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ABSTRACT

The University of Louisville Global Health Center (GHC) has developed a care model for a Global Medical Home. This model outlines a comprehensive and holistic approach to the care of all patients seen in the GHC. This model requires multidisciplinary teams including physicians, nurses, pharmacists, care coordinators, social workers, and public health professionals. The GHC financial advisory team needed to fully understand the financial burden and opportunity of the medical home model. The objective of this study is to present the development and implementation of a financial and operational tool for the Global Medical Home.

Each area of clinical service, teaching and research within the GHC was defined in order to develop a systematic method for operational and financial evaluation. Spreadsheets were developed to address fixed and variable costs including projections for future income and expenses based on prior years' growth.

The Global Health Operations and Economics (GHOE) tool was developed. The first three areas for operational and financial evaluation included the Civil Surgeon Clinic, Refugee Immunization Clinic, and the Refugee Health Assessment Clinic. For each of those areas, patient volumes, throughput, fixed personnel expenses, and fixed and variable supply/equipment expenses were evaluated.

The GHOE has been successfully used by the GHC financial advisory team for future planning and growth activities. Due to this success, we plan to expand use of the GHOE tool in order to evaluate other areas within the GHC.

INTRODUCTION

GHC is expanding its operations in all areas of clinical, research, and educational activities. This expansion necessitates having a holistic approach towards the financials aspects of operations^{1,2}. Financial and operational questions emerged during strategic planning sessions including: 1) the detailed steps in the operations of the Civil Surgeon, Refugee Immunization, and Refugee Health Assessment Clinics; 2) what are fixed and variable expenses for each of these clinics; and 3) how can we improve the processes to maximize available resources.

OBJECTIVES

This project aims to present a holistic economic approach toward the analysis and management of the activities of GHC in order to optimize the activities financially and suggest recommendations to increase the productivity and optimize resource stewardship.

MATERIALS AND METHODS

Model business approaches were used to address the financial and operational questions that emerged during strategic planning. The following steps were taken to address those questions:

- **Interview:** For each one of the three units (Civil Surgeon, Refugee Immunization and Refugee Health Assessment) comprehensive and details interviews with the staff related to that operations were conducted. This facilitated a robust understanding of all the steps involved with the processes.
- **Time Study:** The time associated with each step was evaluated, either through the related participants in the activity or through observation and timing of the process.
- **Spreadsheet Tool:** Individualized spreadsheet tools were developed that considers all the data related to the material (e.g., syringe) used for that unit, employee time, hourly cost of the employees, etc. The annual costs of the operations for each one of the three units (categorized by the employee and material costs) were calculated. The annual revenue, fixed and variable expenses, and margins for each one of the three units was calculated.
- **Improvement Opportunities:** The special areas in each unit that needed some level of improvement or change to be more effective and efficient financially and operationally were identified. Specific and measurable solutions were proposed.
- **Employee Feedback:** The calculations and analysis were shared with the related employees to obtain their feedback and opinions. Their insight regarding data elements were important to ensure accurate assumptions and assessments.
- **Management:** The results of the analysis were shared with the management team for each unit and the faculty. Details of the analysis, staff comments, management comments and faculty considerations were included in final reports.

RESULTS

- The annual revenue, cost, and margins for each one of the three units were calculated.
- Improvement opportunities from the perspective of a task efficiency standpoint were the most commonly identified.
- The results of the analysis suggests that there is a good potential for GHC to expand its operations in all of these three units.
- GHC should continue to put emphasis on its efforts to increase patient visits in all of these three units due to high levels of operational efficiency.
- New opportunities including laboratory, radiology, and pharmacy services should be considered.

Steps	Time or Percent	month	patients visits
First Visit		January	25
Check in with Ali	15	February	36
need for Taghreed (Ali)	13%	March	38
meeting with Emilio for eye exam, ...	20	April	35
need for interpreter (for Emilio)	13%	May	32
need for Taghreed (for Emilio)	13%	June	38
meeting with Katherine or Anna for 1st visit	30	July	38
need for an interpreter (for Anna or Katherine)	13%	August	37
need for Taghreed (for Anna or Katherine)	13%	September	35
follow up appointment time for TB patients -Anna	30	October	37
percentage of TB patients for referral to health dept.	20%	November	36
follow up paper work after visit 1-Anna or Katherine	15	December	40
January		January	44
Second Visit		weeks off/year	4
refugee comes for 2nd visit and checks in with Ali	5	weeks/year	52
Emilio takes care of vitals	10	hours/week (1st group)	40
Taghreed takes care of vitals for Arabic patients	10	hours/week (2nd group)	37.5
Taghreed	13%	hours/year	1800
Refugee meets with Dr. Bosson	30	hours/year	1920
need for Taghreed (for Dr. Bosson)	13%		
need for Ali (for Dr. Bosson)	75%		
need for interpreter (for Dr. Bosson)	13%		
Paper work (Friday)			
paper work done by Ann or Katherine	30		
paper work done by Ali	30		
paper work done by Taghreed	30		
Referral paper work			
need for referral	20%		
Paper work done by Jakline for referral	15		

Figure 1: A section of the financial analysis tool for Refugee Health assessment

CONCLUSIONS

Analyzing the operations of the Refugee Immunization, Refugee Health assessment and Civil Surgeon Clinics from an operational and financial standpoint helped to understand where we stand in these units from a business perspective. This enabled identification of strengths, weaknesses and opportunities. The analytical approach was of value and will be used to perform the same level of assessment on other areas within the ID Division in ongoing efforts focusing on high quality, consistent, and financially sound practices.

REFERENCES

1. Sullivan K. (2015). PCMH model leads to reduced cost of care, improved population health. Fierce Healthcare. Retrieved from <http://www.fiercehealthcare.com/story/report-pcmh-model-leads-reduced-cost-care-improved-population-health/2014-01-15>
2. USCRI. (2015). Study of Domestic Capacity to Provide Medical Care for Vulnerable Refugees. Retrieved from <http://www.refugees.org/our-work/refugee-resettlement/reception-and-placement-rp/assets/health-study-full-report.pdf>