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Review

The untapped skills of hospital pharmacists in South Africa: How can pharmacists improve service delivery in preparation for National Health Insurance?

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ABSTRACT

Background: The tertiary education of a pharmacist in South Africa covers a wide range of expertise; however, many of these skills remain untapped more especially at the public health facilities. To meet the National Health Insurance's goals, the role of a pharmacist is anticipated to change as they will be required to embark on a more integrative role by shifting from product-centered focus to a patient-centered approach.

Aim: The aim of this review is to explore the untapped skills of public hospital pharmacists as a way of improving service delivery in preparation for National Health Insurance.

Methods: A secondary qualitative technique using desktop approach served as the foundation for this research. The study used thematic content analysis to identify and analyse the roles of hospital pharmacists.

Results: The findings of this article indicate that pharmacists can play different roles within the public hospital setting to improve service delivery. The identified roles are: provision of Pharmacists Initiated Therapy, the integration of pharmacists into the wards, the involvement of pharmacists as part of the multidisciplinary healthcare team and the utilisation of specialities such as clinical pharmacists' services.

Conclusion: To improve service delivery and promote the idea of holistic pharmaceutical care, it is crucial that the hospital pharmacist delegate responsibilities and functions related to product supply to pharmacist's assistants as this will give pharmacists more time for patient-focused roles.

Keywords: *Role; Untapped Skills; Hospital pharmacists; Multidisciplinary healthcare team; Patients; Service delivery; National Health Insurance.*

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1. Introduction

The tertiary education and the scope of practice of a pharmacist in South Africa cover a wide range of expertise; however, many of these skills remain untapped in the country more especially at the Institutional Pharmacy in a public health facility (Naidoo et al., 2021). According to Sello and Dambisya

(2014), dispensing of medicines and monitoring inventory are often the main tasks that pharmacists at public hospitals perform each day. Katoue and Al-Taweel (2016) concur with Sello and Dambisya (2014) by noting that, most pharmacists are observed to be more active in managing pharmaceutical processes of compounding, dispensing, and keeping track of ward supply. Gray et al. (2016) highlight that the additional routine tasks differ per facility and may involve tasks like ward rounds, extemporaneous preparations, cytotoxic and other sterile preparations, patient education, pharmaceutical safety monitoring and training for healthcare workers.

Since the National Health Insurance (NHI) is currently in phase 3, which focuses on improving the initiatives of the health system that are to be performed at the highest level and mobilizing additional resources (Department of Health, 2019), pharmacists are expected to be at the forefront in ensuring that the NHI's goals are met. To meet the NHI's goals, the traditional role of a pharmacist is anticipated to change as they will be required to embark on a more integrative role by shifting their currently more product-centered focus to a patient-centered approach (Naidoo et al., 2021). As the custodians of medicines, pharmacists will be crucial in ensuring the accessibility of essential medications. Since therapeutic initiatives cannot be successful without medicines, the pharmacists will be essential to managing the pharmaceutical value chain properly and ensuring the success of NHI. Patients must have access to a consistent supply of the appropriate medications at the appropriate time, in the appropriate quantity, and in the appropriate location. Therefore, the cooperation of all parties concerned, notably the pharmacy profession, will be essential to NHI's success.

To ensure successful coordination of services provided and that pharmaceuticals are available, it will be necessary to reimagine the supply networks for medicines across sectors. Strong planning, information systems, and the right skill sets to use data to guide choices are essential for effective supply chain management. Traditional roles for pharmacists have included primarily dispensing medications along with review of prescriptions for patients, and duties like medication counselling to ensure that medications are taken correctly and safely. During the NHI implementation, it is anticipated that pharmacists will be integrated into all situations where medications are used or given. This paper therefore seeks to identify the skills of public hospital pharmacists that are unutilised. Identifying such skills will help improve service delivery during NHI implementation in South Africa.

2. Literature Review

a. Theoretical Framework

The Role theory serves as the theoretical foundation for this review. Conway (1988) described role theory as a body of ideas and a range of speculative interpretations that forecast how individuals would behave in a particular role or under what conditions specific types of behaviours can be anticipated. According to Schuler, Aldag, and Brief (1977), role theory can be utilized as a conceptual framework to connect the characteristics of an organization or a person. Role theory is frequently utilized in gender, family and personality theory, organizational role theory, and communication framework analysis since it encompasses several concepts that form the foundation of the social science subject (Yong et al., 2020). It is used conceptually to describe the many internal and external expectations put upon an individual filling the position (Guirguis & Chewing, 2005). Role theory has previously been applied in the context of pharmacy-related research, or its application has been examined (Lerkiatbundit, 2000; Fleming et al., Novak, 2014). This is supported by Taylor et al. (2020), who assert that the role theory has been demonstrated to be useful in a variety of pharmaceutical situations.

Role theory can offer a useful framework for examining perspectives on roles by describing the behaviours, traits, social norms, and principles of an individual or position (Brookes et al., 2007). According to Schuler et al. (1977), the framework defines role components that are connected to a process of role sending, a reaction by the focal individual, and the implications of the response on

the role senders. Understanding the role theory that supports the expanded role for hospital pharmacists is vital as the pharmacist's scope of practice keeps evolving. Role theory is therefore the ideal framework for exploring the potential responsibilities that hospital pharmacist can play within the public hospital settings to improve service delivery in preparation for National Health Insurance.

b. The role and scope of practice of hospital pharmacist in South Africa

According to Mosiane et al. (2022), pharmacists are among the most widely available healthcare professionals and the general public's primary option for health information. According to Pharmacy Act No. 53 of 1974 as amended, a pharmacist in South Africa is a licensed healthcare practitioner with a focus on understanding pharmaceutical products (South Africa, 1974). By acting in their capacities as medicine custodians, pharmacists are accountable for delivering pharmaceutical services. The duties, obligations, and actions that a pharmacist is qualified and allowed to conduct are listed in their scope of practice. Therefore, pharmacists should only carry out those tasks that are within their purview of practice. The activities specifically related to a pharmacist's profession include those for which only pharmacists are completely qualified, and they serve as the cornerstone of the pharmacist's practice area. The pharmacist is responsible for the work done by pharmacy support personnel and different categories such as pharmacy students, pharmacist interns, and support staff may be given some of the duties for carrying out these activities (Scope of practice, 2020).

According to regulation 3 of the Regulations relating to the practice of pharmacy GNR. 1158 of 2000, the following are the prescribed acts specifically related to the profession of a pharmacist:

- Delivering pharmaceutical services by being responsible for and taking charge of the patient's medication-related demands.
- Compounding, handling, preparing, or packaging any medication or controlled substance, or the oversight of such.
- The production of any drug or controlled substance, or the control of such production.
- The supervision of any activity involving the procurement, acquisition, importation, storage, retention, use, release, packing, supply, repackaging, or sale of any drug or controlled substance; and
- Submission an application to register a drug under the Medicines Act.

There are several needs that a hospital pharmacy must meet, including those of the wards and clinics. All patients, including those in all the inpatient and outpatient wards, receive their medication and surgery supplies from the main pharmacy. This implies that assuming the burden of accountability and supply for all medications in the hospital by making sure they are always accessible. According to Mayimele et al. (2015), pharmacists are in charge of managing medications to make sure that they are available at reasonable prices and are of high quality across the whole supply chain. The hospital pharmacist is in charge of directing the entire medication distribution cycle, commencing with the prescription in accordance with the diagnosis and continuing with the medication selection, dispensing, preparation, and administration of the medications (Mayimele et al., 2015). As a result, the pharmacist can play a crucial part in assuring the safety of medicines within a hospital setting (Schellack et al., 2009).

c. Barriers to the delivery of comprehensive pharmaceutical care services in South African public hospitals

Shortage of pharmacists

When it comes to providing healthcare services, South Africa has a human resource shortage (Malakoane et al., 2020). It has been acknowledged that there is a shortage of pharmacists, particularly in the hospital setting (Bronkhorst et al., 2020; South African Pharmacy Council, 2011; World Health Organization, 2016). According to Foster and McIntyre (2012), staffing issues and workload demands affecting pharmaceutical services are comparable to those affecting other human resource for health services. Even though the World Health Organization (WHO) standards call for a national average of 1 pharmacist for every 2300 people, several countries with low or middle incomes have numbers that are far higher. For instance, according to King and Fomundam (2010),

South Africa has one pharmacist for every 4332 people. As a result, hospital pharmacists are under more pressure to perform tasks that are product-focused, such as dispensing (Bronkhorst et al., 2020). On the other hand, Gray et al. (2016) emphasize that infrastructural and resource constraints are typically responsible for the sluggish adoption of clinical pharmacy services.

No creation of posts for pharmacists

According to the SAPC annual report (2020), there are two registered subcategories of pharmacist specialists: clinical pharmacokinetics and radio-pharmacist. Mosiane et al. (2022) highlight that although Clinical pharmacokinetics is presently an area of expertise that can be registered with the South African Pharmacy Council, no actual positions at state facilities are available for this specialty. To fill the void left by the public sector's lack of appointment of clinical pharmacists to designated jobs, the private sector has established positions for the ward-based pharmacists or clinical practice pharmacists. The post/job descriptions for each hospital group or institution vary, as do the amounts of time that can be spent in the wards providing pharmacological treatment. This can be explained by the fact that there is now a dearth of human resources, and that technical support staff is either being used inefficiently or not at all, and makes it difficult to assign pharmacists to work in a clinical ward on a regular basis.

Lack of motivation by pharmacists

According to research by Bronkhorst et al. (2018), a lack of motivation is one of the reasons there are so few pharmacists working in the wards in South Africa. Professionals' motivation is crucial to their professional growth as well as to the general caliber of their work and performance (Tjin A Tsoi et al., 2018). Like any other healthcare profession, a pharmacist's ability to work at a high level is based on their motivation and job satisfaction, which are generated by a combination of intrinsic and extrinsic motivators (Smith et al., 2021). In situations when motivation is negatively impacted, emotional frustration is triggered, which lowers wellbeing, performance, and ultimately the standard of patient care (van der Burgt et al., 2020).

3. Methods

The technique of content analysis (qualitative technique) serves as the foundation for this review. The authors adopted a desktop method to review secondary literature, which included published journal articles, books, and reports. As a result, the researchers employed a purposive sampling technique to gather secondary data from a variety of scholarly platforms, including Google Scholar, EbcHost, Sabinet, and Jstor which all were targeted towards the topic. A narrative addressing the untapped skills of hospital pharmacists to improve service delivery was produced as a result of the substantial literature review that was done. Various search terms, including role of pharmacists; multidisciplinary healthcare team; service delivery; National Health Insurance etc., were used to find relevant content on the subject at hand. To arrive at a specific conclusion which addresses the goal of this review, the information was organized chronologically and thematically. This emphasizes the degree to which secondary data served as the conceptual and theoretical foundation for this study.

This review adopted a descriptive design as outlined by Nassaji (2015). Atmowardoyo (2018) define descriptive research as a method used to as accurately as possible characterize the current investigation (The untapped skills of hospital pharmacists: How can pharmacists improve service delivery in preparation for National Health Insurance?). Adopting descriptive research primarily aims to better characterize the roles that public hospital pharmacists can play to improve service delivery in preparation for NHI. The study is more significant because it uses thematic content analysis to identify the roles of hospital pharmacists. O'Reilly and Kiyimba (2015) claim that this method may be employed to find, examine, and evaluate trends in sets of data allowing descriptive data structuring that makes it easier to understand various research topic areas. According to Braun and Clarke (2014), the aforementioned technique concentrates on identifying and categorizing themes from qualitative information that has been gathered, which was done in accordance with the study's goals.

4. Results and Discussion

The findings of this research demonstrates that there are untapped skills of hospital pharmacists which can be utilized to improve service delivery during the NHI implementation in South Africa.

a. Implementation of Pharmacist Initiated Therapy (PIT) at hospitals to simplify patient management

Hospital pharmacists don't use pharmacist-initiated therapy (PIT). For mild ailments that may be quickly treated by PIT initiatives, they direct such patients to doctors. Community pharmacists who undergo similar tertiary training as hospital pharmacists can initiate therapy and this role is suppressed when coming to hospital pharmacists. In South Africa, community pharmacists offer a wide selection of prescription and over-the-counter medications in addition to pharmacist-initiated therapy. Pharmacists in both aforementioned categories have had considerable education in the fields of pathology, physiology and anatomy, pharmacology, pharmaceuticals, and pharmaceutical chemistry. They also have a thorough understanding of the formulations of medications and how to utilize them. However, the pharmacist-initiated skills are suppressed at the hospital level. According to Riordan et al. (2016), pharmacist-initiated interventions are approaches where the pharmacist performs a key role in decreasing and solving errors in prescriptions and drug-related problems, ultimately leading to a different approach to managing the patient's condition. These strategies are supported by pharmaceutical care, which forms the basis of clinical pharmacy, and they involve the work of pharmacists who contribute to individual patient care to maximize the use of medications and enhance results (Ertuna et al., 2019).

Pharmacy students complete practical training in both public and private facilities over the course of their four-year undergraduate education where they gain the skills necessary to determine patients' medication needs and to work out a medication management strategy with both the patient and the rest of the healthcare team (Moodley et al., 2021). Medical doctors occasionally devote a large portion of their workday to treating mild illnesses. Some individuals may find it quite appropriate to seek assistance from GPs for the management of mild illnesses, but many would consider this to be inconvenient and ineffective due to the possibility of lengthier waiting times. This can divert medical personnel from duties that require their expertise. As a result, pharmacists should be able to treat mild illnesses using PIT services. As such Doctors will spend less time addressing minor illnesses, which will free up their time to concentrate on more challenging conditions and shorten the waiting time for patients. According to Poh et al. (2018) systematic review, outcomes for glucose, blood pressure, anticoagulation, cholesterol, adherence to medicines and satisfaction were comparable to or even improved when pharmacists-initiated therapy in hospitals. Therefore, if pharmacists are allowed to render PIT services at institutional pharmacies, it will improve satisfaction and enhance patient care while decreasing waiting times.

In some countries, a pharmacist can oversee a patient's medication therapy after a doctor has made the initial diagnosis and prescribed the medication. As a result, while pharmacists working in South African hospitals may support antimicrobial stewardship initiatives (such as switching from IV to oral administration), offer pharmacokinetic guidance (therapeutic drug monitoring), or service anticoagulant clinics, they are unable to independently change dosages or request laboratory tests.

b. Utilization of Primary Care Drug Therapy Pharmacists at hospital level to deal with minor ailments

Primary Care Drug Therapy (PCDT) Pharmacists receive thorough training on the standard treatment guidelines (STG) as part of their education and are qualified to make diagnoses and write prescriptions at Primary Health Care (PHC) for certain conditions as per approved list of PHC conditions. Most of these conditions are still seen by doctors at hospital level. This category of pharmacists can be used at the hospital level to treat mild illnesses since they have the clinical expertise and professional capacity to provide more extensive pharmacist-initiated therapy. Therefore, the public health care system's functionality may be greatly enhanced by the shifting of

PCDT pharmacists' functions from the PHC level to the hospital level.

The STG is a guiding document used in the South African healthcare system with the goal of encouraging rational and safe medication usage by supporting practitioners to utilize pharmacological and non-pharmacological treatment for illnesses at all levels of care.

c. Unrecognised and underutilization of Clinical Pharmacists

Clinical pharmacy is not recognized as a speciality in the South African public health sector; hence no clinical pharmacists have been assigned to the designated positions (Bronkhorst et al., 2018). To promote the specialty of clinical pharmacy, the South African Pharmacy Council should register pharmacists who have completed the necessary training. The National Department of Health should consider hiring clinical pharmacists for the benefit of the patients. Creating clinical pharmacy positions within hospital settings is a good idea since it will enable clinical pharmacists to take part in individualized patient care and manage the patient's medication-related healthcare requirements. Shulman et al. (2015) noted that one in six prescriptions necessitates a clinical pharmacist intervention, further highlighting the vital necessity of a clinical pharmacist. Lin et al. (2020) contends that the application of pharmaceutical care using patient-centered clinical pharmacy services enhances the prudent use of pharmaceuticals, leading to better patient outcomes.

Despite the obvious advantages, Crafford et al. (2021) indicate that many middle- to low-income countries have had challenges in transitioning from patient-focused to product-focused pharmacy practice. Studies shows that clinical pharmacists' participation in the delivery of services like reconciliation of medications, management of antibiotics, and anticoagulant monitoring emphasizes their position on the multidisciplinary healthcare team and demonstrates how clinical collaboration affects the delivery of pharmaceutical care (Malan & Gous, 2017; Naicker et al., 2018; Byrne et al., 2022). Clinical pharmacists cannot perform their duties of delivering proper pharmaceutical care to the best of their ability if they are not fully integrated into the hospital environment (Hazen et al., 2018). Actions must be taken to restore clinical pharmacists' sense of autonomy and connectedness to support them. The best kind of professional motivation will be stimulated by an encouraging work setting where the fundamental psychological requirements are met (Ryan & Deci, 2000). Additionally, it might bring about further advantageous effects, such as boosting their desire for lifelong learning. According to Crafford et al. (2021), a setting that allows clinical pharmacists to plan their schedules autonomously, allows them to spend most of their time providing pharmaceutical care in the wards, and provides support from peers and management may help foster more autonomous motivation.

d. The incorporation of pharmacists to deliver clinical services in the wards.

According to Mafarafara et al. (2019), pharmacists do not lead or take part in hospital ward rounds, which makes it difficult to monitor adverse drug events and improve patient care. Furthermore, the absence of pharmacists in the wards could result in incorrect dosages, inappropriate prescriptions, and substandard pharmaceutical care. Hospital pharmacists in South Africa tend to concentrate on specific duties such as the procurement, distribution, and dispensing of medications, with ward visits being performed by a smaller proportion of them. Schellack and Gous (2011) assert that a pharmacist must be stationed in the wards where medications are prescribed and given in order to contribute effectively to the multidisciplinary healthcare team. Although it is common practice in developed countries like the United Kingdom and the United States of America to integrate pharmacists into the wards to offer clinical support, this practice is still lacking in South African public hospitals (Bronkhorst et al., 2014; Marra et al., 2017; Gray et al., 2016)

For pharmacists to be recognised as part of clinical support team in the wards, stakeholders ought to be educated on the duties of a hospital pharmacist within the multidisciplinary healthcare team. Stakeholders ought to be educated on the duties of a pharmacist within the wards for them to be recognized as an essential component of the clinical support team in the wards. Pharmacists will be motivated and given the ability to expand their services to the wards once their skills and worth are recognized. This is corroborated by a study conducted in 2014 by Sello and Dambisya, who concluded

that it is important to recognize the support provided by pharmacists in the wards. However, pharmacists would have to lead this process of recognition by regular ward visits which will eventually give rise to the necessity for a pharmacist to be a member of a multidisciplinary healthcare team within the wards.

e. The underutilization of pharmacists as part of multidisciplinary healthcare team

In order to establish trust and facilitate interaction with the multidisciplinary healthcare team, pharmacists must leave the dispensary and visit the patient cubicles where medications are given and clinical rounds are conducted. Hepler and Strand (1999) first recognized the need for new practice standards and collaborative partnerships with other healthcare providers in 1990 with the development of "pharmaceutical care". The involvement of pharmacists as part of the multidisciplinary healthcare team will therefore lessens the workload and stress encountered by the multidisciplinary healthcare team members. According to McNeely (2017), adding a pharmacist to the multidisciplinary healthcare team can enhance patients' health and lessen complications linked to medications. Considering this, pharmacists can supervise dosage modifications, assess patients' medications, and collaborate with prescribers during the prescribing process. A pharmacist performing these duties will guarantee that medications are used effectively, enhance patients' health outcomes, and lower the incidence of readmissions (Shanika et al., 2018).

Pharmacists can help fill the gap between doctors and patients in facilities with scarce resources and a shortage of human resources through performing direct patient care (Shrestha et al., 2019). Poor pharmacist involvement in the wards in a clinical capacity has been caused by a combination of poor human resources for pharmacists, inefficient use of, or absence of, technical support workers, and the limitation of educated clinical pharmacists. According to Bronkhorst et al. (2020), it is extremely challenging to assign pharmacists to work in the wards on a regular schedule given the shortage of human resources.

5. Conclusion and recommendations

Task shifting to pharmacist assistants

To improve service delivery and advance the idea of holistic pharmaceutical care, it is crucial that the hospital pharmacist, to the greatest extent possible, delegate responsibilities and functions related to product supply to pharmacist's assistants as this will give pharmacists more time for patient-focused activities. This task shifting optimisation is also supported by Fogarty et al. (2020) who contend that task shifting of pharmacy staff needs to be re-evaluated in order to free-up the pharmacist for more patient-centered roles.

Multidisciplinary collaboration

To execute and track outcomes for patients and use data for quality improvement, it is suggested that the process for including pharmacists as members of the multidisciplinary healthcare team be standardized to improve the engagement of pharmacists in the wards. This can be achieved through creation and application of pharmacy practice standards in the wards by including pharmacists in organizational structures. Improved awareness of pharmacists' contributions to collaborative patient care within the hospital's multidisciplinary healthcare team is necessary. It is important to look into further ways that the pharmacist may assist patients with their pharmacotherapy. To maximize the role of each member of the healthcare team, there is still work to be done to develop this sense of multidisciplinary spirit within hospital settings.

Training of pharmacy personnel

To improve service delivery in preparation for National Health Insurance, pharmacists need to be provided with the necessary clinical skills and such can be done through seminars and short courses. This is crucial for the ongoing professional development of pharmacists in general. Pharmacists can better adapt to their changing roles with the support of ongoing professional development, which has a favourable impact on patient safety and the quality of healthcare. Additionally, it is important to

provide pharmacist's assistants more training so they can become more self-assured and competent in carrying out administrative duties like managing the supply of medications. This will also lighten the workload and provide pharmacists more time to provide services on the wards. This suggestion is also supported by Suleiman and Onaneye (2011), who discovered that increasing staff and investing in education would enhance the delivery of pharmaceutical therapy.

Conflict of Interest

The authors declare no conflicts of interest, and no financial support.

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