

# What if students could be transformational resources for pharmacy practice?

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## Background / Introduction

The pharmacists' role in the healthcare system is expanding internationally beyond the traditional roles of compounding and medicine supply management, to providing patient-centred care and updating health care workers on relevant medicine therapies.<sup>1</sup> Pharmacists are pivotal in meeting the medicine-related needs of patients and other health care professionals.

Even though pharmacists will remain responsible for medicine supply management, the routine activities associated with this can be handled by qualified pharmacist's assistants and/or pharmacy technicians, while allowing pharmacists to embark on pharmaceutical care, identifying and solving the risks associated with medicine use and therapeutic drug monitoring.<sup>2</sup> With an increase in the development of new medicines, it has become imperative for pharmacists to be integral members of the multidisciplinary team in order to ensure rational use of these medicines.<sup>3</sup> Patient safety with the use of medicines have become a global concern. Therefore, pharmacists engaging in patient-centred practices could contribute towards better patient outcomes.<sup>4</sup>

In order to address the changing role of the pharmacist, the University of the Western Cape School of Pharmacy has introduced work integrated learning into the curriculum. Work integrated learning enables students to be exposed to the practice environment from early on in their education so as to be able to assume the expanded role of the pharmacist as soon as they graduate. However, pharmacy education and practice have operated peripherally from each other and in the larger healthcare context in general. Pharmacy education has placed emphasis on didactic approaches, with limited experiential learning opportunities. In order to create experiential learning opportunities, a network of practitioners who can act as preceptors is crucial. In medical education, precepting has been defined as "teaching students the art and science of practice in a healthcare setting with the goal of developing competent practitioners".<sup>5</sup>

Our objective is to describe how precepting students could transform professional practice in public health sector facilities located in the Metropole District Health Service of the Western Cape.

## Approach

We provide a reflection on the evolution of the partnership between the School of Pharmacy and the Western Cape Department of

Health, Pharmaceutical Services. The partnership spans over two decades through a service-learning programme, whereby practising pharmacists initially served as facilitators for pharmacy students. Following regular workshops with pharmacists in which advances in professional practice were highlighted, and through a collective effort, a patient-centred care approach to student training across health facilities (n=29) was crafted. The pharmacists were oriented to the student-led activities in the provision of patient-centred care, in order to discern their role and responsibilities towards preceptorship. We asked the question: Could students with a different skill set from current practising pharmacists be agents of change for pharmacy practice during their educational and training years?

## Case Study

The Patient Care Experience (PaCE) program for final year pharmacy students offers hands-on experiences with the primary goal of developing their skills in identifying, solving and preventing medicine therapy problems in patients who have common diseases that are not self-limiting. Individual patient cases are utilised as a learning tool. This requires students to integrate knowledge acquired from their junior years in classroom-based courses. Among others, these include microbiology, clinical biochemistry, pathophysiology, pharmacotherapy, evidence-based medicine and antimicrobial stewardship.

In training students to identify, solve and prevent drug therapy problems, it is necessary to develop a decision-making framework or process that enables students to make a thorough assessment of the patient. The structured decision-making process is based on the principles and philosophy of pharmaceutical care.

Students are recognised as staff members at the health facility, where they are required to work closely with the patient, caregivers and other health care workers, by following a pre-planned internal rotation schedule. Their medicine therapy activities entail disease prevention, where they are required to assess, monitor, initiate, and modify medications to ensure that prescribed regimens are safe and effective. The student's ability to engage with key references such as with the standard treatment guidelines, the South African Medicines Formulary and disease-specific national guidelines, facility-based protocols/circulars forms, and to access evidence-based medical information electronically to make a sound pharmacotherapeutic judgement, forms the foundation of patient-centred care and pharmaceutical service delivery. In addition, interprofessional collaboration is an essential part of the student's professional development. In this regard, students are required to present the proposed care plan to

the multidisciplinary health care team (pharmacists, doctors, and nurses) to gain their approval for implementing the recommended pharmacotherapeutic change as part of patient care. Students are required to evaluate patient therapy for the duration of their hospital stay or until they complete the clinical rotation at the specific health facility. By developing the pharmacotherapy care plans on a daily basis, the primary goal is to optimise patient care while they are working in the facility. As a result, the care provided is patient-centred, evidence-based and outcomes-orientated.

The PaCE programme integrates principles that have been shown to enhance student learning. They include active involvement of the learner, students taking responsibility for their own learning, an atmosphere of co-operation and positive interaction between the preceptor and learner. Preceptors are generally faculty staff members or appointed practising pharmacists at the health facility.

## Outcomes

Pharmacists drew from their previous experience as facilitators through their established network with fellow healthcare workers within their facilities. By creating interdisciplinary practice opportunities for students, the role of the practising pharmacist became more visible at facility level. Pharmacists were specifically more sensitised to the impact they can make on the medicine-related needs of patients outside of the pharmacy. Pharmacists were challenged by the initial uncertainty of taking up the preceptor role. With time, their confidence grew and they were able to host more students at their facility. Our experience underpins the significance of the co-operative and sustained partnership between educators and practising pharmacists in providing a space for potential transformation of the profession.

Workshops for practising pharmacists ( $\pm 35$ ) were held on campus to ensure that they understand the fundamentals of precepting, determine activities that align with the programme objectives, and are able to incorporate precepting into their daily activities.

The following benefits of the PaCE Workshops to practising pharmacists have been identified:

- Pharmacists recognise that, by working with students, changes in practice can be instilled.
- Pharmacists have gained confidence to engage with facility staff on introducing student-led medicine management initiatives at the facility, thereby increasing opportunities for interprofessional learning.
- Pharmacists are able to incorporate precepting responsibilities into their daily work schedule, indicating their support for patient-centred care.
- Pharmacists are encouraged to engage in lifelong learning.

Interviews done with preceptors highlighted the multiple benefits of being involved in the PaCE programme:

**Pharmacist Z:** *"I enjoy it [precepting] because not only am I teaching them something I'm learning as well at the same time."*

**Pharmacist M:** *"It was more for me ... [about] building that relationship on a personal level with both sides [inside the pharmacy and outside]"*

**Pharmacist D:** *"Look for me ... I take it as a learning experience for myself*

*so obviously I won't know all the answers, I will always go back and [do the] research ... once I was challenged with something [a question from the students]."*

**Pharmacist D:** *"I think [PaCE] actually ... brought out that aspect of what ... pharmacy [is] really about [such as] patient care and ... how to interact with the prescribers ... and to build up relationships with ... with co-workers and ... to have interactions with patients..."*

One hundred students completed the PaCE programme, with each student required to complete a 5-week clinic and 5-week hospital rotation. Chronic diseases which students encountered during their patient care experience included hypertension (n=48), diabetes (n=23), asthma (n=5), chronic obstructive pulmonary disease (n=8) and congestive cardiac failure (n=10). Infectious diseases included HIV (n=33), tuberculosis (n=26) and urinary tract infections (n=8). Students identified multiple medicine-related problems, namely incorrect dosage (n=40), required additional therapy (n=113), no medicine therapy required (n=55), alternative medicine required (n=53) and other problems (n=64). The average number of student-identified medicine-related problems per patient was 3.38.

## Lessons Learned

Pharmacy schools working collaboratively with the health services to identify and address medicine-related problems is a first step towards achieving quality care in the health system and promoting cost-effective use of limited resources.

## Key messages

- A solid partnership with practising pharmacists working in health facilities is a cornerstone for student learning and strengthening programme implementation.
- A high-pressured work environment is contextually relevant for student learning.
- Students provide opportunities for pharmacists to re-visit practice patterns.
- Pharmacy education and practitioners are required to work collaboratively to achieve better patient outcomes.
- Health facilities provide a space for mutual learning opportunities.

## References

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