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Dual benefits derived from international experiential placements

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Abstract

Introduction: International experiential placements and a twinning partnership between a United States (US) and a South African school of pharmacy resulted in dual benefits for the institutions.

Description of innovation: Supported by donor funding, bidirectional faculty exchanges occurred between the two institutions.

Evaluation: Benefits and challenges, for both institutions, have accrued from the twinning partnership. The benefits for the US partners included, amongst others, student and faculty exposure to health conditions not commonly encountered in the US and the awareness of alternative health systems. For the South African partners benefits included strengthening of the externship component of the programme as well as the development of student exchanges to the US.

Recommendations: Reviewing this successful exchange the partners recommend the following to support such an exchange: bidirectional exchange visits by faculty to both partnership countries; immersion into each country's pharmacy system; involvement of experiential faculty; frequent communication; and clear goals, objectives and deadlines driven by a designated point person at each institution.

Keywords: *Experiential Education, International Collaboration, Pharmacy*

Introduction

Starting in 2013, Nelson Mandela University (NMU) and St. Louis College of Pharmacy (STLCOP) partnered in a twinning relationship funded by the American International Health Alliance (AIHA). This partnership was created to help support the development and implementation of a new pharmacy technician educational programme by NMU. As a component of this partnership, enhancement of experiential education offerings for Bachelor of Pharmacy (B.Pharm.) and Pharmacy Technician students at NMU were undertaken and experiential education exchanges for students between the two schools were developed and implemented. This experiential education component is described below with a discussion of the benefits, challenges and recommendations for successful international collaborations between schools of pharmacy in the area of experiential education.

Health systems in South Africa and the US

South Africa has a dual health system consisting of a private sector and a public sector. The health spend in South Africa is approximately 8.6% of GDP (Department of Health South Africa, 2015). The public sector health system is funded by the government and accounts for just 48.3% of the total health spend in the country yet provides medical services to approximately 80% of the population (Department of Health South Africa, 2015). The private sector (49.8% of total health spend), which is funded by individual payment into pre-paid plans or direct personal payment, provides care to 20% of the population. In an attempt to balance these inequalities in the health system, the government is introducing a system of National Health Insurance (NHI) (Department of Health South Africa, 2015). The introduction of NHI is currently in the pilot stage.

Within the current structure, pharmacists are employed in various sectors of the healthcare system. Common sites of employment include the pharmaceutical industry, community pharmacy and hospital pharmacy (both public and private sectors). In the hospital sector, pharmacists play a role in patient care and drug supply management at the primary, secondary and tertiary level. At the primary care level, care is provided at clinics where the role of the pharmacist is one of oversight of drug supply management for several primary healthcare clinics and 'indirect supervision' of pharmacy support personnel who provide the pharmacy dispensing and patient care services in that setting.

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The US also has a dual health system consisting of a private sector and a public sector however, the complexity within the US system is much greater than in South Africa. The US system includes patients, providers, insurers, employers, payers and many others. The health spend in the US in 2015 was approximately 17.8% of GDP. The public sector health system is funded by the government (federal and state) and uses 46% of the total health spend. The private sector, which is funded by employer sponsored plans or direct personal payment, provides care to 33% of the population (Centres for Medicaire and Medicaid Services, 2016). The implementation of the Patient Protection and Affordable Care Act in 2014 decreased the percentage of those uninsured from 18% to 13.4% (Levy, 2014). The long term implementation and impact of this Act remains to be seen as changes are likely with the new presidential administration which took office in early 2017.

Pharmacists are employed in a variety of settings, most commonly community pharmacies including grocery and department stores (54%) and hospitals (19%) (Bureau of Labor Statistics, 2016). In the community pharmacy setting, pharmacists function largely in a dispensing and counselling role. In the hospital setting, pharmacists can serve in a dispensing role or in a more clinical role as part of the larger healthcare team. Other settings include clinics, mail-order pharmacies, wholesalers, drug companies and manufacturers, and the federal government.

Pharmacy experiential education

In most countries during the early years of formalisation of pharmacy qualifications, an apprenticeship system was employed in pharmacist training. Pharmacy apprentices received an intensive exposure to the practice of pharmacy in the workplace which was supplemented by some academic courses. As the profession developed, the balance shifted towards a more intensive academic training with some workplace experience, often post-qualification in the form of an internship. Later, with the shift of focus from the product to the patient, pharmacy academics realised that the academic programme required enrichment with workplace exposure. Thus the shift towards inclusion of experiential placements during the qualification.

Experiential requirements for pharmacy degrees around the world vary. In the United Kingdom (UK) there is no formal requirement for experiential placement during the four year M.Pharm. programme. However, some experiential placements do occur and vary between the different schools of pharmacy from between one week over the four year programme to a total of four weeks over the four years (Sosabowski & Gard, 2008). In Australia, 250 hours of experiential placement time is outlined in the NAPSAC guidelines (Australian Pharmacy Council, 2017) however the structure and settings vary based on school and location. It should be noted the graduates are required to complete a 12 month internship prior to board examinations for licensure in both Australia and the UK (Marriott *et al*., 2008; Sosabowski & Gard, 2008). In Namibia a four year B.Pharm. is the entry level qualification for registration as a pharmacist. During the four year programme students complete four rotations of four weeks duration in each of community, hospital, rural and manufacturing pharmacy settings (UNAM, 2017).

Overview of pharmacy programmes in South Africa and the US

In South Africa the entry level degree for registration as a pharmacist is the B.Pharm., a four year, professional bachelor degree (SAPC, 2017). The statutory body controlling pharmacy is the South African Pharmacy Council (SAPC). The SAPC is required to control the standards of education in any qualification that is linked to registration with SAPC. The B.Pharm. qualification requires dual accreditation from both the SAPC and the national Department of Education. Following initial accreditation, the SAPC will undertake an accreditation visit to the provider of the B.Pharm. degree once every four years. On completion of the degree all graduates are required to complete a 12 month internship prior to registration as a pharmacist with SAPC. The internship can be completed in the community, hospital, manufacturing or academic sectors of pharmacy. If undertaken in the manufacturing or academic sector the intern is required to spend 400 hours placed in community or hospital pharmacy. Additionally, for an internship undertaken in the academic sector, the intern is required to register for, and successfully complete, a master's degree. During the internship the intern pharmacist must work under the direct supervision of a pharmacist, the tutor, in premises that have been approved for training purposes by SAPC. The tutor is required to assess the progress of the intern during the 12-month internship and the assessments are submitted to SAPC. In addition, the intern is required to successfully complete a SAPC pre-registration assessment prior to being allowed to register as a pharmacist. The initial registration as a pharmacist is a limited registration allowing practice only in the public sector. All pharmacists in South Africa are required to complete one year of community service post-internship. During community service the pharmacist is placed at a public sector site and is required to work at the site for the one year period. Community service is undertaken by most healthcare providers in South Africa and is a mechanism to improve delivery of health services in rural, underserved areas. On completion of community service full registration with SAPC is granted and the pharmacist may work in any sector of pharmacy.

During the B.Pharm. degree all students are required to complete a minimum of 400 hours of experiential placement in various categories of pharmacy. The universities are able to decide on the distribution of the experiential hours across the sectors. At NMU, the B.Pharm. student experiential placement is divided across the second to fourth years of the programme. The

students spend 80 hours on placement during the second year, 80 hours during the third year and 240 hours during the fourth year of the programme. The second and third year placements occur during vacation periods while the fourth year placement occurs during the vacation period (120 hours) as well as during the semester (120 hours). Students are mentored by a preceptor, appointed by the University, during the experiential placements.

The second year placement is divided between community pharmacy (40 hours) and a primary healthcare clinic (40 hours). The placement in community pharmacy is focused on stock control and is mainly observational while the purpose of the placement in the primary healthcare clinic is to familiarise the student with the spectrum of services provided.

During the third year the students are placed for 80 hours in a community pharmacy where they are required to participate in the various tasks undertaken by a pharmacist. A preceptor and student experiential placement manual guides both the student and preceptor in terms of the tasks/activities required during the two-week placement. This manual was developed in collaboration with STLCOP and will be discussed later.

The focus of the placements during the final or fourth year of the programme is hospital pharmacy. Students complete a 15-week hospital rotation during the semester. The students are placed at various hospital sites for three mornings a week and on the fourth morning there is a feedback discussion session on campus. While at the hospitals the students are supervised by faculty members. The in-semester placement constitutes 120 of the total 240 hours during the fourth year. For the final 120 hours of placement the students spend three weeks (40 hours per week) at a hospital during the vacation period. The students are mentored by a preceptor and activities are guided by a preceptor and student experiential placement manual. This manual was also adapted for the South African healthcare environment from a STLCOP experiential placement manual in consultation with STLCOP faculty.

In the US the entry level degree for pharmacy is a Pharm.D. degree. Students entering pharmacy schools in the US generally must complete three to four years of undergraduate work, including a range of specified pre-requisites, prior to entering the pharmacy programme. Pharmacy programmes are typically four years in length and students must sit for clinical and legal boards before licensure is issued. Unlike many other countries, there are not any requirements for post degree/preregistration internship or service.

The Accreditation Council for Pharmacy Education (ACPE) is the governing body which sets educational standards and provides accreditation for all schools of pharmacy in the US (ACPE, 2015). Current accreditation standards require that pharmacy students complete 300 hours (5% of the curriculum) in introductory pharmacy practice experiences (IPPEs) in the first three professional years (P1-P3) and 1400 hours (25% of the curriculum) in advanced pharmacy practice experiences (APPEs) in their final professional year (P4). For the IPPEs, a minimum of 150 hours must be completed in hospital and community pharmacy settings. For the APPEs, students must complete rotations in the following areas: community, ambulatory care, hospital/ health system, and inpatient general medicine/patient care with three additional rotations in elective locations/ areas for a total of at least 1440 hours (a minimum of 160 hours in each required area).

Table I: Comparison of the themes in the NMU and STLCOP experiential manuals

	STLCOP Framework	NMU Framework
Themes	Health Care System Communication and Collaboration Safe Medication Use Practice Drug Information / Medical Informatics Professional Values	Computer System and Dispensing Process Pharmaceutical Product Management OTC Products Public Health promotion and Drug Information Services Clinical / Patient Focused Management / Administration Scope of Practice, GPP, and Legal Considerations
Activities / Discussions	Checklist for student and preceptor to complete before end of rotation	Level of involvement described for each item. D = Discuss R = Review O = Observe P = Practice
Assignments	Required and elective within each theme N = 10 total (community) N = 10 total (hospital)	Required for all activities that are NOT practiced (D, R and O) N = 9 total (community) N = 15 total (hospital)
Length of Experience	Community = 3 weeks Hospital = 3 weeks	Community = 2 weeks Hospital = 3 weeks
Major Differences	Focus on Professional Values (not seen in SA manual)	Focus on Pharmaceutical Product Management (not seen in US manual)*

**There are aspects of stock control in STLCOP IPPE: Community*

Description of Innovation

Through the twinning partnership, STLCOP IPPE and APPE manuals for the community and health system settings were shared with NMU. During exchange trips faculty coordinating experiential activities in these settings used the manuals as a starting framework to develop and enhance the experiential courses for NMU.

At STLCOP, students complete a 120 hour IPPE in the community setting and a 120 hour IPPE in the hospital/ health system setting. The courses are designed to provide students with an introduction to the opportunities within the setting with a focus on safe medication use practices. These courses were thought to be most applicable to the NMU experiential courses which needed to be developed or enhanced. While the IPPE manuals were most applicable, APPE manuals were referenced and select portions utilised when deemed appropriate. Table I shows the various themes covered for each setting and depict which assignments remained the same (but appropriately contextualised for the South African setting) and which ones were removed or changed to account for the differences between the US and South African healthcare systems.

In addition to the above noted development of manuals, the partnership also allowed for the creation of an elective international APPE rotation for STLCOP students. Students come to NMU in groups of two or three for four week experiences which include: clinical activities at public and private hospitals, primary healthcare clinics, as well as getting academic experiences by providing lectures and running practicals for the NMU pharmacy technician students. While not yet fully executed, rotation visits for NMU B.Pharm. students to STLCOP are being planned for implementation in 2018/19.

Evaluation

In reflecting on this collaboration, the authors have identified many benefits and challenges for both institutions. Further review of these benefits and challenges have lead to recommendations that they would suggest for any organisation endeavouring to engage in a similar type of partnership.

Benefits

This joint partnership has produced many benefits for both institutions. In contextualising the manual from a US to South African setting, many ideas were generated regarding how to modify and improve the US manuals, assignments and experiences. While ideas many times stem from conversations with experiential colleagues at US meetings, there was an additional benefit in discussions with the South African partners given the greater variance in regulations, scope of practice, *etc*. This variance required both partners to focus on the core elements and goals of experiential education and to assess experiential courses against these elements and goals to ensure that student outcomes were optimised by the experience.

Beyond the manual development, the partnership has benefitted students and faculty from the US institution. The rotation students from STLCOP gain extensive knowledge and experience in a different healthcare framework and system. Additionally, their exposure to diseases not as prevalent in the US, such as HIV and tuberculosis, gives them the opportunity to deepen their abilities in treating and managing these patient populations. It may also help to break down stigma and stereotypes that they may have about patients with these disease states. Exposure to these opportunities is not something that could be gained through a US rotation and helps to broaden the perspective and awareness of the student.

Faculty to student ratios in South African schools of pharmacy are high which places great demands on faculty's time. Independent development and implementation of the extended experiential component required by the latest iteration of the South African B.Pharm. curriculum would have further increased the burden on the already overstretched faculty. Therefore, the partnership with STLCOP during the development of the experiential manuals gave NMU access to STLCOP experiential material which could then be contextualised to the South African context. Only aspects not included in the STLCOP material had to be developed from scratch. Additionally faculty from STLCOP shared their expertise in the writing of the NMU student/preceptor experiential manuals.

During STLCOP rotations at NMU STLCOP and NMU final year students spend time together in local hospitals as well as on campus. This affords both formal and informal opportunities for exchange of experiences creating awareness of the practice of pharmacy in the US.

The faculty exchanges that have occurred concurrent with the student exchanges have facilitated the development of a reverse student exchange for NMU students to the US.

Challenges

While the benefits are numerous and outweigh the challenges, the challenges should be noted and discussed to more fully inform others considering such a collaboration. One of the most obvious, basic differences is the significant difference in distance and time between the two institutions. Scheduling time for conversations between the respective institutions was challenging due to a time difference that means one country's work day is ending (NMU) while the other's is just beginning (STLCOP). This difference adds an additional layer of complexity when trying to accommodate for faculty schedules that are already quite full. Additionally, technology, as advanced as it is in both countries, was many times problematic. While the authors could usually

work through these problems, 10-20 min of meeting time could easily be taken up by resolving various technologic issues.

Second, the difference between the two countries' pharmacy systems was significant which led to challenges in how experiential course offerings could be created for the South African context when using the US context as a basis. This resulted in a number of edits to the manual as well as additions and deletions. While these edits were challenging, they were necessary to ensure creation of an experience that would be of utmost educational value for the South African student.

Third, as is many times the case, funding was problematic at times. The authors were fortunate to have a funding agency that supported them but as agency priorities change, that source of funding will no longer be available. Maintaining the partnership will mean exploring other options for funding and discussions on how to continue with limited to no funding.

Recommendations

This partnership between the two institutions has successfully overcome challenges and resulted in benefits accruing to both partners. The authors would strongly encourage the development of further partnerships between pharmacy institutions across international boundaries. Based on their experiences, the authors would recommend the following to improve the likelihood of a successful collaboration:

1. Exchange visits by faculty to both partnership countries - this enables a greater level of understanding and comprehension regarding how the health system and practice of pharmacy works in each country. Also, face-to-face meetings to plan, discuss, and work through areas of challenge are key to continued forward movement of the partnership. The value of these meetings cannot be gained through remote/distance meetings and interactions alone.
2. Immersion into each country's pharmacy system - in order for the experiences to be developed fully, it was critical for the faculty partners to have a good understanding of how the system in the foreign country works. This allows the foreign faculty to discuss potential modifications and changes with native faculty in a productive, efficient manner.
3. Involvement of experiential faculty - given the difference in approach and implementation of experiential courses compared to didactic courses, it is important to have at least one faculty member who is experienced in developing and executing experiential courses on the team and directly involved in the development of said courses. Given that most faculty are used to and have roles providing didactic education, the experiential faculty must be able to educate didactic faculty about the methodology and pedagogy of experiential courses.
4. Frequent communication - given the busy faculty schedule, it was easy to let a significant amount of time pass between communications with all the partners. Frequent and even scheduled communication should be considered for any similar type partnership to ensure forward progress on all projects.
5. Clear goals, objectives and deadlines - as part of the grant funding, the authors were required to create a yearly work plan with goals and objectives with deadlines. While this may have taken time and effort to create, this document kept them focused on their goals and was referenced many times throughout each year to ensure that they all had shared understanding of goals and responsibilities.

This article has demonstrated that successful international twinning partnerships can be developed between all countries even when, as in this case, both the health systems and the educational programme requirements for registration as a pharmacists differ greatly.

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