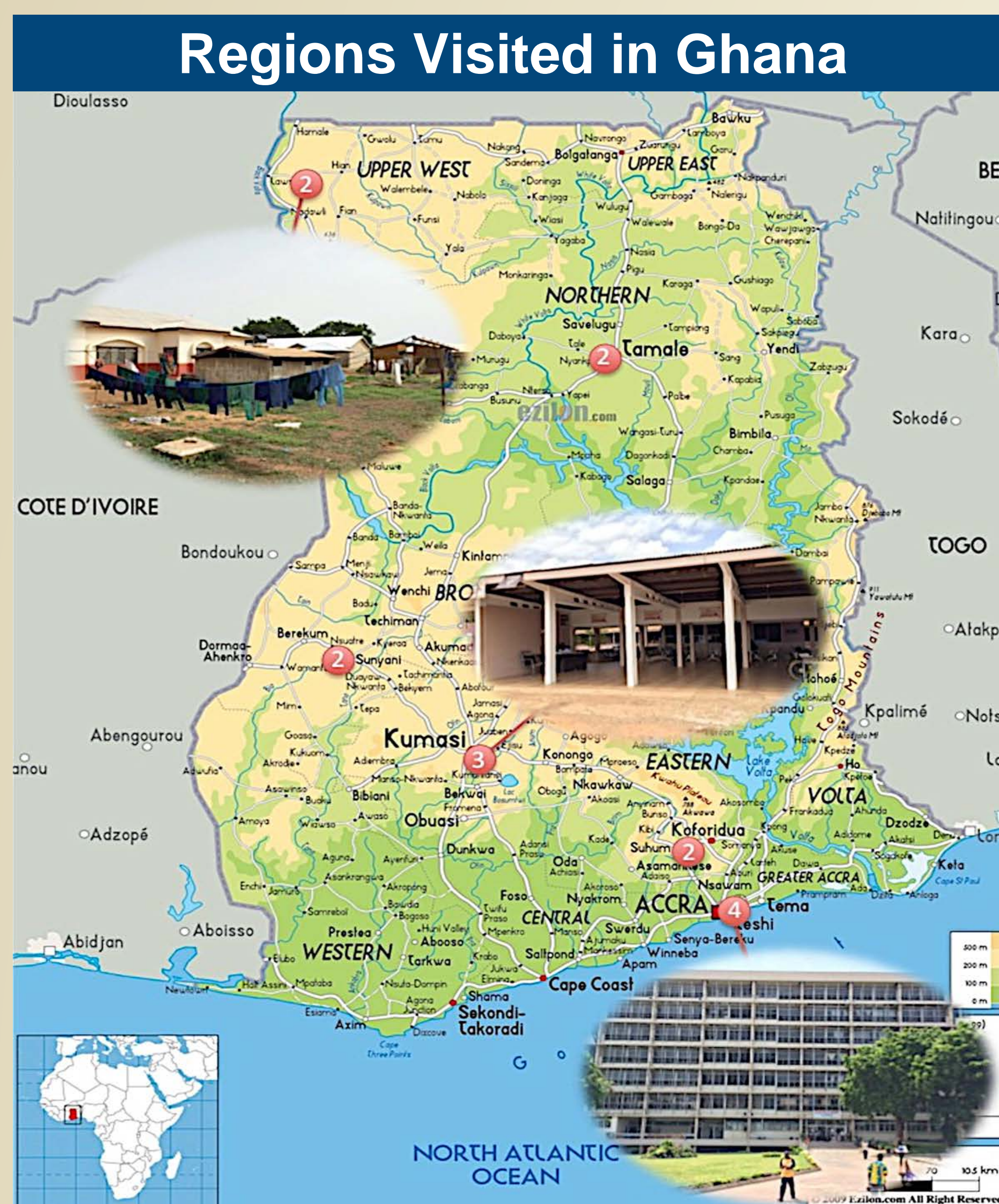
Ghana

From May to July 2015, the DGHI Student Research Training Ghana team conducted a holistic analysis on a distance-based nurse anesthesia degree program established by the Duke School of Nursing and the University for Development Studies in Tamale, Ghana.

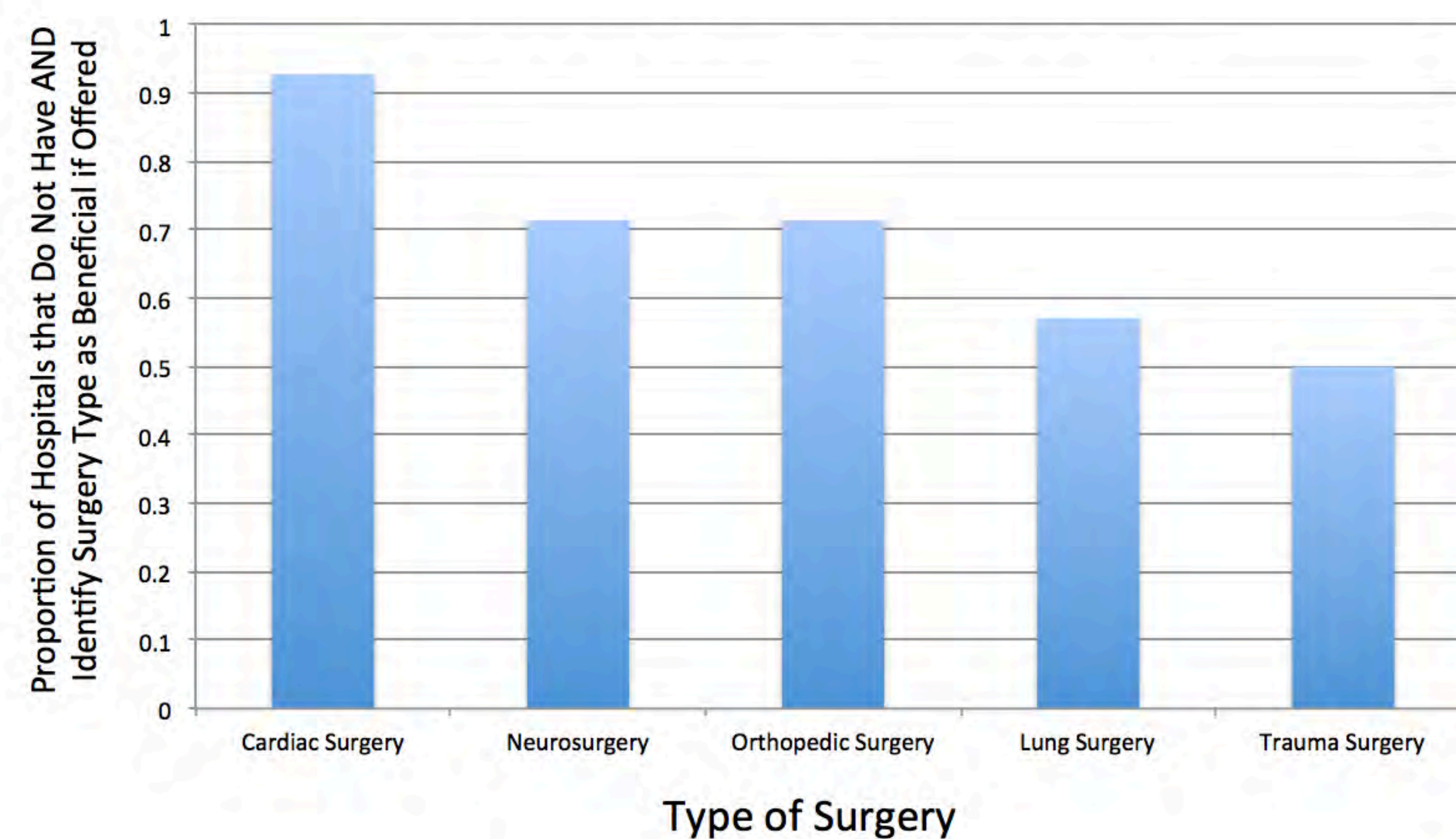
## OBJECTIVES

- Evaluate range of anesthesia and surgery capacities across regions in Ghana
- Analyze clinical capacity in order to gain insight into how to best develop technology-based learning for resource-constrained environments, and contribute to curriculum development to include more relevant and applicable knowledge and skills into program
- Better understand the value of using distance-based education to train current and future nurse anesthetists on best standard clinical practices

## Regions Visited in Ghana



## Surgery Capacities in Hospitals Sampled



## District Hospitals Sampled

Number of Ventilators	Region	Population Density (Persons per sq km)	Number of Nurse Anesthetists	Number of Physician Anesthetists	Epidural Usage?	Number of Theaters
1 (Functioning)	Greater Accra	Very High (1235.8)	7	1	No	2
1 (Not Functioning well)	Eastern	Mid (136.3)	3	0	No	1
1 (Functioning)	Brong-Ahafo	Mid (58.4)	3	0	No	4
1 (Not functioning at all)	Upper West	Low (38)	2	0	No	1

## METHODOLOGY

- Visited 7/10 regions in Ghana, 15 nurse anesthesia students in distance-learning program, and 14 different health centers
- Created and administered two sets of surveys: the student survey and the community member survey
  - The student survey consisted of five sections: professional life, technology, education, study habits, and community and family
  - The community member survey encompassed three different categories of community members: community member or colleague of the student participating in the distance-based education program, hospital administrator at the student's hospital, and family members of the student

## RESULTS

- 13 out of 15 students identified lack of trained anesthesia staff in their facility impacting ability to conduct needed surgeries.
- All 14 hospitals in the 7 regions sampled have access to blood products, but getting blood to the patient can take anywhere between 5 and 75 minutes after requesting it in the theater.
- All 14 hospitals are able to perform cesarean sections regularly. However, only 4 hospitals have access to epidural kits.
- Of the 7 regions visited, only 3 regions had physician anesthetists.

## DISCUSSION

- Overall lack of resource capacity in volume of anesthesia care providers, adequacy of facilities for providing critical surgeries, and application of anesthesia techniques
- Even when resources are available, issues with functionality and surgery-related processes impact anesthesia care.
- Internal inequities in anesthesia provision across regions and hospital types.
- Critical need for capacity building and efficient training options to address health care worker shortage

Acknowledgements: Many thanks to Dr. Sumedha Ariely, Dr. Brett Morgan, Ms. Lysa MacKeen, Dr. Thomas Anabah, Mr. Jacob Wumbei, the faculty and distance-learning students from the University for Development Studies, the members of the Duke Bass Connections team, the SRT Program, and the Duke Global Health Institute for their support in making this fieldwork possible.