



## THE ROLE OF PHARMACIST IN PATIENT SAFETY - NARRATIVE REVIEW

Mohammad Abdul Kareem Amer<sup>1</sup>, Syed Iqbal Mohiuddin<sup>1\*</sup>, Shafeeque  
Shaikh<sup>1</sup>, Fahad Khalawi<sup>1</sup>, Dr. Zubariya Tamkeen<sup>2</sup>, Anees Khazi<sup>1</sup>

<sup>1</sup> Pharmacy Services Department, Johns Hopkins Aramco Health Care (JHAH), Saudi Arabia

<sup>2</sup> Pharmacy Department, Omar Al Mukhtar University, Libya

\*Corresponding author: Email: sdiqbal.mohiuddin@gmail.com

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### Abstract

Patients' safety and pharmacists' well-being were examined in this study to see how new legal frameworks have altered the amount of tasks hospital pharmacists have to do. Researchers combed through electronic databases looking for articles published on patient and pharmacist outcomes in relation to hospital pharmacies. The research methods prevented them from being considered issues. However, it was difficult to compare results across time or between research due to differences in how the studies characterized official tasks and exertion. Many research lacked adequate methodological details to eliminate bias, and most studies were either small in scope or focused on a single topic. However, research that attempted to account for potential bias was hard to come by. Based on the examined studies, issuing prescriptions still takes up most of a hospital pharmacist's day. Some researches have noted significant increase of the workload of hospital pharmacists, particularly in prescription dispensing and medicines usage reviews. The link between a pharmacist's hard workload and their health was also only partially supported by the available data. However, there was no conclusive proof that a high workload directly endangers patients. An additional high-quality study is needed to fully comprehend what defines an excessive workload, the effects of a high workload, and its relationships with other aspects of the workplace. It is imperative that future research explores the complex interaction between pharmacists' workload, patient safety, and well-being in the setting of hospital pharmacy and addresses the methodological limitations of the previously examined.

**Keywords:** Patient safety and well-being, pharmacists, physicians, nurses, hospital, technology.

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<sup>1</sup>Pharmacy Services Department, Johns Hopkins Aramco Health Care (JHAH), Saudi Arabia

<sup>2</sup> Pharmacy Department, Omar Al Mukhtar University, Libya

\*Corresponding author: Email: sdiqbal.mohiuddin@gmail.com

## INTRODUCTION

Primary care providers are essential to the healthcare system and include physicians, nurses, therapists, pharmacists, optometrists, dentists, and midwives. Pharmacists' contributions to patient care have long been seen as less obvious than those of other healthcare professionals. This bias stems from the public's conception of pharmacists as predominantly patient-centered healthcare providers. However, during the past few decades, substantial changes have led to the re-professionalization of pharmacy and the extension of patient centered pharmacists' services. The new legal frame work for hospital pharmacies and the changing nature of healthcare delivery are to be holding accountable for this development.

### The Re-professionalization of Pharmacy

Over the past 30 years, the pharmacy profession has undergone a process of re-professionalization, characterized by shifts in public perception and the breadth of practice pharmacists allow. Regarding patient care, pharmacists are now responsible for more than just delivering medications. Improvements to healthcare delivery have been at the forefront of recent efforts to revamp Health Care services. These changes included the introduction of new national legal frameworks for hospital pharmacy services. The primary focus is on the professional clinical functions of pharmacists as opposed to their technical supply roles.

### Expanding Role of Pharmacists

While dispensing remains central, pharmacists' responsibilities have broadened. Services that help pharmacists out greatly can be commissioned on a local level or through national contracts. Prescribing, enhancing medication safety, public health, and consulting pharmacist duties are all examples of such services. Hospital pharmacies have become a crucial part of the Health Care Services providing essential services such as smoking cessation counselling, prescription guidance for doctors, emergency hormonal contraception, and help for minor diseases. Privately operated hospital pharmacies are becoming more involved in the healthcare system, consistent with the government's aim of expanding patient options. The government

intends to increase the availability and accessibility of healthcare services by enticing private sector providers to participate in a primarily public ally supported system. Moreover, Pharmacists have evolved from medicine dispensers to patient care providers. Pharmacists now provide prescribing, pharmaceutical safety, public health, and consultancy services due to re-professionalization and new contractual frameworks. These reforms support the government's patient choice and private healthcare provider integration plan. Pharmacists' contributions to patient care are increasingly significant as the profession evolves.



**Figure 1:** Importance of Pharmacist in healthcare services

Pharmacists play a vital role in the healthcare sector, employing doctors, nurses, and other healthcare providers to ensure patient safety and reach optimal results. With their massive education and training program, which commonly involves 6 to 8 years of research, pharmacists empower the knowledge, skills, and experience essential to decline medication-related injury and improve patient health. One of the main accountabilities of pharmacists is to carefully consider the risks and advantages of medications when making therapy decisions [1, 2]. They assist the medical team in specifying the most applicable medications for each patient's situation, considering factors such as the patient's medical history, allergies, and likely drug relation. By thoroughly assessing the prospective hazards and advantages, clinical pharmacist can minimize the opportunity for negative impacts and maximize the therapeutic outcome of medications. Pharmacists go beyond the conventional part of dispensing medications and engage in many patient care

actions across different healthcare environments. They provide crucial patient counseling and teaching, assuring that patients have a comprehensive knowledge of their drugs, containing dosage education, possible side effects, and protection. Through this counseling, pharmacists empower patients to put up with a functional part in their healthcare, boosting medication observation and lessening the threat of medication mistakes. Chronic disease Monitoring is another important area where clinical pharmacist excels. They work closely with patients with chronic disorders, such as diabetes, hypertension, or asthma, to formulate personalized care plan. Pharmacists monitor patients' drug regimens, assess their medicine reactions, and offer valuable advice on lifestyle improvements and self-care exercises [3]. By actively controlling chronic disorders, pharmacists assist patients in attaining better disease supervision, preventing difficulties, and enhancing their overall life rate.

#### **Pharmacist led medication therapy management services**

"Medication therapy management (MTM)" is an extensive benefit provided by clinical pharmacist to optimize drug regimens. Across MTM, pharmacists conduct thorough drug reviews, identifying possible problems, such as medication duplications, relation, or inappropriate dosages. They collaborate with healthcare providers to determine these problems, making essential adjustments to the medical plan to ensure that patients obtain the most useful and safe medicines. Pharmacists also contribute to patient safety by actively reporting negative drug circumstances. When they confront any surprising or concerning responses to drugs, clinical pharmacist promptly report these incidents to the relevant regulatory tools. By accomplishing so, they contribute to constant drug therapy monitoring, facilitate inquiries, and modify drug labels and methods to prevent future adverse events. Immunization assistance provided by clinical pharmacist has become increasingly crucial in public fitness. Pharmacists are known to administer vaccinations, comprising flu shots, to eligible patients [4]. By providing convenient entry to immunizations, clinical pharmacist help boost vaccination velocities, protect people from vaccine-

preventable infections, and contribute to hospital-wide disorder prevention actions. Pharmacists engage in fitness advertising actions by proposing screenings, including blood pressure checks or cholesterol assessments, and providing teaching on infection prevention and healthy lifestyle opportunities. These enterprises happen in various settings, including society pharmacies, hospitals, and healthcare. Pharmacists are the key in empowering patients to proactively manage their fitness and make informed determinations about their well-being [5]. Finally, pharmacists actively cooperate with other partners of the healthcare members. They participate in multidisciplinary rounds in clinics, contribute to treatment discussions, offer expertise on drug choice and dosing adjustments, and deliver valuable understandings regarding likely medication interactions. Through useful inter-professional contact and cooperation, pharmacists assure patients obtain extensive and collaborative care, minimizing drug mistakes and maximizing therapy outcomes [6]. Moreover, pharmacists are pivotal supporters of patient safety and optimal results within the healthcare sector.

#### **Service Domain used by Pharmacists to improve patients' safety**

Furthermore, pharmacists play an important role in improving patient safety through different service domain:

**Promoting Medication Access:** Pharmacist's function to provide that patient have access to the medicines they require and to provide support in navigating insurance scope, examining cost-saving opportunities, and discovering suitable options when essential.

**Delivering Medication Information:** Pharmacists stake crucial data with patients and their guardians, facilitating them to comprehend and employ medicines safely and effectively. They explain possible side effects, dosage education, drug dealing, and protection, empowering patients to develop informed judgments.

**Assessing Medication Appropriateness:** Pharmacists assess each prescribed medicine to provide the most appropriate, effective, and safe option for each patient. They evaluate aspects such as the patient's medical records history, allergies, concurrent treatments, and other

appropriate factors to optimize therapeutic outcomes.

**Enhancing Medication Adherence:** Pharmacists actively provide patients in adhering to their prescribed therapy regimens. They ensure counselling, offer reminders and instruments to promote adherence, identify issues or barriers, and observe progress to enhance patient compliance and medical effectiveness.

**Offering Health and Health Services:** Pharmacists provide additional patient care assistants to enhance total well-being and wellness. These may include vaccination administration, smoking extinction counselling, health screenings, and infection deterrence instruction.

**Conducting Medication Management Services:** Pharmacists conduct extensive examinations of all medicines a patient puts up with, assuring they work synergistically and minimize avoidable difficulties. They formulate well-designed therapy plans to effectively organize and prevent illnesses, considering the patient's excellent necessities and occurrences.

**Assessing Patients' Health Status:** Pharmacists plays an important role in evaluating a patient's health status, guiding medicine judgements and assessing the efficacy of medical therapy. They may perform fitness screenings, monitor crucial indications, and perform medication-related examinations to optimize patient supervision.

**Coordinating Care Transitions:** Pharmacists assist in coordinating care and medicine administration during evolutions between various healthcare environments. They collaborate with healthcare crews, ensure seamless knowledge transfer, reconcile medicines, and deliver advice to minimize dangers and maximize continuity of care.

By fulfilling these obligations, pharmacists contribute to enhanced patient security, medication cogency, and overall healthcare outcomes.

### **Background: The Evolving Role of the Pharmacist**

Medicine mistakes are a substantial issue across different healthcare environments, overseeing patient injury and requiring awareness. The "Food and Drug Administration (FDA)" obtains over

100,000 reports yearly considering suspected prescription mistakes. These mistakes encompass distinct circumstances that result in problematic medicine use or patient damage. Instances include obtaining the iniquity drug, sharing harmful drug relations, medication trial or delivery errors, and improper or excessive prescribing of opioids. While not all "Adverse Drug Events (ADEs)" are induced by medicine mistakes, preventable ADEs are related to such mistakes. Preventable ADEs occur when a medical error arrives on the patient and reasons damage, and it is calculated that about half of all ADEs are preventable.

Providing the secure prescribing and dispensing of medicines is a primary obligation of clinical pharmacist. They play an important role in assuring patients obtain the correct drug and dosage while delivering advice on secure and useful medicine usage. However, pharmacists have the chance to develop their position as administrators in patient security. As healthcare providers with technical proficiency in medicines, they can work collaboratively with patients and different healthcare experts to improve patient supervision outcomes and prevent mistakes. Although clinical pharmacist has traditionally been perceived as limited to administering medicines, the evolving healthcare geography acknowledges their significance as important members in multidisciplinary supervision teams handling problematic patient requires. Particularly in reaction to the opioid problem, clinic and society pharmacists have obvious chances to accept a more substantial position in tackling patient safety issues, such as facilitating relevant opioid usage, providing medicine admission, improving medicine abidance, decreasing hospital readmissions, and improving medication safety. In 2019, PSNet published different analyses illustrating patient protection interventions that affected pharmacists. These investigations highlighted different manners in which the position of the pharmacist is transforming to deter medicine mistakes and enhance patient protection consequences. This Annual Perspective aims to examine the pharmacist's evolving position as a proponent of patient safety.

### **Expanding Pharmacist Care Services to Support Patient Safety**

Numerous papers have shed light on how pharmacists can develop their roles and obligations to improve patient safety effects. Traditionally, society pharmacists have delivered patients with counselling assistance and communicated likely dangers associated with medicine varieties. By improving medicine reconciliation actions pursuing a patient's clinic clearance, society pharmacists can awfully decrease negative occurrences, minimize patient readmissions, and even intensify the risk of death. Similarly, pharmacists can play an important role in handling the opioid epidemic by seizing on other obligations. Hospital clinical pharmacist, for example, is increasingly seizing the principle in opioid stewardship schedules within healthcare structures. By developing the number of pharmacist-led discomforts administration assistance and opioid stewardship initiatives, the usage of opioids and the associated adverse drug occurrences can be decreased effectively. Another significant expansion in pharmacist obligations revolves around when and how they are consulted in the patient supervision workflow. Several papers published on PSNet highlight inventive methods in utilizing druggist expertise and comprising it into care strategies. For instance, one society enforced a pharmacist-led agenda for previous permission drug proposals to secure timely entry to medicines, reduce medicine misuse, minimize negative occurrences, and prevent medicine mistakes. This program not only resulted in expense protection in terms of drug payments but furthermore prevented prospective adverse circumstances through the attention of clinical pharmacist. Again, another organization incorporated clinical pharmacist into the growth and examination of medicine orders during the release cycle to mitigate medicine mistakes. As a result, the organization noticed an important removal in medication-related problems determined during medicine reconciliation upon clearance. Moreover, papers have highlighted the possibility of extending the functions and obligations of pharmacists to subsidies patient protection effects. These growths range from improved medicine reconciliation actions by society clinical pharmacist to pharmacist-led opioid stewardship programs in clinics. Besides,

creative strategies are being examined to integrate pharmacist expertise into different phases of the patient care workflow, overseeing improved medication management, decreasing negative circumstances, and enhancing comprehensive patient safety.

### **Use of Pharmacists to Address Limitations of Technology**

Pharmacists have adopted innovative technology to develop their functions and enhance medicine security. Regardless, they maintain also confronted new challenges in functioning with technology to mitigate hazards to patient security. In 2019, several papers published on PSNet emphasized how pharmacists provide optimal and secure functioning by interacting with technology. One such instance is the usage of automated dispensing cabinets in clinic patient care regions. These cabinets facilitate prompt nursing practice reaction to alter orders but carry out the prospect for mistakes. To provide the correct medicines are administered, pharmacist examination and permission of medications before nurses admission the treatment is important. With the origin of CPOE, pharmacist examinations can be conducted remotely, decreasing the responsibility while conserving a significant fail-safe in the procedure.

Another technology normally operated is "computerized provider order entry (CPOE)" modules, which strive to decrease the necessity for pharmacist examination by integrating automated mistake alerts. While CPOE procedures are useful in seeing "rule-based" specifying mistakes, pharmacist mistake checking is vital for extensive prevention. It is crucial to report that CPOE can again improve the workload for clinical pharmacist, as it may impede their capacity to instantly alter ordered medications. Therefore, before enforcing CPOE, it is important to assess its usefulness, understand any restrictions, and appoint reasonable pharmacist workarounds to provide a safe and efficient procedure.

### **Pharmacists' Role in Error Reporting and Feedback**

An obvious manifestation of a safety-focused civilization is an environment where people can



freely register mistakes or near misses without fearing censure or penalty. This feedback procedure is critical in providing patient safety within clinical supervision. By education from mistakes, it evolves to minimize prospective misconceptions. With their specialized expertise and proficiency, pharmacists can contribute to modifying medicine mistake velocities and play an important part in the reporting procedure. They can deliver useful feedback to healthcare providers, oversee improved prescribing exercises and partnerships, and boost morale and understanding of importance among clinical pharmacist.

### **Where Does the Role of the Pharmacist Go From Here?**

Increasing the position of clinical pharmacist in patient safety activities illustrates several challenges that must be overcome. These comprise restricted extents of exercise, inadequate analysis of best methods, burdensome executive training, challenges in IT interoperability, and an absence of patient attention. However, clinical pharmacist (have several chances to deliver their clinical services amidst these barriers.

### **Advancing Medication Stewardship**

Clinical outcomes, adverse events, and antibiotic resistance have all been shown to improve with antibiotic stewardship initiatives [7-10]. Since the antibiotic stewardship approach has been so effective, pharmacists may take on more of a leadership role in future pharmaceutical stewardship initiatives. As was previously mentioned, pharmacists have a special set of skills that can help pain and opioid stewardship initiatives succeed. Future initiatives may find success by focusing on other treatment areas, such as glycemic control and thrombosis. Medication stewardship has the potential to become a crucial part of pharmacists' roles in maintaining patient safety as more and more data show the benefits of stewardship programs [11-13].

### **Providing Daily Patient Care**

Antibiotic stewardship programs have significantly improved clinical effects, minimized negative clinical outcomes, and mitigated antibiotic resistance. Provided the optimistic results attained through the antibiotic stewardship

prototype, it is probable for pharmacist administration to expand to additional medicine stewardship agendas. As once examined, pharmacists possess extraordinary mastery that can contribute to promoting discomfort and opioid stewardship initiatives [14]. Moreover, medicinal regions like glycemic custody and thrombotic could also aid from identical agendas in the fortune. With thriving evidence funding the victory of stewardship agendas, drug stewardship may evolve into a main element of pharmacists' positions in providing patient security.

### **Focusing on Long-term Patient Care**

Providing care oriented on the individual patient's needs has become an increasingly central healthcare policy and practice emphasis. Healthcare organizations will reorganize to provide continuous patient care as the paradigm shifts from episodic to Long-term care. Care coordination, patient safety, and excellent patient results are all essential in this new era, making team-based care even more essential. This means pharmacists may be asked to care for patients outside the traditional hospital or clinic setting. Pharmacists can play a larger role in enhancing care transitions and ensuring patient safety by considering non-clinical patient characteristics, including socioeconomic determinants of health [15].

### **Optimizing Health Technology**

Opportunities for pharmacists to contribute to shifting the patient safety paradigm have expanded due to technological developments. At the start of 2019, a review on PSNet summarized some of the most significant technological developments in this field. For instance, using robotics for drug dispensing can reduce mistakes and free up pharmacists for more pharmaceutical therapy management work. The need to utilize machine learning and clinical decision support technologies to enhance efficiency and augment the pharmacist is growing as pharmacists take on more and more duties. As key users of these systems, pharmacists can contribute significantly to deployment planning and evaluation.

Pharmacist responsibilities will be changed as pharmaceutical errors remain central to patient safety initiatives [16]. This would increase the

possibilities for pharmacists to play a pivotal role in positive change in healthcare safety by mitigating undesirable events.

### Conclusion

In this narrative review paper shows that, despite introducing new pharmacy agreements most hospital pharmacists' time is still devoted to filling prescriptions. Government data suggests increased dispensing volume and the number of pharmacies offering services under the new contract, supporting emerging evidence of increased pharmacist workload. However, previous research did not establish a clear link between high dispensing volume and the inability to provide clinical services. While there is some evidence that a high number of prescriptions per day can hurt pharmacists' mental health, there is not yet conclusive proof that this has led to a decrease in patient safety. While more pharmaceutical care is being offered, the number of registered pharmacists has not increased proportionally. More high-quality studies are required to define excessive workload, evaluate its effects, and investigate links to other work-related variables such as staff availability, technology use, and hours spent. Insights gained from this type of study can be used to inform efforts to improve pharmacists' efficiency, health, and the protection of their patients.

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