HHS Public Access

Author manuscript

Educ Health (Abingdon). Author manuscript; available in PMC 2015 August 14.

Published in final edited form as:

Educ Health (Abingdon). 2014 ; 27(3): 249–254. doi:10.4103/1357-6283.152183.

The Intricate Relationship Between a Medical School and a Teaching Hospital: A Case Study in Uganda

Aloysius Gonzaga Mubuuke, **Francis Businge**, and **Emmanuel Mukule**

Department of Radiology, School of Medicine, Makerere University, Kampala, Uganda

Abstract

Background—The relationship between medical schools and teaching hospitals is full of opportunities but also challenges even though they have complementary goals that could enhance each other. Although medical schools and teaching hospitals may face some similar challenges around the world, there could be context-specific observations that differ in resource-rich versus resource-limited settings. The purpose of this study was to investigate factors that are perceived to have influenced the relationship between a medical school and a teaching hospital in Uganda, a resource-limited setting.

Methods—This was a cross-sectional, descriptive study in which key informant individual interviews were conducted with senior administrators and senior staff members of the Mulago Hospital and Makerere University Medical School. The interviews explored factors perceived to have favoured the working relationship between the two institutions, challenges faced and likely future opportunities. Both quantitative and qualitative data were generated. Thematic analysis was used with the qualitative data.

Results—Respondents reported a strained relationship between the two institutions, with unfavourable factors far outweighing the favourable factors influencing the relationship. Key negative reported factors included having different administrative set-ups, limited opportunities to share funds and to forge research collaborations, unexploited potential of sharing human resources to address staff shortages, as well as a lack of a memorandum of understanding between the two institutions.

Discussion—This study identifies barriers in the existing relationship between a teaching hospital and medical college in a resource-poor country. It proposes a collaborative model, rather than competitive model, for the two institutions that may work in both resource-limited and resource-rich settings.

Keywords

Collaborative model; medical school; relationship; teaching hospital

Address for correspondence: Dr. Aloysius Gonzaga Mubuuke, Radiology Department, School of Medicine, Makerere University, P.O. Box 7072, Kampala, Uganda. gmubuuke@gmail.com.

Conflict of Interest: None declared.

Background

The relationship between medical schools and their teaching hospitals has been studied and findings documented in the developed, Western world.[1–5] Many of these studies have reported that this relationship is influenced by a number of factors. Most important and contentious are institutional finances, which cause each institution to try to protect its interests.[4] This leads to institutions working solely on self interests and not being guided by the core responsibility of patient care, training and research.[4,6]

The medical school-teaching hospital power relationship is often one in which the teaching hospital is the dominant purchaser in carrying out hospital responsibilities like residency education and supervision, patient care and other hospital services. In this case, the teaching hospital has monopsony power over the medical school.[7] Because the medical school needs the teaching hospital to support faculty, provide clinical training and conduct research, submitting to the teaching hospital's monopsony power is unavoidable.[7] The university-hospital separation is especially unfortunate at a time when there are increasing concerns about the performance of health care delivery systems.[8,9] These include the wide variability in healthcare outcomes and costs; the lack of correlation between expenditure and outcomes, and the significant risks of adverse events associated with hospital admission.[10,11]

It is now recognised that many of these problems arise from many facets of these institutions' interactions[12,13] and that these interactions generate organisational complex adaptive systems that are not easily understood or managed through traditional hierarchical structures.[14–16] To meet these challenges it has been suggested that new approaches will be required in professional organisations[17] and leadership[18,19] and that clinical education should encompass quality and safety[20,21] and the sort of team training[22] and simulation techniques[23–25] that have been successfully employed in other industries. New workforce models[26] and networked organisational structures are also emerging to replace or supplement those that are no longer sufficient for the task.[27–29]

Kastor has reported that although it may be that the structure and culture of health training institutions and teaching hospitals are different, the two institutions have much in common.[30] Every medical school must relate to a hospital to teach its students, conduct clinical research and provide its clinical faculty with a means of practicing their professions. What differs from society to society is the structure of such a relationship. The medical school may own the hospital, the hospital may own the medical school or neither may own the other. Hospital administrators may not report to any authority in the medical school and vice versa. To complicate matters, the state or government may own the hospital and the medical school, own just one of them or own neither. In Western countries, Kastor lists issues like finances, human resources, planning and policies as some of the contentious issues within these relationships.[30]

Although the literature is replete with studies investigating medical school-teaching hospital relationships, most of this literature is based on these relationships within resource-rich and developed Western countries. There is a dearth of literature emerging from institutions in

developing and resource-limited settings, and it is not known in which ways the challenges may differ in these countries. The aims of this case study were to investigate the relationship between a medical school and a teaching hospital within a developing and resource-limited setting, and to find ways for supporting this relationship so that the two institutions can grow harmoniously. It is hoped that findings from this study will supplement the findings from developed and resource-rich Western settings.

Methods

Study setting

The study was conducted at the Makerere University medical school and Mulago Hospital. The medical school is the oldest health professions training institution in East Africa with about 700 medical students across all the five years of the medical curriculum. Students first learn basic sciences in the first two years with little exposure to the hospital and then commence clinical clerkships in the hospital in their third, fourth and fifth years. The medical school has about 200 teaching staff members for students. Mulago Hospital is Uganda's largest hospital and its national referral hospital, and serves as the teaching hospital for the medical school. The hospital is located in the northern part of the city of Kampala, with a bed capacity of 1500 with about 1500 clinical staff that include doctors, nurses and allied health professionals.

Study design

We used a cross-sectional study with key informant interviewer-administered questionnaires.

The questionnaires were administered in English, which is Uganda's official language, and all informants were literate and could understand the language. From a list of various factors provided, respondents were asked to identify factors that did and did not favour the school–hospital relationship. Response frequencies were tallied. The questionnaire items were developed from the literature on teaching hospitals and medical colleges from other contexts. Qualitative questions on the questionnaires explored participants' views of the possible challenges facing the two institutions, opportunities and ways forward that could help the two institutions co-exist harmoniously. To provide a measure of face validity, the questionnaire was piloted with five faculty members. The pilot showed that the questions were clear to respondents, but that the interview tended to take much time. Consequently, interviews were run quicker in the actual study.

Study participants

Participants were senior administrators and senior members of staff of the medical school and the hospital. The total number of participants was 80, 40 from the medical school and 40 from the hospital. Each department within the two institutions was represented in the study by at least by one participant. Participants from the medical school included the Principal, Deputy Principal, Deans and Deputy Deans, Heads of Department, Professors, Associate Professors and two Senior Lecturers from each department. Participants from the hospital included the Executive director, Deputy Executive director, Clinical Heads, Senior

Consultants and one Consultant from each clinical department. Senior staff were included because it was anticipated that they would have in-depth knowledge of the working relationships between the institutions given their generally long tenure in these institutions.

Data management and storage

Interviewers and participants chose a quiet location and the participants were identified by a number not name on the questionnaire. Responses were audio-recorded verbatim alongside hand written notes. Two people collected the data: One conducted the interview while the other worked the recorder and wrote field notes. Field notes together with the recording helped ensure reliability of data collected.

Data analysis

Descriptive analysis was used out to summarise reported positive and negative factors perceived to be affecting the hospital–school relationship. Qualitative data analysis involved identifying participants' meanings in their responses to the three questions posed about challenges, opportunities and ways forward for the institutions. Raw data was transcribed, proof-read and then coded into categories of similar meaning that addressed the three posed questions. The coding schema was developed by three investigators who then independently applied this in coding the qualitative data.

Permission to conduct this study was granted by the Research and Ethics Committee, School of Biomedical Sciences, Makerere University. Informed consent was received from participants prior to the interviews.

Results

Quantitative results

Respondents were asked to identify from a list things that favoured and hindered a good working relationship between the medical school and teaching hospital [Table 1]. Most respondents pointed to the causes of the strained relationship between the two institutions as the existence of parallel administrative structures, limited opportunities to share human and financial resources, and a lack of proper working relationships between the staff of the two institutions.

Qualitative results

The three questions posed to participants addressed the challenges facing the two institutions, opportunities from the two institutions to work together and ways forward to improve the relationship between the two institutions.

Challenges—The key challenges mentioned by participants included a lack of a legally binding memorandum of understanding between the two institutions, limited room to share financial resources, differences in administrative structures and unnecessary competition between the staff of the two institutions.

"*We do not have a working document highlighting the terms of reference and expectations from either side and this makes collaborations a little difficult*" [Hospital Staff].

Participants also noted exploitation by both sides. Sometimes the medical school lecturers leave the teaching to the hospital staff, and hospital staff leave the clinical work to the medical school staff.

"*Although am not employed by the hospital, I sometimes find myself being on duty alone serving patients for long hours*" [School Staff].

"*Lecturers often send us students in the wards and as hospital staff; we do the teaching when the lecturers are busy doing other activities. This is a form of exploitation yet we earn nothing from the university*" [Hospital Staff].

Opportunities—One key opportunity identified that could be harnessed by the two institutions was to collaborate in research, which could both generate funds and promote evidence-based health care.

"*We have lots of untapped potential amongst staff of both the hospital and the medical school. These are very competent people with ability to get engaged in quality research that informs both patient management as well as quality teaching. If only we can work together like brothers and sisters…the future will be bright*" [School Staff].

Addressing the shortage of health workers was another key opportunity. This was mainly noted that lecturers and hospital staffs could work together to train students and also manage patients.

"*Since government cannot address the human resource challenge in its entirety, professionals from both the hospital and medical school on the university side can re-enforce each other in the form of synergism… Both sets of staffs can get involved in patient care as well as training thus complimenting each other*" [Hospital Staff].

Way forward for the partnership—Respondents suggested ways forward for the future of the medical school–hospital relationship. Having joint administrative, management and strategic planning meetings were a common thread in responses, to yield shared goals, targets and a common strategic direction since the two institutions have common values.

"There is need to have joint meetings for administrators of the hospital and the medical school such that we share and exploit the strengths of each side towards a common goal" [Hospital Staff].

Another suggested way forward was to have a shared research agenda as well as staff and institutional collaborations to raise funds through shared research projects and grants. This was mainly cited as a way to generate more funds for the two institutions.

"*Having joint or collaborative research between the two institutions is not only likely to lead to more quality research output as expertise on either side is*

exploited, but also likely to increase funding opportunities through joint bidding for grants" [School Staff].

Respondents pointed out the opportunities for teamwork involving lecturers from both the medical school and health workers in the hospital as one way to address the human resource gaps for both institutions.

"*Each of us has special skills and potential to contribute to the advancement of both institutions. The surest way to achieve this is by working together as brothers and sisters supporting each other towards a common vision in the midst of inadequate staff numbers we are grappling with*" [Hospital Staff].

Many respondents suggested having a signed, legally binding memorandum of understanding shared with all staff detailing the expected roles and responsibilities of each institution.

"*Having a memorandum of understanding that is explained to all staff members in both the hospital and the medical school is likely to solve the puzzle because each will be cognizant of their roles, responsibilities, incentives and rewards*" [School Staff].

Discussion

The tension existing between a medical school and a teaching hospital observed in this study has been previously reported.[6,7] Although Mulago hospital serves as the teaching hospital for the medical school, the hospital belongs to the Ministry of Health, while the medical school belongs to Makerere University. Technically, the university has no control over the hospital. When both institutions are independent yet need each other, there are bound to be challenges from unhealthy competition for the best staff, guarding institutional interests and poor teamwork. Both the medical school and the teaching hospital share related goals of research, education and clinical service; however, their order of importance differs. The medical school and its faculty focus more on a school's traditional roles of teaching and research. In contrast, for hospital administrators, offering quality service to patients and patient satisfaction are the ultimate goals. This can drive health care workers in hospitals away from participating in research, and hospital administrators can view time spent by health workers on research and teaching as time stolen from the patient. Paradoxically, quality and evidence-based health care must be informed by ongoing research, and this requires collaboration between clinicians and clinical lecturers.[20,29]

Although both medical schools and teaching hospitals face the challenges of limited staff for teaching and patient care, respectively,[4] the situation is worse in resource-limited settings. This study's observed separation of the two institutions in a resource-limited setting is unfortunate at a time when the performance of health care systems is in the spotlight. The government's financial constraints mean that fewer health workers as well as clinical lecturers are recruited. This, and the fact that many professionals leave government service to private sector or go abroad, means that medical students are called upon to contribute more to patient care.

Students need the support from both institutions to deliver care while also meeting their educational needs. The lack of a harmonious relationship with shared priorities, team work and a common direction may result into dysfunctional attitudes and practices ultimately harming students and patients.

In order to address the observed challenges, new functional approaches are required in terms of leadership, organisation operations and design of new working models. Although the two institutions use different approaches, they share a similar underlying goal to improve health outcomes for the population. Makerere medical school, like many medical institutions, is resource-constrained with limited capacity to establish a fully fledged teaching hospital of its own. Mulago Hospital is also challenged by limited funding, limited research output and inadequate human resources to offer quality, evidence-based care to patients.

Integrated or competitive models are not effective as a way forward.[5] An integrated model would mean that the two institutions merge, which is often practically impossible, as in our case. The medical school has a different administrative structure and directly reports to the university under Ministry of Education. In contrast, Mulago Hospital has its own structure and reports to Ministry of Health. A competitive relationship model would also be unhealthy for the two institutions. Under this model, the rift between the two is likely to deepen further, as each institution will be concerned with advancing their own interests.

The two institutions are kept from benefitting by sharing staff, financial resources, strategies, research agendas and administrative roles because they fall under different government ministries. They have developed different, efficiency-driven business models that have led to them to independently define roles and priorities. So although they outwardly seem to be working together and depending on each other, in reality they are following different agendas.

As a possible solution, we propose a *Collaborative Relationship Model*. Although this model is useful in resource-constrained settings, it may also be applicable in resource-rich settings as well. Under this model, the medical school and the hospital operate at the same level with neither above the other. At this level, there is constant collaboration, communication and support in a cyclical manner where each institution remains interested in the advancement of its partner. Such a relationship also retains the status quo whereby the medical school administration retains control of the lecturers employed by the university and the hospital administration retains control of the health workers employed by ministry of health. Thus each institution retains its traditional autonomy, but at the same time works to advance common goals of providing quality care to patients and quality education to students, together improving the health of the community.

The *Collaborative Relationship Model* can be operationalised through collaboratively designing research agendas to identify priority health research needs, by clinicians teaching and clinical lecturers serving patients, and through sharing of commonly acquired finances through grants. It might not be possible to share entire budgets within this relationship, but finances and equipment acquired as a team through research grants and shared projects can be shared. There is also need to design clear memoranda of understanding between the

institutions specifying roles of each. Ultimately, fostering effective teamwork and mutual respect between university and hospital staff is likely to yield positive outcomes.

Limitations

This study's use of non-probability sampling limits the generalisability of our findings. Additionally, the open-ended questions came after the closed-ended portion of the questionnaire, which could have biased the participants' responses, thus limiting the scope of responses.

Conclusion

This study examined the relationship between a medical school and a teaching hospital through the eyes of its leaders. Findings revealed that there is often tension between the two institutions, principally due to differences in administrative and management structures, lack of clear roles for each, the differing responsibilities and expectations of each institution, their differing financial sources and needs, and inadequate human resources. However, we believe that such challenges can be met through collaboration and team work. The collaborative model we suggest involving team work can lead to a more harmonious relationship between a medical school and teaching hospital than a competitive approach.

Acknowledgement

This study was supported by the Medical Education for Equitable Services to All Ugandans-Medical Education Partnership Initiative (MESAU-MEPI) Programmatic Award through Award Number 1R24TW008886 from the Fogarty International Centre. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Fogarty International Centre or National Institutes of Health.

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Table 1

Responses from hospital staff and medical school staff regarding factors perceived to favour and hinder the medical school-teaching hospital relationship

Factors	*N* (%)	
	Hospital staff	Medical school staff
Favouring factors		
Sharing of human resource	40 (100)	40 (100)
Collaborative research among staff	20 (50)	25 (62.5)
Common goal of improving health outcomes	31 (77.5)	33 (82.5)
Collaborative training and continuous professional development	29 (72.5)	35 (87.5)
Willingness of administrators to co-operate	14 (35)	12 (35)
Good relationships amongst staffs	13 (32.5)	10 (32.5)
Hindering factors		
Different administrative structures	40 (100)	40 (100)
Limited human resource capacity	34 (85)	40 (100)
Non-sharing of finances	40 (100)	18 (45)
Different expectations and objectives	18 (45)	40 (100)
Lack of memorandum of understanding	40 (100)	18 (45)
Absence of structural organisation linking the two institutions	40 (100)	40 (100)
Potential of exploitation in current relationship	33 (82.5)	40 (100)
Differences in key strategies, goals and objectives	40 (100)	40 (100)