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FACULTY OF NATURAL SCIENCES
SCHOOL OF PHARMACY

Title of Research study: *Moving towards social accountability in pharmacy education: what is the role of the practising pharmacist?*

A dissertation submitted by: Azeezah Essack
Student number: 3034735

In fulfilment of the requirements for the degree of Masters in Pharmacy

Supervisor: Dr Mea Van Huyssteen

Co-supervisor: Prof A. Bheekie

Abstract

Introduction: The World Health Organisation (WHO) has stated that “*there is no health without a workforce*” (Campbell et al., 2013). The health workforce is essential for every health care system. The availability, accessibility and quality of health care workers play an important role in improving and overcoming health system challenges, in particular the call to universal health coverage (UHC) as stipulated in sustainable development goal 3. It has been observed that there is limited collaboration between healthcare systems and academic institutions. According to an article by Frenk et al., 2010, this limited collaboration has resulted in a mismatch between health care graduates’ competencies (such as inter-professional collaboration) and the needs of the population that they serve. One of the problems of health education institutions is the emphasis on curriculum content and learning methods as opposed to social purpose and moral obligations.

The School of Pharmacy at the University of the Western Cape (UWC) has been developing its Service Learning in Pharmacy (SLiP) programme since 2002. The goal of service learning is to ensure that the School of Pharmacy graduates have the knowledge and skills to be socially accountable, patient-centred pharmacists that are committed to addressing South Africa’s pressing primary health care needs. The service learning programme is based on a tripartite partnership between the patients or community, the university represented by staff and students and the health facilities. These partnerships need to exhibit an interdependent and reciprocal relationship and is the cornerstone to the service learning programme. In 2015, SLiP transitioned from the old curriculum (pre-2013) where it was presented in fourth year to the new curriculum (post-2013) where it was presented as a third year programme. The new fourth year programme, the Patient Care Experience (PaCE), was launched in 2016 in collaboration with the facilities and pharmacists that was originally involved in the old fourth year SLiP programme. This study will focus on the academic-service partnerships, specifically with pharmacists working at public health facilities that were involved in the transition of the old fourth year programme to the new third year programme and the first implementation of the PaCE programme during 2016.

Objectives: The aim of this study was to explore pharmacists' experience of participation during the expansion of the experiential learning programme of the School of Pharmacy at the UWC.

Methodology: The study design was descriptive, qualitative and participatory in nature. Data collection was done through focus group discussions and semi-structured interviews. The target population for the focus group discussions included those pharmacists who participated in the fourth year SLiP programme of the pre-2013 curriculum. The target population for the interviews included pharmacists who had implemented the PaCE programme. Learning sites for the PaCE programme comprised of CHCs for the Primary health care rotation and hospitals for acute care rotations in medical wards. The same CHCs and hospitals were used in the SLiP and PaCE programmes.

Results: A total of 43 pharmacists participated in the data collection activities, which included two focus group discussions (28 and 27 participants, respectively) and 7 interviews (8 participants). These participants represented 20 CHCs, 9 hospitals, 3 sub-structures and one the provincial pharmaceutical services office. Overall, five main themes emerged from the data under the broad headings of: students, experiential learning programmes, role of the preceptor, outcomes of the programmes and recommendations for improving the programmes.

The first three themes described the perceptions of the participants about the pharmacy students, the experiential learning programmes and their role within these programmes. Their perceptions about the students primarily focussed on the differences between the third and fourth year student groups in terms of knowledge, confidence and responsibility. Their perceptions about the SLiP and PaCE programmes were expressed through their experience of the implementation of the SLiP and PaCE programmes. In terms of PaCE many participants expanded on the clinical focus of the PaCE learning activities. CHC participants had to put in more effort to find opportunities to implement clinical learning as compared to hospital preceptors. Participants perceived their role as preceptor to be one of a teacher and mentor, and experienced this as enjoyable as well as a reciprocal learning opportunity for

themselves and the students. Participants also noted some challenges in terms of performing this role at their respective facilities.

The fourth theme primarily summarised the perceived outcomes of the experiential learning programmes for the students, preceptors, the pharmacy, facility and patients. The participants felt that students had the opportunity to prepare for the work environment where they experienced direct interaction with communities. The participants themselves benefitted from reciprocal learning and an opportunity to focus on pharmaceutical care of the patients. Some participants reported better team work and cohesion in the pharmacy due to all pharmacy staff being valued as they felt that student activities beyond the pharmacy promoted the pharmacy profession to other facility staff. This also helped with integrating the pharmacy knowledge and expertise throughout the facility by promoting inter-professional collaborative experiences between the students and other facility staff. The fifth theme included recommendations to fellow preceptors, the university and for strengthening the partnership between the university and services. The preceptors had advice for their peers about how a roster for the students was helpful as well as good relationships between the pharmacy and the rest of the facility to implement the programmes more successfully. They also suggested more continuous professional development activities that they can part take in at the university as well as formal acknowledgement of their role in the experiential learning programmes. Finally, they wanted the university-services partnership to be more transparent.

Conclusion: This study highlighted the perceived roles of pharmacists' preceptors, the barriers to precepting and integrating pharmacists into a clinically orientated role at the health care facilities. These findings have a high strategic relevance to the current direction that the pharmacy profession is heading towards; a more clinical role as an integral part of the health care team. Given the growing demand of health care services to accommodate the quadruple burden of disease that South Africa is plagued with, this study has the potential to guide the pharmacy profession and pharmacists towards accepting the responsibility within the healthcare system in the area of patient-centred pharmaceutical care. The opportunities and challenges discussed in this study are reflective of the needs of pharmacy training and education to keep abreast with the expanding role of the pharmacist.

Although, pharmacy students are being trained in providing pharmaceutical care and in clinical skills, pharmacy practice in the public sector is still concentrated mainly on technical activities and mechanical dispensing, which may not allow the full use of the students' skills and knowledge at the health care facilities.



Declaration

I declare that this thesis that I now submit for assessment on the programme of study leading to the degree Master of Pharmacy has not been submitted for the purpose of a degree at this or any other higher education institution. It is entirely my own work and has not been taken from the work of others, save to the extent that such work has been cited and acknowledged within the text of my work.

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Signed.....

Dated.....



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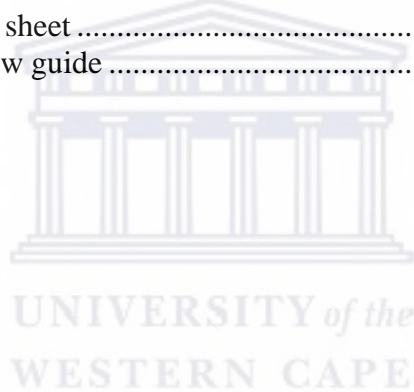
My family and friends, for their support and patience.



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Abbreviations and acronyms

- AACP** - American Association of Colleges of Pharmacy
- ACCP** - American College of Clinical Pharmacy
- ACPE** - Accreditation Council for Pharmacy Education
- APPE** - Advanced Pharmacy Practice Experiences
- CHESP** - Community Higher Education Service Partnerships
- CPU** - Conceptualisation, Production and Usability
- FIP** - International Pharmaceutical Federation
- GPP** - Good Pharmacy Practice
- IPC** - Inter-Professional Collaboration
- IPE** - Inter-Professional Education
- IPPE** - Introductory Pharmacy Practice Experiences
- MDHS** - Metro District Health Services
- MDHS** - Metropole District Health Services
- MTM** - Medication Therapy Management
- MUE** - Medicine Use Evaluation
- NAPLEX** - North American Pharmacist Licensure Examination
- NHI** - National Health Insurance
- OSDE** - Objective Structured Dispensing Examination
- PAC** - Professional Affairs Committee
- PaCE** - Patient Care Experience
- PHC** - Primary Health Care
- PHCH** - Patient-Centered Health-Care
- PSA** - Pharmaceutical Society of Australia
- RP** - Responsible Pharmacist
- SAPC** - South African Pharmacy Council
- SAQA** - South African Qualifications Authority's
- SL** - Service Learning
- TA** - Thematic Analysis
- TB** - Tuberculosis
- UHC** - Universal Health Coverage

USA - United States of America

UWC – University of the Western Cape

W1 - Workshop 1

W2 - Workshop 2

WHO – World Health Organization

WIL - Work Integrated Learning



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Appendix 1: Consent form

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Chapter 1

Introduction

The World Health Organisation (WHO) has stated that *“there is no health without a workforce”* (Campbell et al., 2013). The health workforce is essential for every health care system. The availability, accessibility and quality of health care workers play an important role in improving and overcoming health system challenges, in particular the call to universal health coverage (UHC) as stipulated in sustainable development goal 3 (Tangcharoensathien et al., 2015).

Training of health professionals plays a central role in increasing the quantity, quality and relevance of healthcare professionals thereby addressing and reducing the inequalities of health care delivery that are prevalent in society (Reeve et al., 2017; Murray et al., 2012; Reid & Cakwe, 2011). A task team on the reform of health education published a report in 2010, calling for better collaboration between the health system and health education institutions as well as interdisciplinary education (Frenk et al., 2010). More recently, a report was published by the International Pharmaceutical Federation (FIP), that called for changes in competency based training such as the incorporation of a socially accountable curricula, inter-professional education (IPE), and a more holistic approach to the health workforce education such as incorporating the inclusion of social determinants of health (International Pharmaceutical Federation (FIP), 2018).

In 1995 the World Health Organisation (WHO) defined social accountability of medical training as: *“the obligation to direct their education, research and service activities towards addressing the priority health concerns of the community, the region, and/or the nation they have a mandate to serve. The priority health concerns are to be identified jointly by governments, health care organizations, health professionals and the public”* (Boelen & Heck, 1995). In this report, they also proposed four values, namely relevance, quality, effectiveness and equity to guide training institutions to re-align their activities towards social accountability (Boelen & Heck, 1995). Relevance in health care is defined as the

degree to which the most important problems are tackled first. Equity refers to the provision of high quality care being available to all the people. Quality health care uses evidence-based data to deliver comprehensive health care to communities. Effectiveness refers to making the best use of available resources (Boelen & Heck, 1995).

In order for academic training institutions to move closer to these values, they are required to direct their core business activities of education and research towards servicing priority health concerns of the most vulnerable communities in collaboration with the core business activities of the local health system. The South African Higher Education White paper (Department of Higher Education & Training, 2013) states that higher education institutions should develop thinking citizens, who can function effectively, creatively, and ethically as part of a democratic society, and that citizens should have an understanding of their society and be able to participate fully in its political, social, and cultural life. This version of higher education might be linked to the concept of work integrated learning (WIL) which focuses on the relevance of educational activities on problem solving of workplace related problems. WIL includes a continuum of learning activities that might be located on or off campus. Work-based learning is where students are learning in the work place (Council on Higher Education, 2011). Service learning a form of work-based learning has been defined as “a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities.” (Bartelme, 2011), which echoes the sentiment of the call of the White Paper and WHO social accountability.

The implementation of service learning programmes is dependent upon community based healthcare professionals willing to orientate students to the local context and mentor them in their professional roles and responsibilities. A preceptor is a healthcare worker who has volunteered their time to facilitate and mentor the students at community learning sites. The concept of a preceptor has been created in medical and nursing education (Omer et al., 2016). In a review of the preceptor role of nurses, a preceptor is defined as a well-qualified professional who has experience in supervision, teaching, assessment, provision of feedback and has completed a preceptorship programme (Hyrkas & Shoemaker, 2007). Preceptors have been noted to play an instrumental role in the experiential learning programmes for

pharmacy students (Al-Arifi, 2018; Young et al., 2014). A preceptor is defined as a specialised tutor who gives practical training to the student in the practice setting. According to the American College of Clinical Pharmacy (ACCP), a qualified preceptor has appropriate credentials for the practice setting and displays professionalism, mentorship and empathy towards patients (Young et al., 2014).

The interactions between the student and preceptor are based within an academic-service partnership. Both social accountability and service learning require jointly established, reciprocal partnerships between the health services and pharmacy academic institutions (Bheekie & Bradley, 2016). An academic-service partnership in nursing is most often defined as a “strategic relationship between education and clinical practice settings that are established to advance their mutual interests related to practice, education and research, whereby interdependent reciprocal learning through inter-professional teams and practice frameworks facilitates student’s development and learning within the communities” (Beal, 2012 page no. 1). The quality of these partnerships in terms of alignment of goals and mutual benefit is key to their success and sustainability (Drab et al., 2004).

1.1 Problem statement

It has been observed that there is limited collaboration between healthcare systems and academic institutions (Gubbins et al., 2014; Haines et al., 2011). Measuring the effectiveness of health education has thus been limited by the historical isolation between health education institutions and health service delivery platforms (Boelen & Woollard 2009) and the fact that accreditation requirements of professional councils generally consider the evidence of impact of graduates in the community and in practice outside the scope of educational institutions (Larkins et al., 2013). According to an article by Frenk et al., 2010, this limited collaboration has resulted in a mismatch between health care graduates’ competencies (such as interprofessional collaboration) and the needs of the population that they serve (Frenk et al., 2010). In addition, a global systematic review showed a general paucity of evidence to support the efficiency of current health educational approaches to better population health indicators (Reeve et al., 2017) and strengthening of the health system.

One of the problems of health education institutions is the emphasis on curriculum content and learning methods as opposed to social purpose and moral obligations (Boelen & Woollard, 2009). Opportunities to apply knowledge in service-based settings is critical to enable the translation of the scientific knowledge learnt on campus to make the knowledge useful to communities and strengthen student commitment and ability to serve these communities (Chang et al., 2011; Drab et al., 2004).

Additionally, the current model of training of healthcare professionals does not promote understanding, respect and knowledge of other healthcare professions (Crisp & Chen, 2014). Barriers to inter-professional learning are based on the fact that it is not suited to conventional didactic teaching methods with a standardised curriculum. Furthermore, due to healthcare professional students having heavy lecture, laboratory and problem-based learning schedules, structured inter-professional learning and time-table matching poses a challenge (Nurul Amin et al., 2019). Health care professionals thus receive isolated training in their respective fields, yet they are expected to work as a team when they join the work place. Patients present with multiple, chronic health conditions which demand the collaborative work between health care professionals from different backgrounds (El-Awaisi et al., 2018; Xippolitos et al., 2011). The extent to which health care personnel work well together can affect the quality of the health care that they provide (Zwarenstein et al., 2009).

In addition to the limitations of health education, the health care system itself is a challenging context especially in resource constrained settings like South Africa. South Africa has a quadruple burden of disease which is characterized by communicable diseases such as HIV and TB; non-communicable diseases, maternal and child mortality, and, trauma and injury (National Department of Health, 2015; Coovadia et al., 2009). The brunt of the burden of disease is skewed towards the poorer populations which are forced to make use of the public health care system. Indeed, health system inequity a distinct feature in the South African health care services is a result of the two-tiered health care system which has been characterized by fragmentation in the largely free public and fee-for-service private health sectors. The private health sector services 20% of the South African population, leaving 80% of the population to utilize an under resourced over-burdened public health care service.

This increased volume of patients that visit the public health facilities places an extraordinary strain on staff who work in these health care facilities (National Department of Health, 2015). Therefore, government efforts are directed towards universal health coverage to minimise these inequities.

In South Africa, 63% of pharmacists choose to practice in private sector pharmacies (South African Pharmacy Council, 2011). These pharmacies serve private sector patients and are either independent, i.e. pharmacist-owned, or form part of pharmacy chains (Gray et al, 2016). The inequitable distribution of pharmacists is further exacerbated due to the diverse nature of pharmacy practise fields in which pharmacists choose to practise i.e. academic, public sector, private sector, wholesale and manufacturing pharmacy. However, the number of pharmacists that are employed in the public health sector is minimal, despite a steady increase from 2007 to 2014 (Table 1.1). This increase is mainly due to an increase in remuneration in the public sector (Gray et al., 2016).

Table 1.1 Number of pharmacists registered with the (South African Pharmacy Council) SAPC vs. number of pharmacists employed in the public sector (Gray et al., 2016)

| Year | Total no. of pharmacists registered | Employed by public sector |
|------|-------------------------------------|---------------------------|
| 2007 | 11 547 | 1 830 |
| 2008 | 11 905 | 1 853 |
| 2009 | Data not available | 1835 |
| 2010 | 12 218 | 2 966 |
| 2011 | 12 460 | 3 550 |
| 2012 | 13 003 | 3 901 |
| 2013 | Data not available | 4 224 |
| 2014 | 13 364 | 4 516 |

*Data obtained from the South African Pharmacy Council website (Gray et al., 2016)

This poses an interesting contradiction for service learning programmes, because although the health need is greatest in the public health care facilities, the workload of the on-site preceptor will be the largest. In most literature regarding preceptors, a key challenge in precepting students in the health sciences was the lack of time for health care practitioners to serve as preceptors as they are required to fulfil the role of the preceptor together with fulfilling their role in health service provision. (AbuSabha et al., 2018; Lucas et al., 2018;

Thompson-Quan et al. 2018; Metzger et. al, 2014; Carlson et al., 2010; Rosenthal et al., 2010; Skrabal et al., 2008).

The high workload in public sector pharmacies is additionally affected by systemic limitations such as the security and regulations pertaining to medicines that restrict access to the pharmacy. In this way pharmacies in facilities have been structurally designed to deter unauthorised persons from entry, such as other health care workers and patients. Due to these structural and organizational barriers, pharmacists have remained peripheral to the health care team and patient contact is limited. This has perpetuated the vertical nature of pharmaceutical services in health care facilities, coupled with the high volume of patients, has resulted in pharmacists maintaining their traditional product-centred role through mechanical dispensing, stock control and being perceived as medicine suppliers (Bheekie & Bradley, 2016). This severely restricts the provision of pharmaceutical patient-centred care (Bheekie et al., 2011).

These challenges are not only limited to South Africa and current experiential learning opportunities for pharmacy students in terms of direct patient care (Lucas et al., 2018; Nuffer et al., 2017) and by extension inter-professional educational opportunities is thus limited, globally. Indeed, Rosenthal et al. (2010) has critiqued pharmacy education's focus on the binary nature of facts and details, where right and wrong is paramount as opposed to clinical decision making processes that focus more on the relativeness of being correct associated with actual direct patient care. Pharmacists tend to pride themselves on efficiently and accurately filling prescriptions, and once this skill had been mastered pharmacists' preferred to employ this set of skills with minimal variation. This has contributed to the culture of pharmacist's mechanically dispensing and focussing on technical issues in the running of the pharmacy, essentially isolating them from the rest of the health care team towards the provision of direct patient care (Rosenthal et al., 2010).

1.2 Motivation for the study

As per the Lancet commission's suggestions (Frenk et al., 2010), the key recommendations include health education training based on the needs of the population and interdependence in education (collaboration between systems and professionals) (Van Heerden, 2013).

Similarly, the International Pharmaceutical Federation (FIP) advocates for a needs-based approach to guide pharmacy education. Patient-centred drivers for change in the curriculum have been evident for both developed and developing countries (Anderson et al., 2012). In developing countries this need is primarily towards more patient-centred curricula in general, and public health pharmacy (Anderson et al., 2012).

In order to prepare students for future practise with their prospective employers, the goal is towards continuous curriculum renewal that meets these needs, thereby refining the educational experience of the students (Nuffer et al., 2017). This continual re-alignment of pharmacy programmes is a key process of quality assurance in order to ensure competent pharmacy graduates are produced (Jatau et al., 2018).

The preparation for the future pharmacist work force requires all the stakeholders that are involved in pharmacy education and practice to engage in collaborative relationships that can provide meaningful outcomes in the training of the pharmacy health work force (Scheckelhoff et al., 2008). Academic-service partnerships with health facilities play a pivotal role in addressing the health needs and challenges of the local community and serve to mutually advance the educational and clinical practices. These partnerships aid in an academic institutions' design of appropriate educational programmes and ensure the appropriate use of a school's graduates to achieve the greatest impact on the health related needs of the community (Beal, 2012; Boelen et al., 2011).

A study by Chang et al. (2011) has indicated that when research is done on assessing the university's interventions such as community based programmes, feedback from the site preceptor shapes and influences the way forward to strengthen the programme and advance both mutual interests of the school and the community's needs. The preceptors have insight regarding the needs on the ground at the communities and the reality of practice. They are in a prime position to dictate the competencies that are required in graduates and they play a fundamental role in assessing the authenticity of an institution's teaching programme. These adaptations need to be clarified and developed through research (Ryan et al., 2017; Carlson et al., 2010).

It has been observed in literature that the success of an experiential programme is dependent on the university's ability to provide support to the preceptors (Ryan et al., 2017; Carlson et al., 2010; Hyrkas & Shoemaker, 2007). An integrated approach between the university and the practicing pharmacists via means of feed-back loops is mandatory. Feedback loops provide the practising pharmacists with support and guidance from the academic institution and also gives the preceptors the opportunity to provide essential insight and perspective to the academic institution. Through these feed-back loops it can be ensured that the gap between pharmacy practice and the undergraduate training programmes is not widening (Boelen & Woollard, 2011; Bheekie et al., 2007).

1.3 Background to the study

The School of Pharmacy at the University of the Western Cape (UWC) initiated its service learning programme in 2002. This was facilitated through the Community Higher Education Service Partnerships (CHESP), which implemented community-based service learning across academic institutions in South Africa in order to address priority health needs in underserved communities (Bheekie et al., 2011). The programme was called Service Learning in Pharmacy (SLiP). The goal of service learning was to ensure that the School of Pharmacy graduates have the knowledge and skills to be socially accountable, patient-centred pharmacists that are committed to addressing South Africa's pressing primary health care needs. The service learning programme is based on a tripartite (Figure 1.1) partnership between the patients or community, the university represented by staff and students and the health services. These partnerships need to exhibit an interdependent and reciprocal relationship and are a cornerstone to the service learning programme (Service-Learning in Pharmacy-2016: Student handbook).

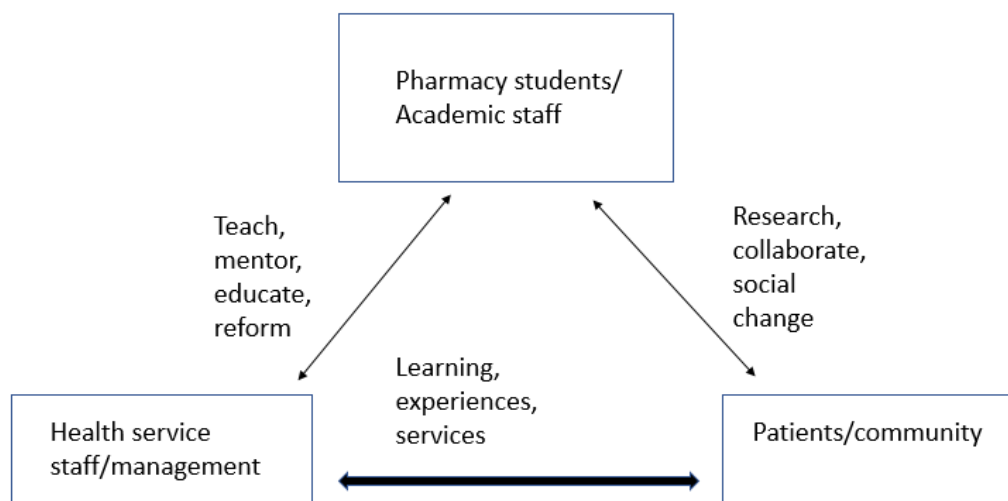


Figure 1.1 The service learning tripartite partnership (Service-Learning in Pharmacy-2016: Student handbook)

Since its inception in 2002 the service learning programme has expanded from being a fourth year only programme in partnership with pharmacists from the Metropole District Health Services (MDHS) to gradually incorporating all years of the undergraduate programme (Table 1.2) with partnerships including various stakeholders. The primary reason for the development of the programme was the changing of the pharmacy curriculum in 2013, which required more focus on clinical pharmacy. Since 2013, each year group's service learning focuses on a different set of learning objectives with incremental learning taking place in various contexts and engagement with different service partners.

Table 1.2 Framework of experiential learning at UWC School of Pharmacy pre and post 2013 (Service-Learning in Pharmacy-2016: Student handbook)

| Old curriculum (pre-2013) | New curriculum(post-2013) |
|---|--|
| 1 st year- none | 2013: 1 st year- focuses on health and wellness and environmental health within the community. |
| 2 nd year- none | 2014: 2 nd year- focuses preventative and primary health care services. |
| 2009-2014: 3 rd year- primary health care group project | 2015: 3 rd year (SLIP) - focuses on pharmaceutical service delivery (2 weeks) |
| 2002-2015: 4 th year (SLIP) - focuses on pharmaceutical service delivery (3 weeks), and clinical blocks (2-3 days) | 2016: 4 th year (PaCE) - focuses on direct patient clinical assessments and pharmaceutical interventions (10 weeks) |

Key: SLiP: service learning in pharmacy, PaCE: Patient Care Experience

The first year service learning programme focuses on social determinants of health during the first semester and environmental health during the second semester. The setting for the first semester included primary schools and was facilitated by teachers at the school. In the second semester the students accompanied environmental health officers employed by the City of Cape Town to an informal settlement.

The second year programme began in 2014 and required students to perform tuberculosis (TB) screening and cardiovascular risk assessments in the first semester and tasks pertaining to maternal and child health in the second semester at primary health care clinics managed by the City of Cape Town. The sessions were facilitated by nurses on-site following a formalised partnership with the City of Cape Town. The partnership with the primary health care clinics of the City of Cape Town was first established in 2009 with the previous third year service learning programme, which required students to initiate projects at the clinics.

The longest standing partnership of the service learning programme is with the MDHS (Cape Town, Western Cape Province). This was initiated in 2002 and served to accommodate the old curriculum fourth year pharmacy students. This relationship is complicated due to the fact that 'Pharmaceutical services' are located in various divisions of the Western Cape Department of Health. For the purposes of this background section, it is also necessary to differentiate between management and operational levels of pharmaceutical service provision. Pharmacists employed at the management level do not have routine line management functions in relation to the pharmacists working at the operational facility level. In fact, pharmacists at management level are located in two different divisions of the Department of Health, namely under the 'District Health Services and Programmes', and, 'Strategy and Health Support' divisions. The MDHS falls under District Health Services and Programmes. The Cape Town metropole district is divided into eight sub-districts and four sub-structures (made up of 2 sub-districts each). Each sub-structure has an overall director with deputy directors, one of these deputy-directors is a pharmacist overseeing pharmaceutical service provision in all facilities in the substructure including secondary hospitals and primary health care facilities. The provincial pharmaceutical services office falls

under Professional support services under the Strategy and Health Support division. The formal Memorandum of Agreement between the School of Pharmacy and MDHS was signed by the Head of the Department of Health, but negotiated between the provincial pharmaceutical services office, with input from MDHS pharmacists, and UWC in 2016.

The original fourth year experiential learning programme initiated in 2002 had two arms; the SLiP arm in which students worked under the direct supervision of a pharmacist (referred to as a facilitator) delivering pharmaceutical services from the pharmacy at various public health care facilities, and the clinical training arm, which was facilitated by UWC academic staff members from the wards in one or two public hospitals, with no pharmacist involvement. The service learning arm of the old programme required students to complete three weeks at a designated facility and a variable number of visits for the clinical training arm.

In 2015, SLiP transitioned from the old curriculum (pre-2013) where it was presented in fourth year to the new curriculum (post-2013) where it was presented as a third year programme. The essence of pharmaceutical service delivery remained the same which required student groups of between 3 to 5 students allocated to a service site, working from 8 a.m. in the morning until 3 p.m. in the afternoon on a daily basis for 1 week at a time. The service activities of the SLiP programme that students were required to partake in included: manufacturing, prepacking, triaging, preparing the prescription, labelling medication, calling / handing out medication, ward rounds, stock control, checking for expired stock, procurement, consultations and group education activities. During the transition period of 2015, the sites had to be shared between the third and fourth year students and thus fourth year students went for two weeks and third year students went for one week during this year.

According to pharmacy regulations, pharmaceutical service delivery by students requires the direct supervision of a pharmacist. Since the start of the SLiP programme (pre-2013) pharmacists have supervised student activities and facilitated their learning on site. The facilitating pharmacist was also required to assess the students in terms of their pharmacotherapeutic and dispensing skills through an Objective Structured Dispensing

Examination (OSDE). The competency-based OSDE has a checklist during dispensing and counselling that guided the assessment by pharmacists. The facilitators also assessed students at the end of the service learning period on the overall performance of the student at the site, these include their ability to apply theoretical knowledge, identify and address challenges, follow instructions, and interact professionally with staff and patients.

The new fourth year programme, the Patient Care Experience (PaCE), was launched in 2016 in collaboration with the facilities and pharmacists that was originally involved in the old fourth year service learning programme. (Service-Learning in Pharmacy-2016: Student handbook). Due to the PaCE programmes' focus on clinical training the term 'facilitator' was replaced by 'preceptor' to align better with global pharmacy experiential learning terminology. This terminology will be discussed further in the literature review (section 2.2.4). The requirements of the PaCE programme will also be discussed in more detail in the method (section 3.2).

This study will focus on the academic-service partnerships, specifically with pharmacists that were involved in the transition of the old fourth year programme to the new third year programme and the first implementation of the PaCE programme during 2016.

Research question: What are the perceptions and practices of pharmacists that participated in the SLiP and first implementation of the PaCE programmes?

1.4 Aims and objectives

The aim of this study was to explore pharmacists' experience of participation during the expansion of the experiential learning programme of the School of Pharmacy at the University of the Western Cape (UWC).

The objectives of the study were:

- To describe the perceptions and practices of pharmacists who were participating in the SLiP and PaCE programmes,

- To determine possible outcomes of the SLiP programme and PaCE on the practice of these pharmacists and the pharmacy education curriculum, and
- To elicit recommendations from pharmacists to improve the SLiP and PaCE programmes.



Chapter 2

Literature review

This literature review will focus on social accountability as the conceptual framework for this study, which includes the concept of academic-service partnerships. The rest of the chapter will focus on pharmacy training and practice in general with particular focus on experiential learning, interdisciplinary learning and the role of the preceptor.

2.1 Social accountability: Conceptual framework for this study

Across the globe medical education that reflects and is responsive to the priority health care needs of the communities is coming into focus. Previously accountability to patients, the public and the profession was deemed as being the responsibility of the health care worker. With the advent of social accountability, it now encompasses institutions training health care professionals to be held responsible for meeting the needs of the society that they serve (Ritz et al., 2014; Larkins et al., 2013; Murray et al., 2012). This necessitates the schools training health care professionals to ensure that the design, implementation and the follow-up of their programmes are established in a manner that best serves the societies that they are training their graduates to serve (Boelen & Woollard, 2009). A socially accountable institution aligns its' education, service and research activities to meet the values of relevance, effectiveness, quality and equity (Bheekie & Bradley, 2016; Boelen, 2016; Larkins et al., 2013).

In the document, 'Defining and measuring the social accountability of medical schools' (Boelen & Heck, 1995), the WHO suggests that there are four principles that describe social accountability namely relevance, quality, cost-effectiveness and equity. Relevance has been defined as the extent to which the most important issues are handled first. It encompasses constantly updating plans that an institute has implemented in order to ensure that the priority health needs are being addressed. The principle of quality entails delivering evidence-based care focussing on using the appropriate technology to ensure comprehensive health care to the society at large. It takes into account the social and cultural aspects of the patients. Cost-effective health care systems are those that have the

greatest impact on the health of a society while making the best use of its resources. The principle of equity is central to a socially accountable health care system. It entails an institution's ability to strive towards making high-quality health care available to everyone. The social accountability of a school can be measured in terms of the extent to which it applies these principles (relevance, quality, cost-effectiveness and equity) in the planning and delivery of its service programmes, teaching and research, and, on the impact these activities have on the priority health needs of a community (Boelen & Heck, 1995). The WHO has provided a useful grid to help schools evaluate themselves against these principles. Drawbacks to this framework was that it was open to interpretation, and if it were to be used for comparison between schools or the accreditation of schools, better refinement of the grid was needed (Leinster, 2011).

In an attempt to better define and measure social accountability, a number of frameworks have been developed including the social obligation scale, Conceptualisation, Production and Usability (CPU) model (Boelen et al., 2012) and a logical framework (Larkins et al., 2013). The social obligation scale distinguishes between social responsibility, social responsiveness and social accountability (Boelen et al., 2012) (Table 2.1). A socially responsible education institution focuses on producing "good practitioners" (i.e. experts) in order to meet society's needs as defined by the institution. A socially responsive medical school responds to society's wellbeing by directing its education, research and service activities to address the identified health priorities. They produce graduates that are able to ethically and professionally address the priority health concerns of the society. A socially accountable medical school produces health system change agents that takes the lead in collaborative problem solving initiatives with other stakeholders (government, health service organisations and the public) to address society's priority health concerns and advocate for policy to sustain these changes (Boelen et al., 2012).

Table 2.1: Social obligation scale

| | Responsibility | Responsiveness | Accountability |
|--------------------------------|-----------------------|-----------------------|-----------------------|
| Social needs identified | Implicitly | Explicitly | Anticipatively |

| | | | |
|---------------------------------|--------------------|----------------------------------|-----------------------------|
| Institutional objectives | Defined by faculty | Inspired from data | Defined with society |
| Educational programs | Community oriented | Community based | Contextualised |
| Quality of graduates | Good practitioners | Meeting criteria professionalism | Health system change agents |
| Focus of evaluation | Process | Outcome | Impact |
| Assessors | Internal | External | Health partners |

(Boelen et al.,2012)

In terms of the social obligation scale a health education institution needs to show a progression across the criteria continuum from responsibility to accountability. Underlying this progression is the academic-service partnership as service providers are important stakeholders to guide the educational programme in terms of the context for the communities they serve. Service providers can furthermore give feedback of the perceived outcomes in their evaluation of the programme. They are also pivotal in the assessment of students' learning and skills. This is in line with the assessor element defined as socially accountable if assessors include health partners (Boelen & Woollard, 2011).

In order to further provide indicators for measurement, Boelen & Woollard (2009) developed with the social obligation scale the CPU model as a comprehensive tool that can be used for the evaluation and quality improvement for social accountability of health professional education. The overall CPU model is composed of 3 domains, 11 sections and 31 parameters (Table 2.2). Table 2.3 summarises the parameters from the CPU model that this study will focus on from all three domains.

The "*Conceptualization*" domain refers to a health education institution's ability to foresee the current and anticipated health needs of society and its ability to respond to those needs. In this domain there are 3 sections and 11 parameters. Section 1 includes 'references', with parameter 1.3 being the 'health system', which advocates for better coherence and

integration. Section 2 includes ‘engagements’, which specify ‘partnership’ (2.3) with key stakeholders, locally and nationally. These two parameters (i.e. 1.3 and 2.3) will be focused on in light of this study in terms of the domain of conceptualisation.

Table 2.2 The Conceptualization, Production, and Usability Model for Social Accountability (adapted from Boelen et al., 2012)

| Conceptualization |
|--|
| 1—References |
| 1.1 Values: explicit reference to quality, equity, relevance, and effectiveness |
| 1.2 Population: reference to population features and priority needs |
| 1.3 Health system: health system development for greater coherence and integration |
| 1.4 Health personnel: reference to qualitative and quantitative needs |
| 2—Engagements |
| 2.1 Mandate: mission and institutional objectives consistent with (1) |
| 2.2 Field: involvement in health management of a territory and given population |
| 2.3 Partnership: institutionalized partnership with key stakeholders, locally and nationally |
| 2.4 Expected outcome: definition/justification of profile (list of competencies) |
| 3—Governance |
| 3.1 Strategic planning: engagements incorporated in a widely accepted development plan |
| 3.2 Management: validation, coordination, and evaluation of implementation plan |
| 3.3 Resources: mobilization of internal and external resources consistent with (2) |
| Production |
| 4—Field operations: education, research & service consistent with (2) |
| 5—Educational program |
| 5.1 Objectives and content: consistent with profile of health professional (2.4) |
| 5.2 Curriculum structure: early & longitudinal exposure to (1.2) priority health issues |
| 5.3 Learning process: solving complex health problems (individuals and communities) |
| 5.4 Practicals: prioritizing primary health care and linkage with other levels of care |
| 6—Students |
| 6.1 Recruitment: equal opportunity and priority to those from underserved communities |
| 6.2 Career: orientation and assistance to access jobs related with priority health issues |
| 6.3 Evaluation: relevance of the entire spectrum of competencies |
| 7—Teachers |
| 7.1 Source: involvement of a variety of teachers from the health and social sectors |
| 7.2 Abilities: teachers serving as role models in reference to the profile |
| 7.3 Support: training to improve abilities in public health and medical education |
| 8—Research: related to health systems management (see 1 and Usability) |
| 9—Service: excellence in primary health-care services (see parameters in Usability) |
| Usability |
| 10—Employment |
| 10.1 Job opportunities: advocacy and partnership for priority health professions |
| 10.2 Settlement: retention and distribution of graduates according to needs |
| 10.3 Quality of services: maintenance of competencies of graduates |
| 10.4 Practice: improving working conditions at primary health care level |
| 11—Impact |

- 11.1 Partnership: relationship with stakeholders for improved management of (1.3)
- 11.2 Effects on health: risk reduction and health promotion in the field
- 11.3 Promotion: results of usability to decision-making bodies (local & national)

The 'Production' domain addresses a schools' ability to conduct educational, research and service activities that are congruent with the community's identified needs and challenges. The sections of this domain include: Field operations, Educational programme, Students, Teachers, Research and Service. The parameters that relate to this study in terms of Field operations (4) stipulate that the school's education, research and service activities should be consistent with Engagements (2). The educational programmes (5) includes the parameters: Objectives and content, which should be consistent with the profile of the health professional (5.1), Curriculum structure, which requires early and longitudinal exposure to priority health issues (5.2), Learning process, which should focus on solving complex health problems, both for individuals and communities (5.3), and, Practicals, in which sites prioritising primary healthcare and linkage with other levels of health services are needed (5.4). The section on Teachers (7) stipulates the parameters; Sources, which requires involvement of a variety of teachers from the health and social sectors (7.1), Abilities, which requires teachers to serve as role models for students (7.2), and, Support, which should focus on training and incentives to improve their abilities in public health and health education (7.3).

The 'Usability' section explores the use of the schools graduates in order to ascertain if optimal use of the schools graduates are achieved. This section uses follow-ups and feedback systems in order to assess and ascertain the impact a school's activities are having. It also describes a school's efforts to relate to other key stakeholders in order to achieve sustainable institutional changes at local and national levels. This study focused mainly on the section of Impact (11), in particular the Partnership parameter (11.1). For this study engagements with pharmacists served as follow-ups and feedback systems in order to assess and ascertain the outcomes that the School of Pharmacy's experiential learning programmes.

Table 2.3: Conceptualization, Production, and Usability Model indicators that will be addressed in the current study.

| Conceptualization |
|--|
| 1—References |
| 1.3 Health system: health system development for greater coherence and integration |
| 1.4 Health personnel: reference to qualitative and quantitative needs |
| 2—Engagements |
| 2.3 Partnership: institutionalized partnership with key stakeholders, locally and nationally |
| Production |
| 4—Field operations: education, research & service consistent with (2) |
| 5—Educational program |
| 5.1 Objectives and content: consistent with profile of health professional (2.4) |
| 5.2 Curriculum structure: early & longitudinal exposure to (1.2) priority health issues |
| 5.3 Learning process: solving complex health problems (individuals and communities) |
| 5.4 Practicals: prioritizing primary health care and linkage with other levels of care |
| 7—Teachers |
| 7.1 Source: involvement of a variety of teachers from the health and social sectors |
| 7.2 Abilities: teachers serving as role models in reference to the profile |
| 7.3 Support: training to improve abilities in public health and medical education |
| 8—Research: related to health systems management (see 1 and Usability) |
| 9—Service: excellence in primary health-care services (see parameters in Usability) |
| Usability |
| 11—Impact |
| 11.1 Partnership: relationship with stakeholders for improved management of (1.3) |

Larkins et al. (2013) used the indicators stipulated in the CPU model to develop a logical framework for health education based on the desire to improve equity, relevance, effectiveness, and quality of health education, measured through graduates and their impact on society. Such an evaluation framework was based on three key questions for a school: How does the school work? What do we do? What difference do we make? This framework incorporated activities that might be traditionally implicit in a school's conceptualization of their educational, research and service activities, by adding a further step which evaluates the effectiveness of the school's activities through an evidence-based approach, as opposed to the business as usual output focus of 'what is being done' (Larkins et al., 2013). This research describes the status of the academic-service partnerships and role and function of the service provider's perspective.

2.1.1 Academic-service partnerships

Partnerships between service and academic communities are an integral initiative in reshaping the health system to set standards of health care as deemed necessary by the community health needs. Academic-service partnerships facilitate coherence between the health system and academic institutions, providing a network between the two parties. This network facilitates the provision of joint educational content, teaching and resources (Frenk et al., 2010). These partnerships can enable the opportunity for the academic faculty and healthcare workers to work together towards a definitive task with shared risks, responsibilities and resources to trial, assess and implement integrated interventions in the health care system, which can potentially contribute to an improved inter professional co-ordination and collaboration of care between health care providers (Mayosi et al., 2009; Xippolitos et al., 2011).

Establishing a mutually beneficial collaboration between the university and health services has proven to result in an effective programme, whereby students receive good teaching and mentoring at the health care facility and in turn are able to make an effective contribution to the health services that are being rendered at the facility. In order for this symbiotic relationship to occur it is essential for the universities and the health care facilities to have a mutual relationship. An example of an effective academic-service partnership is evidenced in a study that was done on the development, implementation and evaluation of an introductory pharmacy practice experience (IPPE) at an academic medical centre. The implementation of this programme illustrated a mutually beneficial partnership and collaboration between the School of Pharmacy and the Medical Centre (Thompson-Quan et al., 2018).

Some of the benefits of an academic-service partnership include mutual goal setting, increased visibility in the profession, maximization of resources, an opportunity for educators and preceptors to remain current in practice, cost effective quality health care, education of students and staff, increased research productivity, improvement of organizational efficiencies, provision of greater opportunities for innovation and the development of excellence in service delivery (Beal, 2012).

2.2 Pharmacy education

Globally, in terms of pharmacy education that is based on health needs, patient-centered drivers for change in the curriculum have been evident for both developed and developing countries (Anderson et al., 2012). In developed countries, this need is directed towards specialization areas in pharmacy, whereas, in developing countries this need is towards more patient-centered curricula in general, and public health pharmacy (Anderson et al., 2012). Indeed, the decision to keep the BPharm (4 year Bachelor's degree) or change to PharmD (5 year doctor's degree) has been debated for different countries (Anderson & Futter, 2009). South Africa opted to continue with the four year degree to groom generalist pharmacists after considering the shortage of human and other resources.

The Pharm D curriculum consists of both didactic and experiential education. The didactic curriculum includes a foundation of pharmacy science courses in the first four years of study. The experiential curriculum incorporated Introductory Pharmacy Practice Experiences (IPPEs) and the Advanced Pharmacy Practice Experiences (APPEs). IPPE rotations are two to four week experiences in both community and hospital pharmacy settings and is scheduled during the first four years of study along with the didactic curriculum. APPE rotations are four to six weeks in length and are scheduled throughout the fifth year of the PharmD curriculum. After the five years of didactic and experiential education graduates can then write the North American Pharmacist Licensure Examination (NAPLEX) as well as a law examination to register as a pharmacist.

The undergraduate pharmacy curriculum in South Africa spans four years. Entry level pharmacists are required to be competent in the South African Qualifications Authority's (SAQA) learner outcomes (SAQA, 2018). Upon completion of the BPharm degree, graduates are eligible to register with the South African Pharmacy Council (SAPC) as intern pharmacists. Internship spans one year in a practice setting under the tutorship of a registered pharmacist. Interns are expected to perform continuing professional development activities as well as pass the national pre-registration examination as determined by the SAPC. Upon successful completion of their internship, these newly registered pharmacists have to complete one year of compulsory community service in a facility as stipulated by the

National Department of Health, prior to the full registration as a pharmacist with the SAPC (Bheekie et al., 2011).

According to the WHO a pharmacist is required to fulfil the roles depicted in Figure 2.1. The roles depicted below are known as the seven star pharmacist. One of the roles as a seven star pharmacist is a teacher (Seven-star pharmacist concept by World Health Organization, 2014). According to the Good Pharmacy Practice (GPP) in South Africa section 3.4 stipulates minimum standards for pharmaceutical human resource development, in which the pharmacist is responsible for the training and development of other pharmacists and assistants that are working under the pharmacist (Good Pharmacy Practice in South Africa, 2010). The role of the preceptor will therefore fall under the pharmacist fulfilling the role of the teacher in the seven star pharmacist.



Figure 2.1 WHO seven star pharmacist (Seven-star pharmacist concept by World Health Organization, 2014).

2.2.1 Pharmacy students training and experiential learning

Globally pharmacy curricula have incorporated a significant duration of hours for students to obtain experience in a wide array of different settings under the supervision of qualified pharmacists and other health care workers (Lucas et al., 2018; Cox, 2016; Chang et al., 2011). In the United States of America (USA), the Accreditation Council for Pharmacy Education (ACPE) establishes standards and guidelines for student pharmacist's experiential education curriculum. In the USA experiential learning comprises at least 30% of the

curriculum in schools and colleges of pharmacy. The IPPE is divided within the first four years of the PharmD programme and the students are required to complete a minimum 300 hours of the IPPE programme in order to progress to the APPE programme. The APPE program occurs during the entire fifth year in six week rotations for a total of 1440 hours. The majority of the APPEs are conducted in direct patient care areas (Thompson-Quan et al., 2018). In South Africa, the SAPC stipulates that universities require students to obtain a minimum of 400 hours of experiential learning during their undergraduate studies towards obtaining a BPharm qualification. The sites and programmes for the experiential learning programmes are chosen by the respective universities (South African Pharmacy Council, website, accessed 24/10/2019).

Current literature tend to support the idea that training of pharmacy students in diverse experiential learning environments produces pharmacy graduates that are ready to integrate with the work environment and be 'practice-ready' upon graduation (Lucas et al., 2018; Cox, 2016). The Accreditation Council for Pharmacy Education (ACPE) defines practice ready as "the readiness to provide direct patient care in a variety of settings" (Accreditation Council for Pharmacy Education, 2015,). In order to enable 'practice-ready' graduates, Cox (2016) recommended that efforts be made to enhance the current PharmD experiential learning programmes as opposed to increasing duration of the programmes. Cox (2016) recommended: 1) training students in diverse practice settings, 2) having adequately trained preceptors, 3) establishing well defined activities, and 4) ensuring that rotations are evaluated with appropriate assessment. He also articulated that areas such as leadership, professionalism, cultural sensitivity, management, teaching and inter-professionalism should be learnt in experiential learning programmes. Cox (2016) further suggested that pharmacy employers should place increased emphasis and value on the training of pharmacy students by incorporating preceptorship as part of the job description of a pharmacist. This included additional remuneration and allocated time for those who precept students (Cox, 2016).

Another aspect of increasing the quality of experiential learning for both students and service provider is to not only focus these programmes on clinical training, but also instil a concept of service to the community. In clinical training the key focus is on learning, which is largely faculty driven. The focus of clinical training is on the students to develop skills and

competence in a particular aspect of what is being taught on campus, service might occur minimally (Bheekie et al., 2011; Schumann et al., 2004). Table 2.4 further describes the main differences that exist between clinical training and service learning.

Table 2.4: Differences between clinical training and service learning

| Clinical training | Service learning |
|---|---|
| Student learning is the primary objective | Balance between service and learning objectives |
| Hierarchy in terms of teacher, student, and patient. | No hierarchy, the traditional roles of teacher, students and patient are intentionally “blurred”. |
| Emphasis on students’ acquisition of knowledge. | Promotes a broader perspective through patient education initiatives. |
| Emphasis on observing and doing and lacks the reflection component. | Reflection is a key component of SL and it promotes students’ critical thinking abilities and encourages students to consider the larger social, political, economic and cultural situation of the communities. |
| Curriculum is often designed by university faculty members. | Community partners are involved in the design, implementation and evaluation of the SL curriculum. |

(Seifer, 2002)

Service learning is a combination of student learning, facilitator’s learning and of the community contribution to the learning that happens on site (Bheekie et al., 2011; Schumann et al., 2004). Furthermore, in service learning, there is an equal weighting of service provision and learning experiences that are undertaken by the students. Learning is primarily achieved through reflection. A credit is assigned to the learning that occurs during service learning programmes. Students partaking in the service learning programmes experience a transformative learning environment, in which they are challenged to consider their theoretical learning with that of their experiences at the local community health

centres and hospitals. They are required to develop a moral obligation to serve, which is achieved when they accept responsibility for their patients' health related outcomes (Bheekie & Bradley, 2016; Kearney, 2004; Seifer, 2002).

In these transformative learning settings students participate in active learning opportunities that are self-driven enabling the students to become self-conscious in what they do and how they do service activities on site. They are enabled to understand the contexts that they are working in, in order for them to develop confidence and competence in the work environment (Schumann et al., 2004). Experiential learning such as Service Learning (SL) has proven to be beneficial to the students in their learning and development. It has been reported by Kearney (2004) at the Massachusetts College of Pharmacy and Health on the use of SL at his institution that first year pharmacy students who had participated in a 16 hour SL course had described an improvement in their oral and written communication skills, analytical thinking and leadership qualities (Kearney, 2004). Students from the University of Pittsburgh, School of Pharmacy had the opportunity of completing up to four years of SL. These students perceived themselves to have an increased awareness of those in need, enhanced confidence in interacting with others and better communication skills (Drab et al., 2004).

Students have reported gaining more insight regarding the impact of the social environment on the health of the community when they were placed in a variety of practice and service learning experiential programmes. They are enabled to think about how they can best serve communities that have to deal with poverty and other social determinants. They are given the opportunity to expand their concept of practice and to include interacting with patients as educators, counsellors and sources of support in the management of illness (Reeve et al., 2017; Chang et al., 2011; Schumann et al., 2004). Interprofessional collaboration is one of the key aspects related to the above learning contexts.

2.2.2 Pharmacy practice, inter-professional practice and inter-professional education (IPE)

Pharmacists globally are becoming increasingly recognized by the healthcare community as a valued healthcare team member who can actively educate and manage patients with chronic diseases (Nuffer et al., 2017; Drab et al., 2004). The changes in the pharmacist's role

from compounding and dispensing to medication and clinical consultation roles has made it more critical for collaboration and integration with other healthcare professionals enabling the pharmacist to be a part of the broader health care team working at providing better health care for the patients (Ibrahim & Fathelrahman, 2018; Wertheimer et al., 2018). They have an essential role of ensuring the effective and responsible use of medicines, they are required to monitor the use of medicines and support patients in adhering to their medication regimens. They are also required to collaborate, document and communicate with other health care providers in order to provide safe and effective patient centred care (Lisenby et al., 2018). Another role of a pharmacist is to ensure rational drug use, which is pertinent for developing countries in curbing health care costs. In order to fulfil this role the pharmacist is required to be a part of all the decisions regarding medication and its use (Toklu & Hussain, 2013).

A substantial body of literature substantiates the prevalence of a significant improvement in health outcomes after patients' have engaged in pharmacist-delivered health care services whereby pharmacists were part of the inter-professional team of healthcare providers (Brummel et al., 2014; Santschi et al., 2014; Haines et al., 2011; Santschi et al., 2011; Chisholm-Burns et al., 2010; Jennings et al., 2007). Pharmacy students have also displayed a positive impact on patients' health outcomes when they were put in positions to educate and care for specific populations of patients' (Nuffer et al., 2018; Nuffer et al., 2017; Shogbon & Lisa, 2014; Nuffer et al., 2012). In essence, pharmacy students are valuable resources in pharmaceutical service delivery, especially where health facilities are understaffed.

Accordingly Haines et al. (2011) reported on a multidisciplinary, collaborative approach used for the provision of patient care. In this study, pharmacists worked alongside physicians, nurses, social workers and nutritionists. Evidenced by these 2009-10 American Association of Colleges of Pharmacy (AACCP) reports, Professional Affairs Committee (PAC) in which 25 US based examples of patient-centred health-care (PHCH) that incorporated the training and preparation of both pharmacy students and pharmacists', it was found that pharmacists' were involved in providing PCHC related to the management of prevalent chronic primary care diseases, such as diabetes, hypertension and dyslipidaemia. The frequent setting for the

provision of care was community pharmacies and ambulatory care clinics. Dispensing functions were included in many of the reports; however other patient care services were also reported such as medication therapy management (MTM) services, disease management services and educational programs (Haines et al, 2011).

Within these reports a variety of quantitative and qualitative outcomes were examined in order to determine the impact that the integration of pharmacists' into the PCHC team has. It was found that 64% of the reports evidenced better quality of life, 56% of the reports evidenced improved medication adherence and 48% evidenced better MTM services. In these reports, patients' results were consistently favourable and it included improved patient care outcomes such as decreased glycosylated haemoglobin, increased medication adherence and awareness, decreased hospital re-admissions and improved cholesterol levels. Another finding of the analysis of the reports was a reduced cost to the health care system by PCHC being carried out by academic pharmacists, student pharmacists and pharmacy residents. It was also reported that physician time became available for more complex patient cases if pharmacotherapy management was moved to a pharmacist's service (Haines et al, 2011).

Furthermore, a study that was conducted in Australia further demonstrated the essential role a pharmacist could play in the collaborative care of patients. In this study a pharmacist took the patients medication history and conducted a blood clot risk assessment, thereafter the pharmacist would have a face-to face discussion with the admitting doctor before agreeing on a medicine management plan. The results of this study found that patients with at least one medicine related problem dropped from 66% to 3.6%. This study confirmed that reducing exposure to medicine-problems at admission contributed to a reduced hospital admission of the patient (Pharmaceutical Society of Australia, 2019)

The FIP (International Pharmaceutical Federation, 2015) published their global vision in inter-professional learning, which has been described as a milestone in the growing recognition of inter-professional learning in pharmacy globally. In this report it has been noted that world-wide efforts are being made towards developing a collaborative model of patient care as a standard practice in the healthcare system. They also state that IPE is

applicable to healthcare professional students in the classroom as well as in clinical environments. They have further stated that when medicines are part of a patient's treatment or prevention plan, a pharmacist is integral to providing the best quality of care. Both the WHO and FIP have agreed that IPE leads to collaborative practice and collaborative practice leads to a collaborative practice-ready workforce. The WHO defines a collaborative practice-ready health worker as someone who has learned how to work in an inter-professional team and is competent to do so (World Health Organization, 2010). They further agree that collaborative practice leads to a strengthened healthcare system, resulting in improved patient health outcomes (World Health Organization, 2010). Therefore, a collaborative practice-ready workforce cannot exist without first establishing effective IPE.

The term 'inter-professional' pertaining to the healthcare system refers to a group of healthcare workers such as doctors, nurses and pharmacists that have different backgrounds in training, however, they are able to work collaboratively in serving the health care needs of the community. These health care workers focus on the same objectives although they have different complementary roles to fulfil (Nurul Amin et al., 2019). Inter-professional collaboration interventions are strategies that are used to improve interactions and working practices between health care workers in the healthcare team. When inter-professional collaboration interventions are implemented it results in favourable patient outcomes such as improved drug usage and a decrease in hospitalization (Zwarenstein et al., 2009). Therefore, in South Africa, it would be essential for pharmacy training schools to engage students in IPE during their experiential learning programmes.

2.2.4 Preceptor: Role, identity, responsibilities and training

In literature, across medical health professions, there is no generic or agreed upon name for a person who supervises students in a clinical learning environment. However, different terms are used by different professions. In medicine the term "clinical supervisor" is commonly used, in nursing terms that are commonly used are "preceptor", "facilitator", "educator" and "mentor", nursing does not generally use the term "clinical supervisor". In pharmacy literature, the term "preceptor" is most commonly used to describe a pharmacist that is involved in the clinical training and supervision of pharmacy students at the experiential learning sites (Health Workforce Australia, 2010). In this study, the initial term

used by the School for SLiP (pre-2013) was the term ‘facilitator’, which is more commonly used in the context of service learning. Yet, when the PaCE programme was introduced with its focus more on clinical learning, the term preceptor was adopted due to its prevalent use in pharmacy clinical training.

According to Cox et al. (2016) from the Texas Tech University Health Sciences Centre School of Pharmacy an ideal preceptor must be a role model, a facilitator, a consultant, and an expert clinician. Additionally they must be enthusiastic, possess communication and organisational skills, and encourage critical thinking, problem solving, creativity and innovation (Cox et al., 2016). According to Mylrea et al. (2018) from the Discipline of Pharmacy, College of Medicine and Dentistry at the James Cook University of Australia preceptors are required to mentor, teach, motivate and evaluate students that are at their experiential learning sites (Mylrea et al., 2018). At the University Of Rhode Island College Of Pharmacy in the USA additional research from the development of effective preceptors revealed that criteria that were considered most important for selecting preceptors are the preceptor’s attitude, enthusiasm and commitment to teaching. Furthermore, the preceptor would need to have good communication skills, a personal pharmaceutical care philosophy and the ability to block out time to instruct and teach students (Rogowski & Strong, 2000) at the practice site.

As students transition from the classroom to real-world experiences, the quality of their experiential education lies to a large extent in the hands of the preceptors. According to literature from the Faculty of Pharmaceutical Sciences, Naresuan University in Thailand, the primary role of the preceptor is to show students how to apply the knowledge that students have learned in their didactic courses on campus to the daily pharmacy practice, and to share their knowledge and skills with the students (Sonthisombat, 2008). They allow students to be able to gain experience on the health care team and participate in patient interventions while fulfilling the necessary responsibilities for their practice site (Tofade et al., 2015).

A key component of being a preceptor is to assess the students’ performance by providing them with effective feedback and evaluations. This is done to improve the student’s

strengths and correct their weaknesses. However, preceptors typically spend most of their time imparting clinical facts and dedicate less time in understanding the clinical thinking patterns and learning styles of the students. This is because most preceptors were trained to be pharmacy practitioners rather than educators (Sonthisombat, 2008). This is evidenced in a study that was done by Sonthisombat (2008). The objective of this study was to compare Pharm D students' perceptions and preceptors' perceptions regarding preceptors' teaching behaviours. In this study a survey was developed and distributed to students and preceptors to rate the teaching behaviours of the preceptors'. When comparing the feedback it was found that preceptors' overestimated their own performance predominantly in the areas of providing adequate student feedback and evaluation. These findings substantiate the need for preceptor development programmes (Sonthisombat, 2008).

Additionally, it has been stipulated in literature that the impact of poor role models in experiential learning could potentially cause confusion among students (Schafheutle et al., 2010; Hammer et al., 2003). Hammer et al. (2003) from the University of Washington suggests that there is a high probability that students will neither exhibit nor develop a high level of professionalism if they are being trained in an environment or by preceptors that do not display values that are congruent to those being taught by the academic institution (Hammer et al., 2003).

Given the number of teaching and learning styles, as well as the variability in preceptor effectiveness due to varying years of experience, levels of commitment, availability of time and structure of the practice site it has been perceived by students and preceptors that developing preceptors clinical teaching skills would be beneficial to the students' learning and practice (Rogers et al., 2008; Perron et al., 2009; Tofade et al., 2015). It is necessary for the preceptor to be sufficiently trained, and their role clarified, supported and developed through research (Ryan & McAllister, 2017; Tagwa et al., 2016). Hammer et al. (2003) recommended that schools of Pharmacy appropriately train preceptors and sensitize them to the power of their influence in the development of students' professional identity (Hammer et al., 2003). Furthermore, Akiyode from Howard University in Washington suggested that it would be beneficial to review preceptor's professional conduct regularly.

This would create a culture and an environment where students can develop amongst exemplary role models (Akiyode, 2016).

It has been observed that the quality of the preceptor training influences the quality of the students' experiential learning experience (Scheckelhoff, 2008). The Accreditation Standards and Guidance for Professional Doctor of Pharmacy degree programmes has stipulated that schools' of pharmacy need to ensure that preceptors, especially first-time preceptors receive an orientation of the role and responsibilities of being a preceptor and schools' should provide ongoing training and development for the preceptors (Accreditation Council for Pharmacy Education, 2015). Different models of preceptor training and development have been discussed in literature. The University of Maryland, School of Pharmacy had chosen to implement a formal preceptor training programme, the "Academy of Preceptors" to foster preceptor development. This programme was delivered as a live continuing education programme as well as in a CD-ROM format to facilitate the preceptors who could not attend the live sessions. The goal of this programme was to improve experiential course delivery, develop preceptors' educational skills, recognize preceptor excellence and facilitate networking among preceptors (Boyle et al., 2009). Other models of preceptor training include home-based self-study preceptor development programmes, workshop training either over a few hours or on multiple days, online presentations or modules and longitudinal or one-time only programmes (Davison et al., 2009; Rodis et al., 2008; Cerulli & Jennifer, 2004; Moser et al., 2004; Bianco et al., 1996; Scott et al., 1991).

From a study that was done in Australia by the nursing faculty to assess which model offers the best support for undergraduate nursing students, the preceptorship model or the facilitation model, it was found that nursing students considered the quality of support to be the most important facet of their supervision irrespective of the model that was being used to supervise them (Walker et al., 2013).

2.3 Chapter summary

The chapter contextualised the social accountability conceptual framework for the study and provided literature on pharmacy education and practice. However, most literature seemed to originate from developed countries (USA and Australia) and countries that have

implemented the PharmD degree. There is thus a scarcity of literature regarding pharmacist's precepting pharmacy students in developing countries such as South Africa and those countries still offering the BPharm degree.



Chapter 3

Methodology

In this chapter the study design, research setting, target population and recruitment of participants, data collection, data analysis, trustworthiness and ethical considerations will be discussed.

3.1 Study design

The study design was descriptive, qualitative and participatory in nature. Data collection was done through focus group discussions and semi-structured interviews.

3.2 Research setting

As part of the old SLiP programme (pre-2013 curriculum), building a good relationship with the facility-based pharmacists was a priority. Faculty staff hosted annual facilitators' training workshops since 2011 to these pharmacists who directly facilitated pharmacy students at health facilities. However, these training workshops also included pharmacists at the various management levels of the Department of Health, which included the deputy-directors of pharmaceutical services at (MDHS) sub-structure level as well as the as pharmacists from the provincial pharmaceutical services level (explained in section 1.3). The purpose of these training workshops were to introduce them to student learning objectives, tailor learning activities to their facility context, standardise on-site student assessments, provide guidance on aspects of good facilitation skills and update them on curricular changes. Additionally, regular feedback workshops and meetings with health service partners as well as community representatives were hosted at the School, signalling a bottoms-up approach with stakeholders. Annual reports were circulated to stakeholders to encourage co-ownership. As part of a social accountability research project that started in 2015, it was decided to investigate the nature and outcomes of this academic service partnership during an expansion phase of the programme.

As part of the launch of the new curriculum in 2013, the PaCE experiential learning programme was introduced in 2016 in the second semester. This included a three day

orientation period for students (26 to 28 July 2016) and two clinical rotations of 5 weeks each, whereby the students spent 5 weeks at a primary care facility or CHC and 5 weeks at a hospital site. The activities of the PaCE programme related to the development of patient management skills, clinical judgement and medication safety. Students were required to participate in various assignments as part of the requirements for the successful completion of the PaCE programme. These assignments included activities required to interact with patients, such as designing of a patient education poster, medicine history taking and reconciliation, and designing pharmaceutical care plans for patients. These care plans could then be used as a tool to interact with prescribers to make pharmaceutical recommendations pertaining to drug therapy problems identified in the care plan to improve patient care as part of the interprofessional collaborative assignment. Lastly, students had to design a training session to educate a specifically identified healthcare personnel target audience about some pharmaceutical aspect that has been identified as a need in the facility. The primary role of the on-site preceptor was to guide students in identifying the topics for the educational activities so that the specific need at the facility could be addressed. Preceptors at CHCs were also expected to assist students with obtaining interprofessional clinical learning opportunities, engagement with patients as well as clinical information to develop pharmaceutical care plans.

Learning sites for the PaCE programme comprised of CHCs for the Primary health care rotation and Hospitals for acute care rotations in medical wards. The same CHCs and hospitals were used in the SLiP and PaCE programmes (UWC-undergraduate PaCE handbook 2016). Each hospital had a UWC preceptor assigned to do on-site supervision and student bedside assessments. However, due to a staff shortage, the UWC facilitators were not for student consultation on-site on a daily basis. A pharmacist on site was allocated by the responsible pharmacist (RP) to be the site preceptor for any queries students may have while the UWC preceptor was not there. Although the students on their CHC rotation were still assessed by the UWC preceptors assigned to the facility, UWC preceptors were not required to do site visits or to do on site assessments. At CHCs the on-site preceptor thus had the brunt of responsibility to make sure students had access to patients and other healthcare personnel who were required for students to accomplish their activities that were required for the PaCE programme (UWC-undergraduate PACE handbook 2016).

3.3 Target population and recruitment of participants

The target population for the focus group discussions included all pharmacists who had participated in the fourth year SLiP programme of the pre-2013 curriculum. Information was given to the pharmacists regarding this study and written informed consent was sought by the researchers. Permission from participants was obtained at the start of the focus group discussions to video/audiotape the proceedings.

The target population for the interviews included all pharmacists in public health facilities who precepted the fourth year PaCE students. Exclusion criteria included all pharmacists who had not been involved as a preceptor in the PaCE programme at UWC. Purposive sampling was used in the selection of the pharmacists for the interviews. These pharmacists were chosen based on the students' feedback regarding their PaCE experiences with these preceptors. A mix of pharmacists working in hospital and CHC sites were chosen to obtain comprehensive insight into their experiences. The pharmacists were contacted via telephone and were given information regarding this study. Those pharmacists that were interested in participating in this study were subsequently interviewed at their respective facilities.

3.4 Data collection

Two methods of data collection were used in this study namely focus group discussion and individual interviews. Focus group discussions were held during feedback workshops. These focus group discussions were video recorded and then transcribed verbatim. The first workshop was held prior to the implementation of the PaCE programme and after the first transition of the SLiP programme from fourth to third year. The second workshop was held after the first implementation of the PaCE programme. Both workshops followed a similar agenda i.e. an introduction, information regarding this study, feedback from facilitators on their experiences with students at the facilities, a presentation by one of the on-site preceptors, presentation by academic staff of the School of Pharmacy regarding PaCE activities and assessments, and wrap up of the workshop. Appendix 1 contains the general agenda of the workshops.

The individual interviews were conducted after the first implementation of PaCE from November 2016 to February 2017. The interviews started by asking the preceptors about their journey as a SLiP preceptor. They were asked to explain how they got involved with the SLiP programme and if they were involved in the SLiP programme as students at UWC. They were then asked about their perceptions regarding the students that they received at their facilities. They were also asked to explain the management structure of their facility and within their pharmacy, if it hindered or contributed positively to their facilitating and teaching the students at their facilities. They were then asked their opinions regarding the teaching role of a pharmacist. The interview ended by asking the pharmacists for any suggestions, recommendations and support that the School of Pharmacy could provide them with in order for them to improve their skills of facilitating the students and service learning programmes.

During these interviews in-depth information was gathered regarding their experience following the implementation of the SLiP programme with the third year pharmacy students and the implementation of the newly launched PaCE programme with the fourth year students.

3.5 Data analysis

The video recordings of the focus group discussions and the audiotapes of the face-to-face interviews with the facilitators from the hospitals and CHCs were transcribed for manual thematic analysis using inductive qualitative content analysis (Graneheim, 2004). Themes were developed through a constant comparison method from data immersion. These themes were then refined and those themes that emerged consistently throughout the data were categorized as core themes. The most appropriate quotes were selected to describe the themes and codes that were identified.

According to literature, thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data (Braun & Clarke, 2006). A set of guidelines were employed throughout the analysis phases of this study. These guidelines were in accordance with the guidelines reported in literature. As evident in literature, “a theme captures something

important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set” (Braun & Clarke, 2006, page 7). Once themes had been generated and coded across the entire data set, they were then analysed in depth. The themes were identified using an inductive or ‘bottom up’ approach. An inductive approach means that the themes that were identified are strongly linked to the data itself. The thematic analysis of this study was data-driven (Castleberry & Ashley 2018; Braun & Clarke, 2006).

Themes were generated for each of the interviews and then compared and contrasted to the themes that were generated from the workshops. From the data it was observed that the interviews provided a detail rich description of the themes and the workshops had presented a broader, superficial overview of the themes that were generated. The themes generated from the interviews concurred with the themes that were generated by the workshops. Data saturation of the workshops was achieved with no new themes being generated from the workshops.

3.6 Trustworthiness

Credibility was ensured at each step in conducting this research through various channels some of the mechanisms that were used are listed below:

- Field notes were compared to interview transcripts and workshop transcripts to concur inferences from the two sources.
- Respondent validations, transcripts of all data collected were emailed to the respective interviewees to verify and consolidate the data that was collected. Participating pharmacists recognised that the findings presented an accurate picture of their responses in the interviews and workshops.

3.7 Ethical considerations

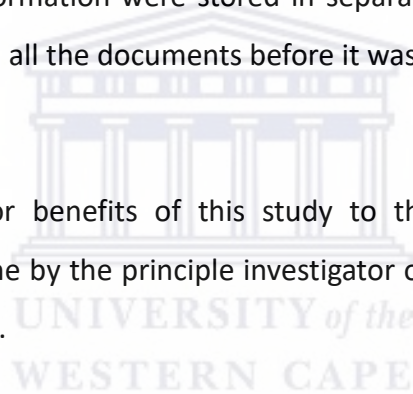
Ethical approval was obtained from the UWC Faculty board Research and Ethics Committee and the UWC Senate Research Committee (#15/6/95). Permission to video record the focus group session was sought at the beginning of the session. Informed consent was sought from all the pharmacists prior to the focus group discussions by means of a signed informed

consent form (Appendix 2). A study information sheet regarding the study was provided to all the pharmacists (Appendix 3).

For the individual interviews permission to audio record the interview was sought prior to conducting the interview. Informed consent was then sought via means of a signed consent form (Appendix 2). Information regarding the study was also provided to each of the pharmacist (Appendix 3). The interviews were then conducted according to a semi-structured interview guide (Appendix 4).

Data were kept strictly confidential and no identification of any person that had participated in this study is possible. Every person that had given informed consent was given a unique number that can link the informed consent form to the study information. The consent form information and the study information were stored in separate locations. All identification information was removed from all the documents before it was utilized in the analysis.

There were no direct risks or benefits of this study to the participating pharmacists. Destruction of data will be done by the principle investigator once the research reports and publications have been written.



Chapter 4

Results

This chapter starts with an overview of the data collection activity timeline, participant attendance, and, a summary of the themes identified. Then follows a detailed narrative description of the themes that emerged during each data collection activity.

The study activity timeline stretched roughly over one year from April 2016 to March 2017 and is presented below in Table 4.1. It shows both data collection activities as well as other collaborative activities between the participants and faculty staff, and, the dates on which third and fourth year pharmacy students went on the SLiP and PaCE programmes, respectively. The data collection for this research began on the 7th of April 2016 with workshop one (W1). The purpose of this workshop was to inform the SLiP facilitators about the fourth year PaCE programme that the students would be doing at their facilities. After this, third year students went on SLiP from 11 to 15 April 2016. A second workshop (which did not form part of the data collection) was hosted during June/July 2016 by a colleague from another university (L3). This workshop was held for the pharmacists to guide and help them prepare for their new role as preceptors in the PaCE programme. After this, these preceptors hosted the PaCE programmes for the first time, with SLiP in between at the various facilities. Interviews were conducted with selected preceptors regarding the implementation of the SLiP and PaCE programmes at their facilities from November 2016 to February 2017. The final data collection activity for this study occurred on the 17th of March 2017 with a preceptor feedback workshop two (W2). It is important to note that during the 2016 implementation of the SLiP and PaCE programmes a disruption was experienced at UWC, #feesmustfall (Godsell et al., 2016). These student protests resulted in interruptions during the PaCE programme.

Table 4.1: Time line depicting data collection and collaborative activities

| | |
|---------------------|-----------------------|
| 7 April 2016 | Workshop 1 |
| 11 to 15 April 2016 | SLiP (first semester) |

| | |
|---------------------------------|-------------------------------|
| June 2016 | Preceptors' training workshop |
| 1 to 12 August 2016 | PaCE rotation 1 (2 weeks) |
| 15-19 August 2016 | SLIP (second semester) |
| 22 August to 16 September 2016 | PaCE rotation 1 (3 weeks) |
| 20-September to 21 October 2016 | PaCE rotation 2 (5 weeks) |
| 5 November 2016 | Interview 1 (I1) |
| 16 November 2016 | Interview 2 (I2) |
| 18 November 2016 | Interview 3 (I3) |
| 28 November 2016 | Interview 4 (I4) |
| 28 November 2016 | Interview 5 (I5) |
| 19 January 2018 | Interview 6 (I6) |
| 08 February 2018 | Interview 7 (I7) |
| 16 March 2017 | Workshop 2 |

Key: SLiP: Service Learning in Pharmacy, PaCE: Patient Care Experience

Table 4.2 depicts the number of participants and their participation of the study's data collection activities. A total of 43 pharmacists participated in the data collection activities, which included two focus group discussions (28 and 27 participants, respectively) and 7 interviews (8 participants). These participants represented 39 pharmacists at operational level (from 20 CHCs and 9 hospitals), and, 4 pharmacists at a management level (3 from sub-structure and one from provincial pharmaceutical services). For the 2016 experiential programmes, a total of 10 hospitals and 28 CHCs hosted SLiP and PaCE students.

Table 4.2: Number of participants

| Participant no. | Workshop 1 | Interview (number) | Workshop 2 | Facility |
|-----------------|------------|--------------------|------------|----------|
| P1 | | | X | CHC5 |
| P2 | | | X | H2 |
| P3 | | | X | CHC8 |
| P4 | X | | X | CHC8 |
| P5 | X | | X | CHC11 |

| | | | | |
|-----|---|----|---|--------------|
| P6 | X | | X | CHC17 |
| P7 | X | | X | CHC3 |
| P8 | X | | X | CHC18 |
| P9 | | | X | CHC14 |
| P10 | | | X | H5 |
| P11 | | | X | Not recorded |
| P12 | X | | X | CHC16 |
| P13 | X | | X | H1 |
| P14 | | | X | CHC12 |
| P15 | X | I3 | X | CHC13 |
| P16 | | | X | CHC9 |
| P17 | | | X | H7 |
| P18 | X | I1 | X | CHC1 |
| P19 | X | I2 | X | H6 |
| P20 | | | X | CHC1 |
| P21 | X | | X | CHC6 |
| P22 | X | I6 | | H8 |
| P23 | | I6 | | H8 |
| P24 | X | I4 | | H3 |
| P25 | X | I5 | X | CHC19 |
| P26 | | I7 | | CHC9 |
| P27 | X | | | SS1 |
| P28 | X | | | H2 |
| P29 | X | | | H9 |
| P30 | X | | | SS2 |
| P31 | X | | | CHC15 |
| P32 | X | | | Province |
| P33 | X | | | CHC7 |
| P34 | X | | | H4 |
| P35 | X | | | CHC20 |
| P36 | X | | X | CHC2 |
| P37 | X | | X | CHC4 |
| P38 | X | | | CHC5 |
| P39 | X | | | CHC10 |
| P40 | | | X | CHC16 |
| P41 | | | X | SS3 |
| P42 | | | X | CHC7 |
| P43 | X | | | CHC13 |

A summary of the themes and codes that were generated from the data are summarised in Table 4.3. These data were analysed via inductive thematic analysis (TA) within the context of the literature reviewed in chapter 2. Themes were initially generated for the workshops and interviews separately and were then compared and contrasted to create an integrated

list. From the data it has been observed that the interviews provided a detail rich description of the themes and the workshops presented a broader overview. It was thus observed that not all the themes that were generated from the interviews were present in the workshops. However, data saturation of the workshops was achieved with no new themes being generated from the workshops. Table 4.3 summarises the themes, codes, quotes, participant number and the source of the codes. From Table 4.3 it can be seen that 5 themes and 21 codes were generated from the data.

The first three themes describe the perceptions of the on-site preceptors about the pharmacy students, the experiential learning programmes and their role within these programmes. Their perceptions about the students primarily focussed on the differences between the third and fourth year student groups in terms of knowledge, confidence and responsibility. Their perceptions about the SLiP and PaCE programmes were expressed through their experience of the new implementation of the SLiP and PaCE programmes. In terms of PaCE many expanded on the clinical focus of the PaCE learning activities. CHC participants had to put in more effort to find opportunities to implement clinical learning. Participants perceived their role as preceptor to be one of a teacher and mentor, and experienced this as enjoyable as well as a reciprocal learning opportunity for themselves and the students. Participants also noted some challenges in terms of performing this role at their respective facility.

The fourth theme primarily summarised the perceived outcomes of the experiential learning programmes for the students, preceptors, the pharmacy, facility and patients. The participants felt that students had the opportunity to prepare for the work environment and got exposure to communities. The participants themselves benefitted from reciprocal learning, which created an opportunity to focus on pharmaceutical care of the patients. Some participants reported better team work and cohesion in the pharmacy due to all pharmacy staff being valued by the process and they felt that the pharmacy was being promoted by the students out in the rest of the facility. This also helped with integrating the pharmacy knowledge and expertise throughout the facility by promoting inter-professional collaborative experiences between the students and other facility staff.

The fifth theme included recommendations for peer preceptors, to the university, and for strengthening the partnership between the university and preceptors. The preceptors advised their peers about how a roster for the students was helpful and that good relationships between the pharmacy and the rest of the facility staff were forged to implement the programmes more successfully. The preceptors suggested more continuous professional development activities that they can part take in at the university as well as formal acknowledgement of their role in the experiential learning programmes. They wanted the university services partnership to become more transparent, especially when it came to expectations from management level and the university for the operational level preceptors.

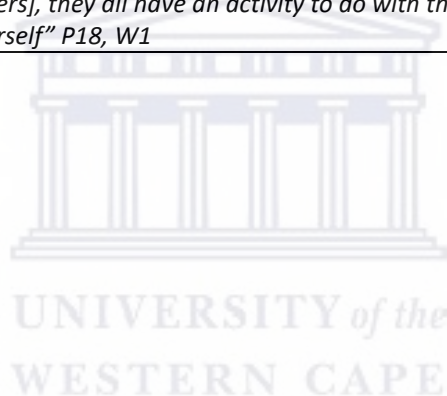


Table 4.3: Summary of the themes, codes, quotes that best describe the quotes, participant number and source of the quote

| Themes | Codes | Quotes |
|--|---|--|
| Theme A: Students | Code 1: Differentiating between third year (SLIP) and fourth year pharmacy (PACE) students | <i>"I just felt that erm a year [third and fourth year] makes a big difference in terms of being a little bit more mature erm even later on this year one of the groups I thought, one of the things that registered for me was like their professionalism and their attitude erm when they must learn I thought they a little bit different from the gang of SLiP [third year] students." P24, I3</i> |
| Theme B: Programmes | Code 1: Experience of PACE implementation | <i>"I think PaCE is more interactive than SLiP. With the staff outside we can leave the students in the ward and they have a plan then the staff get to spend more time with them and see what our pharmacy students are capable of. [this relates to theme D, code 5: IPE] Now SLiP is more we keep them restricted to the pharmacy." P22, I6</i> |
| | Code 2: Clinical focus of PACE | <i>"...and we have probably a long way to go with the PaCE students and this is only the start but erm I can see it's making the right entrance because I thought that was it seriously and linking all that theory that they learnt in class to the to practice here and especially the clinical side, they were prepared [prepared for the PaCE programme and the clinical aspects it involved]." P25, I5</i> |
| | Code 3: Practice challenges | <i>"There's still a little bit of a gap between what their [students] expectations are and what actually happens on the ground and if you coming to a busy CHC you know we often have to create the opportunity for them to have clinical sessions..."P15, W2</i> |
| Theme C: Role of the preceptor | Code 1: Teaching role of the preceptor | <i>"I think that it's just a given in our profession that you have to be a facilitator and a tutor from the get go. We are expected from the get go so we, I think it already starts from a student level already it starts with your lecturer and you know you have to do it. I think it's just expected as a pharmacist that you going to be doing it or in the medical profession but I think it shouldn't be so rigid where you have like a teacher and students." P22, I6</i> |
| | Code 2: Enjoyable and beneficial in keeping current and trained | <i>"So basically erm by doing this programme it's very exciting and it encourage us to keep current and updated, it improves your staff and your internal staff relationships and erm it consolidates multi-disciplinary approaches to your duties." P18, W1</i> |
| | Code 3: Reciprocal learning | <i>"Yah for me I just feel like erm its well I enjoy it because not only am I teaching them [the students] something I'm learning as well at the same time. So it's something extra but I'm enjoying it, it doesn't feel like its work that we're doing." P23, I5</i> |
| | Code 4: Challenges | <i>"...we were exhausted, because you know what, they [students] keep us on our toes all the time..." P19, W2</i> |
| Theme D: Impact/outcomes the SLIP and PACE programmes had | Code 1: Enhanced team work within the pharmacy | <i>"...and also the pharmacy the pharmacy itself because we get so involved and work together as a team, we sort of knitting more and more as a pharmacy team." P18, W1</i> |

| | | |
|---------------------------------|--|--|
| | Code 2: Preparation for the work environment and familiarity with the health system | <i>"But the fact that you force them to do its part of the curriculum to do SLiP and PaCE I think is very valuable. They not like shocked when they come in here [as interns] and like oh my word what do I have to do. They do understand the system already." P19, I2</i> |
| | Code 3: Teaching students patient VS product centred care | <i>"...I tell them [the students] look you have to sometimes go out yah go to your queue see what people you dealing with today, you just speak to your people see whose old, whose very sick whatever, that interaction but that is when we behind here like it's all we see, it's just this box of tablets, yah so that interaction was actually good just to show them that its more than just handing that medication over. " P26, I7</i> |
| | Code 4: Patient education | <i>"...they created a poster for asthma for all the pumps that we have. As erm you all know that the pumps, we don't give salbutamol erm every month for asthma patients, only erm for COPD [chronic obstructive pulmonary disease], so what they did erm its just to elaborate and erm demonstrate to patients how to use their pumps and we benefitted a lot because we no longer have those patients saying that .. their..pumps are finished." P15, W2</i> |
| | Code 5: Inter-professional education (IPE) | <i>"For the PaCE students, the success of the program was because of bringing the relationship with the family physician who now has a video that he presents to them and knows to expect them all the time, so initially it was, the level of understanding of what they are really there to do to a point where once in a while we have pharmacy students and this is what they need to do and you know our chronic disease life style doctor also knows she takes them for a certain days so you have to kind of develop a team for them because otherwise they not going to get ... much [clinical experience]." P15, W2</i> |
| | Code 6: Student exposure to the communities | <i>"Yah because I think you have to link your community with the area that you are in like with us, it's completely different to CHC-5. And how we do things is very different to a hospital I think if you don't understand your community you don't know how it is in the pharmacy" P18, I1</i> |
| | Code 7: Isolation of the pharmacy | <i>"we behind this window" P26, I7</i> |
| Theme E: Recommendations | Code 1: Roster implementation | <i>"So my best advice to you is set a roster and try and work something and you not fumbling about like I was." P18, W1</i> |
| | Code 2: Letter of recognition to facilitators | <i>"I know the first year I was on the SLiP program I got a letter of thank you from the university and that was very nice. So I think in my letter there for maybe details like a little not a certificate but a letter of recognition, thank you for training some of students for this and this and this that recognition because then you know who ever did anything can add it to their performance err review for the year." P19, I2</i> |
| | Code 3: Improvement of student's pharmacology knowledge on | <i>"...was I think the pharmacology just needs you know just needs hammering, it needs to be more you know pharmacology again like it's what sets us apart from when we at wards and if the consultants ask me some questions about some clinical issues and erm you know how it would work or something." P24, I3</i> |

| | | |
|--|---|---|
| | campus | |
| | Code 4: Access to university resources | <i>"I think for me helping with (pause) helping with access to journal articles that will be quite a big thing." P24, I3</i> |
| | Code 5: Lack of partnerships, recommendation for open transparency | <i>"I think there should be more open transparency between us and the university obviously there are certain things that are confidential but other things need to be out there so then the training at the university sort of gears the student towards going out into the real world. I think it's important that they understand the job description so that there is communication between both parties." P28, W1</i> |
| | Code 6: IPE-working collaboratively with other staff in the facility | <i>"My advice to you is personally go up and go speak to the people, speak to them and explain to them the process, don't just in passing. They need to understand what the concept is[the concept of SLIP and PACE], and also get your pharmacy staff involved. So I looked at resources outside the pharmacy and also looked in the pharmacy, everybody, every single one of our staff, including my EPWP learners [pharmacists assistants basic learners] my [NGO] learners [Post basic pharmacist assistant learners], they all have an activity to do with the students, so everybody has something to do, you don't need to take all on yourself" P18, W1</i> |



The rest of this chapter will provide a detailed explanation of W1 and the themes and codes that were generated from W1, followed by a detailed explanation of the themes and codes that were generated from the interview data, and finally a detailed explanation of W2 and the themes and codes that were generated from this workshop.

4.1 Workshop 1 (W1)

The purpose of this workshop was to introduce the facilitators to the new fourth year PaCE experiential learning programme that students will be undertaking at their respective facilities. The workshop also intended to clarify the difference between the new third year SLiP and fourth year PaCE programme. During 2015, which as a transition year, pharmacists facilitated both fourth years of the old SLiP programme for two weeks and third years of the new SLiP programme for one week, which might have caused some confusion at some facilities. With the change to the new programmes, third year pharmacy students were now going to participate in the new SLiP programme from 11 to 15 April 2016 for their first week of their SLIP rotation in the first semester and their second SLIP week was scheduled from the 15th to 19th of August 2016 in the second semester. The fourth year pharmacy students were going participate in the new PaCE programme from the 1st of August 2016 to the 21st of October 2016 with intermittent breaks.

A total of 28 pharmacists attended W1. Of the 28, 25 pharmacists represented the facility level with 7 participants representing 7 hospitals (out of a total of 10 hospital pharmacies) and 18 of the pharmacists were from 18 CHCs (out of a total of 28 CHCs that were going to participate in the experiential learning programmes). Three pharmacists represented a management level which included 2 sub-structures and one provincial level pharmaceutical services.

The first part of the workshop provided an overview of the SLiP and PaCE programmes and was done by L1. L1 is a lecturer at UWC and she has been involved in the SLIP programme since its inception in around 2002/2003. L1 differentiated between campus based learning versus work based learning; service learning versus clinical training, and, service learning versus community service. L1 then proceeded to explain the value of partnerships in these learning programmes.

“So partnerships is very important in a service learning programme. We’ve got an officially signed Memorandum of Agreement with the School of Pharmacy and the Department of Health and that was formalized last year. And you will see that the relationship between the students and the services and the community will show that there will be benefits on both sides so you can see the benefits that each

one has for each part in this program and ultimately the entire program is aimed at personal and social transformation in view of the fact that we are a young democracy.” L1, W1

L1 further contextualised the service learning programme for first and second year students (Table 1.2) as the pharmacist preceptors were not directly involved in the training of the students prior to the third year SLiP programme. L1 thereafter briefly explained the new SLiP and PaCE programmes. L1 also explained how students were prepared for their off campus experiences at the facilities, and the reflection that happens on campus afterwards. L1 also explained the purpose of the workshops that take place twice during the year and further explained the difference in the third year SLiP programme compared to that of the previous SLiP programme that the fourth year students used to do at their facilities.

After the introduction by L1, there was a presentation by P18 on her experience as a facilitator of the old SLiP programme at CHC-1. She had been involved with the SLiP programme for the past 2 years. In her presentation she explained her journey into being a facilitator and shared some of the techniques that she had implemented at her facility and had given insight regarding how those techniques had worked at CHC-1. Subsequent to the presentation by P18, a discussion on current practices by the other facilitators ensued and, in particular, how these practices was preparing students for their internship interview and related job tasks.

The workshop then continued with a presentation by L3 with a Medicine Use Evaluation (MUE) presentation on aspirin. A previous study was conducted on the MUE of Aspirin. There was a circulation going around that spoke about the rational use of medicines and that prompted the MUE on Aspirin. This study was the first of its' kind. There had been studies that were conducted by individual hospitals however; this was the first MUE study that was conducted province wide. The aim of the Aspirin MUE was to describe and evaluate the use of Aspirin at various health care institutions in the Western Cape in order to identify areas for improvement in its' prescribing. A similar study was going to be taking place again, however this time the third year students were going to be directly involved in the data collection process during the first semester SLiP week. This workshop was concluded with L3 explaining the details of this new MUE study on oral Furosemide that was going to occur while the students were at the facilities.

The themes identified in this workshop related to students (Theme A), as well as on preceptors' experiences and lessons from the old SLiP programme (Theme B), their previous experience of student facilitation (Theme C), some perceived outcomes of the old programme (Theme D) and recommendations for their own precepting role and for the School (Theme E).

4.1.1 Theme A: Students

The old SLiP programme provided the participants with an opportunity to meet possible future colleagues. The primary perception of participants when students were participating in the old SLiP programme was observing them as potential employees for their internship.

“SLiP is also the student’s time to shine. I mean I’ve had four consecutive years and then one of the SLiP students coming to me for four years in a row because that is where they actually decide ok I want to do my internship here.” P12, W1

4.1.2 Theme B: Experiential learning programmes

In this workshop participants shared their practices and experiences of implementing the old programme at their facilities. The aim of sharing these experiences was to identify and share some best practices between preceptors. The quote below describes participant 28’s approach to orientate students and put them at ease in hospital-2:

“Yes and what I also do is engage with the students, I introduce myself to them because they always feel they are students. I tell them: “I am also a student!” It’s just that you make them comfortable and you can guide them along. Break the barrier, because you get some of them that come in and they are just so nervous, we try and make it a very easy environment, and I’m sure everyone else here does that and that’s important to do.” P28, W1

Another participant that became involved in the old programme for the first time during 2015, reported that it was really not very challenging to implement the old programme in his hospital-3:

“There wasn’t really many challenges when they [the students] arrived. I think being in a hospital is a little bit easier in terms of having more pharmacists around to recommend various programmes and also having things like ward rounds, daily ward rounds. You just have the time. So once we finish ward rounds, we’ll have the morning discussion then we do some dispensing you know that’s pretty much what we do.” P24, W1

Many participants agreed that a roster that outlines student activities at the facility was a very useful tool to guide both participants and students. This entailed having a learning plan for the

students prior to the students arriving at the facility. This plan can be tailor made to each facility and can be flexible to accommodate any changes that might need to occur. The essence of this roster system is to provide some structure to the students as well as other members of the facility that are involved with training of students at the facility.

Although not all participants were using a roster yet, it was agreed by most participants that students needed a variety of activities in the facility and not only be confined to the pharmacy:

“I never had a roster written down but I also had activities that they [the students] must do. So now so now I’m going to adopt the roster. It’s really boring for them[the students] to stay in the pharmacy. I was once also a student, I used to go for these things [SLiP]. It’s so boring to spend the whole day in the pharmacy, so what ... we are currently doing at CHC-6 with the [varied] activities and that.” P21, W1

This discussion prompted L2 to appraise the facilitators about the clinical skills that she teaches the students on campus and how they could allow the students to practice and use these skills at their facilities.

“... I was thinking maybe we should make the facilitators aware of the clinical skills that students developed in the first and second year. ... they’ve done blood pressure, temperature, blood glucose, ENT, they’ve done all that, erm cholesterol, so we taught them all the screenings so they are aware they have those skills which you can also let them use when they come to the clinics.” L2, W1

Other participants agreed that these clinical skills could be utilised at the facilities to facilitate contact between the students and nurses at the CHCs:

“Having those skills is actually great because then they can go to the club sisters and they can help them and the club sisters are very grateful they got the students to help. So think out of the box, think creatively, you don’t want them to just sit on a chair by the club sisters, get them involved.” P18, W1

4.1.3 Theme C: Role of the pharmacist

An unexpected turn in the conversation during the workshop sprouted from a question from participant 32 on whether SLiP was preparing students for their internship interviews. This prompted a discussion about the actual job description of a pharmacist and if students were aware of the key performance areas of a pharmacist working in public health care facilities. In response,

participants mentioned some more hands-on practical education in terms of the job description of a pharmacist and the key performance areas students would be expected to fulfil in future:

“I always explain to them [the students] the job description, what we [as pharmacists are] expected to do and what are the key points of service and what we are expected to cover. [I also] encourage and motivate them because I explain to them without the skills you cannot be a pharmacist, because [on campus] education is just part of it....” P39, W1

This workshop further captured some of the advantages and challenges of being a student facilitator. Participants mentioned how enjoyable their role as a facilitator was to them. They agreed that it kept them updated with new information from students and the university.

“So basically erm by doing this programme it’s very exciting and it encourages us to keep current and updated.” P18, W1

Some participants alluded to some challenges they experienced during the performing of their roles as facilitators at the facility, primarily due to the fact that this role was not part of their key performance areas. They felt that their facilitation role was not clear and the university needed to strengthen this aspect in their partnership with the Department of Health.

“We can’t expect the student to know everything because obviously they don’t have it. Yes they have to have that motivation and we need to push them but we ... also ...[need] that motivation, but the university and the Department of Health should come to an agreement and I feel the time is right.” P28, W1

4.1.4 Theme D: Outcomes of the experiential learning programmes

This workshop captured outcomes relating to how beneficial the old SLiP programme was for students’ readiness for work, improving team functioning inside the pharmacy as well as interprofessional collaboration with healthcare personnel in the rest of the facility. Participants mentioned that SLiP provided students with a platform to show them what they can do. One participant reflects on his experience of SLiP over the years and how well it prepared these students for the public sector work environment:

“Despite all of these problems with interns and stuff, we [are] quite a few years down the line with SLiP and the students that come for community service come in running [prepared]. Because, ok I know we have the issues, but that’s a huge value in a professional form and it’s a big win for us. The staff like them [the students].” P30, W1

In addition to preparing students for the work environment, another spin off that SLiP had for some participants related to the improved functioning of the pharmacy and the pharmacy team. By virtue of assigning all the members of the pharmacy a lead role in certain learning activities for students, all staff were valued and motivated to perform.

“...it improves your staff and your internal staff relationships and erm it consolidates multi-disciplinary approaches to your duties. And when you reflect back you sort of get new ideas but not only new ideas about approaching the service learning but it sort of impacts on other areas and other angles in the pharmacy to improve that.” P18, W1

Inter-professional collaboration was also an important outcome of the implementation of the old SLiP programme. As a result of P18 reaching out to the rest of the facility, she found that the facility was now being exposed to what the pharmacy students brought to the table and they wanted to partake in teaching and educating the pharmacy students on work that they were doing.

“These are our outreaches it has been incredibly successful, because our ante-natal sister came to me last year and said are there any other students prepared to come, so I find that I’m getting feedback from other members in the facility and coming to ask us ‘can we use your students and broaden our bench’. She is brilliant, she even phones me and says ‘do you have a student, I’m doing an implant let them come and see what I’m doing’.” P18, W1

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4.1.5 Theme E: Recommendations

The recommendations from W1 pertained to peer facilitators as well as the university. Other participants were encouraged to improve their facility programmes by developing a facility specific roster. Roster development involved identifying facility resources that could be used in student learning activities.

“Also in the roster it moves beyond what happens in the pharmacy, how to incorporate other areas within your facility ... look around your facility, there are lots of resources that you don’t know and you can use... within the CHCs you got your areas, we got your prep room, speak to the nursing staff there, go to you anti-natal women, the child health, there are so many areas, we have dieticians and when you start looking around you, you start looking at all your different services even in the hospitals, you can identify different areas.” P18, W1.

By identifying the different areas in the facility as well as in the pharmacy, it also identified other health care personnel that might be interested to participate in the programme. P18 also

recommended to other preceptors on how beneficial it was to working collaboratively with other healthcare personnel within their facilities, because it eased the stress of having students at the facility.

“My advice to you is personally go up and go speak to the people, speak to them and explain to them the process, don't just in passing they need to understand what the concept is [the concept of SLiP and PaCE], and also get your pharmacy staff involved, so I looked at resources outside the pharmacy and also looked in the pharmacy, everybody, every single one of our staff, including my EPWP learners [pharmacists assistants basic learners] my [NGO] learners [Post basic pharmacist assistant learners], they all have an activity to do with the students, so everybody has something to do, you don't need to take all on yourself” P18 W1

Another CHC participant recommended for new facilities to get the facility manager involved:

“... just a suggestion to the new facilities it will be good if they go to their facility manager so that they can be aware there are students that are coming. Not on the day when the students are there.” P21, W1

During the workshop a few challenges surfaced, such as the limitations of the programme in preparing students for the intern interview as well as challenges the preceptors experienced in terms of time they spent mentoring the student on-site. According to their job description, these activities were not specified and caused some tension between other pharmacy personnel and management, because it was not really considered during their performance evaluations. A subsequent recommendation was thus to improve the academic-service partnership between the School of Pharmacy and Pharmacy Services:

I think there should be more open transparency between us and the university obviously there are certain things that are confidential but other things need to be out there so then the training at the university sort of gears the student towards going out into the real world. I think it's important that they understand the job description so that there is communication between both parties.” P28, W1

A recommendation for the university that followed from the above discussion was to increase the duration of the SLiP programme so that preceptors could have more time in preparing students regarding the job description of a pharmacist.

“One of my recommendations was that we increase the time for SLiP because in a week we find teaching all aspect of pharmacy very difficult.”

4.2 Interviews

The interview participants were purposively selected to be those preceptors who were spoken of with high regard about by the students following their PACE experience. These preceptors were previously facilitators of the fourth year SLIP programme and now progressed to becoming preceptors of the new SLIP and PACE programmes. Seven interviews were conducted with eight preceptors (one interview had two preceptors), four preceptors were from three hospitals and the rest were from four CHCs (Table 4.4). Interviews varied in duration between 39 and 52 minutes. Most interviews were conducted inside the pharmacy of the facility. Most preceptors have been involved in precepting for two years with a maximum of 3 and minimum of one year precepting experience. Three preceptors were previous students of the SLIP programme.

The interview questions are presented in appendix 4. In the interviews preceptors had highlighted their journeys into the SLIP and PaCE programmes as current facilitators and now as emerging preceptors. They presented a detailed view of the impact that the SLIP and PaCE programmes have had on their respective facilities and their perceptions regarding the implementation of the PACE programme. Presented below is a detailed description of the themes that emerged from the interviews.

Table 4.4: Interview participant demographics

| Interview no. | Participant no. | Gender of participant | Where had interview been conducted? | Average duration of the interview | Qualification as a pharmacist | Duration of SLIP facilitation prior to the interview | Was participant a SLIP student during their undergraduate training? |
|------------------|-----------------|-----------------------|-------------------------------------|-----------------------------------|--|--|---|
| Interview 1 (I1) | P18 | Female | CHC-1 | 52 minutes | 30 years | 2 years | No |
| Interview 2 (I2) | P19 | Female | Hospital-2 | 43 minutes | 30 years | 2 years | No |
| Interview 3 (I3) | P24 | Male | Hospital-1 | 27 minutes | 18 years | 1 year | No |
| Interview 4 (I4) | P15 | Male | CHC-2 | 51 minutes | Was a locum for a few years in the private | Not specified. | No |

| | | | | | | | |
|-------------------------|-------------|-------------------------------|------------|------------|---------------------------------------|--------------------------|---------------|
| | | | | | sector after finishing his internship | | |
| Interview 5 (15) | P25 | Female | CHC-3 | 46 minutes | 4 years | 1 year | Yes |
| Interview 6 (16) | P22 and P23 | Both participants were female | Hospital-3 | 39 minutes | Not specified | P22-5 year P23-1 year | Yes Yes |
| Interview 7 (17) | P26 | Female | CHC-4 | 52 minutes | 10 years | 3 years | Not specified |

4.2.1 Theme A: Students

This theme was assigned when preceptors shared their perceptions of the students'. It primarily included the difference observed between the third and fourth year pharmacy students that came to their respective facilities for the SLiP (third year) and PaCE (fourth year) experiential learning programmes, respectively. Since these preceptors have been involved previously in the fourth year SLiP programme, mentoring third year students was new to them and called for a more hands-on approach than with the fourth year students they were used to.

“Because the other level [third year pharmacy students] you find they still not ready to sort of hit the ground running so they want to baby most of the time they end up being spectators” P15, I4

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Preceptors had also noted poorer knowledge and communication skills in the third year students as compared to the fourth year PaCE students. Preceptors further elaborated that third year students struggled to apply their knowledge when communicating with patients.

“I think erm definitely from a knowledge point of view and erm I think with the SLiP [third year pharmacy] students, pharmacology they were behind sort of like they never have an understanding of what they have learnt.” P24, I2

“Their knowledge base [fourth year pharmacy students] is a bit more evident. So I don't know I think that. The 4th years were prepared. I don't know I just felt like the 3rd years weren't prepared for SLiP as much as the 4th. P22, I6

In addition, preceptors found that third year pharmacy students that had come to their facilities for the SLIP programme were not as confident as the fourth year pharmacy students that had

come to their facilities for the PaCE programme. Some preceptors related this to their own experience as pharmacy students. However they felt that when they were students they had not perceived that there was such a huge gap in themselves between the third year and fourth year level as they had seen with the students that had come to their facility.

“Because I didn’t think like on campus, for me I felt like obviously there was a change in myself from 3rd to 4th year but not as massive as I saw with these students. I was shocked.” P23, I6

In contrast, participants felt that the fourth year pharmacy students were better capable of applying their knowledge and that they felt that they would be prepared for their internship the following year.

“The 4th years [PaCE students] I think their knowledge I think is much better, I must say I was quite impressed.” P24, I4

“...the 4th years were fine, I think they would have been ready for internship this year.” P22, I6

4.2.2 Theme B: Experiential learning programme

This theme was identified and assigned when the perceptions of the experiential learning programmes (SLiP and PaCE) were discussed by the facilitators. This theme was subdivided into two codes, namely participants’ experience of the practical implications of SLiP and PaCE implementation, and, the clinical learning focus of the PaCE programme.

All preceptors acknowledged that the implementation of the two programmes involved both time for preparation and mentoring of students as well as mentally challenging. Some of the preceptors described it as an expansion of the existing SLIP programme.

*“...I think it’s [third year experiential learning programme] to PaCE [fourth year experiential learning programme] taking what you already doing and expanding it and looking at other areas in the facility that you can expand at and taking whatever little snippets you can to create the PaCE and I don’t know make it a little bit more interesting [In terms of taking the students to the other areas of the facility, such as child health, teaching them how to follow-up on patients].”
P18, II*

Other preceptors had perceived the implementation of the PaCE programme as “difficult” and “intense” due to the fact of the general uncertainty that goes with implementing a programme for

the first time. The other difference between PaCE and the old SLiP programme was that PaCE required students to learn outside the pharmacy with other health care professionals due to the focus on pharmaceutical care with a patient focus. In the SLiP experiential learning programme the students' learning is confined to the pharmacy only. P22 describes her experience from a tertiary hospital perspective.

“It’s kinda it’s [PaCE programme] a bit difficult. We didn’t know what to expect with PaCE. I mean we had no idea it was so different [PaCE programme is more clinical and entails students spending time in the wards as opposed to the SLiP programme, where students’ learning is mainly confined to the pharmacy]. I think this year we’d be prepared for PaCE.” P22, I6

Some participants felt the need to take a leadership role in implementing PaCE as this programme was much more demanding than the SLiP programme that was more pharmacy based. The quote below affirms what P26 experienced with the PaCE implementation. They had perceived it as learning experience for both themselves and the students.

“...I think it [PaCE programme] was a learning experience for both, for the student and myself because I actually took charge of the whole program [PaCE programme] I didn’t leave it to the other pharmacist because because erm I could see that this [PaCE programme] is really (laughs) intense [in terms of the clinical aspects that the PaCE programme implements]...” P26, I7

Participants also noticed that PaCE required a much more clinical role of themselves and the students than the SLiP programme in the past. This implied that students got a chance to implement the clinical theory that they had learnt on campus in their facilities.

“...I can see it's making the right entrance because I thought that was it seriously and linking all that theory that they learnt in class to the... to practice here and especially the clinical side...” I5 P25

Participants also acknowledged that clinical learning required students to go beyond the confines of the pharmacy into the larger facility and interacting with other health care professionals. Specifically in hospitals, the learning in PaCE was based in the wards, with minimal time spent in the pharmacy.

“So SLiP is obviously different because erm they working with the pharmacists so erm we compelled to do things daily and are allocated to a certain person erm where PaCE was a little bit in that erm the students will be joining either of us

[P24 or other pharmacists involved in the ward rounds at Hospital 1] on the ward rounds [Clinical role of PaCE].” P24 I3

4.2.3 Theme C: Role of the preceptor

This theme was identified when preceptors explained and elaborated on their experience of the preceptor role. The participants found the teaching role as an inherent and explicit role of the preceptor. They found it to be a role that entailed reciprocal learning that was predominantly enjoyable and beneficial in keeping current in their practice.

Participants explained that the teaching role was identified as natural part of their professional and practice experience. They equated it with orientating and guiding any new member into their pharmacy team.

“You know I think pharmacists just automatically mentor assistants, technicians, students, whatever we just so used to doing it, you don’t have to familiarize it but if we get somebody new in here it’s like we mentor them without even knowing it.” P19, I2

However, due to the inherent teaching role of pharmacists, participants cautioned that this was not a duty that was stipulated specifically in the key performance areas of their job descriptions. Some felt that the inclusion of this role might be necessary as it would put them on par with the performance areas of other healthcare professionals.

“it’s [teaching role of the pharmacist] not something that you are being measured on, you not being measured on it... and maybe erm maybe it [the teaching role of the pharmacist] does need to be part of our job description because I know at Tygerberg, the doctors they got it as part of their job description.” P18, II

Despite teaching not being part of their job description, many participants found the training they receive as preceptors to be an enjoyable aspect of being a preceptor. Being a preceptor helped them to keep updated with changes emerging in pharmacy education and practice at a university level.

“I think it’s [teaching and training of pharmacy students at the facilities] brilliant, it’s something that’s very important and erm and it’s not just you know for an intern and pharmacy assistant, the whole the whole thinking around the training you know either should be either the intern or the first year student or fourth year student or pharmacy assistants the fact that we have to train them

means we need as much possible training as we can so like I know that's the one thing I enjoy about the students is the training" P24, I3

"So I actually enjoyed it [teaching pharmacy students at their facility] yah just you know like and how stuff [the theory and skills that the students are taught on campus] is changed from when I was on campus and what they are experiencing now and I'm like oh ok this is interesting why didn't we were thought this when we were students." P26, I7

In their role as preceptors, participants related how intertwined the teaching role was with their own learning. Some preceptors even described the precepting role as an outright learning experience for them.

"...I take it [teaching and mentoring pharmacy students] as a learning experience for myself so obviously erm I won't know all the answers I will always go maybe back and go and research so once I was challenged with something today, I said look let's put it down and I will follow up and then we can take it maybe continue tomorrow whatever so it wasn't that I always thought look because these people expect me to know everything yah so erm for them erm how can I say ah, but they always thought I know everything." P26, I7

Other preceptors explained how personally enriching the preceptor experience was for them. It also reinforced their identity as ongoing learners, which enabled students to 'see' that learning occurred continuously in the work environment.

"You personally you know you tend to grow more so teaching [students] becomes not so essential as just imparting knowledge to another person it becomes a part of you, if somebody is not erm making teaching a part of their erm their erm you know how they see themselves if they don't see that that is part of them then they not also going to see learning as part of them." P25, I5

Participants also acknowledged how valuable the students' input was for their own practice.

" We are in this tertiary environment we don't get to step out and see what's happening in the pharmacy world that often and the government setting is very very different from the rest of the pharmacy world so getting students coming in like allowing them to come lets us learn so much more about what's happening at a university level erm yah and then in some ways we do incorporate that into the government sector; I don't know they have a lot of input as well with their little suggestions here and there where we can improve and yah I just, we do it because we enjoy it, that's it." P22, I6

4.2.4 Theme D: Outcomes

This theme was generated when participants mentioned outcomes of the experiential learning programmes for different stakeholders and institutions. Outcomes applied to students, the preceptors themselves, patients and other healthcare personnel, and the pharmacy and/or larger facility.

In terms of the outcome on the students, preceptors felt that the outcome of these experiential learning programmes had for students added valuable benefit in their on the preparation for the working environment. Participants felt that the learning they provided to students at the facilities complemented the students' theoretical knowledge and added a more practical dimension to the students training and development to enable the students to have a seamless integration into the working environment.

“We do also very practical advice that the pharmacist gave the students you know real life stuff that they can set when they actually start working and because they got a lot of erm theoretical knowledge and that and that’s just once they working they not going to be bowled over the day when they start working they going to know this is what’s going to happen.” P19, I2

Participants elaborated further that that experiential learning exposed student to practical realities of work, preparing them to engage in creative problem solving.

“I had a funny incident random our internet was off-line and we waited and I phoned and they said no they looking into it, they don’t know how long it’s going to be so we are completely an online system so I said ok people we’ll do manual dispensing until its fixed up and the one student actually came to me and said but that how do you do that so I thought if you were in a pharmacy and you had a power failure and you had to do manual dispensing at least you now gonna know it’s possible you know, sometimes you have to make a plan ya so they also learnt how to dispense when you don’t have internet.” P19 I2

By students being exposed to the work environment through these experiential learning programmes, some participants have noticed how flexible and adaptable students tend to become as they integrate into the work environment and the team.

“But the fact that you force them to do its part of the curriculum to do SLIP and PACE I think is very valuable because I have seen that ... UWC students do integrate into the team much quicker and they do pull their weight much faster ... it does make a difference. They not like shocked when they come in here and like

*oh my word what do I have to do. They do understand the system already.” P19,
I2*

Participants felt that their part in this preparation for the work environment was advantageous, because they had the opportunity to employ some of the students that were placed for the SLiP or PaCE programmes at their facility. Indeed, some of the participants were SLiP students who had undertaken their undergraduate studies previously and realised what knowledge and skills these students were equipped with.

“It’s been a nice journey so far most of the SLiP students, one or two of them would always become our interns so that was always nice. And we can also prepare the students for you know the type of students that we want to come here because we know what you know. Of what is expected of them so in a way we training them for what lies ahead.” P23, I6

The clinical focus of the PaCE programme seemed to be a welcome challenge to the traditional role of the pharmacist defined primarily as medicine dispensers. Participants acknowledged that the patient care aspect of the programme connected the pharmacy with the rest of the healthcare personnel and patients at the facility.

“...the [PaCE] programme actually erm brought out that aspect of what is pharmacy really about and patient care and really how to interact with the prescriber’s and at the clinics and stuff like that you know and to build up relationships with erm with co-workers and yah to have interactions with patients because you know we [stay] behind this window. “ I7, P26

The connection that students’ clinical activities brought between the pharmacy and the rest of the facility reinforced the isolated nature of pharmacy practice in these facilities. It also served as an opportunity for participants to promote themselves and the pharmacy profession to the rest of the healthcare personnel.

“...nobody actually knows ... how much does a pharmacist know.” P25, I5

Part of the PaCE activities involved patient and healthcare professional education activities. Some of the examples of these patient and healthcare education initiatives that the students had assisted with can be found in the quotes below.

“they also assisted her [nurse] in some ways because they designed posters to speak to the patients you know they designed you know info(unclear) where interactive photos where a patient can actually see what a code is like because a lot of them you know unfortunately we are in a community where err we are not necessarily literate so we need to you know things that you can put to say to them, I can't say Enalapril you know I need to show them that this is what we talking about and it needs to be visual so they assisted a lot in that and in that way also assisted her in her outcomes...” P15, 14

In terms of the pharmacy itself, preceptors discussed the enhanced team work that resulted due to having either the SLiP or PaCE students at their facility. This was because most preceptors had involved all of the pharmacy personnel, which empowered them in teaching and mentoring the students.

“And what was very very good is that my staff enjoyed it [students coming in for the PaCE and SLiP programmes] and especially the assistant because for them they were all of a sudden the teachers”. P19, 12

By giving this type of responsibility, personnel felt valued and thus resulted in an enhanced team work within the pharmacy.

“You know I can see that the pharmacy is run more efficiently, is more efficient because you, the more you uplift the post basic or your interns or whatever [pharmacy students], the more you uplift yourself and the more you can do that you are up skilling yourself the more you up skill other people.” P18, 11

Participants also acknowledged that distributing the teaching responsibility makes them more able to cope with students during the experiential learning programme.

“...the most important thing is that I involve all of the staff [in teaching the SLIP and PaCE students], don't take everything on myself.” P18, 11

In addition to the better coherence in the pharmacy team, the PACE programme promoted inter-professional collaboration (IPC) within the facility. The pharmacy students went out into the wards and other areas of the CHCs to liaise with the doctors and nurses to address medicine related queries. The doctors and nurses got an opportunity to engage with the knowledge base that the pharmacy students have and the pharmacy students get an opportunity to learn more from the doctors and nurses at the facilities. The quotes below describe the IPC that occurs when the pharmacy students worked collaboratively with the other healthcare professionals.

“...so they [doctors, nurses and other healthcare workers] are quite curious to know also exactly what are they [pharmacy students] learning and how far to their [pharmacy students] training actually goes because, no body actually knows you know how much does a pharmacist know, they [doctors, nurses and other healthcare workers] assume we only know about chemistry that's it you know how to pronounce words that they don't you know where the medication is concerned and that is so they were quite surprised.” P25, I5

“...the first group of PaCE students that we had did a lot of stuff. And they really showed D4 and D9 [wards in the hospital] what they [pharmacy students] were capable of...” P22, I6

In addition to showcasing their pharmaceutical knowledge during the PaCE rotation, students were also able to form meaningful relationship with healthcare personnel.

“I actually think it's great because I actually erm it's nicer than SLiP because of the relationship, so I would find by the second day the sister will come and say oh where is the students today, where is [student's name], where is this one, why aren't they coming through by me. So the sisters form a relationship and also they [PaCE students] seen around the facility...” P18, I1

One participant concluded that the degree of success of the PaCE programme was directly dependent upon the preceptor's ability to establish inter-professional collaborations in the facility.

“I think that for the PaCE program to work you need to have that relationship with the other professions as well and bring them in draw them in into it.” P21, I4

4.2.5 Theme E: Recommendations

Participant recommendations for the university were that the students' pharmacology knowledge on campus needs to be improved. They had also requested access to further training and access to journal articles from the university. Another recommendation that the preceptors made was for transparency between the university and the preceptors as they felt a lack of partnership between the two. It was perceived that better communication between the parties would better prepare the students for the working environment in the real world.

4.3. Workshop 2 (W2)

The purpose of this workshop was to obtain feedback from the preceptors about the implementation of the new SLiP and PaCE programmes, which were undertaken during 2016 at their respective facilities. The workshop was attended by a total of 27 participants. One of these participants was a pharmacist who represented management at the sub-structure level. The rest of the participants included 5 participants from 5 hospitals and 21 participants from 17 CHCs. There were 22 different facilities present in workshop 2 out of a total of 38 facilities that had participated in the experiential learning programmes.

The workshop commenced with a welcome address from the Director of the School of Pharmacy who had updated the participants on current affairs affecting the pharmacy profession. The topic related to placements for interns and community service pharmacists whom the participants were responsible for at their respective facilities. This was followed by the information and informed consent procedure for the study. Participants were asked to introduce themselves and the facility they represented, and, to share their experiences on the implementation of the newly launched SLiP and PaCE programmes.

After participant feedback, L1 did a presentation on the clinical aspects of the PaCE programme. She provided the background of the PaCE programme, and focussed specifically on the clinical evaluations students were expected to perform as part of their assessments for PaCE. In this way, participants could better understand the reasons why the students might have asked them certain questions while they were on the PaCE programme. Thereafter P20 presented her medicine therapy management project that she had performed at CHC1. This was followed by a training session on pharmaceutical care plans that students were expected to develop at the sites for PaCE. The participants were asked to complete the work-up notes with the assistance and guidance of the lecturers that were present at the workshop. The last segment of the workshop was a message from L3, whereby the participants were asked if they would like any form of recognition from the University for their time in precepting the students.

The themes that were extracted from this workshop included some mention about students at the facility. The most discussed theme was theme B and related to the implementation of PaCE at the

facilities, which also included some challenges. Participants also reported on the value of the PaCE programme for students learning from the community and patients, for the pharmacy in terms of how students promoted pharmacy in this facility and the connections made between the pharmacy and other departments at facilities. A primary recommendation included how the community based arm of the programme should be strengthened.

4.4.1 Theme A: Students

The primary perception of the student's participation in the SLiP and PaCE programmes was that of the value that the students had added to the respective facilities with their projects, posters, presentations and innovative ideas. The quote below is from the CHC6 preceptor explaining how students helped at her facility.

“They [the students] created a poster for asthma, for all the pumps that we have. ... , so what they did [was] just to elaborate and ... demonstrate to patients how to use their pumps, and we benefitted a lot because we no longer have those patients saying that ... their ... pumps are finished.” P21, W2

Preceptors also valued the relationships that they could build with the PaCE students now that they were at facilities for five weeks instead of only one week. However, preceptors also noted the problem of irregular student attendance at the facilities.



4.4.2 Theme B: Experiential learning programme

Participants expanded on their experiences regarding the implementation of the new SLiP and PaCE programmes. The following quote was from a hospital¹ preceptor depicting how they had managed with the PaCE programme in his hospital.

“I didn't allow them in the pharmacy at all. They were busy at the wards, they were doing the clinical things ... they interacted with the registrars ... I told them any ADR [adverse drug reaction] is your responsibility ... you must respond. They must be active, they mustn't wait for a nurse or someone to bring it to their attention and if you suspect [an] ADR, phone a consultant, don't wait for the next ward round to happen ... they had to be a bit more interactive and take the lead as well in the wards.” P13, W2

In comparison with easy accessibility of the hospital wards to students at hospital sites, CHC preceptors had a bigger challenge to access other departments and create clinical learning opportunities for students at their facilities.

“There’s still a little bit of a gap between what their [fourth year students coming for the PaCE programme] expectations are and what actually happens on the ground and if you coming to a busy CHC you know we often have to create the opportunity for them to have clinical sessions.” P15, W2

In addition to the lack of clinical resources, the patient care plans (which primarily focus on chronic disease management at the primary health care level), that students had to develop on were not perceived as interesting or challenging enough:

“...students sometimes struggle to get good cases and I was thinking at that stage it’s harder at ... the CHC primary level.” P8, W2

This led to a discussion among CHC participants to incorporate hospital experience into their CHC programme roster.

“I was just thinking for them to just get a ... hospital experience. They have like ward rounds ... every Tuesday the antibiotic stewardship right then even if they can just do a small session just to join in and that in that time slot ... I don’t know maybe we can incorporate something like that.” P3, W2

Indeed, another participant from CHC7 confirmed that they were sending their student with their pharmacist to their nearby hospital to do a ward round.

“Our intern actually goes to the hospital every Wednesday so when the SLiP students were there we actually just sent them with the intern ... and then they do get the exposure.” P42, W2

In this workshop outsourcing and sending students to different areas of the CHC for the PaCE programme was seen as a key factor in the successful implementation of the PaCE programme particularly for the CHC preceptors. A discussion where in other CHC preceptors acknowledged that they were faced with a similar situation at their respective facilities, however they also created opportunities for students to learn in a diverse clinical setting. The quote below is a depiction of how other CHC preceptors were able to expose PaCE students to clinical aspects of the programme.

“It’s the same like P18 did but at [CHC-1] where you engage the rest of the staff so that they can sit in with the counsellors that’s counselling the patient on the HIV test, they can sit in with the doctors and then you as the pharmacist, you have to roster them so that they can get exposure to almost everything because if you don’t do that they literally it’s ok you just stick and pick.” P12, W2

In this regards, participants also faced some challenges with student being absent from facilities without communicating with the preceptors. However, this type of organization on the preceptor's side were a lot of effort and in some cases could not work out.

“What happens is, you arrange for them [the students] for a specific time [to sit in with] other staff members, and the students don't arrive.” P37, W2

4.4.3 Theme C: Role of the preceptor

This workshop captured some of the challenges experienced by the preceptors during the implementation of the PaCE programme at their facilities. At CHCs participants noted how the busy environment and their workload impeded the time they could spend with the student to mentor them:

“... often we can see that the students are not quite happy because it's quite a busy environment, it's more the [patient] numbers [that] get in the way of the teaching.” P15, W2

In addition to the limited time CHC participants had to mentor students, the student also had a number of assignments to complete while on site and this sometimes impeded their motivation to participate in activities organised by the preceptors. The quote below depicts one of the challenges that P20 encountered that related to the high assignment workload the PaCE students had to cope with:

“I felt that in between all [the activities] the students ... were a bit overwhelmed and they lost interest in the activities that we prepared and were more concerned with the [assignments].” P20, W2

4.4.4 Theme D: Outcomes

This workshop captured the outcomes relating to the benefits that the SLiP and PaCE programme had on the students and the facilities as well as inter-professional collaboration with other healthcare personnel in the rest of the facility. Preceptors described how direct patient care experiences were beneficial to students learning. Participant 4 from CHC-8 described how the theory of what students learn in their textbooks about patients and how to communicate with patients are challenged when they actually worked with the patients in his CHC:

“...then they realise that your patient is not your patient in the textbook. ..., the patient cannot read, cannot understand ...and you see that puzzled look on their face ... I always look out for that. ...and this course [PaCE] basically allows them [the students] to you can't say sensitize but make it easier to sensitize

themselves to the environment and that's the real world erm and I think that is where you get all the stimulation so for them. It's like how are you going to overcome this? You start seeing this project start developing, posters and interventions to overcome those barriers." P4, W2

In addition to dealing with patients with low literacy, participants also found it important that students were informed about the surrounding community and the challenging social and environmental issues that impact on the ability to understand the perspective of patients. Participant 18 from CHC-1 explains their approach to accommodate the students in understanding the patients from their community:

"Our health promoter took them [the students] on a drive through the community to show them the community they are dealing with. We explained to them the community and the schools, and they found they really benefitted from that ... because if you understand your community, you can understand erm how to approach your patients." P18, W2

Participants also alluded to their role in identifying "what our needs were" (P2, W2).

Most participants agreed that for the PaCE programme's successful implementation at the facilities interprofessional collaboration with other health care personnel was an important aspect. P15 relates his experience of how they had developed a team for the PaCE students.

"...So you have to kind of develop a team, because otherwise they [the students are] not going to get much [clinical exposure]." P15, W2

4.4.5 Theme E: Recommendations

The recommendations' from this workshop was that the SLiP and PaCE programmes should be more aligned with community orientated primary health care (COPC) and community based service provision. Participant 41, a pharmacist representing sub-structure management, further suggested that more focus should be put on service provision sensitive to the socio-economic factors affecting patients.

"Somehow I think the programme should be in line with that [COPC]" P41, W2

Chapter 5

Discussion

This chapter discusses the experiences of practicing pharmacists who participated as student preceptors in the third and fourth year experiential learning programmes of the School of Pharmacy at the University of the Western Cape (UWC) during an expansion phase of the programmes. Over all participation in the research comprised of 71.4% (20/28) of CHCs and 90% (9/10) of hospital sites that hosted SLiP and PaCE students during 2016. This chapter is organised in the sequence of the following three objectives of the study. The first objective of this study was to describe the implementation practices and experiences of pharmacists who were participating in the SLiP and PaCE programmes. The second objective was to assess the possible outcomes of the SLiP and PaCE programmes on the practice of current facilitators and the pharmacy education curriculum. The third and final objective of this study was to elicit recommendations from the preceptors that might improve the SLiP and PaCE programmes.

5.1 Perceptions and practices of preceptors

This section discusses the perceptions and practices of participants in the following order: nature of experiential learning and programmes, patient centred role of the PaCE programme, implementation of PaCE and the role of the pharmacist in the experiential learning programmes.

The primary change for participants were that fact that they now had to work with third year students as opposed to only fourth year students. The participants thus noticed a substantial difference between the third (SLiP) and fourth year (PaCE) pharmacy students that had come to their facilities. They had found that the third year pharmacy students were not as knowledgeable or confident as the fourth year PaCE students. This positive difference noticed in the fourth year PaCE could be as a result of the third year programme which might have acclimatized these students to the working environment during their SLiP experience. This observation is supported by literature as it was found that early rather than later initial clinical placements of pharmacy students was beneficial for the students to be able to gain practical knowledge (Ackman & Mysak, 2009).

Participants also mentioned that for the third year SLiP programme they tended to engage students in pharmaceutical activities that were located inside the pharmacy focused more on technical and product centred activities. Similarly, a study that was conducted in San Francisco had found that pharmacy students without prior hospital experience had found value in being exposed primarily to operation-based activities. In this study it was evident that pharmacy students benefitted from technician preceptors and focussed checklists (Thompson-Quan et al., 2018). This stepwise involvement from operations-based to direct patient care activities were evident in student recommendations, according to a study that was done in South Africa at the Nelson Mandela University on the pharmacy student perspective of a hospital-based experiential learning programme. It was found that the fourth year pharmacy students felt that an initial introduction to the hospital environment could occur earlier in their BPharm programme as they felt that it would be beneficial for them to observe ward rounds and gain familiarity with the medical charts (McCartney & Boschmans, 2018).

5.1.1 Implementation experiences and practices

Due to the fact that the PaCE programme required more direct patient care experiences, the practice setting, i.e. hospital or CHC, was an important factor that determined the relative effort it took for the preceptor to implement the programme. This might have been ascribed to the direct support from the university provided for the on-site preceptor as well as the resources inherent in the practice setting. Some of the preceptors, especially those preceptors from the hospital pharmacies had found it to be an easy transition from the SLiP to the PaCE programme as compared to CHC preceptors. The first reason for this perception could be due to the fact that hospitals were also assigned a UWC preceptor that came to the hospital at various times during the PaCE programme to do on-site teaching and assessments with the students. This finding corresponds to literature (Scheckelhoff et al., 2008) of a study that was conducted in the United States of America (USA) via an online survey that investigated the current and future involvement of the American Society of Hospital Pharmacists (ASHP) of partnering with colleges and schools of pharmacy to meet the experiential education requirements for PharmD students and the current status of the students learning experiences. They found that the most common form of support that was desired by the preceptors was that of funding and the second most desired form of support was the placement of a faculty member at the experiential learning site (Scheckelhoff et al., 2008). In contrast, CHC sites did not have an off-site preceptor at the CHCs for 2016.

The second reason why it was reported that hospital preceptors found it easier to implement PaCE was the fact that there were already clinical ward rounds in their hospitals, which implied an existing clinical resource for the PaCE students to join in and work with other healthcare providers. In contrast, the CHC preceptors thought the fact that their facilities did not have ward rounds made it more challenging for them to implement PaCE. The influence of practice setting on preceptor effort to accommodate students was also reported by Skrabal et al. (2008). This study investigated the perceptions of volunteer pharmacy preceptors regarding experiential education in the Northeast, Midwest, South and West regions in the USA. Similar to our study, volunteer pharmacy preceptors were non-faculty members, their salaries were not paid for by the university, and, they worked in a mix of hospital and community or clinic settings. In accordance with our findings, pharmacy students at hospital sites were frequently involved in ward rounds with a team of other healthcare professionals, which may or may not have included the volunteer pharmacy preceptor. The students were additionally assigned tasks such as patient chart reviews and drug information queries, while the pharmacists and volunteer preceptors handled other patient care or administrative responsibilities (Skrabal et al., 2008).

Furthermore, the Skrabal et al. (2008) study reported that community and clinic volunteer pharmacy preceptors spent more hours with students when compared to hospital pharmacy preceptors. Additionally, temporarily handing over the preceptor role to another colleague allowed the preceptor an opportunity to fulfil routine duties while the students were actively learning with other colleagues. Relationships with doctors, nurses and other health care workers played an important role for the students' professional development. Through these support structures in a health care facility students could obtain optimal benefit and learning opportunities (Carlson et al., 2009). This was also true for our study as the CHC preceptors received no on-site help from UWC, in addition to not being able to 'send students out' on ward rounds. Participants from our study further indicated that the clinical learning time in the CHC was less than in the hospitals, which again was echoed by the Skrabal et al. (2008) study which reported that pharmacy students in the clinic and community health settings, typically spent their time working alongside the pharmacists and were involved in processing prescriptions, answering the phone, or working directly with patients in the clinic (Skrabal et al., 2008).

CHC participants described their efforts in going out into the facility to create clinical learning experiences for PaCE students. Typically the role of a pharmacist in a CHC in a South African facility

is mainly confined to medication dispensing and stock control, other daily tasks will vary by institution however the tasks are mainly confined to the pharmacy. In contrast in a hospital pharmacy, in addition to performing dispensing and stock control activities pharmacists go out of the pharmacy on ward rounds with some hospitals having a dedicated ward round pharmacist. (Gray et al., 2016).

CHC participants thus reported on ways to overcome the challenges of limited resources of clinical training (no ward rounds) either by allowing students to accompany their intern pharmacist on a weekly basis to the hospital site for ward rounds or, a more common solution, was for participants to develop relationships with the nurses and doctors of their facilities and requesting that the PaCE students participate in their clinical consultations with patients. This enabled the PaCE students to obtain direct patient care experiences outside of the pharmacy.

The participants were aware of their limitations of the preceptor role in terms of their own knowledge and skills, support from the university and characteristics such as students' enthusiasm and self-motivation. They also identified limitations such as high patient load at the facilities, which limited the amount of time they had available to precept the students. In literature, the most commonly cited barrier to precepting is time constraints, other barriers include lack of support and recognition for preceptor efforts, increased workload, and burnout (AbuSabha et al., 2018; Thompson-Quan et al., 2018; Warholak, 2009; Scheckelhoff et al., 2008). Additionally, these limitations can impact negatively on the success of the teaching and learning experience.

5.2. Outcomes of the experiential learning programmes

Participants reported the outcomes they perceive from the hosting of the SLiP and PaCE programmes for themselves and their team in the pharmacy, student preparation for the work environment, patient care and education, and, inter-professional collaboration (IPC).

5.2.1 Preceptorship and enhanced team work within the pharmacy

Preceptors noted a number of benefits that were attached to the role of the preceptor. These included keeping current with their practice, the enjoyment of precepting and reciprocal learning between them and the students. In another study that was conducted in the USA by Scheckelhoff et al. (2008) it was found that pharmacy preceptors had similar views, as it was reported that

ninety percent of the preceptors had either agreed or strongly agreed that being placed in preceptor roles had stimulated them and their staff to maintain their own knowledge and stay up-to-date with the current practices (Scheckelhoff et al., 2008). Other literature agrees and adds reported benefits to preceptors that included an improvement in academic and professional skills of the preceptor, the implementation of student's activities and suggestions, and, students relieving the staff of some of their duties resulting in greater efficiency at the facility (AbuSabha et al., 2018; Warholak, 2009; Scheckelhoff et al., 2008).

Participants described experiencing an enhanced team work within the pharmacy when students were on site for their experiential learning programmes. They found that the students got along well with pharmacist assistants. The assistants would also step up and teach the students and learn from the students. This correlates to the concept of the layered learning model that shares precepting responsibilities between healthcare personnel and allows a higher level pharmacy learner (such as pharmacy residents) to oversee the pharmacy students (Thompson-Quan et al., 2018). This was presented as a solution to one of the main challenges that preceptors experience when precepting students, i.e. the lack of time to teach students during the experiential learning programmes (Thompson-Quan et al., 2018). In the South African context there is no pharmacy residency programme, this model might translate to incorporate the pharmacist's assistants and/or pharmacy interns overseeing some of the activities that the students would do as part of their learning objectives, thus relieving the pharmacist preceptor to complete other routine duties.

5.2.2 Preparation for the working environment

Participants had also perceived that the experiential learning programmes had helped the students to be better prepared for their internship the following year. The preceptors of this study had reported that having the students come to their facilities for the SLiP and PaCE programmes has enabled them with the opportunity to recruit future employees. It was also reported by Scheckelhoff et al. (2008) that the pharmacist preceptors of their study had hired 30% of the students that had come to their sites for the experiential learning programmes. They had added that partnering with the universities for the experiential learning programmes had assisted them in their recruitment of future employees (Scheckelhoff et al., 2008).

As preparation for the work environment it is essential for students to develop strong written and oral communication skills. Students partaking in the SLiP and PaCE programme had many

opportunities to develop these skills as they were required to do oral presentations and written reports as well as speak to other healthcare practitioners and patients. This enabled them to practice and improve on these important skills. Similarly, in a study that was done in the USA, where APPE students were involved in inpatient medication education it was reported that this programme had also provided the pharmacy students with the opportunity to apply communication techniques that were learnt in the classroom (Donihi et al., 2009).

Additionally, the change to a more patient centred approach to pharmacy education (PaCE programme) conferred to the role expansion of the pharmacist as the universal health care system (National health insurance (NHI)) policy develops and unfolds. Pharmacists will be responsible and accountable for equitable patient care and access to essential medicines across all sectors (Gray et al., 2016).

5.2.3 Direct patient care and education

It had been reported from the participants that the students had implemented various patient education initiatives when they were at the facilities for their SLiP and PaCE experiential learning programmes. Patient education was one of the assignments given to the students as part of the SLiP and PaCE programme. Positive results of these interventions were seen directly by the patients, facilities and the preceptors. An example of a patient education initiative that was undertaken by the students was an asthma pump poster accompanied by a demonstration on the correct technique and method of using the pumps. Post asthma pump poster and technique demonstration, preceptors and pharmacists at that facility had seen a direct correlation in the decrease in the number of patients coming to the facility stating that their pumps were finished before the month had finished. In another study that was conducted in Hawaii by Ma et al., (2015) where by pharmacy students were tasked to administer Asthma Control Tests™ (ACT) and to provide Asthma Action Plans (AAP) and inhaler technique education to patients, it was found that if students were trained properly in a stepwise fashion, they are able to administer ACT, create an AAP and provide counselling to patients. In this study it was reported that 73% of patients who were provided with asthma education were able to demonstrate back proper technique to the students (Ma et al., 2015).

In other facilities the students designed posters and visual aid cards to assist those patients that were unable to read about their medication usage. This education initiative had a reciprocal

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learning as the direct outcome. Additionally, in another study that was conducted in the USA on the preceptors' perceptions of pharmacy students quality assurance projects, it was reported by 58% of the preceptors that while working with the students on quality assurance projects they had learned during the process (Warholak, 2009). Additionally, in another study that was done in the USA by Scheckelhoff et al., 2008, preceptors were asked to identify benefits that they had derived from having the pharmacy students participate in the experiential education programmes at their facilities. They identified educational presentations that were conducted by the students as a benefit to their facilities (Scheckelhoff et al., 2008). In another study that was done in the USA, DiVall et al. (2010) reported that APPE student interventions had provided value to the practice site. It was found that by the students having direct access to patients and providers, via medical rounds or by seeing patients in the clinics or community settings it had enabled the students an opportunity to identify the interventions that were needed (DiVall et al., 2010).

5.2.4 Interprofessional education (IPE)

In recent years, there have been modifications in health care practices due to multidisciplinary team-based approach concepts (Umland et al., 2017). According to the results obtained in this study, preceptors had observed IPE occurring when the pharmacy students went out into the facilities during the PaCE programme.

Many participants mentioned the lack of awareness of the value of pharmacists and pharmaceutical knowledge from other health care personnel. In Pakistan a study noted that when pharmacy students were participating in a clinical clerkship training programme at hospitals, the students were seen as an intrusion to the physicians and other allied health care professionals (Abbas., 2014). Contrary to these findings, in this study the PaCE programme was seen as a platform for the doctors and nurses to see what pharmacists know and are capable of doing through clinical learning activities performed by pharmacy students in their facilities.

Due to preceptors having to develop relationships with nurses and doctors to enable clinical learning activities for the PaCE programme, the programme indirectly promoted interprofessional collaboration (IPC). In a study that was conducted by Umland et al., 2017 (Jefferson College of Pharmacy in Philadelphia, America), to evaluate the impact of IPE programs during the first three years of a four year doctor of pharmacy program on student preparedness and their ability to function as a collaborative team during their Advanced Pharmacy Practice Experience (APPEs)

course, showed that developing practice sites to increase the opportunities for students to practice collaboratively is essential for IPE (Umland et al., 2017).

These results confer both the lack of IPC between the pharmacy profession and other healthcare personnel as well as the lack of interprofessional education within pharmacy education. According to the FIP, inter-professional initiatives should begin before the student's graduation and these interprofessional initiatives should persist through the course of their careers via CPD programs (International Pharmaceutical Federation, 2015).

5.3. Recommendations for the experiential learning programmes

The recommendations for the improvement of the experiential learning programmes were aimed at fellow preceptors, the university and the academic-service partnership. Recommendations for preceptors focussed on ways to strengthen their practice as preceptors. Recommendations for the university were aimed at on campus teaching and acknowledgement of preceptors.

5.3.1 Strengthening of preceptor's practice

Participants recommended to their peers the use of a roster system. In the roster they had a schedule of where the students would be and an idea of the learning that the students would be participating in on those days. Preceptors had perceived the roster to be of paramount benefit in their optimal precepting of the students. From the literature it can be seen that when preceptors use strategies such as the roster they are able to clearly determine their goals for the students' learning at their facilities, they are able to plan the student's rotations better, they found that they were also able to evaluate and improve on the roster implementation and the students learning opportunities over time (Tofade et al., 2015).

The second recommendation that preceptors of this study had for their peers was to develop a network of healthcare personnel, both inside and outside the pharmacy, to share the teaching responsibilities.

5.3.2 Recommendations for the university

The preceptors requested access to journal articles and further training opportunities from the University in order to help them facilitate and train the students efficiently and optimally. This concurs with a study that was conducted at the James Cook University in Australia on the design

and evaluation of a pharmacist tutor training programme. In the study it was found that there was a need for on-going training and support for the pharmacy tutors that were facilitating the training of the pharmacy students at their facilities in order for the tutors to maintain and improve their teaching skills (Knott et al., 2018). Furthermore, a study that was conducted in the USA by Scheckelhoff et al. (2008) found that one of the primary concerns that pharmacist preceptors had was the concern of inadequate time to train and become preceptors.

Additionally it would be beneficial for regular preceptor training and development strategies as new adaptations and programmes are constantly being added to the role of the preceptor necessitating the adaptation of the preceptor roles, responsibilities, activities, evaluations and feedback (Lucas et al., 2018; Portoghese et al., 2014).

Another recommendation for the university arose from the preceptors' identification of a knowledge gap in the third year students when the students were at the experiential learning sites. A possible solution to the improvement of the student's knowledge is presented in a study that was done by Thompson-Quan et al. (2018) where it was noted that pharmacist preceptors had played an integral part in contributing to the development of cases that students would complete at the medical centre. Additionally, online modules containing content for specific training areas were reviewed by the students prior to the IPPE experiential learning programme. Examples of the content that the students needed to be competent in prior to the IPPE rotation were medication reconciliation, review on anticoagulation therapy and an objective structured clinical examination. Students were not allowed to go on the IPPE in the medical centre unless they were assessed and found competent in those areas (Thompson-Quan et al., 2018).

Additionally, at University of Rhode Island College of Pharmacy in the USA, prior to students going on the experiential learning programmes they are given a self-assessment tool as each student may have varying degrees of knowledge and experiences. This tool that they have developed reviews basic pharmacy operations, drug information resources and utilization, device demonstrations, ethics and health promotion/pharmaceutical care activities. The students and the site preceptors were instructed to identify those areas that students were already familiar with and were encouraged to optimise and instruct the students on the areas that they lacked proficiency in. This form was used as a base for students to build on and develop strong clinical experiences as well as to guide the site preceptors on the student's daily tasks and activities (Rogowski & Strong, 2000).

5.3.3 Partnership strengthening

Preceptors in this study requested more open transparency between the university and the Department of Health. They perceived that a better relationship between these two parties will enable a better training of the students to be prepared for the working environment post-graduation. According to literature, there is an urgent need for extensive communication between professional pharmacy organisations, the faculties of pharmacy and the representatives from ministries of education and health to focus on the changing roles of pharmacists in order for pharmacists' to become caregivers and to take responsibility and accountability for therapeutic planning and outcomes of the patients' (Taylor et al., 2015). Additionally, it is essential that colleagues acknowledge the role of the preceptor and the time component that is involved in mentoring the students (Carlson et al., 2009).

As with the preceptor workshops hosted during this study, literature has also reported that fostering an academic-service partnership provides a way for practitioners to share tips and best practices, ask questions of their colleagues and provide support for each other (Haines et al., 2011).



5.4. Social Accountability

The primary purpose of the SLiP and PaCE programmes is to prepare students to become socially accountable “future graduates”. The concept of social accountability has thus been used as a conceptual framework in this study. In terms of social accountability there should be two primary shifts in how an educational institution conducts itself: “Firstly, there should be involvement of a wide range of internal and external role-players in the development and assessment of the school’s activities, to ensure relevance, equity, quality, and effectiveness. Secondly, this approach will require pharmacy schools to think integratively about their education, service, and research activities to maximize the school’s resource pool, by adding to that of the health system in order to maximize return on investment.” (Larkins et al., 2017; Bheekie et al., 2019). Interdependence between pharmacy schools and the health service is a key element in aligning towards social accountability.

In terms of role-players, the initial service learning partnership was based on a core three-party collaboration between the university, services and community. This research project focused on the academic-service partnership, which overall had its strengths and weaknesses, despite a formal Memorandum of Agreement between the university and services. In terms of the strength of the partnership, the biannual hosting of preceptors workshop was an opportunity for preceptors to learn from their peers' best practices and receive updates from the university. The weakness of the partnership seems to be at a managerial level, where preceptorship has not been formally introduced into the job description of pharmacists, which made the preceptors feel like they were doing 'extra' work for which they received no recognition.

In terms of the CPU framework, the domain of conceptualisation, section 1 'references', parameter 1.3 'health system' and 2.3 'partnership' it can be seen from the results of this study that efforts are being made to ensure better coherence and integration between the university and the preceptors. Efforts are also being made to strengthen these partnerships between the key stakeholders. The biannual workshops and the individual interviews provided further feedback on the requirements and recommendations for further strengthening these relationships.

In terms of the next key focus of this study, Impact (section 11), whereby relationships with stakeholders for improved management of health system', section 11.1 engagements was the main focus of this study. Follow-ups with the preceptors ascertained the outcomes of the School of Pharmacy's experiential learning programmes. From the responses of the preceptors that had participated in this study it can be seen that the implementation of the SLiP and PaCE programmes have had numerous positive outcomes on the preceptors, the facilities, the students in terms of their learning and growth, and on the patients. A few setbacks such as the #feesmust fall movement had hindered and had caused some confusion during the implementation of the programmes. As expected due to it being the first time the SLiP programme was introduced at third year pharmacy level and the PaCE programme being a completely new programme a few challenges were experienced in the execution of these experiential learning programmes. However, the benefits that were experienced by the preceptors, the students, the facilities and the patients outweighed the challenges that were experienced.

5.5 Limitations of this study

When considering this study as a whole, the interpretation of the results may be limited by the following factors. Firstly, the participants were not recruited using a random selection procedure, recruitment was purposively selected based on recommendations of students. This might have resulted in more favourable perceptions as compared to a random sample. The number of participants in this study was relatively small. The participants were also recruited from the Western Cape Province public health care facilities, therefore results obtained cannot be generalised for the entire South African pharmacy preceptors population. Preceptors received students from diverse backgrounds and knowledge levels so each preceptor's response was based on the students that had come to their facility, some students might have been more knowledgeable and confident than other students and this might have resulted in skewed opinions of the students based on the type of students that each facility had received. However, findings from this study provided a better understanding regarding the perceptions of the preceptors in facilitating pharmacy students in the new SLiP and PaCE programmes.



Chapter 6

Conclusion

This study explored preceptor pharmacists' experience of participation during an expansion phase of the experiential learning programme of the School of Pharmacy at the University of the Western Cape (UWC). This was achieved by thematic analysis of two focus group discussions (28 and 26 participants respectively) and semi-structured interviews (7 interviews, 8 participants). Participants were practicing pharmacists from a total of 20 CHCs, 9 hospitals, 3 sub-structures and one of the provincial pharmaceutical services office. This study design was descriptive, qualitative and participatory in nature. The focus group discussions included those pharmacists who participated in the fourth year SLiP programme of the pre-2013 curriculum and the target population for the interviews included pharmacists who had implemented the PaCE programme for the first time during 2016. This study design was effective in determining the perceptions of the pharmacy preceptors during the expansion and implementation of the SLiP and PaCE experiential learning programmes. This study also focussed on the academic-service partnerships, specifically with pharmacists that were involved in the transition of the old fourth year programme to the new third year programme and the first implementation of the PaCE programme during 2016.

Five main themes emerged from the data under the broad headings of: students, experiential learning programmes, role of the preceptor, outcomes of the programmes and recommendations for improving the programmes. The first three themes pertained to the first objective of this study, which described the implementation practices and experiences of pharmacists who were participating in the SLiP and PaCE programmes. Participants described the difference between the third and fourth year groups in terms of fourth years being more knowledgeable, confident and responsible than the third years. In general, pharmacists at the hospital level had minimal challenges in implementing the PaCE programme due to more support from the university and more accessible clinical resources such as ward rounds at their facility. In contrast pharmacists from the CHCs had to spend more hands on supervision time with students and had to actively create clinical learning opportunities for students at their facilities through interprofessional collaboration with other health care personnel. Overall, participants found their teaching role required for SLiP and PaCE beneficial and enjoyable, yet demanding in terms of their time.

The fourth theme related to the second objective of the study, which was to assess the possible outcomes of the SLiP and PaCE programmes on the practice of current facilitators and the pharmacy education curriculum. From the outcomes of this study it was reported that the SLiP and PaCE experiential learning programmes had a positive impact on the facilities, the preceptors, and the patients as well as on the students learning. Participants thought that the nature of the experiential learning programmes and the contact between them and the students benefited both the larger health system and future graduates, because it provided students preparation for the work environment in terms of the public health care sector. Other outcomes of the programmes included an improvement in interprofessional collaboration and clinically orientated (patient-centred) pharmaceutical service delivery at participating facilities due to student interaction with other health care personnel.

The fifth theme related to the third objective of this study, which was to elicit recommendations from the preceptors that might improve the SLiP and PaCE programmes. Participants were able to provide their peers with tips on best practice activities, such as the development of a roster and the importance of developing interprofessional networks within their facilities. They were also in a position to gauge the translation of pharmacology knowledge of students from theory to practice. Preceptors needed more recognition for their role as preceptor, both from the university and in terms of a more transparent academic-service partnership which should tailor expectations from both sides.

This study was analysed under the conceptual framework of social accountability as the primary aim of the experiential learning programmes (SLiP and PaCE) both for the School and for future graduates. This study revealed some weaknesses in the academic service partnership that affected the pharmacist preceptors, which resulted from a conflict of expectations on the side of the School (i.e. what is expected of a preceptor) and the different pharmaceutical services management levels in the health system (i.e. what is expected of a pharmacist). The major strength of the partnership that this study revealed was the agreement from participants of how well these experiential learning programmes prepared students as future pharmacists in the public health system.

The findings of this study have high strategic relevance to the current direction that the pharmacy profession is heading towards; a more clinical role as an integral part of the health care team. Given the growing demand of health care services to accommodate the quadruple burden of

disease that South Africa is plagued with and the plight for universal health coverage, this study has the potential to guide the pharmacy profession and pharmacists towards accepting the responsibility within the healthcare system in the area of patient care. The opportunities and challenges discussed in this study are reflective of the needs of pharmacy training and education to keep abreast of the expanding roles of the pharmacist. Pharmacy students are being trained in providing pharmaceutical care and in clinical skills, however pharmacy practice is concentrated mainly on technical activities and mechanical dispensing, which may not allow the full use of the students' skills and knowledge at the health care facilities.

This study described the perceptions and practices of pharmacists who were participating in the service-learning and PaCE programmes. Possible outcomes were determined of the service-learning programme and PaCE on the practice of these pharmacists and the pharmacy education curriculum. Recommendations from pharmacists to improve the SLiP and PaCE programmes were determined.

4.1 Recommendations

Recommendations in terms of practice for the PaCE and SLiP programmes would be to introduce a UWC preceptor to support the CHC preceptors. The School should also work on a strategy to advance the acknowledgement of the role of preceptors for both the university as well as the Department of Health.

Future research should focus on longitudinal descriptions of the evolving role of the preceptors in the service learning programme and including all the pharmacists that are involved in precepting the students at the respective facilities. The School should also investigate the outcomes of experiential learning and pharmacy curriculum as a whole from the perspective of pharmacy graduates and their experience in terms of practice readiness after graduation. Furthermore, the perceptions of other stakeholders such as patients and community leaders should also be included to evaluate the impact of the students on the community.

In terms of social accountability the School should implement a comprehensive monitoring and evaluation programme to ascertain the impact that their teaching, research and service activities have on the health of local communities and the strengthening of the health system.

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Appendix 1: Consent form

Dr Mea van Huyssteen
Pharmacy building, First floor Room F6
School of Pharmacy, University of the Western Cape, Robert Sobukwe Road, Belville, 7535
Tel: 021 9592864

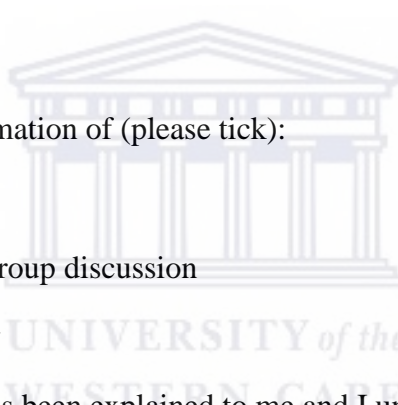
Moving towards social accountability in pharmacy education: what is the role of the practicing pharmacist?

Consent form

Date: _____

Name of participant: _____

Name of person taking consent: _____

- 
1. I agree to provide the information of (please tick):
 - a. Electronic survey
 - b. Workshop / Focus group discussion
 - c. Individual interview
 2. The purpose of the study has been explained to me and I understand the objectives.
 3. I have been provided with an information sheet on this study.
 4. I understand that I can withdraw my participation at any time.
 5. I understand that my interactions with UWC, School of Pharmacy will not be affected by my decision to participate in this study or not.
 6. I understand that I will not be identified in any reports or presentations emanating from this study.
 7. I understand that any information I provide for the study will be kept secure by the researchers and destroyed after five years of research reports being written.
 8. The researchers have my permission to use information given by me, as long as I cannot be identified by name or through background information.

Signature (participant): _____

Date: _____

Signature (person taking consent): _____

Date: _____



Appendix 2: Study information sheet



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Dr Mea van Huyssteen
Pharmacy building, First floor Room F6
School of Pharmacy, University of the Western Cape, Robert Sobukwe Road, Belville, 7535
Tel: 021 9592864

Moving towards social accountability in pharmacy education: what is the role of the practicing pharmacist? **Study information sheet**

Introduction

We would like to invite you to participate in a research study conducted by Dr Mea van Huyssteen and Prof Angeni Bheekie from the School of Pharmacy at the University of the Western Cape. The study is called: **Moving towards social accountability in pharmacy education: what is the role of the practicing pharmacist?** The study forms part of a larger evaluation which incorporates determining and improving the social accountability status of the service-learning in pharmacy programme.

Before you decide whether to participate or not in this study, we would like to tell you about the study and answer any questions that you have. If you agree to participate, you will be asked to sign a consent form. You will also be given a copy of this information sheet to keep for your own records.

Please note that your participation is voluntary and you may choose to withdraw from the study at any time. There will be no negative consequences if you choose not to participate.

Purpose of the study

We are interested to understand how practicing pharmacists can help us evaluate and inform the service-learning programme in an effort to improve both pharmacy education and practice. This study particularly targets practicing pharmacists who are currently or have been involved in the service-learning programme at UWC either as students and/or facilitators. The primary aim of the service-learning programme is to develop socially accountable pharmacists. Through this study we will evaluate if this programme has had any impact on the practices of its participants, why this is so and what suggestions participants have for its improvement.

Procedures

Data collection for this study will be done in either one of two ways: (1) electronic survey to practicing pharmacists who have previously been involved with the service-learning programme and (2) focus group discussions and/or individual interviews with pharmacists who currently facilitate students at sites. The electronic survey will be administered annually to account for pharmacists who become newly qualified and those that change jobs. Focus group discussions with facilitating pharmacists will be routinely performed twice per year to ensure regular feedback and implementation of changes for the service-learning programme. Individual interviews will be conducted intermittently as specific interventions and practices are discussed with pharmacist facilitators using innovative and best practice approaches.

Risks

We do not think there will be any risks for you in participating in this study.

Benefits

There will be no direct benefit for you from participating in this study. Participation is voluntary and you will not be paid for your time.

Confidentiality

All the information you provide us with will be kept confidential. We will not mention your name in any reports from this study. Study materials will be kept in a secure location where only the senior investigators will have access to it. The rest of the study materials will be destroyed after five years.

Voluntary participation

You do not have to take part in this study, your decision to take part in the study or not will not affect your interactions with UWC and the School of Pharmacy in any way. You can choose to withdraw from the study at any time. If you wish to take part in the study you will have to sign the consent form and indicate which data collection options you would provide the researchers access to.

Contact information

If you have any questions you can ask them now, or,

If you agree to participate in the study and you have more questions at a later time, you can contact:

Dr Mea van Huyssteen

Pharmacy building, First floor Room F6

School of Pharmacy, University of the Western Cape, Robert Sobukwe Road, Belville

Tel: 021 9592864

Email: mvanhuyssteen@uwc.ac.za

The committees giving ethical approval for this study is the UWC Faculty board Research and Ethics Committee and the UWC Senate Research Committee. If you have any problems or questions about this study you can also contact the Ethics committee directly at telephone number 021 9593170.

Appendix 3: Individual interview guide



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Dr Mea van Huyssteen
Pharmacy building, First floor Room F6
School of Pharmacy, University of the Western Cape, Robert Sobukwe Road, Belville, 7535
Tel: 021 9592864

Name of Interviewer _____ Date _____
_____ Time interview started _____
_____ Time interview finished _____

Intro script: Good day, my name is [_____] and I would like to discuss your experience of being a facilitator in UWCs service-learning in pharmacy (SLiP) programme. This is a safe contained environment to share your experiences. Everything we talk about today will remain anonymous. We will summarise the perspectives of all of the interviews we conduct to learn more about service-learning and may share de-identified quotes from people we interview in a report or publication. These reports will not include any names or other personal information. Remember that there are no right or wrong answers. Your feedback is valuable in improving the quality of our programme.

Interviewer instructions:

- [provide informed consent and other background info]
- Ask for permission to record interview
- [Please collect the following information prior to the interview and/or during your greetings/introduction]

| | |
|------------------|-----------------|
| Name | Number of years |
| Job title | involved in |
| Facility | facilitation |
| Telephone number | Email |

9. Tell me about your journey as a facilitator in the service-learning programme.

Probe: How did it start? How did it evolve? (expand on if facilitator is a former student who participated in SLiP), from a facility perspective, management, academic - implementing learning outcomes, quality assurance

10. What is your opinion about the pharmacy students from UWC?

Probe about: Knowledge, skills, attitudes, competency, professionalism, ability to negotiate / bring change / really meaningfully engage with staff, communication skills, priorities, variation of competency among students

11. How does your organisational structure facilitate or inhibit your role as facilitator/ teaching others (particularly students)?

Probe: management, personally, is it different in the pharmacy as compared to other areas/professionals of the facility practice level, health system level.

12. In terms of professional practice (SAPC priorities), what do you make of the concept of the pharmacist as a teacher in the seven star pharmacist as proposed by WHO and has this been translated in the South African environment?

Probe: 7 stars – decision maker, teaching, communicator, lifelong learner, manager, leader, care-taker

13. In order to improve your skills as a facilitator, how could the School of Pharmacy provide you with support?

Interviewer Script: Thank you very much for your time and opinions. The results of this study should be available soon. Prior to finalisation, a draft report will be made available for review and feedback. If you have any questions please feel free to contact...