THE HOSPITAL SUPPORT PROJECT

FUNDING PERIOD: 2016 - 2018

REPORT DATE: JULY 1, 2018

Report prepared by: Olivia Knight

Director of Operations, Canada

olivia@ghanamedicalhelp.com

TABLE OF CONTENTS

1. Executive Summary 3

2. Project Rationale 3

3. Objectives 5

4. Partners and Stakeholders 5

5. Strategic Plan and Measurable Outcomes 6

6. Results to Date 10

7. Financial Summary 14

8. Challenges and Lessons Learned 15

9. Future Directions 17

10. Acknowledgements 18

11. References 18

1. EXECUTIVE SUMMARY

Ghana is a model for development on the African continent, yet it has been unable to meet the United Nations Sustainable Development Goals for health and exhibits marked regional bias in the distribution of health care resources and personnel. The goal of this project was to improve health service delivery in the two most remote and underserved regions of Ghana, the Upper East (UER) and Upper West (UWR). As of Dec 31, 2017, GMH had established partnerships with 14/14 district hospitals in these regions and recruited >30 volunteer representatives to join our GMH Ambassador program. Our hospital partners are 1 donation cycle away from 100% sufficiency in 8 priority service areas according to national equipment inventory standards. Our Ambassador program has successfully established a quarterly system of training workshops that are elevating the skills of hospital staff and creating a network of young leaders in health care. Now, GMH seeks to conclude our intervention in the UER and UWR and implement the transition of the project to fully autonomous control by Ghana Health Service.

2. PROJECT RATIONALE

Ghana is a West African nation that is considered to be a model for development on the African continent, with a well-established multi-party democratic government, a burgeoning economy, and a low incidence of violent crime (Kwasi Fosu, 2013). Yet it is also among the lower-and-middle income countries (LMICs) that fall far short of attaining the United Nations Sustainable Development Goals for health. Ghana still

experiences high levels of maternal, infant and under-5 mortality; a low proportion of births attended by skilled health personnel; and inadequate access to sexual and reproductive health care services. The country continues to suffer from epidemic levels of communicable diseases like AIDS, malaria, and tuberculosis – a challenge compounded by the prevalence of non-communicable diseases like hypertension and respiratory dysfunction.

Further, Ghana experiences significant subnational disparities in access to and quality of care (GHS, 2017). The Upper East and Upper West Regions of Ghana, the target areas of this initiative, are located at the far north of the country. These areas have extremely limited infrastructure and are also among the poorest regions in the country, with average annual per capita earnings at less than GH¢3,000, equivalent to roughly US$660.00 (GSS, 2014). As a result of the geographic isolation and lack of opportunity in these regions, facilities are challenged to attract and retain skilled personnel (GHS, 2017). At the outset of this project, the Upper East and Upper West Regions had among the worst doctor-to-patient ratios in the country at greater than 35,000 people per doctor (GHS, 2010). These rural regions also experience substantially higher under-five, infant, and maternal mortality rates on average than urban areas (GHS, 2010). The population served by the hospitals of the UER and UWR is estimated at around 2.5 million with over 150,000 patient admissions per year (GHS, 2010).

3. OBJECTIVES

This project aims to improve the quality and accessibility of health service delivery in the underserved Upper East and Upper West Regions of Ghana in order to reduce the rates of communicable and non-communicable diseases, improve public opinion and usage of health services, secure a skilled health workforce, and ultimately reduce preventable morbidity and mortality in these communities.

The success of this project will serve as the proof-of-concept for our approach to sustainably improving health outcomes and provide the foundations for scaling up to the national level. It is a key first step toward the organisational focus on making health a human right.

4. PARTNERS AND STAKEHOLDERS

GMH has created strong networks in the target regions of this project.

We have established partnerships with the regional offices for Ghana Health Service (GHS), the governmental health agency. This partnership provides the opportunity for us to build the project in sync with the goals and standards of the Ministry of Health, creating the framework for the transition to public ownership and operation of the project post-intervention. They also offer unique access to expedited import clearance, heavily discounted customs rates and transport vehicles, and storage and

conference facilities at little-to-no charge.

We work closely with the hospital medical superintendents, ward in-charges, and other key staff to understand the culture and dynamics of each individual hospital. We engage volunteers from each hospital partner to serve as permanent liaisons between the hospitals and GMH. These "GMH Ambassadors" perform ongoing monitoring and evaluation to inform equipment and training needs, and attend quarterly training workshops to exchange information, build inter-hospital collaboration, and learn new medical skills.

5. STRATEGIC PLAN AND MEASURABLE OUTCOMES

Outcome No. 1

All district hospitals in the UER and UWR have sufficient equipment to perform eight fundamental services: administration of oxygen; nebulization; monitoring of patient vital signs; feto-maternal monitoring; equipment sterilization; patient stabilization; surgical procedures; and deliveries.

Strategic Plan

1. Research & Introductions
    a. Approach the medical superintendent (head medical officer) of each hospital to perform introductions and obtain consent to conduct initial assessments that collect basic demongraphic data, reveal the current equipment inventory, and identify the most urgently needed items.

b. Conduct research to identify the most suitable device models, highest quality manufacturers, and most discounted retail sources.

2. On-site Infrastructure Development & Relationship-Building
   a. Collaborate with senior health officials and engineers to create an evaluation system that designates the minimum inventory standard necessary for a hospital to provide the 8 services listed above.
   b. Engage GMH Ambassadors to conduct quarterly surveys to quantify the equipment inventory of each hospital throughout the project period.
   c. Create MOU for partnership with Ghana Health Service giving the agency responsibility for facilitating customs clearance and transportation of imported equipment donations.

3. Targets and Budgeting (annually: January - March)
   a. Analyse survey data to produce a target list of equipment for each hospital
   b. Create purchasing budget based on target list

4. Fundraising (annually: April - March)
   a. Undergo fundraising operations with aim to match purchasing budget
   b. Adjust final budget according to funds raised

5. Acquisition and Distribution (annually: March - August)
   a. Purchase, pack and ship target equipment to Ghana

b. Collaborate with Ghana Health Service to clear imported equipment donations and transport to regional stores.
c. Distribute equipment to hospitals.

Repeat steps 3 – 5 until outcome is achieved (estimate 5 years).

Outcome No. 2

The GMH Ambassador program is fully operational, with an active network of volunteer representatives from each district hospital in the UER and UWR and a schedule of quarterly workshops that provide skills training and knowledge-exchange, promote leadership and innovation, and facilitate on-going monitoring and evaluation of the project by on-site personnel.

Strategic Plan

1. Recruitment
    a. Recruit volunteer Ambassadors from each hospital. The medical superintendent must nominate two staff members to become GMH Ambassadors. These individuals are ideally long-term staff members with low likelihood of being transferred and who have shown themselves to be responsible leaders and innovative thinkers.

2. Orientation
    a. Add Ambassadors to regional chat group through WhatsApp and connect to a network of fellow Ambassadors and GMH staff

b. Develop and provide each Ambassador with a GMH Ambassador Handbook – a comprehensive manual that outlines expectations, responsibilities, protocols, and advantages associated with being an Ambassador.

3. On-site planning and coordination
   a. Identify high priority training topics, recruit training personnel, develop training materials, and reserve meeting space

4. Due process
   a. Obtain relevant permissions from government health agency and facilities to release Ambassadors for training sessions

5. Incentivization
   a. Although the Ambassador position is filled on a volunteer basis, provide a small cash incentive upon submission of their survey at the quarterly workshop to encourage high submission and workshop attendance rates.

6. RESULTS TO DATE

Outcome No. 1: All district hospitals in the UER and UWR have sufficient equipment to perform eight fundamental services: administration of oxygen; nebulization; monitoring of patient vital signs; feto-maternal monitoring; equipment sterilization; patient stabilization; surgical procedures; and deliveries.

GMH has made significant progress towards Outcome No. 1. Table 1 gives an overview of the degree of sufficiency achieved across all hospitals, with a majority of hospitals exhibiting 100% sufficiency in 5 of the 8 essential services: providing nebulization, monitoring patient vital signs, patient stabilization, surgical procedures, and performing deliveries. However, these values do not account for the duration of GMH intervention, which varies from 1 to 6 years depending on the specific hospital partner. There is a strong positive relationship between the duration of GMH intervention and the average hospital equipment fulfillment score (Figure 1). The four hospitals with the lowest fulfillment scores are those most recently added to the program.

Table 1. Summary of GMH partner hospital capacity to provide 8 fundamental services as of 2017.

Service	Proportion of hospital partners at 100% sufficiency	Proportion of hospital partners at ≥50% sufficiency	Proportion of hospital partners at <50% sufficiency
Administration of oxygen	5/14	9/14	5/14
Nebulization	7/14	11/14	3/14
Monitoring patient vital signs	10/14	13/14	1/14
Feto-maternal monitoring	2/14	6/14	8/14
Equipment sterilization	6/14	11/14	3/14
Patient stabilization	14/14	14/14	0/14
Surgical procedures	9/14	13/14	1/14
Deliveries	9/14	13/14	1/14

Equipment Benchmarking Calculation - GMH 2018														
District Hospital Location	Sandema	Navrongo	Bongo	Zebilla	Bawku	Nadowli	Nandom	Lawra	Jirapa	Tumu	Gwollu	Wechiau	Tongo	Paga
Population Served	60667	118101	37182	101011	105849	69190	49755	62268	99565	62723	55495	91020	86184	47506
Years Supported by GMH	6	6	5	5	4	3	3	3	3	2	1	1	1	1
Total Hospital Equipment Fulfillment	96%	79%	100%	89%	87%	84%	100%	77%	92%	68%	60%	59%	53%	75%

Figure 1. Average hospital fulfilment score is positively correlated to duration of GMH intervention in years.

Outcome No. 2: The GMH Ambassador program is fully operational, with an active network of volunteer representatives from each district hospital in the UER and UWR and a schedule of quarterly workshops that provide skills training and knowledge-exchange, promote leadership and innovation, and facilitate on-going monitoring and evaluation of the project by on-site personnel.

As of 2018, 14/14 district hospitals in the UER and UWR had committed to a partnership with GMH and possess at minimum 1 staff member actively enrolled in the GMH Ambassador program. A comprehensive GMH Ambassador Handbook has been developed and implemented as part of the Ambassador program (Supplementary Materials 2). The training workshops have been operational since 2013, with the quarterly schedule formally implemented in 2015. Table 2 lists the quarterly workshop themes from the past 3 years.

GMH has abundant evidence of the positive effect of the Ambassador program on leadership and innovation. In one case, at the outset of the project, GMH was receiving reports of high rates of damage to the donated vital signs monitors. The Ambassadors' investigations revealed that the cause was inexperienced hospital personnel utilising the devices without a voltage transformer, which were designed for use on the 110V

power grid, on a 240V grid. To remedy this, one pair of Ambassadors implemented a “charging station”: a central location with voltage transformers permanently affixed to all power outlets. They systemized the charging station as the exclusive location for charging and storing the devices. Not only was their method enormously successful locally (damage reports for the vital signs monitors were virtually eliminated), they used the quarterly workshop to introduce their innovation to the other Ambassadors for implementation at hospitals across the region. This type of knowledge-propagation is incredibly empowering for the Ambassadors themselves and for the communities they serve.

The Ambassador program has successfully facilitated on-going monitoring and evaluation of the project, with survey submission rates of 80% - 100% enabling a continuous assessment of the hospitals and an adaptive response from GMH that maximizes the impact of our resource allocation.

Table 2. Workshop themes by quarter between 2015 and 2017.

	Workshop Theme		
	2015	2016	2017
Q1	Neonatal Resuscitation	Physiotherapy	Ebola Outbreak Preparedness
Q2	Neonatal Resuscitation (II)	Trauma Patient Management	Tuberculosis Case Management
Q3	Assessment Survey Training	Respiratory Disease	Malaria Case Management
Q4	Equipment Training and Maintenance	Meningitis Case Management	Respiratory Disease Refresher

7. FINANCIAL SUMMARY

Table 3. Financial summary for Mr. Potter donations up to June 1, 2018. Values are rounded to the nearest $500.00. *Note that the amounts listed reflect the distribution of Mr. Potter's contribution and not the total amount spent by GMH on these items during the period.

Item	**Amount***
Expenditures	
Operational Expenses	$5,000
Medical Equipment and Accessories	$38,500

Logistics (Shipping, Transportation, Customs)	$5,000
On-Site Personnel	$2,000
Training Workshops	$10,500
Total	$61,000
Total Funds Received to June 1, 2018	$61,000
Total Funds Spent to June 1, 2018	$61,000
Outstanding Balance	**$0.00**

8. CHALLENGES AND LESSONS LEARNED

This project has offered innumerable learning opportunities for the organisation and its collaborators. It is our aim that we may be able to disseminate the lessons we have learned to other budding non-profits and NGOs and contribute to a base of best practices and support a high operational standard for new humanitarian aid programs.

Among the most significant challenges GMH has faced is that of long distance communication. With the permanent staff of GMH dispersed across continents and time zones, and with a project site that has minimal infrastructure, cultivating a system of strong, reliable communication required ample research and troubleshooting. Ultimately the most successful way to keep the staff and volunteers connected was a mobile application called WhatsApp. Similar to a text messaging platform but accessible via the internet, it has proven to be a reliable method of communication, with 85-90% of GMH Ambassadors and 100% of GMH

staff in possession of a smartphone. This platform has enabled the organisation to maintain an open line of communication where Ambassadors can report on the status of donated equipment and provide hospital updates in real time.

Another issue the organisation has encountered is frequent turnover among the high-ranking officials of the hospitals and governmental health service agency. Each time a new director is installed at the regional directorate, GMH is required to re-establish our relationship there. To overcome this challenge, we have invested in building extensive networks within the directorates, such that we always have reliable advocates in place despite individual turnover.

One challenge GMH continues to face is fluctuations in currency exchange rates. We are particularly vulnerable to the volatility of the USD-CAD rate, as we conduct the bulk of our equipment purchasing from manufacturers in the U.S. This rate has worsened considerably since the outset of this project in 2011, and may require the organisation to re-evaluate its preferred vendors and seek alternatives outside of the U.S.

9. FUTURE DIRECTIONS

GMH has provided proof of concept for this project model over a 7-year period using a sample of 14 district hospitals distributed across the 2 most remote and resource poor regions of Ghana. We are now ready to begin reducing our intervention

in the Upper Region hospitals and handing over project management to Ghana Health Service.

To responsibly and sustainably bring this intervention to a conclusion, we seek to renew our partnership with Mr. Potter. Specifically, we ask for a commitment of $5,000 CAD per year for 3 additional years. This investment would be allocated towards the design and conduct of biannual meetings with Ghana Health Service and quarterly assessments at each partner hospital. The meetings will serve to ensure Ghana Health Service is duly prepared to take ownership of the project, including creating an internal budget and identifying and training the parties responsible for project oversight and management within the agency. The quarterly assessments will serve to ensure that the impact of the project is sustained following the conclusion of GMH’s intervention.

With your support, we can use this project model to provide proof of concept for the implementation of our exit strategy and transitioning of the project in the UER and UWR to fully autonomous control by Ghana Health Service. These activities would also satisfy the conditions for obtaining large-scale grant funding from alternative sources, such the need for financial support from Mr. Potter would be alleviated and his funds could be diverted to other worthy causes within a 3 year timeframe. By helping GMH complete this phase of the project and produce concrete evidence for its approach to sustainability, Mr. Potter would act as a catalyst toward the expansion of this project across the country and continue to exert an enormous impact on the lives of millions.

10. ACKNOWLEDGEMENTS

We wish to extend our deepest appreciation for your support to make this project possible. Through this partnership, we have drastically improved the quality and accessibility of health services for over 2 million people, prevented needless suffering, and saved countless lives. More than that, we have built a network of highly trained, ambitious young health care professionals – the future leaders of health care – who can create systemic change in their facilities. We are honoured to work toward the goal of a healthier global future together.

11. REFERENCES

Kwasi Fosu, A. (2013). Country Role Models for Development Success: The Ghana Case. From Achieving Development Success: Strategies and Lessons from the Developing World DOI:10.1093/acprof:oso/9780199671557.003.0013

Ghana Health Service. (2010). *The Health Sector in Ghana: Facts and Figures.* Retrieved from: http://www.ghanahealthservice.org/downloads/2010_Facts_and_Figures.pdf

Ghana Health Service. (2017). *2016 Annual Report.* Retrieved from https://www.ghanahealthservice.org/downloads/GHS_ANNUAL_REPORT_2016_n.pdf

Ghana Statistical Service. (2014). *Ghana Living Standards Survey Round 6: Main Report.* Retrieved from: http://www.statsghana.gov.gh/docfiles/glss6/GLSS6_Main%20Report.pdf