The development of a graduate program in rehabilitation sciences in Ghana: A case report about a global health academic partnership

Diane Kendall

A thesis

Submitted in partial fulfillment of the

requirements for the degree of

Master of Public Health

University of Washington

2020

Committee:

Steve Gloyd

Bernadette Williams-York

Carolyn Baylor

Sonia E.I. Aboagye

Program Authorized to Offer Degree:

Global Health

University of Washington

Abstract

The development of a graduate program in rehabilitation sciences in Ghana:
A case report about a global health academic partnership

Diane Kendall

Chair of the Supervisory Committee: Stephen Gloyd
Department of Global Health

Introduction: Global Health Academic Partnerships (GHAP) involve complex and dynamic relationships between nations, people, and institutions (Citrin et al, 2017) and have the potential to leverage resources from the power and privilege in high income countries (HIC) to improve healthcare in low or middle income countries (LMIC). When done effectively, GHAPs can help to address health inequities through the development of transnational research programs, support of progressive policy agendas, development of education programs and increased financial and human resources (Citrin et al, 2017). However, when GHAPs are not done well, these collaborations are at risk of exploitation due to an imbalance of power, privilege and positionality. It is important to measure, and to describe, the quality of the global health relationship so that predictors to successful partnerships, as well as obstacles impinging on success, can be identified.

Objectives: The purpose of this case report is to present 1) a coherent description of how and why a GHAP was formed between the University of Health and Allied Sciences located Ghana and University of Washington located in the United States and 2) to provide lessons learned for future work.

Methods: Information for how the GHAP was formed came from personal experiences (e.g. memories, reflections and interactions). In order to explore attributes, as well as to identify strengths and

weaknesses of the GHAP, an electronic survey was developed and sent to UHAS faculty who were involved in the GHAP.

Results: The results of this case study showed that a GHAP was initiated by UHAS through the posting of an advert for faculty to support their existing programs. The UW MPH student responded to the advert which resulted in an unpaid Visiting Scholar appointment. One focus of the GHAP was to develop a UHAS Masters of Philosophy program in Rehabilitation Sciences. Results for lessons learned showed that while participants had high expectations and enthusiasm for the project, and the final product met or exceeded their expectations, the necessity of virtual meetings coupled with internet challenges resulted in difficulty establishing strong working relationships between the HIC and LMIC group members.

Conclusions: This case study showed that a GHAP was developed and the partnership resulted in a product that was deemed robust. Relationship indicators that pointed to success were that the partnership was strategic, aligned with Ministry of Health and UHAS goals, and the work was conducted with responsibility. The indicators that pointed to areas of weakness included the virtual nature of the relationship resulting in poor communication and which also impacted relationship building. Further, the project might be unstainable without funding and also due to COVID19 travel restrictions. While the GHAP experience described here is limited in scope and unique to the academic environment, this descriptive account will inform not only our future work but other institutions who aim to strengthen systems.

Keywords: Global health academic partnership, rehabilitation sciences

INTRODUCTION

Global Health Academic Partnership (GHAP) of focus in this case study

Global Health Academic Partnerships (GHAP) involve complex and dynamic relationships between nations, people and institutions (Citrin et al, 2017) and have the potential to leverage resources from the power and privilege in high income countries (HIC) to improve healthcare in low- or middle-income countries (LMIC). HIC and LMIC partnerships can be established between universities, non-governmental organizations, philanthropic organizations, research entities, and healthcare clinics.

The GHAP of focus in this case study started with a solicitation by the University of Health and Allied Sciences (UHAS), located in the Volta Region of Ghana for a partner to provide program strengthening and to develop a new graduate program in the rehabilitation sciences. The respondent to that solication was, at the time, a student and faculty member at University of Washington (UW), located in Seattle, Washington, USA. UHAS was established in 2011 by the Parliament of Ghana and currently has 18 undergraduate programs across six schools and one institute (School of Allied Health Sciences, School of Basic and Biomedical Sciences, School of Medicine, School of Nursing and Midwifery, School of Public Health, School of Pharmacy and the Institute of Health Research). The UHAS School of Allied Health Sciences (SAHS) is particularly focused on training and developing highly qualified and competent allied health professionals. At the time of this study, SAHS currently runs five Bachelor programs and they aim to strengthen their academic offerings through the development of an MPhil and Ph.D. degree programs in rehabilitation science to address the burgeoning need for rehabilitation clinical service delivery in the region.

Rehabilitation science is an interdisciplinary field that focuses on the clinical application and scientific study of prevention, assessment, treatment and adaptation for children and adults who have physical, cognitive and/or psychosocial aspects of disability. Professionals who enter programs in

rehabilitation science are typically individuals who have been trained in related rehabilitation disciplines such as physiotherapy, occupational therapy, speech and language therapy, rehabilitation counseling, engineering, and prosthetics and orthotics. Individuals who obtain a graduate degree in rehabilitation science (e.g. masters or doctorate) pursue careers in education and/or research and are employed at hospitals, universities or government agencies.

There is a documented need for rehabilitation specialists in Ghana. Ghana is a LMIC located in West Africa with an estimated population of 29 million people, half of which live in urban environments (Plecher, 2018). Three percent of Ghanians are reported to have a disability, and individuals who are 65 years and older account for the highest percentage (22.2%) (Disability in Ghana, 2014). Ghana has policy in place to support individuals with disabilities. The National Disability Policy was adopted in 2000 and states that people with disabilities will receive adequate and necessary support services to "*increase their capacity to deal with tasks and challenges of life in a dignified manner"* (Disability in Ghana, 2014). Further, in 2006, the Disability Act (Act 715) passed by Parliament is aimed to support the rights of persons with disability in terms of employment, education, transportation, etc. While the government is moving in a positive direction to support the rights of individuals with disabilities, the workforce necessary to realize these goals is notably lacking. Finally, overall life outcomes for individuals who have disabilities are reduced as it impacts their ability to attain an education, gain employment as well and engage in social/emotional relationships resulting in higher rates of poverty and vulnerability relative to those without disabilities (Disability in Ghana, 2014).

Global Health Academic Partnerships (GHAP)

GHAPs have the potential to address health inequities through the development of transnational research programs, support of progressive policy agendas, and the development of education programs which could result in increased financial and human resources (Citrin et al, 2017). Muir and colleagues (2016) evaluated member institutions of the Consortium of Universities for Global Health (CUGH) to better understand the collaborations. Through surveys and key informant interviews with 82 North

American academic institutions and 44 international partnerships, they examined determinants of equity, benefit, harm and sustainability. Among the results, they found a near unanimous agreement that HIC and LMIC partnering was beneficial. Importantly, less than 3% of the HIC and LMIC reported any type of partnership activity as harmful (e.g. creation of dependence, distorting host country salaries, putting a burden on facilities and care providers to provide support for HIC trainees, etc.).

On the other hand, if GHAPs do not take into consideration inherent complex issues, these collaborations are at risk of exploitation due to an imbalance of power, privilege and positionality due to differences in income levels, education levels, and healthcare and university resources, as well as cultural, religious and linguistic differences. Citrin and colleagues (2017) outlined the challenges when working in a GHAP to include: 1) the work is often part time and intermittent resulting in a lack of sustainability, 2) funding sources often do not align (e.g. the HIC funding source is targeting a goal that is not consistent with LMIC objectives), 3) the differential power structure between collaborators with an M.D. or Ph.D. degrees have the potential to undermine local staff and leadership, 4) there is an imbalance or control of financial resources to travel resulting in HIC researchers traveling to LMIC (and not the reverse), 5) burden of the local hosts to provide housing and local arrangements for the visiting colleagues resulting in time and resources taken away from their own work and 6) GHAP work is often not aligned with HIC career paths resulting in "volunteer" work which leads to the lack of sustainability of the program.

Okeke (2018) also outlined problems with HIC/LMIC GHAP in terms of temporality such that the partnerships (or collaborations) have the capacity to cause harm to individuals and organizations long after the HIC partner leaves. The temporality issue can play out, in part, due to the dearth of PhDs in academia in LMIC where they cannot take on or sustain the project tasks after the HIC partner returned home. Further, Okeke (2018) emphasized the burden GHAP's can place on the local institutions in terms of local proposal review for projects, demand for office and desk space, and overwhelming laboratory services with equipment that need electricity as well as the need to test normal control subjects. Okeke (2018) concluded by saying "*one reason for the short life spans of partnerships is inadequate attention to*

the need to build hard and leadership capacities: infrastructure, managerial expertise, administrative capabilities, and the capacity to improvise at African partner institutions" (pg. 7).

Measuring effectiveness of GHAP

While the number of GHAP's have increased over the years, establishing the effectiveness of the partnerships lags behind (Kelly, Doyle, Weakliam and Schonemann, 2015). Typically, investigators are interested in establishing the implementation and output of the programs than measuring the quality of the relationships and identifying predictors to successful partnerships. Kelly et al (2015) conducted an evidence review of published papers and gray literature relating to the effectiveness of working in partnership. The review resulted in 27 published papers and 17 gray literature documents. They found that evidence for the effectiveness of health partnerships was scant both in terms of quantity and quality.

They went on to categorize the evidence into "levels" ranging from Level 0 (expert opinion/advocacy, 10 papers), Level 1 (coherent description of what was done and with clear rationale, 7 papers), Level 2 (includes data that shows change, but attribution not proven, 24 papers), Level 3 (demonstrate causality through use of control or comparison group, 0 papers), Level 4 (at least one replication studied independently, 0 papers) and Level 5 (systematic review, 3 papers). Kelly et al (2015) concluded by emphasizing the need for the development and implementation of indicators and frameworks that can be used to measure the quality and effectiveness of institutional health partnerships.

Case study objectives

The UW and UHAS GHAP sought to address the burgeoning need for rehabilitation clinical service delivery and academic faculty in Ghana through the development of an M.Phil. Program in Rehabilitation Science. While development of a GHAP is a long term and complex process, early lessons were felt to be worth sharing (Amde et al, 2013). Thus, the objectives for this case study are: 1) a coherent description how and why a GHAP was formed between the University of Health and Allied

Sciences located in Ghana and the University of Washington located in the United States and 2) to provide lessons learned for future work.

METHODS

Objective 1: Formation of the GHAP

Information for how the GHAP was formed came from my personal experiences (e.g. memories, reflections and interactions).

Objective 2: Survey assessment of GHAP strengths and weaknesses

In order to explore attributes as well as to identify strengths and weaknesses of this GHAP, an electronic survey using google forms was sent to UHAS faculty who were involved in the M.Phil. Program in rehabilitation science development (n=7). Surveys were conducted using google forms and sent to UHAS faculty via email link. Four open-ended survey questions were constructed to capture the strengths and weaknesses of the GHAP experience as well as to ascertain level of satisfaction of the final product. The following questions were posed in April 2020 and individuals were given 2 weeks to anonymously respond:

1. Describe your experience during the development of the M.Phil. Program
2. Could this experience have been better? If so, how?
3. Describe the quality of the M.Phil. Program (as it currently stands)
4. Does the M.Phil. Program meet your expectations?

Survey results were analyzed using an inductive coding technique where the principal investigator of this study read through the transcripts, noted patterns and concepts and identified themes.

RESULTS

The results for this case study are outlined according to the two objectives of the study. Since Objective 1 focused on a description of how and why the GHAP was formed, details around the working

relationship are presented. Objective 2 addresses lessons learned for future GHAP work and results from the 4-question survey are presented.

Objective 1: The GHAP started in June 2019 with a solicitation by the University of Health and Allied Sciences (UHAS) to the South African Speech Language Pathology Association list for a faculty member to provide support for the existing academic programs. The respondent to the advert was, at the time of this study, a student and faculty member at University of Washington (UW) and principal investigator of this MPH thesis case study.

Ms. Sonia Aboagye (Lecturer at UHAS in Speech and Language Therapy Department) and I initially engaged in conversation around the advert and following several emails and video meetings, it became clear that a partnership could be formed that would capitalize on the skill sets of all involved. More specifically, in addition to support for their existing speech pathology undergraduate program, UHAS sought to develop two new academic programs in the rehabilitation sciences (M.Phil. and Ph.D.). Ms. Aboagye referred me to Prof. Ofori (Dean, UHAS) where in July 2019, he officially offered me a one-year Visiting Scholar appointment in the Department of Speech, Language and Hearing Sciences, School of Allied Health Sciences at UHAS to formalize the partnership. A virtual relationship ensued and a project goal was established between Prof. Ofori, Ms. Aboagye and me: to write a Fulbright Grant and to develop an M.Phil. Program in Rehabilitation Science for UHAS.

Following my acceptance of the Visiting Scholar appointment in June 2019, Prof. Ofori appointed Ms. Aboagye as UHAS project lead. I was not paid for her work. The incentive for me was to use the project and experience to fulfil her Master's Thesis requirement. Between June 2019 and September 2019 the team met 5 times via video meeting to develop and submit a Fulbright grant and to develop an M.Phil. Program in Rehabilitation Science. In addition to video meetings, they used a shared google document to convey grant ideas that addressed strengthening the current undergraduate program, faculty development, raising community awareness and guest lectures. The final Fulbright Grant was reviewed and approved by Prof. Ofori and Ms. Aboagye, and I submitted it in September 2019 with the

anticipation of funding for academic year 20/21. In December 2019, I received word that the Fulbright Grant was approved at the level of the United States; however the grant was not approved for final funding (notification March 2020).

From September 2019 to March 2020, Ms. Aboagye and I conversed weekly via email and monthly via Zoom video meetings to conceptualize the M.Phil. Program in Rehabilitation Science. Ms. Aboagye served as a liaison between me and the larger UHAS working group (described above). Taking into consideration the wide time zone between the group members, and to ensure everyone was available to participate, meetings were conducted during the working day on both time zones. Ms. Aboagye and I met with the large working group approximately 3 times over a 4 month period (December 2019 to March 2020). The agenda for the meetings were mutually set between Ms. Aboagye and me. I developed a meeting notes document and shared it with the rest of the participants following each meeting to ensure communication regarding work accomplished and next steps. Finally, the large and small working groups used a shared Google Folder for necessary background readings and a single Google document for the body of the M.Phil. Program.

Regarding distribution and responsibilities of tasks, Ms. Aboagye and I developed the working plan and divided tasks accordingly. Ms. Aboagye was responsible for communication and logistics with the local faculty. To demonstrate need for the M.Phil program, I researched the quantity and details of M.Phil and Ph.D. programs in the rehabilitation sciences in North and South America, Europe, Asia, Oceania and Africa. A complete spreadsheet of programs and their course listings was compiled and uploaded into the shared Google Drive. Ms. Aboagye and I reviewed these findings and convened the large working group to discuss. Following large group concurrence regarding M.Phil. Program aims, objectives, expected outcomes, target market, and length of program, Ms. Aboagye and I set forth on independent and collaborative work. They called the large working group together to review content, make corrections and shape direction of future work. This iterative (small and large working group) process ensued until concurrence of the final product (see Appendix for M.Phil. Program document). It is

important to note that at the time of this writing, further work is required on the M.Phil. Program specifically regarding individual course syllabi and readings and the UHAS group has plans to develop a Ph.D. program as well.

Objective 2: In order to capture the strengths and weaknesses of the GHAP experience, as well as to ascertain level of satisfaction of the final product, a survey was sent to the seven participants from the working group in March 2020. Five participants responded. I also reflected on my personal experience. The results are presented according to survey questions:

"Describe your experience during the development of the M.Phil. Program. For example, you can describe why you got involved with the project, your experience about the communication, your expectations of the process, etc." Regarding participation in the working group, 3 of the respondents self-selected to work on this project while the 2 were asked by their superior to participate. All group members entered the working group with high expectations and the experience was positive for all but one who reported the technical difficulties detracted from the experience. Regarding relationship, positive themes emerged related to equality. Quoting one respondent *"it was awesome to see disciplines emerging as one*" and "*it was a rich experience to be part of something as important as a postgraduate programme development*." Regarding my experience, it was largely positive with frustrations emerging around the technical difficulties as well as not being able to meet the entire working group in person to build rapport.

"How might the experience heave been better, or how might it have been done differently?" The theme around communication emerged with virtual connections detracting from the experience and meeting in person is more desirable. One respondent indicated stronger relationship building could have occurred before the project was started with clearer role assignment. Regarding my perspective, the process could have been done differently by introducing her to the in country team much earlier in the process. Also, she learned after the project was completed, some faculty members in the working group were more interested in a graduate degree in their specific field instead of an interdisciplinary degree.

This information would have been important to know at the outset of the project so the Dean Ofori could redirect the group to work on the program that was most aligned with UHAS goals and mission.

"Describe the quality of the M.Phil. program (as it currently stands)." All respondents reported that the product was good. On respondent stated *"I think that we have the makings of an excellent programme based on the needs of health professionals, aspiring academics, the populace of sub-Saharan Africa and how these are addressed by the goals and curricula drawn up thus far.*" While positive, two respondents indicated the program needs to have additional practical workshops on gathering data and managing data. One respondent provided four challenges moving forward: "*1. Establishment of remote e-learning platforms at UHAS, 2. Recruitment of faculty for teaching and research and clinical supervision, 3. Provision of suitable learning materials, 4. Course accreditation."* Regarding my personal reflection of the product, the program developed thus far is solid. Future work needs to focus on building out individual course content, establishing accreditation, securing faculty to teach the first cohort and establish e-learning platform.

"To what extent does the M.Phil. program meet your expectations? (scale 1 does not meet to 5 exceeds)" Four of the 5 respondents indicated the program met their expectations and 1 respondent reported that the program exceeded their expectation.

DISCUSSION

Overall, the results of this case study showed that a productive GHAP was developed, the partnership resulted in a product that was deemed robust and there were challenges that will inform our next steps. As for those lessons learned, while participants had high expectations and enthusiasm for the project and the final product met or exceeded their expectations, the necessity of virtual meetings inhibited the ability to establish strong working relationships between the HIC and LMIC group members. The findings from this study add to a scant body of literature on the effectiveness of working in a GHAP and do not necessarily align with Okeke (2018).

The work presented here represents Level 1 evidence (a coherent description of what was done with a clear rationale) (Kelly et al, 2015) and 93% of the papers in Kelly et al's (2015) systematic review fell into Level 0, 1 or 2 evidence. The dearth of papers in this area can be attributed to a lack of standardized methods and tools that are necessary to measure the effectiveness of partnerships. Also, there is no incentive for GHAP to measure the effectiveness and attributes of the relationship. Most partnerships are grant funded and funding agencies require evidence of *products* and not evidence of *relationships*. Finally, because GHAP involve many individuals with overlapping relationships, projects and levels, it is difficult to adequately measure, quantify and attribute predictors to specific relationship success and failures.

Okeke (2018) reported on problems with HIC/LMIC GHAP in terms of temporality such that the partnerships have the capacity to cause harm to individuals and organizations after the HIC departs. While Okeke's emphasis is more on research partnerships than academic partnerships, the point about the dearth of PhD's in academia in LMIC having difficulty in sustaining the project once the HIC partner pulls out is applicable here. This project certainly is at risk of stalling especially since COVID-19 prohibited me to travel to UHAS to complete the project coupled with high workloads of UHAS faculty. UHAS faculty might not have the bandwidth in their existing workloads to continue program development. Other factors Okeke (2018) pointed out that impact GHAP in the research realm (e.g. infrastructure, managerial expertise, administrative capabilities and equipment left behind) are not applicable in this program development project.

The results of case study in this report are similar in some respects to the partnership described in Haugland, Sorsdahl, Salih and Salih (2014) as both found similar descriptions of success in that there was high levels of enthusiasm with shared goals and shared authority. Haughland et al (2014) outlined the steps involved in establishing a physiotherapy education program between HIC (Norway) and LMIC (Sudan). They concluded their project was a "success" as defined by 30 graduates from the program in 2012. They also highlighted the strengths and weaknesses in the partnership through a qualitative study

using written documents produced in the project development phase (from 2007-2012) and found strengths included shared goals and authority, strong interest and shared curriculum development. Weaknesses included difficulties in capacity building (sending Sudanese faculty to Norway for training contributed to brain drain) and unclear department connections with no clear understanding of teachers' responsibility to the program.

Citrin et al (2017) described a partnership between the Ministry of Health (MoH) in Nepal, the non-profit healthcare provider (*Possible*) and the Health Equity Action and Leadership Initiative (HEAL) at the University of California, San Francisco School of Medicine. They outlined key challenges to developing ethical, equitable and sustainable GHAP and assessed the quality and effectiveness of their partnership utilizing the Tropical Health and Education Trust (THET) Principles of Partnership framework (THET, 2020). While many of their findings are unique to their program under evaluation, because they organized and later analyzed components of their partnership around the 8 principles of the THET model (strategic, harmonized, sustainable, reciprocal, accountable, responsible, flexible, and committed to joint learning), comparisons and generalizations on some of these principles can be made to our case study.

The THET principle that the partnership needs to be strategic serves to align strategic goals up front and before the work ensues. Citran et al (2017) had formal contracts with faculty as did this case study. I was formally offered a Visiting Professor for the duration of the grant and program development which forced us to define project goals and timeframe. The THET principle that the GHAP should be harmonized and aligned points to the issue that the work should be consistent with local and national plans. The work in our case study was aligned with the UHAS MoH goals to develop academic programs that will train the next generation of healthcare providers. The THET principle of sustainability was a challenge in both Citran et al's study (2017) and our case study. In both studies the variety and unpredictability of funding sources available to support the programs contributed to poor sustainability of the work. In our study, the M.Phil. Program development was supported by my MPH program requirements; however, when the Fulbright Grant was not funded, the remainder of the work is at risk to

cease. That being said, to ensure the partnership would continue, UHAS offered to support methrough housing and stipend to continue their work in AY 20/21. While this is a strong indicator of the balance of power, this is not always an option in GHAP's that do not have the financial resources. The THET principle of organized and accountable was successful in the Citran et al (2017) study as they developed a formal memorandum of understanding to address individual responsibilities, workflow and performance evaluations. We did not establish these formal roles and responsibilities and should do so in future work. Finally, the THET principle of responsibility which speaks to the health partnership activities documented with integrity and trust in their interactions was successful in the Citran et al (2017) study and certainly could have be improved upon in this case study. While Dr. Kendall, Prof. Ofori and Ms. Aboagye developed a trusting relationship, one comment from the survey indicated that because Dr. Kendall was not on site for the work and that the larger working group was not involved in the project from the start, trust within the team suffered.

Finally, this work is important to Ghana. The 2004 Global Burden of Disease report estimated that 978 million (15.3%) of the world's population had a moderate to severe disability and 185 million (3%) had a severe disability. The highest proportion of people with severe disability (3.1%) were reported in from individuals in the African region, while the Americas report the least (2.6%) (Disability in Ghana, 2014). Causes of disabilities worldwide include, but are not limited to, various health conditions (e.g. cardiovascular disease leading to stroke, or progressive neurological diseases such as Alzheimer's disease), trauma (e.g. road traffic crashes or gunshot accidents), war, and neurodevelopmental disorders (e.g. cerebral palsy, autism, and downs syndrome). Disability disproportionately affects vulnerable populations, in particular, women, older people and people who are poor which results in low-income countries having a higher prevalence of disability relative to high income countries (WHO, 2011).

The international classification of function, disability and health (ICF), developed by the World Health Organization in 1980 (WHO, 2001), provides a standard framework for health domains. The ICF describes changes in body function and structure, what a person with a health condition can do in their

own environment (level of capacity) as well as how they live (level of performance). The ICF goes onto elaborate on a social model of disability in that disability is a socially-created problem (and not an attribute of an individual). From the lens of the social model, the disability is created by an unaccommodating physical environment brought about by the social environment (WHO, 2001).

The WHO view of disability is compatible with the United Nations Human Rights Charter (1948) that affirms "*every human being has the inherent right to life and shall take all necessary measures to ensure its effective enjoyment by persons with disabilities on an equal basis with others*". This point underscores the important role of rehabilitation in the lives of those who are disabled. While the need for rehabilitation services is high, there is a dearth of trained rehabilitation professionals in middle and low income countries. Wylie, McAllister, Davidson and Marshall (2018) reported that only 26%–55% of persons with disabilities surveyed across four Southern African nations reported receiving any type of rehabilitation service. Further, one of the lowest densities of allied health professionals globally is in sub-Saharan Africa (SSA), with many countries having less than 0.5 workers per 10,000 population (Gupta, N., Castillo-Laborde, C., Laundry, M., 2011).

LIMITATIONS

This case study has several limitations. First, the work presented here represents description of a Kelly et al (2015) Level 1 evidence that describes early signals of what worked well and did not work well in the partnership. Kelly and colleagues also emphasized the need for the development and implementation of indicators and frameworks that can be used to measure the quality and effectiveness of institutional health partnerships. Future work along these lines needs to include a framework and directed research questions (see Future Directions below).

Second, the survey was brief with just four broad questions that aimed to describe the relationship and the product. An open ended qualitative interview approach would have been superior to the survey which would have given the opportunity for an in depth conversation and proper thematic analysis of content. Also, the survey was developed and administered soley by the PI of this study who held power and

positionality that could have influenced the content of the questions as well as the results. The survey was administered to the LMIC group only resulting in a one-sided view of the working relationship and it should have been developed and administered by someone who was not involved in either the HIC or LMIC working group to eliminate bias and power issues. Plus, there were only 5 respondents to the survey limiting the perspective of the GHAP.

Third, the work on this project was conducted remotely which greatly impacted relationship building and communication. By working together in person, the team could form personal relationships and the internet connectivity issues would have been eliminated.

Finally, a model or framework to measure the quality and effectiveness of institutional health partnership was not employed. A model, such as the THET model, offers principles that should be productively employed and measured when establishing a GHAP.

CONCLUSION

Measuring the effectiveness of GHAP is important as the future of implementation research (scaling of effective interventions) brings together partnerships from across the world. In order to have strong and effective partnerships we need to add relationship indicators in addition to monitoring and evaluation measures. In this case study, a descriptive account of just one LMIC and HIC GHAP was presented. Insights from our work showed the partnership was successful in that a product was produced that was deemed high quality from all involved. The indicators that were responsible for success included the partnership was strategic, aligned with MoH work and was conducted with responsibility. The indicators that pointed to areas of weakness was the virtual nature of the relationship and the project is at risk for unsustainability without continued funding. While the GHAP experience we describe here is limited in scope and unique to the academic environment, this descriptive account will inform our future work and potentially other institutions who aim develop partnerships.

FUTURE DIRECTIONS

Future work to measure the effectiveness of GHAP needs to include a framework, such as the THET framework, to define specific principles and indicators of interest. The methods in future work could also

employ a qualitative approach that includes in-depth interviews of key stakeholders in both universities conducted by persons not involved in the study using a constructed interview guide. This would lead to a formal qualitative analysis using a coding scheme developed on the framework and interview guide allowing for proper interpretation of themes related to program strategy and sustainability as well as aspects of the GHAP relationship. Finally, future work could consider incorporating strategies outlined in the Community Based Partnership Research (CBPR) model (Wallerstein and Duran, 2010). The CBPR process outlines elements of group dynamics that are important when developing and maintaining successful partnerships. While CPBR work is typically focused on improving health outcomes of marginalized communities, the characteristics of effective group dynamics could be employed to inform and enhance GHAP work through buiding on strength and resources within both the HIC and LIC communities, co-learning, focus on problems that are relavant to the local community, balance in dissemination of findings and a committement to long-term sustainability.

ACKNOWLEDGEMENTS

This work could not have been accomplished without the support of the following individuals. The UHAS team, Sonia E.I. Aboagye, Prof Eric Ofori, Prof Oluwaseun O. Omotayo, Adjoa Banson, Dr Archibald Danquah, Deborah Lamptey and Dr Seth Kwadjo Angmorterh. I am grateful for my Chair, Dr. Steve Gloyd and my thesis committee, Dr. Bernadette Willliams-York, Dr. Carolyn Baylor and Ms. Sonia E.I. Aboagye. Also, Dr. Rachel Chapmen contributed to early development of this case study. Finally, a big thank you to the faculty, staff and student colleagues from the UW global health program.

References

Amde, W.K., Sanders, D. & Lehmann, U., 2014. Building capacity to develop an African teaching platform on health workforce development: a collaborative initiative of universities from four sub Saharan countries. Human resources for health, 12(1), p.31.

Citrin, D., Mehanni, S., Achara, B., Wong, L, Nirola, I., Sherchan, R., Gauchan, B., Karki, K., Singh, D., Shamasunder, S., Le, P., Schwarz, D., Schwarz, R., Dangal, B., Dhungana, S., Maru, S., Mahar, R., Thapa, P., Raut, A., Adhikari, M., Basnett, I., Kaluanee, S., Deukmedjian, G., Halliday, S., Maru, D., (2017) Power, potential, and pitfalls in global health academic partnerships: review,a nd relfections on an approach in Nepal, Global Health Action, Vol 10 (1367161).

Ghana Statistical Service (2014) Population and Housing Census Report: Disability in Ghana. Available from: http://webdeploy.statsghana.gov.gh/docfiles/2010phc/Mono/Disability%20in%20Ghana.pdf

Gupta, N., Castillo-Laborde, C., Laundry, M., (2011) Health-related rehabilitation services: assessing the global supply of and need for human resources. BMC Health Serv Res. 2011 Oct 17;11:276. doi: 10.1186/1472-6963-11-276.

Haugland, M., Sorsdahl, A., Salih, A., Salih, O., (2014) Factors for success in collaboration between high- and low-income countries: Developing a physiotherapy education programme in Sudan. European Journal of Physiotherapy, 16:3, 130-138. Doi: 10.3109/21679169.2014.913316

Kelly, E., Doyle, V., Weakliam, D., Schonemann, Y. (2015). A rapid evidence review on the effectivenss of institutional health partnerships. Globalization and Health. 11:48. DOIhttps://doi.org/10.1186/s12992-015-0133-9

Muir, J., Farley, J., Osterman, A., Hawes, S., Martin, K., Morrison, J., Holmes, K. (2016) Global health programs and partnerships: Evidence of Mutual Benefit and Equity. Rowman & Littlefield.

Okeke, Iruka (2018) Partnerships for now? Temporality, capacities, and the durability of outcomes from global health 'partnerships'. Medicine Anthropology Theory. 5 (2): 7-24; https://doi.org/10.17157/mat.5.2.535

Plecher, H., (2018) Ghana - Statistics & Facts. Retrieved from: https://www.statista.com/topics/3029/ghana/

THET principles of partnership: Tropical Health and Education Trust. [cited 2020 April 29]. Available from: https://www.thet.org/principles-of-partnership/

Wallerstein, N. and Duran, B. (2010). Community-Based Participatory Research Contributions to Intervention Research: The Intersection of Science and Practice to Improve Health Equity. American Journal of Public Health, April; 100 (Suppl 1): S40-S46. doi: 10.2105/AJPH.2009.184036

World Health Organization (2001). The International Classification of Functioning, Disability and Health (ICF). Geneva: WHO. Retrieved from: http://www.who.int/classifications/icf/en/

World Health Organization (2011). World Report on Disability. Retrieved from: https://www.who.int/disabilities/world_report/2011/accessible_en.pdf

UNIVERSITY OF HEALTH AND ALLIED SCIENCES SCHOOL OF ALLIED HEALTH SCIENCES

Proposal for a Joint Masters of Philosophy (M.Phil.) and

Doctorate of Philosophy (Ph.D.) in Rehabilitation Sciences

June 2019-March 2020

Working Committee:

University of Health & Allied Sciences

1. Sonia E.I. Aboagye, Ag. Head, Department of Speech, Language and Hearing Sciences
2. Prof Eric Ofori, Dean, School of Allied Health Sciences
3. Prof Oluwaseun O. Omotayo, Dean, School of Sports & Exercise Medicine
4. Adjoa Banson, Co-ordinator, Department of Physiotherapy and Rehabilitation Science
5. Dr Archibald Danquah, Lecturer, Department of Orthotics and Prosthetics
6. Deborah Lamptey, Audiologist & Assistant Lecturer, Department of Speech, Language and Hearing Sciences
7. Dr Seth Kwadjo Angmorterh, Ag. Head, Department of Medical Imaging

University of Washington

1. Prof Diane L. Kendall, Department of Speech and Hearing Sciences and a Master's Student in Public Health

Table of Contents

I. Master of Philosophy and Doctor of Philosophy Programmes Justification and National Relevance to Healthcare System……..23

   A. Lack of postgraduate training opportunities in rehabilitation sciences in Ghana and West Africa…… 24

   B. Cost of postgraduate studies abroad…… 25

II. Alignment with the Mission of the Institution…….. 25

III. Overview of the joint M.Phil. and Ph.D. programme in rehabilitation sciences…… 27

IV. M.Phil. Program

   A. Aim…….. 27

   B. Objective……..27

   C. Expected outcome…….. 27

   D. Target market…… 28

   E. Enrolments…… 29

   F. Collaboration with professional bodies……..29

Appendix A: M.Phil. Curricula - Program Plan

Appendix B: M.Phil Electives

I. Master of Philosophy (Mphil) and Doctor of Philosophy (Ph.D.) Programmes Justification and National Relevance to Healthcare System

The University of Health and Allied Sciences (UHAS) is a public university established by an Act of Parliament (Act 828) in December 2011, with the sole mandate of developing and running healthcare-related courses. The University currently has six schools and two institutes. The School of Health and Allied Sciences (SAHS) has six departments: Medical Imaging, Nutrition and Dietetics, Medical Laboratory Sciences, Speech, Language and Hearing Sciences, Physiotherapy as well as the department of Orthotics and Prosthesis(BORP).

The SAHS is directly concerned with advancing teaching, research and community services in the Healthcare area of Rehabilitation Sciences for the overall objective of improving the quality of life of Ghanaians that require clinical as well as physical rehabilitation following from disability(ies) of congenital and or accidental in nature.

The mission of the proposed MPhil and or Ph.D. Rehabilitation Sciences degree programme is to train Rehabilitation Scientists, with critical thinking abilities and who will engage in lifelong research by offering the highest clinical, research and competency and research based training programmes in Rehabilitation Sciences in Ghana. This is to prepare graduates to provide safe, quality and excellent rehabilitation management services to persons needing Rehabilitation across the broad spectrum of Healthcare in both research and clinical settings. This will be achieved through formal didactic, state-of-the-art workshop, clinical and research experiences that prepare graduates to be competent rehabilitation experts in diverse specialized healthcare related disciplines of Physiotherapy, Orthotics and Prosthesis, Speech and Language Therapy, Audiology, Nutrition, Medical Imaging as well as Sport and Exercise Medicine.

Healthcare delivery is a chain of processes from diagnoses, treatment, restoration and rehabilitation. As a school in a university with the core mandate of training graduates to becoming healthcare professionals, the chain of healthcare delivery can only be complete if the training of Rehabilitation Scientists is included as one of the Specialist Training areas. By the mounting of this programme in the School of Health and Allied Sciences of the University, Ghana is poised to take the enviable lead in Africa in the delivery of competent manpower in Rehabilitation Sciences so that persons needing various rehabilitation healthcare are factored into the health management.

This definitely has its attendant consequences on lifestyle of the citizens needing various rehabilitation healthcare. Ghana therefore, cannot but take steps to ensure that persons needing rehabilitation healthcare, for the mitigation of quality of life after medical conditions management meets international standards and the rehabilitation healthcare needs are not provided by pseudo professionals who may provide more harm than good. Currently, no University in Ghana and indeed Africa offers postgraduate degree programs in Rehabilitation Sciences.

There is a huge personnel gap to be filled in terms of trained rehabilitation professionals. The SAHS of UHAS shall be blazing the trail in the formal postgraduate training in this apex field of academics. The Ministry of Health has privately managed hospitals that provide healthcare services to persons needing rehabilitation healthcare. The Ministry of Youth and Sports and National Sports Authority manage Paralympics sports from the grassroots to the national and international levels. A major phenomenon in the sports industry are physical injuries and or psychological disorders requiring rehabilitative therapies. This situation is one of the reasons to train rehabilitation professionals in specific need areas of rehabilitation healthcare to ensure wholesome, adequate and beneficial healthcare management.

a) Lack of post graduate training opportunities in rehabilitation sciences in Ghana and West Africa

The importance of training the next generation in the field of rehabilitation practice, is that it shifts the focus from training in individual disciplines (such as speech and language therapy, physiotherapy, occupational therapy, etc.) to a focus on interdisciplinary knowledge. This particular professional training has benefits, since it will create a more flexible rehabilitation workforce while, at the same time, equipping students to expand and gain new skills in their own fields of interest. As for the presence of post graduate training in Ghana, there are currently seventeen accredited public universities offering a range of courses. Although some of them do present individual program training in allied health professions, such as the University of Ghana, who created in 2016 Ghana's first master's program in speech and language pathology, none of them offer a rehabilitation science program. Among West African countries, Nigeria and Togo, also run SLT programs. However, a survey of their public and private universities also revealed that none offer rehabilitation science programs.

The profession of Physiotherapy provides a similar example. The first Ghana-trained cohort of physiotherapists graduated from the University of Ghana in year 2005. The university has since produced an average of 20 graduates annually. There are currently about 120 Ghana-trained physiotherapists practicing in the country (according to the Ghana Physiotherapy Association president).

There is currently no physiotherapy-specific postgraduate programme in Ghana and thus practitioners are forced to pursue /seek postgraduate opportunities abroad. The available options include applying for scholarships which is an arduous process with low success rate. If one chooses to stay in Ghana, the options include diverting into other fields in health science such as medicine or public health or leaving health sciences all together. Another option involves undertaking a related course such as the 'Master of Philosophy in Disability and Rehabilitation offered by the Kwame Nkrumah University of Science and Technology in Kumasi, Ghana's second largest city. However, none of these current programs in Ghana are specific to skill and technique training in the field of physiotherapy so there is such an unmet need for many who wish to specialize in clinical areas such as neurodevelopmental disorders. At the last GPA Scientific Conference 2018, physiotherapists unanimously agreed that it is time Ghana had a postgraduate programme specific to the field. In summary, the more of such field specific postgraduate training there are in Ghana, the broader the range of career options will be for many healthcare professionals.

b) Cost of postgraduate studies abroad

It is imperative to develop the M.Phil. and Ph.D. academic training programs in Ghana so they are accessible, affordable and comprehensive. The cost of postgraduate studies in North American to study rehabilitation sciences can be very high. As an example, the cost of a Master of Science degree in the United States (University of Washington, Seattle, Washington) is estimated to cost the following: average graduate tuition fees for a non-Washington resident = $29,563, accommodation = $1,000 per month = $12,000 per year; living expenses = $200 per week = $800 per month. In total, it will cost about $51,163 per year, i.e. GHC 290,605 per year. This means that the total cost to complete a two-year M.Phil. program is GHC 581,211 and a five-year Ph.D. program is GHC 1,453,025. These ridiculously high amounts are beyond the reach of most Ghanaian professionals. Furthermore, it is often difficult to secure funding for Ghanaian students to study overseas.

II. Alignment with the Mission of the Institution

The vision of UHAS is to be a pre-eminent health research educational institution dedicated to community service. The University shall realise this vision by taking innovative approaches to research, teaching and engagement with society, informed by a culture of scholarship, academic and service excellence. The mission of UHAS is to provide quality educational opportunities to qualified students and healthcare professionals, advance knowledge through scholarships and research and provide patient care services that improve health and quality of life for people.

A postgraduate programme in Rehabilitation Sciences will fit very well into realising this mission. It will address an unmet need voiced by several health professions in Ghana and provide practitioners with an opportunity to advance academically in their own fields. This opportunity will offer them a relatively convenient and affordable means to obtain quality training in their respective professions as well as training in research.

As the only public university dedicated to the training of health-related professionals, it is only appropriate that UHAS should be leading the way when it comes to the training of health professionals in Ghana. The Ph.D. programme shares in the values of the university which are as follows;

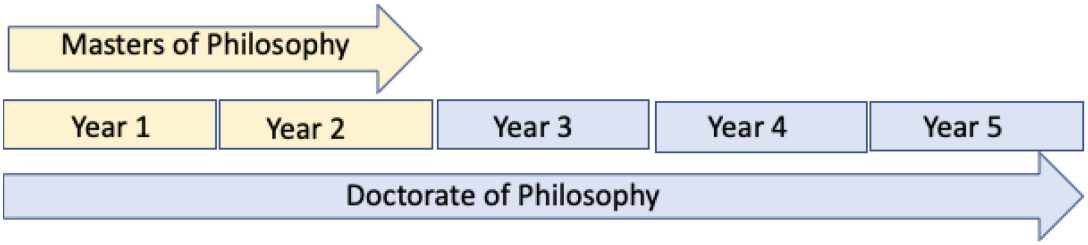
- Work with integrity and maintain an empowering environment based on mutual trust, respect and partnership among academic and non-academic staff, students and other institutions within and outside the University;
- Apply innovative educational approaches and technologies (including distance learning) to enhance access to programs with a focus on training high calibre health professionals;
- Use modern information and communications technology and other educational tools to drive the PhD in Rehabilitation Sciences programme.
- Seek through research and clinical service, to be relevant to the health needs of Ghana and beyond, with future programs relating to emerging challenges and trends in health;
- Be practically oriented by offering an opportunity to specialise in key aspects of the involved fields in terms of improving skills through a practical hands-on approach as well as community service opportunities.
- Develop curriculum that entails an effective balance between academic knowledge and competencies required in the world of work;

- Collaborate with the Ministries of Health and Education, other Ministries, Departments and
- Agencies, professional bodies, the private sector and international institutions in the attainment of the mission of the Department.

III. Overview

The purpose of the Masters in Philosophy (MPhil) in Rehabilitation Sciences and a Doctorate in Rehabilitation Sciences (Ph.D.) is to train rehabilitation professionals from fields including Occupational Therapy, Physiotherapy and Speech and Language Therapy to become experts in the Rehabilitation Sciences. Entering students will have the opportunity to earn a M.Phil. in Rehabilitation Sciences in 2 years or continue in the program to earn a Ph.D. in Rehabilitation Sciences in a subsequent 3 years (see Figure 1).

Figure 1: Schematic of M.Phil. and Ph.D. program timeline



IV. Masters in Philosophy Rehabilitation Sciences (M.Phil.)

A. Aim

The aim of the 2-year Masters in Philosophy (M.Phil.) in Rehabilitation Sciences program is for professionals in the rehabilitation sciences (physiotherapy, occupational therapy, speech and language therapy) to develop research skills, expand their current clinical knowledge, develop skills related to the concepts of public health, and to develop skills in pedagogy.

B. Objectives

To achieve the aim of the M.Phil. program, the following objectives will be met.

1. To train students on research methodology and statistics
2. To train students about the clinical field of rehabilitation sciences.
3. To train students about aspects of public health that will include knowledge on the global burden of disease, implementation science, and bioethics.

4. To train students about pedagogical theories and practice.

C. Expected Outcome

At the end of the programme, the graduates are expected to have the following skills and competencies:

1. Advanced and critical analytic skills for research.
2. Advanced and critical analytic skills for clinical practice in the rehabilitation sciences.
3. Critical and broad knowledge of issues impacting the service of public health.
4. Advanced pedagogical skill set to teach at university.

D. Target Market

The proposed MPhil and PhD programme will admit both Ghanaians and foreign nationals with the requisite qualifications. To ensure that the candidates are adequately prepared for the programme, they must have the following requirement;

- Applicants must hold a good first degree (at least second class upper) in a medical or allied health profession (e.g. Audiology, Nursing, Occupational Therapy, Orthotics and Prosthetics, Physiotherapy, Speech and Language Therapy, Sports and Exercise Medicine) from an accredited institution.
- Applicants must have at least three years post-licensure work experience as a rehabilitation professional or other related speciality.
- Two reference statements/letters from professional and/or academic referees are required
- Applicants must pass an admission interview
- Ghanaian and foreign applicants are eligible to apply
- Research proposal (not more than 700 words)
- Statement of purpose (not more than 500 words)

Graduates of the MPhil in Rehabilitation Sciences will have a wide range of career options. Completion of the programme may qualify them for advancement in their existing places of work. It may also qualify them for new careers in academia or in non-governmental organisations.

E. Enrolments

Projected students' enrolments for the first five years of the program are presented below.

Year	Cumulative project number of students
1	10
2	10
3	15
4	15
5	20

F. Collaboration with professional bodies

Allied Health Professions Council of Ghana (AHPC)

Speech Therapists and Audiology Association of Ghana (STAAG)

Ghana Physiotherapy Association (GPA)

Ghana Dietetic Association (GDA)

Nutrition Association of Ghana (NAG)

Occupational Therapy Association of Ghana

Ghana Association of Prosthetics And Orthotics (GHAPO).

International Society of Physical and Rehabilitation Medicine (ISPRM)

International Society for Sport Psychologists

American College of Sports Medicine

African Association for Health, Physical Education, Recreation, Sport and Dance (AAPHER-SD)

Ghana Association of Medical Laboratory Scientists (GAMLS)

Ghana Society of Radiographers (GSR)

Ghana Society of Medical Physicists (GSMP)

Ghana Optometric Association (GOA)

Opticians Association of Ghana (OAG)

Ghana Association of Community Mental Health Officers (GNACMHOS)

Oral Health Professionals Association of Ghana (OHPAG)

Ghana National Association of Public Health Technical Officers (GAPHTO)

Health Promotion Association of Ghana (HPAG)

APPENDIX A

M.Phil. Curricula - Program Plan

	M.Phil.			
	Year 1	**Cr**	**Year 2**	**Cr**
Semester 1	Research methods	3	Workshop (research)	1
	Biostatistics	3	Seminar (proposal presentation and ethics submission)	2
	Clinical supervision and leadership	2	Thesis (data collection)	
	Global Burden of Disease	3		
	Rehabilitation Science Foundation	3		
	Implementation Science	3		
	Workshop	1		
	Total credits	**18**	***Total credits***	**3**
Summer	Clinical Practicum - 1 month (15)	15	Research data collection	5
	Total credits	**15**	***Total credits***	**5**
Semester 2	Pedagogy	3	Workshop (data analysis and interpretation; capacity building)	1
	Bioethics	3	Seminar (presentation of preliminary findings)	2
	Psychosocial impact of rehabilitation	2	Thesis (write up and submission)	
	Interprofessional education	2		
	Workshop	1		
	Elective 1	3		
	Elective 2	3		
	Elective 3	3		
	Total credits	**20**	***Total credits***	**3**
			TOTAL PROGRAM CREDITS	**64**

APPENDIX B

M.Phil. Electives

Sport and Exercise Medicine	**Physiotherapy**
· Applied Sport Rehabilitation	Musculoskelatal Physiotherapy
· Mechanisms of Sport Injuries	Advanced Physiotherapy in Paediatrics
· Sport and Massage Therapy	Cardiovascular Health and Rehabilitation
· Advanced Fitness Training Techniques	Therapeutic Rehabilitation
· Sport Rehabilitation Study Preparation	Evidence based Neuro-Rehabilitation
· Exercise Prescription, Referrals and Rehabilitation	**Post Graduate Workshops**
· Therapeutic Modalities for Sport Rehabilitators	Instrument Design/Survey Methods
· Injury Prevention and Restoration to Performance	Literature review including database/SAGE
· Psychology of Sports and Exercise Rehabilitation	Research Methodology and Design
Audiology	Data collection tools design
Adult Aural Rehabilitation	Theoretical Discourse
Paediatric Aural Rehabilitation	Proposal Writing
Hearing aid and Hearing Assistive Technologies	Qualitative Data Analysis
Sign Language and Rehabilitation of the Deaf	SPSS Data analysis software
Tinnitus Management	Atlas Ti Data analysis
Advanced Counseling Skills in Aural Rehabilitation	Guide to research proposal development
Vestibular and Balance Assessment Management	Guide to analysis/Results presentation
Cochlear Management	Choosing and interpreting the right statistics
Speech and Language Therapy Electives	
Dysphagia management and diagonostic imaging	
Cognitive neuropsychology and acquired language disorders	
Neurodevelopmental disorders	
Sensory integration therapy	