The Journey Thus Far: Chronicling Events of the Only Medical School in Botswana

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Abstract

The University of Botswana (UB) started the only medical school in the country in 2009 in order to meet the increasing need for Batswana doctors who could deliver excellent health care anywhere in the country. Since then, the Faculty of Medicine has graduated four cohorts of locally trained medical doctors. Prior to its start, there were a series of events that played a pivotal role in the realisation of this momentous project. The nation's health care system had long been facing a systemic problem with its medical doctor cadre. By the mid-1980s the nation's health care system was characterized as having less than 14% of physicians who were citizens mostly working almost exclusively at the two national referral hospitals –Princess Marina in Gaborone and Nyangabgwe in Francistown respectively. No citizen doctors were employed in district clinics and primary hospitals, hence the decision in 1998 by the government to establish its own medical school. This paper chronicles the events leading to the establishment of the Medial School and its operation.

Introduction

In 1998, sceptics viewed the decision taken by the government of Botswana to establish a medical school in the country with some alarm, especially with regard to the anticipated cost of the undertaking. On reflection, they ought to have been reassured by the fact that the decision dovetailed with an observation more than 25 years earlier by the internationally renowned health economist and health policy advisor, Professor Brian Abel-Smith. He noted that'establishing a new medical school in a developing country is a major decision calling for a detailed study of the long-term economic and financial implications and a full consideration of the available alternatives' *(*Abel-Smith *et al*. 1973).

In 1989, some 23 years after the country's independence in 1966, it was indicated that there were only 259 doctors in Botswana of which a meagre 37 (14%) were citizens (Republic of Botswana 1989). Worryingly, the number of citizen doctors did not increase, although government continued to sponsor students to study medicine overseas. This was a disturbing development because it was reported that:

> The training of students outside Botswana cost the government more than USD500 million in tuition and living expenses. Unfortunately, too few students return to Botswana upon completion of their training. Those who do return are not retained owing to their inadequate adaptation on the Botswana healthcare environment; this continued to put strain on the system. This model of training medical doctors proved to be financially unsustainable. The number of Batswana doctors remains too low to meet the increasing population and demand for improved healthcare service delivery (Badlangana *et al*. 2016).

The acute shortage of citizen doctors led to government establishing a Task Force on Medical Education which produced its report in 1989. The core recommendation of the Task Force was that

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Botswana should take steps to graduate, from the earliest feasible date, a minimum of 30 to 35 doctors per annum in order to achieve at least 50% localisation of this cadre by the end of National Development Plan (NDP) 8 (Republic of Botswana 1989). Parallel to this development, the UB Council established a UB Review Commission (UBRC) in 1990 which, among other initiatives, recommended the establishment of a medical school (UB 1991). In February 1992, the government, through the Ministry of Education, adopted the Terms of Reference that had been proposed by UB (UB 1992) and appointed a Feasibility Study Team under the chairmanship of Dr David Sebina (former Permanent Secretary in the Ministry of Health and former World Bank Public Health specialist) to guide government on the advisability and feasibility of establishing a medical school in Botswana. At UB level, engagement and consultation was with the University of Botswana (UB) Task Force on Medical Education chaired by Dr Thabo Mokoena (Republic of Botswana 1995).

Further developments led to a Presidential Directive of 1998 which took concrete steps towards the establishment of a medical school in a phased manner: while the country continued to place students in external institutions, a pre-medical programme was established through a link arrangement between the University of Botswana and other medical institutions abroad in order to increase the pool of potential medical students. This would help enable a fully-fledged medical school to evolve. Additionally, the directive was to set up a High-Ranking Committee through the office of the Vice Chancellor to cost a phased medical school project. The Committee included the Vice Chancellor and Permanent Secretaries of the Ministries of Education, Health, Local Government, Lands and Housing and, Finance and Development Planning.

In September 1998, the Ministry of Education enjoined the University to begin implementation of the Presidential Directive by 'identification of possible link institution as well as planning for review of the BSc Part curriculum to relate it to pre-medical trainin' (Ramtsu, PT to Siverts, S 4 September 1998). This constituted Phase 1 of the establishment of the medical school. Partner medical schools were selected based on health care system and disease profile similarities between countries (South Africa and Australia) as well as a medical education curriculum akin to that recommended by the Feasibility Study Team. The expectation was for these partner medical schools to accept up to 50 medical students per year in a period of 7 years (from 1998 to 2005). Students selected into the partner schools were first expected to do three semesters of the premedical programme in the University of Botswana. The conditions of the memoranda of agreement with partners were such that they would guarantee medical student placements until at least 2010 and commit partners to assisting in the establishment of the UB medical school.

Phase two (2005–2009) heavily involved the recruitment of staff, curriculum development, sourcing of facilities and student admission issues. This process required the recruiting of a founding planning Head of School of Medicine and Core Senior Planning staff. These were Professor Major Bradshaw, who was seconded from Baylor Medical College in Texas (United States of America). From the University of Botswana, Dr Thabo Mokoena was seconded as Chair of the Working Group on Establishment of the Medical School and, Mrs Keromeng Johnson as Administration Supervisor in the UB Medical Education Unit and Secretary to the Working Group. They worked with Professor Bradshaw as the inaugural nucleus of the Core Planning Team.

In the recruitment of staff, it was key for the School of Medicine to start with heads of department from 2008 to 2009. These departments were Anaesthesiology, Biomedical Sciences, Internal Medicine, Paediatrics, Pathology and, Family Medicine and Public Health Medicine. Mostly biomedical scientists were recruited early in 2009 as heads of department. The logistics around the areas of joint staff agreement and dual appointment were being refined at the same time. The feasibility report had envisioned a problem-based curriculum that would have an integrated organ-system based model with early patient contact and introduction of clinical skills. Therefore, intensive planning of facilities that would fit the curriculum

model was designed. The Faculty of Health Sciences building was constructed within UB while the School of Medicine was temporarily based at a warehouse, a private facility, in Gaborone West industrial complex. Parliament has passed legislation for use of cadavers and organ transplants for medical training in Botswana. However, the public health act is yet to be concluded (Republic of Botswana 2013).

Early at the start of the School of Medicine, programme directors (specialist staff who had worked in the Ministry of Health) were tasked with selecting hospitals, clinics and community settings at all Botswana's urban and rural districts for teaching, research and service in community health and clinical subjects. Currently, community teaching sites include hospitals and primary healthcare clinics: Gaborone area clinics, Mahalapye District Hospital, Maun's Letsholathebe II Memorial Hospital and Sbrana Psychiatric Hospital in Lobatse (Map 1). At the beginning of the programme, the big hurdle was convincing students, their family members and those who supposedly should have been supportive of the programme, some of the medical cadres, that the School of Medicine would be successful. Unlike other countries that have multiple medical schools and experience of starting medical schools, for Botswana, this was a daring debut. For a solid foundation and success of the school, UB needed to establish very strong partnerships with the government ministries of Health, Ministry of Local Government Housing and Lands, and Ministry of Education. Involvement of non-governmental organisations, private sector and other institutions from abroad also proved to be essential.

Implementation of the School of Medicine

The School of Medicine (SOM) became fully functional in 2009 operating under the Faculty of Health Sciences (FHS) which was established in June of the same year. In this organizational structure, the head of School of Medicine reports to the Dean of FHS (Figure 1). Five years later, in 2014 the School of Medicine was upgraded from being a school and became the Faculty of Medicine (FOM). The degree programme that was approved by UB Council was Bachelor of Medicine, Bachelor of Surgery (MBBS). This was to take five (5) years to complete after the students' successful completion of their first year of BSc (or A-Levels equivalent of 2 years).

Figure 1: The UB School of Medicine as shown in the Larger University Organisational Structure

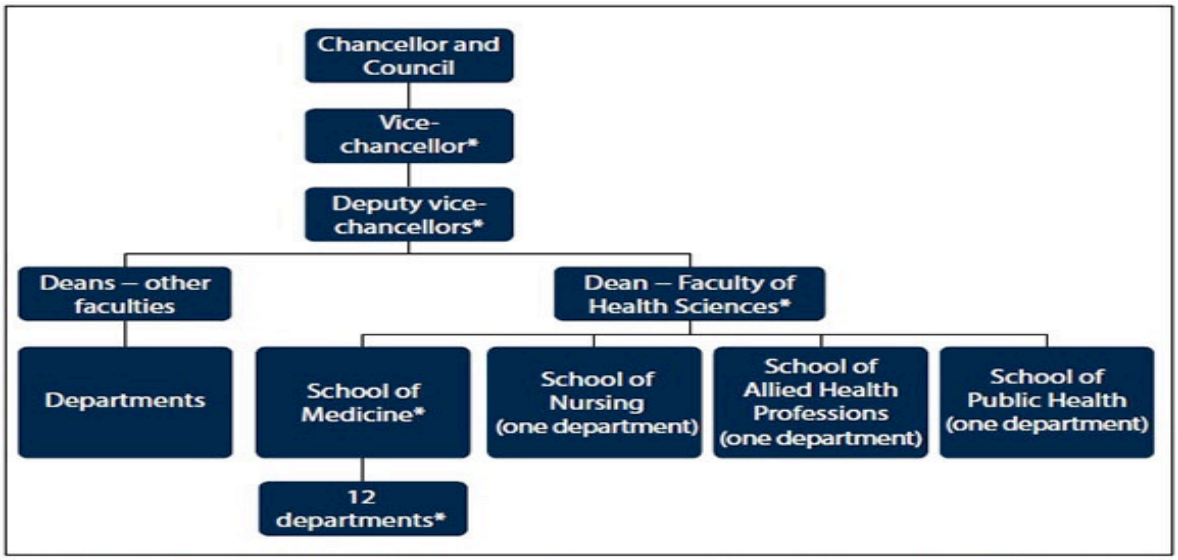


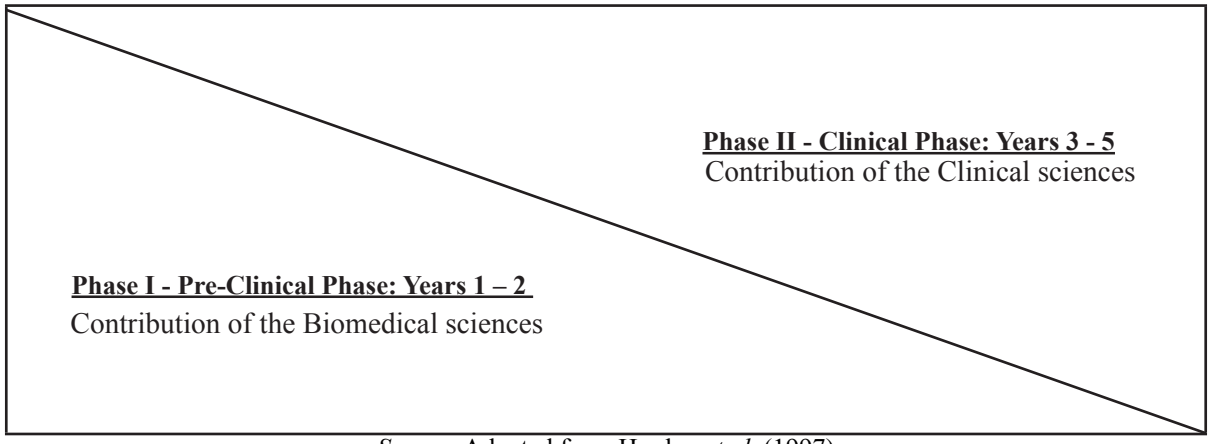
Fig. 1. UBSOM as depicted within the larger university organisational structure. UBSOM was situated within the Faculty of Health Sciences (FHS), one of the seven faculties. UBSOM was one of the four FHS schools, each with a head, and is depicted as having an extra layer in the process (represents levels where there was a change in management).*

Source: Kebaetse *et al.* (2016)

Since Botswana's independence in 1966, nurses were the back-bone of the country's health care system. When the time came to train our students, the School of Nursing at the University of Botswana had paved the way to better meet student training needs at both ministerial and local government levels specifically in clinical placement. This made it easier for the School of Medicine to tailor these guidelines according to its needs rather than developing them from scratch. This saved the medical school valuable time and resources.

The five-year programme was further divided into two phases. While integrated, the first two years of the MBBS programme is called Phase I, which is predominantly preclinical, biomedical science teaching. The last three years are known as Phase II and are mainly clinical. Generally, the academic year for Years 1 and 2 comprises of 40 teaching weeks and four weeks of community placement. For Years 3 to 5 the teaching period is 48 weeks long. Figure 2 below shows the contribution towards teaching/contact time of the Biomedical Sciences and Clinical Sciences in the two phases, with early introduction of clinical contact. The curriculum used is a spiral, system-based, problem-based approach. From its initiation, this teaching approach required introduction and reinforcement of integrated Biomedical Sciences courses in the first two years.

Figure 2: Contribution Towards Teaching/Contact Time of the Biomedical Sciences and Clinical Sciences in Phases I and II



Source: Adapted from Harden *et al.* (1997)

The school began with very few academic and support staff, around 15 faculty in an establishment of 75. At that time, most of the academics were biomedical scientists who had to initiate the first phase of the MBBS programme. The academic staff had the 'burden' to source and adapt a problem based learning (PBL) curriculum into Botswana's context. The decision made by the High Ranking Committee and UB Senate to implement a PBL-based curriculum was visionary. The committee was involved in the preparations, functioning and, troubleshooting in the School of Medicine. The selection of such an approach in a university teaching environment that was generally didactic was revolutionary. With very limited resources and staff, at the initial stages, the school was able to implement the PBL-based curriculum with immense input from both biomedical and clinical staff. The University showed its commitment towards the establishment of the School of Medicine through the support and adaptation of this new programme into an already established learning and teaching environment.

For three years, the school was operating from a warehouse in Gaborone West industrial complex near the Gaborone Bus Rank or terminus. This facility offered a basic structure that comprised of a main hall that functioned as a lecture theatre and a laboratory (Figure 3). Four smaller rooms were also fitted in the periphery that functioned as rooms for PBL sessions.

Figure 3: The First Location of the University of Botswana School of Medicine

Source: Photograph by Ludo Badlangana (2012)

The academic staff number began to grow at a steady pace in the coming months after August 2009. The faculty was composed of a mixture of experts from around the world (such as: USA, UK, Italy, Canada, Australia, South Africa, Kenya and Tanzania) who were very passionate to teach in a new medical school. Equally important, they believed in the medical school's potential to produce competent and internationally competitive graduates. The school was able to attract these experts due to a number of factors which include Botswana being stable on economic and political grounds. This wealth of expertise and international diversity facilitated in building a strong foundation in the establishment of the medical school. This confounded the nay-sayers who doubted that a country of this size could achieve the gigantic task of starting a medical school.

Admission Process and the MBBS Programme at the School of Medicine

A decision was made early on to select the best students who had applied to study medicine. It is important to highlight that for the next three years (3 years), the government was still sending students outside the country to partner medical schools: University of Cape Town, University of Pretoria, University of Kwa Zulu Natal and, Monash University. The decision to select the best students for University of Botswana Faculty of Medicine (UBFOM) was two-fold. Firstly, it was to promote excellence of the programme in making it the premier programme. Secondly, for the students to be able to cope with the challenges of a new curriculum, the medical school needed students who were excellent academically. The majority of students who applied were selected from the first year BSc and the then Pre-Med students, who had completed their first year of BSc, at the Faculty of Science at UB.

The selection process was rigorous, time-bound and transparent. Face to face interviews were carried out as part of the selection process, and initially 36 top applicants were selected. To reflect the

ethnic diversity (ratio of male to female was around 50:50) in a landscape like that of Botswana: (a call made to) one of the selected students was unreachable by phone. It would later come to light that while the selection team was looking for him he was busy attending to his family's business at a remote cattle post with no mobile phone reception (more than a 1000 kilometres away). That student got to became one of the programme's shining pioneer graduates. In August 2009, the 36 students became the UB's first cohort of medical students. The group graduated in 2014 and the University valedictorian (student of highest ranking in the graduating year) of that year came from the Faculty of Medicine.

As for its MBBS programme a typical week for Phase I comprises eight to ten hours of plenaries and workshops, two PBL sessions, clinical skills, communication skills sessions and clinical placements. Students begin their clinical placements as early as the fifth week of Year 1. All these are sessions meant to support the PBL approach. The placement sites in the first two years are clinics in the Gaborone area. Some of the courses taught in Phase I are Anatomical Sciences, Biochemistry, Immunology, Microbiology, Pharmacology and Physiology, and Public Health Medicine. This approach follows the inverted triangle curriculum model (Figure 1) in which there is an early introduction of clinical contact which increases as the biomedical sciences decrease. The medical school uses the Calgary-Cambridge Framework for clinical skills. This framework teaches communication with the patient, gathering of information, provides structure in history (history depicting patient medical background) taking, helps in building doctor-patient relationships and provides a systematic approach for diagnosis.

By the time the first cohort had reached year three, the school had, to a certain degree, recruited a sufficient number of faculty in various specialties to assist in the planning and the implementation of Phase II, the clinical phase of the MBBS programme. The school was fortunate to have a number of training sites around the country: Gaborone, Maun, Lobatse, Mahalapye, Molepolole, Serowe (see Map 1). It was through excellent planning and foresight of the school that these training sites were used primarily as training sites for Master of Medicine (MMed) Family Medicine students as well. In 2010, the school won a US$10 million grant under Medical Education, Medical Education Partnership Initiative (MEPI), that was instrumental in equipping facilities at these sites with vital multimedia and information communication technology infrastructure. This accorded students an environment which was conducive to learning. There were encouraging reports from the community in these training sites in support of the training of the students more especially that, for the first time, members of the community found medical personnel who were able to speak in the local languages (for example: Tswana, Kalanga), with no requirement for translation, when they visited the health facilities. The students rotated in Family Medicine, Internal Medicine, Paediatrics, Pathology, Public Health Medicine, Obstetrics and Gynaecology, and Surgery. All University of Botswana Faculty of Medicine clinicians are required to register with a local professional regulatory body, the Botswana Health Professions Council (BHPC) in order to provide clinical teaching and training.

The medical school was fortunate in that it had strong partnerships. The University of Pennsylvania (UPenn) and Harvard School of Public Health faculty played a significant role in the teaching and training of UB School of Medicine students. The University of Pennsylvania also introduced a student exchange programme whereby our top students went to the US to do their medical electives. This completed the exchange process as UPenn students had been coming to Botswana for years prior to this new development. The activity has now become an integral part of the programme, with the best performing students being given the opportunity to go and spend time in the US. This is a great incentive to the students as they compete for the limited slots. This assists in getting them to excel in their studies. The School of Medicine further strengthened the student exchange programme by arranging for other students to do their medical electives in the SADC region. In 2014, the first cohort of students completed their MBBS programme and

graduated from the University of Botswana. This was a jubilant and historic moment for the students, the School of Medicine and Botswana. Thus far UB has graduated four cohorts from the Faculty of Medicine, making 168 graduates from 2014 to present.

Changing the Medical Practice Landscape in Botswana

Prior to University of Botswana Faculty of Medicine graduates, the number of Batswana doctors was about 14% of the total doctors in the country. Since the medical school started having graduates, the number of Batswana doctors serving in the country has increased considerably. This is making a significant impact in the health care system. The local graduates have been placed in many healthcare centres all over the country (Map 1).

Map 1: Map of Botswana Showing Places where Medical School Graduates Operate

Source: www.mapsofworld.com, **accessed 2 February 2018.**

The Medical Internship Training (MIT) programme had to be strengthened in order to manage a large pool of MBBS graduates who also had been specifically trained for Botswana's needs. Prior to

this, the programme was largely informal. Now there is a dedicated office at the Ministry of Health and Wellness that is more focused in facilitating the placement of students around the country. This office was established through the MEPI Grant. The office also facilitates the provisional registration of graduates with the BHPC. Following registration, the medical officer interns are placed in various health facilities around the country which serve as internship training sites (Figure 3). These are Princess Marina Hospital in Gaborone, Scottish Livingstone Hospital in Molepolole, Mahalapye Hospital in Mahalapye, Sekgoma Memorial Hospital in Serowe, Nyangabgwe Referral Hospital in Francistown, Letsholathebe II Memorial Hospital in Maun and Bamalete Lutheran Hospital in Ramotswa.

The one-year internship programme is part of the training after the MBBS degree. Upon completion of the internship, the doctors' registration is upgraded, and they become fully fledged medical officers (MOs) who can see patients independently. The Ministry of Health and Wellness posts them to all district health teams (DHMT). After about two years of experience, they are eligible to apply for postgraduate medical training (specialization). Some of the logistical issues that are facing the MIT office include how to get around the issue of having the same start point for internship of locally trained students, who are now familiar with the landscape of the health care system in contrast to those that trained overseas who are just beginning to learn the system. The locally and regionally trained students are familiar with the disease profiles and their management within the region.

The existence of the Faculty of Medicine has brought about a number of administrative changes in government. A notable example is that public officers going on study leave now get training allowances that are equal to their salaries throughout the duration of their training, rather than the allowances being reduced by 50% during the course. This welcome development came about as a result of the Faculty of Medicine lobbying government for the same.

In 2017/2018 academic year, tuition was BWP37,500 (US$3,627) per year per student (UB 2017/2018). These costs are miniscule compared to training students outside Botswana which was about BWP1 million per student per year (Badlangana et al. 2016). Even though the cost of training has been reduced significantly, the current cost of BWP37,500 considerably underestimated the cost of training at University of Botswana Faculty of Medicine. Some of the principle costing denominators such as required equipment, books and apprenticeship expenses have not been factored in. However, a major spin-off in the establishment of the School of Medicine is that almost all the graduates will stay and work in Botswana. Many studies have shown that graduates tend to want to work at the same place where they trained.

Leadership of the Faculty of Health Sciences and Student Challenges

Despite the success story outlined above there were serious challenges facing the School of Medicine owing to leadership issues. Towards the end of 2013, the School of Medicine went through a particularly rough patch that almost threatened its existence. A major cause for this was the multi-layered reporting structure that existed from being within the Faculty of Health Sciences. Thus, the School of Medicine was treated more like a very large department in spite of the numerous specialities/departments that existed with the School of Medicine. This organizational structure meant that the School of Medicine was severely under-represented at the FHS executive level compared to the other and smaller departments within the FHS. A severe adverse consequence of this was a high rate of attrition of staff, mostly expatriate staff due to amongst other issues, delays in contract renewals. The School of Medicine was also hindered from recruiting at a faster rate because of the reporting structures. Consequently, the School of Medicine lost out on hiring many experts as those candidates sought employment elsewhere. Batswana School of Medicine academics intervened through the pivotal offices in government to prevent this potential failure of the School of Medicine project. As a result, in July 2014 the School of Medicine became the Faculty of

Medicine separate from the Faculty of health Sciences. As a result, the medical school had less reporting structures to reach the vice chancellor´s office.

Further to this, it was essential that, in the only public medical school in the country, the Dean of the Faculty of Medicine be a Motswana. The Dean's office advocates, and lobbies through the various avenues that are political and community focused. So, the office of the Dean must have a strong interest and foundation in the history of the country's development in order to effect and promote change. Between 2009 and 2012 leadership of the School of Medicine was unstable. Medical students went on strike in 2011 over the unsuitable teaching/learning conditions. The temporary site of the School of Medicine was more than 5 kilometres from the Main Campus. Prior to the beginning of classes in School of Medicine, some staff had to fight for students to be transported by an official UB bus, whereas some of the faculty felt that the students could source their own transportation. One of the fundamental problems that led to this strike was that, during this period, the Founding Dean was rarely present at the School of Medicine because of primary teaching duties at their home institution. The next two subsequent Deans also left the country before their contracts were completed because of the problems with the reporting structures through Faculty of Health Sciences.

Initially, students who completed their Botswana General Certificate of Secondary Education (O-Levels) and were admitted into the first year of BSc, a Premedical programme, had weekly meetings which introduced them into what being a medical student and professional entailed. When they came to the medical school they were better prepared in many aspects. Under the Faculty of Health Sciences, this programme was cancelled. Consequently, this affected student performance and attitude towards their training.

Currently, the Faculty does not have a full-time operational office that looks at student support, more specifically, in regard to welfare and counselling. The students are expected to visit the university-wide services. The School of Medicine students have repeatedly informed UB management that they find it hard to visit these offices because their operating times are within the times medical students are in class, often in health facilities off campus. Most medical schools have specific offices even up to the level of deanery looking at student welfare issues.

From 2009 to 2012, a significant number of students were staying off campus, mostly, in less favourable conditions. They had to find housing within the rental range they could afford on meagre off campus allowances. This was also a huge contributing factor to the reason for the student strikes in 2011. Students felt that their counterparts who were sent to study abroad got a far better deal than them in terms of welfare. Furthermore, the students who were sent abroad had often performed worse than those who were selected to study at UB. One of the most notable consequences of the 2011 strikes was that some students dropped out of the programme to pursue other career options. Most notably, the school moved from the Gaborone Bus Rank to the Main Campus in March 2012. Students were then given the option of choosing the university accommodation regardless of their year of study. __

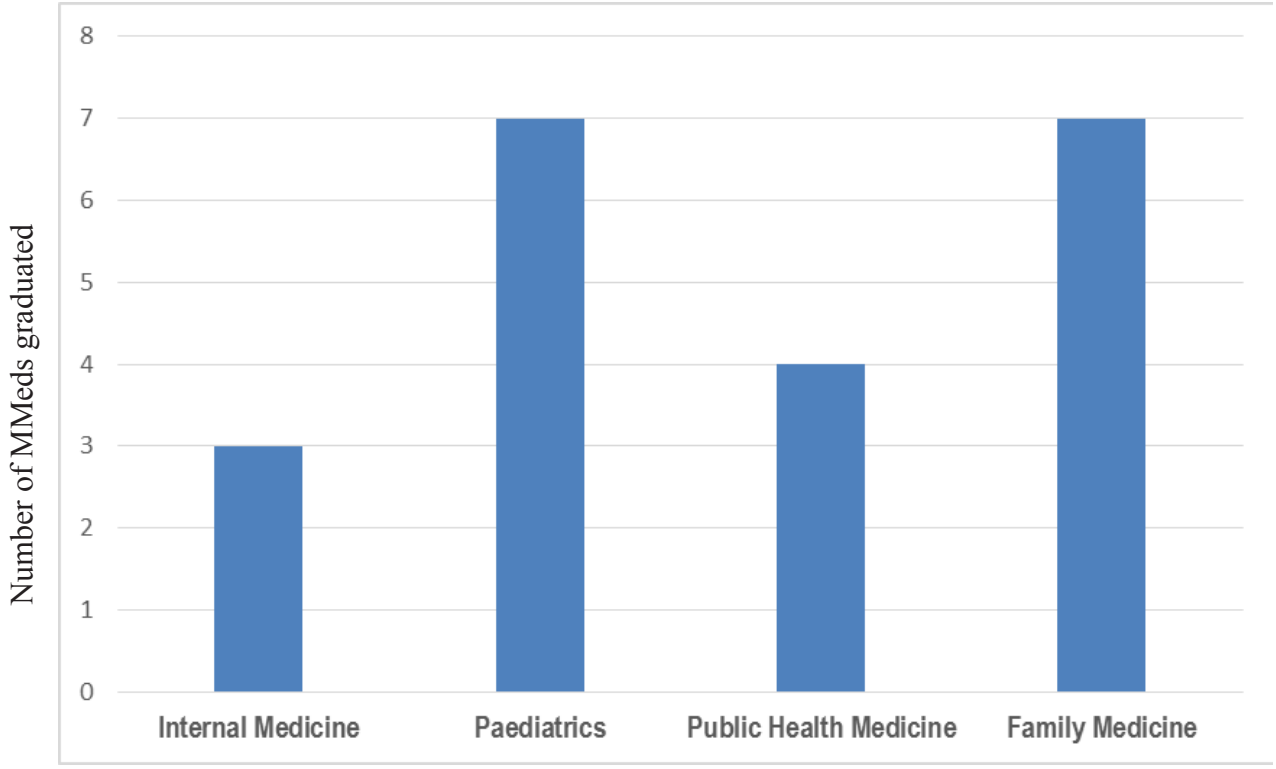
Establishment of Medical Education Department

A number of Batswana staff have done formal international professional training in Medical Education in which training includes Foundation for Advancement of International Medical Education and Research (FAIMER) Fellowships. Additionally, some of the staff are doing Master in Health Professions Education internationally. This initiative to pursue further studies in medical education was self-driven by the respective academic staff members who were seeking to develop professionally in order to remain competitive with the rest of the world as well as to improve the quality of teaching, learning and research. The funding for training was through fellowships, grants and self-sponsorship.

In 2014, the University of Botswana Faculty of Medicine established a Medical Education Department (DME) after a plethora of questions and issues that the Faculty needed assistance with regard to improving the quality of medical education. Staff members who did professional training courses in medical education and the leadership were the ones calling for such a department. The portfolio that DME carries is daunting. Most of the curriculum alignment issues are left for the department to accomplish. There is a dire need to mainstream Medical Education into all departments, and for all academic staff to realise that they are members of DME. One way this can be achieved is having departments represented on the DME board.

Amongst the UB FOM graduates, a number have started their postgraduate (MMed) training at UB and elsewhere. FOM has the following MMed training programme in place: Public Health Medicine, Family Medicine, Internal Medicine, Paediatrics and Adolescent Health, Accident and Emergency (A&E). As of October 2017, the Faculty has graduated 21 MMeds as Figure 4 below shows:

Figure 4: Number of MMeds graduates from University of Botswana Faculty of Medicine from 2015 to 2017



Source: UB Faculty of Medicine (2018)

There have been huge strides made in regard to the leadership of the Faculty of Medicine. Even though during the process and phases of planning for the School of Medicine, Dr Thabo Mokoena, a local, was the Dean of Faculty of Health Sciences from 2008 to 2010. Immediately upon the starting of the school in 2008 management of UB selected a Head of School of Medicine from outside the country. Since 2016, we have had the pleasure of having Batswana in the leadership of the faculty, Dr Oathokwa Nkomazana and Dr Japhter Masunge, as Acting Dean and Acting Deputy Dean respectively. Another development is that FOM has for the first time, has a position of Deputy Dean of Research advertised for recruitment.

Opportunities, Challenges and Recommendations for Further Progress of the FOM

From the time of its establishment to now, the Faculty of Medicine has experienced immerse growth, challenges and has had many opportunities to advance the course to positively impact on the nation´s health care system. The DME has been able to review the MBBS curriculum. The review highlighted areas of curriculum alignment in regard to international standards as well as areas that require improvement. In addressing some of these challenges, the Faculty has also started to intentionally address recruitment and staffing issues by drawing staff from its graduates. In overall, the Medical Education discipline in the School of Medicine is also continuously growing owing to the strong local and international partnerships that the School of Medicine has been able forge and sustain.

Accreditation of the MBBS programme

The quality of almost all medical schools around the world is primarily evaluated by the regulatory bodies in their home institutes (World Health Organization 2000). The BHPC has evaluated, the Faculty of Medicine twice and given it provisional and conditional accreditation in 2012 and 2016 respectively. BHPC employed a World Federation of Medical Education (WFME) tool in the accreditation exercise. This was meant to ensure the quality of education adhered to international standards. The accreditation highlighted challenges the Faculty and UB needed to address in order to get full registration. Some of these are: logistical issues in starting a new Faculty in an already established system especially with a programme that has many peculiarities; a large number of staff vacancies, especially at senior level, lack of a formal agreement between UB and the Ministry of Health and Wellness on the use of resources at teaching sites. Most of these concerns have since been addressed.

Of recent, the DME has conducted an internal review of its MBBS curriculum and it is evident that most of the Faculty´s deliverables are aligned with the World Federation of Medical Education (WFME) standards. While all this was happening at UB, MOHW contracted the Council for Health Service Accreditation of Southern Africa to accredit Princess Marina Hospital and other public health facilities. A new teaching hospital (called Sir Ketumile Masire University Teaching Hospital after the late former President of Botswana (1980-1998), was built on the main campus of UB (Figure 4). Full operation of the facility, which will be run as a parastatal entity, is expected to start. Delays in its operation were due to a number of factors, including deciding the best governance model, an arduous tendering process in the purchase of equipment and the slow recruitment of staff.

Figure 5: The Sir Ketumile Masire University Teaching Hospital

Source: Photograph taken by Ludo Badlangana (2016)

Recruitment and staffing issues

Almost all the expatriate staff that the School recruited in its initial stages left after two to four years due to contracts ending and problems with the School of Medicine reporting structures. The majority of the staff that remained who were present at the initial stages of starting the school are citizens and remain because of patriotism. Since its independence, Botswana has always had in place ways to attract and recruit the much-needed specialised expatriate workforce. It is the ardent hope of the authors that as the Faculty is addressing the human resource needs in health, in the not too distant future there might be little or no need to recruit expatriate staff, especially in areas where there is a critical mass of specialists. This would be contingent on efforts being made to retain the available local staff. We submit that offering attractive packages to locals will help in retention of staff to prevent 'brain drain' (Kuehn 2007).

In the 8 years of operation, the Faculty of Medicine has not been able to fully fill its establishment. Some of the ways that this can be done is through targeted recruitment of staff from UBFOM cohorts of the MBBS programme, offering staff development fellowship positions competitively to those interested after completion of their internship. The majority (73%) of our teaching staff are not Batswana. The Faculty should also rigorously recruit residents, who are already teaching UBFOM undergraduates, upon completion of their MMEds. Almost all of the residents are Batswana. Among the factors that are essential to providing an excellent health-care, it is important that medical doctors are able to speak and understand the language of the community. UBFOM has to be intentional in promoting the push towards excellence in-service delivery by recruiting more citizens. In keeping with UB mission of internalisation as well as a forward thinking Medical Education culture, we agree and appreciate the need to have a culturally diversified faculty.

One of the principal components in the development and progress of any medical school is having rigorous professional development for staff (Steinert et al. 2006). This is happening to a certain degree in the context of UBFOM. However, most of the initiatives as previously described are due to staff aptitude and not the Faculty's objective. The Faculty, together with its staff, need to develop a rigorous professional

development scheme. The plan should not only look at research in medical education but should have aspects of staff doing research in clinical sciences, biomedical sciences, and translational science research. Botswana is largely unresearched and, therefore, offers lucrative opportunities in all these areas. The emergence of the School of Medicine creates a unique position for the School to plan and adapt its medical education with current innovations in this era of complex learning of medical education and training. The disease profile of the country also offers an opportunity to have professional development in these areas. Research is a flagship of medical schools around the world. University of Botswana Faculty of Medicine therefore needs to be strategic in mainstreaming its culture.

Community involvement

It is a necessity that UBFOM employs a creative approach to involve the community in its operations. Although it has been able to impact local communities through the training of students and graduate placements, it has not sought to involve the community in the curricula development about their needs in our graduates. In order to highly impact the communities and to enjoy a bidirectional communication, the Faculty needs to seek community involvement in its operations.

Furthermore, UBFOM needs to involve the many professional sectors such as humanities, social sciences, agriculture, and engineering to name but a few, in the development of the curriculum. This would enable the Faculty to have a holistic approach towards medical education. With this approach, the graduates will be better trained to effectively address the health care needs of the community effectively.

International partnerships and networking

As indicated above, a number of partner universities assisted in the establishment of the medical school at UB. The MBBS curriculum was adapted from UK's Hull and York University. The University of the Witwatersrand (Wits) in South Africa was key in the training of staff in the PBL approach because they had experience of successfully running a PBL programme. With the Family Medicine MMed programme, the school was reliant on the assistance from Stellenbosch University which is also in South Africa. Other South African schools such as University of Cape Town and University of Pretoria assisted in the some of the logistics of starting the new medical school, including hosting some of our MMed students for sub-speciality training.

Furthermore, UBFOM is a member of a consortium of new medical schools, the Consortium of New Southern African Medical Schools (CONSAMS). In this consortium, the founding members were new medical schools; and for most countries, these were the only medical schools (Eichbaum et al. 2012 and Badlangana et al. 2016). The consortium was established as a unique collaborative approach involving south-south networks, which include a north-south partnership. The founding member medical schools are: University Botswana Faculty of Medicine, Lesotho Medical School, University of Namibia School of Medicine, Uni-Lurio University in Mozambique, and Copperbelt University in Zambia. The Northern partners were University of Oulu in Finland and Vanderbilt University in the United States. The network creates an opportunity to strengthen medical education in these new schools and the region. This collaboration has enabled a number of our students to do medical elective attachments in some of the CONSAMS schools.

Conclusion

This paper is a record of the role and development of the medical school (later Faculty of Medicine) at UB from humble beginnings told by staff members who were involved in the process. The paper is not

necessarily a historical treatise but a useful historical note. The opportunities and challenges associated with starting a new and only public medical school in a developing country such as Botswana are outlined. That being the case, it suffices to say that the government of Botswana ought to be commended for achieving such a phenomenal goal of establishing a medical school just before the country reached its 50th anniversary of independence which was celebrated in 30 September 2016. We also acknowledge those that were involved in the processes such as the students, and the faculty who went beyond the call of duty in the establishment of UBFOM. As this paper demonstrates it is not easy to start a medical school because this is a very expensive undertaking. Moreover, teaching sites are costly to establish and maintain. It involves synergy of multiple university departments as well as government support. In seeking excellence there is need to solicit feedback and dialogue from the school's students and graduates in order to improve programmes offered. Furthermore, the curriculum needs to be informed by the needs of the community. There is also the need to continuously dialogue with the strategic partners both local and international in the training of medical doctors.

Medical education is a complex, continuously growing field. Therefore, it is crucial for professional development of staff to be an active part of the Faculty's mandate. This will also help the Faculty to reach a higher local staff complement. While diversity is fundamental in any well-established institution, the University of Botswana Faculty of Medicine cannot continue to rely heavily on expatriate staff.

We acknowledge that the Medical School is still in its formative stages. A lot has been achieved in a short space of time. However, continuous improvement is a required effort in the areas of curriculum development, community involvement and, the establishment of Faculty of Medicine infrastructure.

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