

Role of Community Pharmacist in Public Healthcare

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Abstract: *Pharmacists have become integral contributors to public health, with their role expanding far beyond conventional medication dispensing. In modern healthcare systems, pharmacists actively participate in health promotion, disease prevention, and patient awareness programs. This review highlights global perspectives on the evolving role of pharmacists in public health, emphasizing major developments, challenges, and future opportunities in the field.*

The discussion covers the transformation of pharmacy practice over time and examines policy and regulatory frameworks that enable pharmacists to participate more actively in public health services. Evidence from various regions demonstrates that pharmacists make significant contributions to improving population-level health outcomes. Their involvement includes patient counselling, vaccination programs, health literacy initiatives, screening and early detection of diseases, emergency and pandemic response, and participation in community-based prevention efforts. In addition, pharmacists increasingly serve as advocates for public health policies and play a role in strengthening healthcare systems.

The review also highlights emerging trends, such as digital health tools, tele pharmacy, artificial intelligence, and other innovations that have the potential to further expand pharmacists' responsibilities and effectiveness in public health. Despite notable progress, challenges remain, including limited recognition of pharmacists' public health roles, variable regulations across countries, and the need for improved education, resources, and collaborative practice frameworks.

Overall, this review reinforces the essential contribution of pharmacists to public health and emphasizes the importance of continued investment, policy support, and professional development to enhance their role in improving community health and achieving better population-level outcomes..

Keywords: *Pharmacists*

I. INTRODUCTION

Traditionally, the professional role of community pharmacists has centred on the preparation and dispensing of medicines prescribed by physicians. As a result, pharmacy education and training have historically emphasized areas such as pharmacology, pharmaceutics, and pharmaceutical chemistry. While this traditional role has provided valuable service to the public, the increasing industrial production of ready-to-dispense pharmaceutical products and the widespread adoption of original-pack dispensing have gradually limited the conventional responsibilities of community pharmacists [1-2].

In response to these evolving trends, modern community pharmacists are seeking to broaden their scope of practice beyond basic dispensing functions [2]. They aim to enhance the quality of dispensing services by providing more consistent and professional counselling to patients regarding the safe and effective use of prescribed medications. Many pharmacists are also expanding community-based services, including home-based pharmaceutical care such as collecting and delivering medicines to elderly, mentally ill, and physically challenged patients [3]. Furthermore, pharmacists are increasingly playing a supportive role in reducing the burden associated with repeat prescriptions for both patients and prescribers [2-4].

Community pharmacists remain the most accessible healthcare professionals to the general public. In many regions, their expertise is being increasingly recognized, and the community pharmacy setting is evolving into a hub for reliable



health-related advice. Over recent years, pharmacists have expanded their professional identity by participating more actively in patient care, influencing rational prescribing practices, and contributing directly to pharmaceutical care planning and delivery [5].

In hospital settings, pharmacists have long been recognized as essential members of the multidisciplinary healthcare team. However, in community environments, collaboration between pharmacists and physicians has historically been less structured. Today, efforts are being made to strengthen these professional connections to support more integrated and effective patient-centred healthcare services.

Overall, the role of the community pharmacist continues to shift from being product-focused to being patient-focused. As frontline healthcare providers, pharmacists play a crucial role in counselling, disease awareness, medication adherence, and improving treatment outcomes. Their growing contribution to public health demonstrates a transformation in pharmacy practice—one that emphasizes patient care, accessibility, and active participation in the healthcare system. This expanding role highlights the importance of community pharmacists as valuable healthcare partners within society [6].

DEFINITIONS

PHARMACIST

A **pharmacist** is a licensed healthcare professional responsible for the safe preparation, dispensing, and management of medications. Pharmacists ensure appropriate drug therapy by counselling patients, monitoring treatment outcomes, preventing medication errors, and supporting public health through screening, health education, and disease prevention services.

COMMUNITY PHARMACY

A **community pharmacy** is a healthcare facility where licensed pharmacists provide medicines, health advice, and pharmacy services directly to the public. It is the most accessible type of pharmacy, usually located in local areas such as markets, streets, and neighbourhoods. Community pharmacists supply prescription and non-prescription medicines, offer guidance on safe medicine use, and support patients in managing their health.

COMMUNITY PHARMACIST

A **Community Pharmacist** is a trained and registered pharmacist working in a community-based pharmacy, responsible for dispensing medications, providing patient counselling, monitoring drug therapy, and delivering primary healthcare services such as health screening, immunization support, and disease prevention programs.

Role of the community pharmacist

Traditionally, community pharmacists were primarily responsible for dispensing medications prescribed by doctors. However, over recent years, their role has significantly expanded, positioning them as key healthcare providers within the community. They now participate in a wide range of activities aimed at improving patient health outcomes and supporting public health initiatives.

A major responsibility of community pharmacists is the accurate processing of prescriptions, which includes reviewing prescriptions for appropriateness, preparing medications, and ensuring correct labelling with clear instructions for patient use [25-26]. They also carefully assess potential drug interactions and verify that medication dosages are safe based on the patient's condition and concurrent medications.

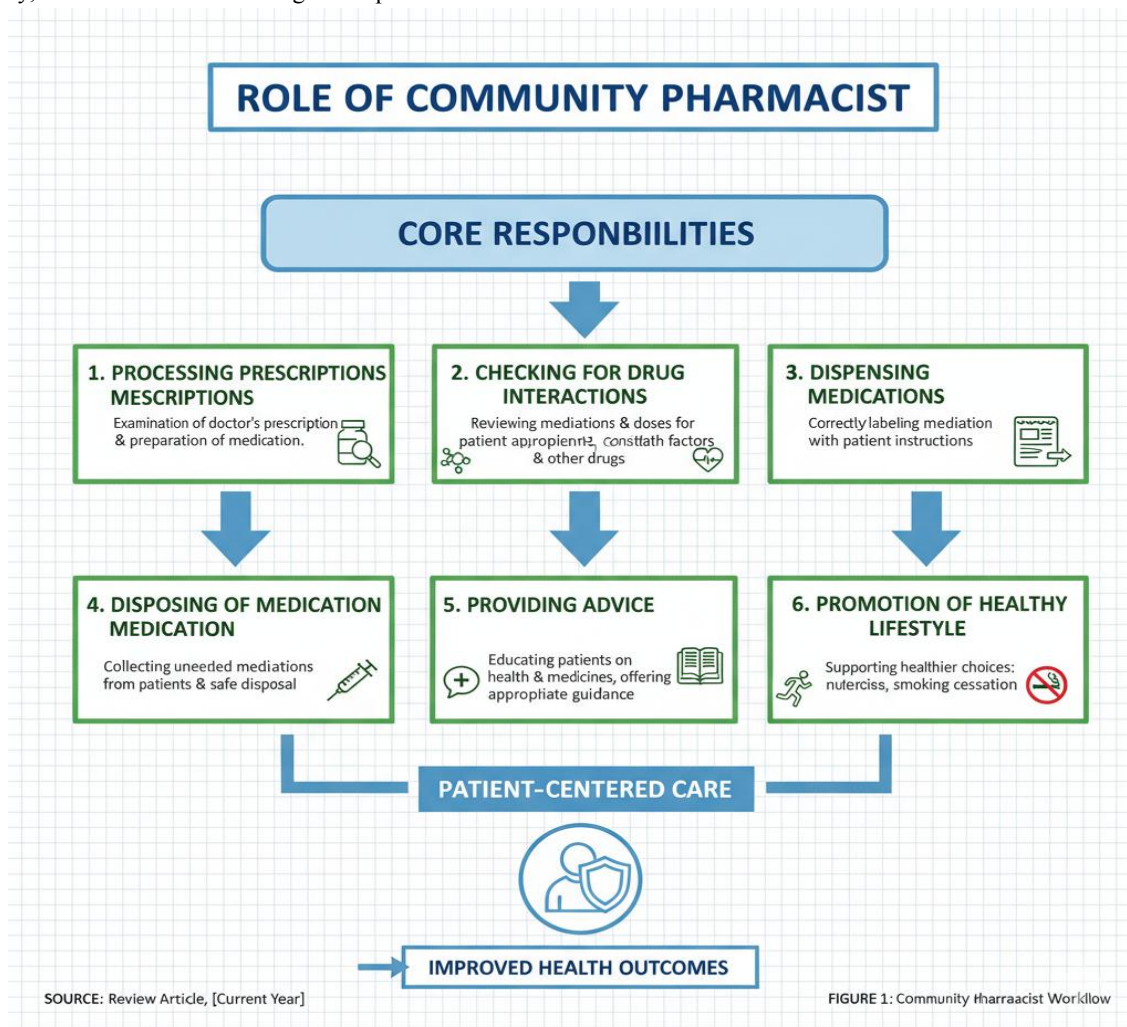
Community pharmacists also play an important role in safe medication disposal by accepting unused or expired medicines from patients and ensuring they are discarded responsibly [28]. Beyond dispensing, pharmacists engage in patient counselling, helping individuals understand their medications, potential side effects, and the correct method of administration.

Furthermore, they actively promote healthy lifestyles by advising on nutrition, physical activity, smoking cessation, and other preventive health behaviours. Given that pharmacists are often the most accessible healthcare professionals in the



community, they maintain ongoing contact with patients, support routine health monitoring, and encourage age-appropriate health screenings.

Through these expanded roles, community pharmacists contribute significantly to preventive healthcare, medication safety, and the overall well-being of the public.



RESPONSIBILITIES OF A COMMUNITY PHARMACIST

Dispensing Medications

Dispensing medications is the primary function of community pharmacists. It involves accurately reviewing prescriptions to verify patient details, medication name, strength, and prescriber authenticity. Pharmacists counsel patients on proper medication use, dosage, possible side effects, and precautions. They also respond to patient queries and provide guidance on suitable over-the-counter medicines and simple home remedies for minor health issues, ensuring safe and effective treatment.

Ensuring Medicine Quality

Community pharmacists play a key role in maintaining the quality and safety of medicines. They ensure compliance with regulatory standards for storage, handling, dispensing, and documentation. This includes verifying proper storage conditions such as temperature, light, and humidity, and cross-checking medication name, strength, quantity, and



instructions when receiving supplies. Pharmacists also identify and address issues like damaged packaging, unclear labels, missing information, or contamination by coordinating with suppliers or regulatory authorities. Through these practices, they safeguard medication integrity and patient safety.

Maintaining Accurate Records

Maintaining precise and up-to-date records is a vital responsibility of community pharmacists. This includes documenting all dispensed medications with details such as patient information, drug name, dosage, treatment duration, expiry dates, and refill history. Pharmacists securely store prescription data, including prescriber information and special instructions, and keep accurate financial records related to medication sales. Additionally, they maintain confidential patient profiles containing medical history, allergies, and current medications. Proper record-keeping supports safe dispensing, regulatory compliance, efficient pharmacy operations, and continuity of patient care.

Participating in Public Health Initiatives

Community pharmacists actively contribute to public health by collaborating with healthcare institutions, community centres, and government programs. They promote healthy lifestyle habits, including balanced nutrition, regular exercise, stress control, and adequate sleep. Pharmacists also conduct routine health screenings such as blood pressure, cholesterol, and blood glucose checks for early disease detection. In addition, they support immunisation campaigns and organise vaccination drives. They further engage in community outreach by raising awareness about various health conditions in schools, colleges, workplaces, and other public settings, helping to improve community health outcomes.

Coordinating With Vendors and Suppliers

Community pharmacists play a crucial role in ensuring continuous access to essential medicines and health products by effectively managing supplier relationships. This includes working with pharmaceutical distributors to maintain a reliable supply of medications, selecting products based on quality, cost, and patient demand, and tracking inventory, expiry dates, and shelf life. Pharmacists place timely orders, manage product recalls for defective or unsafe medicines, and stay informed about updates in formulation, packaging, and safety alerts. They may also evaluate new health products by consulting medical experts, reviewing evidence, and assessing benefits and potential side effects, ensuring safe and effective options for patients [17].

ROLE IN DISEASE PREVENTION AND CONTROL

Pharmacists are increasingly recognized as essential contributors to disease prevention and public health. Due to their accessibility and frequent patient interactions, they are well-positioned to participate in early disease detection, health promotion, and risk-reduction initiatives [18]. Community and institutional pharmacists support preventive care by conducting screening programs to assess immunization status and identify undiagnosed conditions such as cardiovascular disease [12-13-14-16], sleep disorders [7-8], hypertension [10-11], diabetes [9], dyslipidaemia, depression, and substance-use disorders.

In many countries pharmacists have gained authority to administer vaccines with or without a physician's order, making immunization services a routine element of pharmacy practice. Alignment with national health priorities such as Healthy People 2020 and Healthy People 2030 has further strengthened pharmacists' role in addressing chronic disease burden, behavioural health, and social determinants of health.

Pharmacists also contribute significantly to infectious-disease preparedness and response by educating the public, encouraging vaccination, and promoting preventive behaviours such as hand hygiene, mask use, social distancing, and staying home when symptomatic. Their involvement is critical in mitigating emerging health threats including influenza, HIV, Zika virus, and coronaviruses.

Additionally, pharmacists support mental wellness by promoting stress-reduction strategies such as physical activity, mindfulness practices, and therapeutic community resources. Through collaborative practice agreements, medication management, counselling, and patient education, pharmacists actively enhance disease prevention efforts and overall public health outcomes.



COMMUNITY PHARMACISTS

Comprehensive Health Management



Asthma Management

Asthma care programs that integrate community pharmacists have demonstrated significant improvements in patient quality of life and clinical outcomes [19-23]. Key reported benefits include decreased asthma symptoms, enhanced patient perception of disease control, increased peak expiratory flow rates, and reduced absenteeism from work or school. Additional positive outcomes include decreased reliance on short-acting β_2 -agonists, fewer emergency department visits and hospital admissions, lower associated healthcare costs, and improved patient knowledge regarding asthma management [20-22]. Furthermore, pharmacists play a crucial role in educating patients on proper inhaler technique, ensuring effective medication delivery and optimized therapeutic outcomes [23].

Arthritis Management

Physicians increasingly acknowledge the valuable contribution of community pharmacists in the clinical management of arthritis. In contemporary practice, community pharmacists play a crucial role as medication experts, supporting patients who are receiving arthritis therapy prescribed by physicians. Their responsibilities extend beyond dispensing to include patient counselling on the disease, treatment objectives, and appropriate use of medications. Pharmacists also provide essential information regarding potential drug-drug interactions, adverse effects, and strategies for their prevention and management. In addition, community pharmacists often collaborate with prescribers by offering recommendations on suitable dosage forms, dose adjustments, and therapy optimization to enhance treatment outcomes and improve patient quality of life [24].

Palliative Care and Pain Management

While family physicians are typically the first point of contact for individuals experiencing pain, community pharmacists also play a significant role in supporting pain management and palliative care. Owing to their accessibility



and availability without the need for an appointment, pharmacists serve as an immediate and reliable source of guidance for patients in community settings. They provide early intervention by offering appropriate advice for conditions such as acute low back pain and reinforcing recommendations made by other healthcare professionals. Community pharmacists are additionally responsible for supplying suitable over-the-counter (OTC) analgesics and non-steroidal anti-inflammatory drugs (NSAIDs) when appropriate, ensuring safe use, and identifying patients who present with warning symptoms or “red flags,” thereby referring them promptly for medical evaluation [21].

Cardiovascular Disease Management

Community pharmacists are strategically positioned to support individuals diagnosed with cardiovascular disease as well as those at elevated risk [21]. Evidence demonstrates that pharmacy-based interventions significantly contribute to reducing modifiable risk factors and behavioural risks associated with coronary heart disease (CHD). Numerous studies have highlighted the effectiveness of pharmacists in improving key clinical indicators by providing comprehensive management of hyperlipidaemia, hypertension, and medications utilised in secondary prevention. Furthermore, research supports the expansion of pharmacist-led initiatives in areas such as smoking cessation and lipid control, underscoring the vital role of community pharmacists in promoting cardiovascular health and preventing disease progression [27-29].

Diabetes Management

Community pharmacists are uniquely positioned to deliver extended diabetes care due to their accessibility and frequent patient interactions [30]. Substantial evidence supports the effectiveness of pharmacist-led diabetes management programs in improving clinical outcomes [31]. Notably, patients with diabetes may visit their pharmacist significantly more frequently than their primary care physician, providing valuable opportunities for ongoing support and monitoring. Pharmacists possess advanced training in diabetes and cardiovascular pharmacotherapy, enabling them to offer evidence-based therapeutic recommendations to prescribers [32].

In addition to medication management, pharmacists play a crucial role in identifying issues related to treatment adherence, detecting and managing adverse drug reactions, and providing structured education on diet, physical activity, and self-management behaviours [30]. Meta-analytic evidence has demonstrated that pharmacist interventions can lead to significant reductions in HbA1c levels across various care settings, including community pharmacies [15]. Findings from Australian research further indicate that community pharmacy-driven diabetes programs result in greater reductions in HbA1c compared to usual care. Furthermore, a randomized controlled trial by McLean et al. revealed that pharmacist-led screening and point-of-care glucose testing for individuals at risk of diabetes was more effective and cost-efficient than routine referral alone. Overall, community pharmacy-based diabetes monitoring, counselling, and behavioural support have shown considerable promise in enhancing glycaemic control and improving long-term patient outcomes [33].

Hypertension Management

Evidence also strongly supports the role of community pharmacists in hypertension management. A systematic review of randomized trials has demonstrated that pharmacist involvement contributes to significant reductions in systolic blood pressure [34]. Community pharmacy-based health promotion initiatives have similarly shown meaningful improvements in blood pressure control among participants receiving pharmacist-delivered interventions [35].

For instance, a Canadian controlled study involving multiple community pharmacies trained pharmacists and nurses to provide structured cardiovascular risk counselling, active blood pressure monitoring, and patient education. Adult individuals with diabetes and elevated blood pressure (>130/80 mm Hg) were enrolled, and outcomes were assessed over a six-month period. Although both the intervention and control groups experienced reductions in systolic blood pressure, the decrease was significantly greater among participants receiving the structured pharmacy-based intervention. These findings highlight the clinical and practical benefits of collaborative pharmacist-nurse models in hypertension management and reinforce the role of community pharmacists as integral partners in chronic disease prevention and control [33].



Mental Illness

Evidence highlights the expanding role of community pharmacists in supporting individuals with mental health disorders. Key pharmaceutical services provided in community settings include medication counselling, treatment review, and ongoing therapy monitoring. Pharmacist-led monitoring has been shown to significantly enhance medication adherence among patients receiving antidepressant therapy. By offering regular follow-up, identifying barriers to adherence, and providing tailored psycho-education, pharmacists contribute to improved therapeutic outcomes and patient well-being in mental health care [36-39].

Osteoporosis

pharmacists also play an important role in the early identification and management of individuals at risk of osteoporosis [37]. Through pharmacy-based bone mineral density (BMD) screening and patient education initiatives, pharmacists assist in recognising high-risk populations and facilitating timely medical referral. Evidence from international studies supports the effectiveness of pharmacy-led osteoporosis screening programs [38]. For example, Community, research conducted by Elliott et al. demonstrated that screening older women in rural community pharmacies using calcaneal dual-energy X-ray absorptiometry (DXA) led to increased physician consultation, follow-up central DXA testing, and subsequent initiation of appropriate pharmacotherapy. These findings underscore the potential for community pharmacy-based screening strategies to enhance early detection and management of osteoporosis, particularly in underserved populations.

II. CONCLUSION

Pharmacists today have evolved into indispensable contributors to public health, extending far beyond their traditional responsibilities of dispensing medications. Their expanding role in patient counselling, chronic disease management, health promotion, and community-based preventive services demonstrates the growing importance of pharmacy practice in modern healthcare systems. Evidence from global research consistently shows that pharmacist-led interventions improve clinical outcomes, enhance medication safety, increase patient awareness, and reduce the burden on healthcare facilities.

As the demand for accessible and cost-effective healthcare continues to rise, community pharmacists are uniquely positioned to deliver frontline services such as screening, vaccination, medication therapy management, and support for self-care. Their involvement in managing conditions like asthma, diabetes, hypertension, cardiovascular disease, arthritis, mental health disorders, and osteoporosis highlights their capacity to positively influence both individual and population health.

Despite their significant contributions, challenges remain such as inconsistent regulatory frameworks, limited recognition of their public health role, and the need for stronger collaboration with other healthcare professionals. Addressing these barriers—through improved policy support, continuous professional development, and integration of digital health innovations—will further empower pharmacists to maximize their impact.

Overall, the evidence affirms that pharmacists play a vital and expanding role in promoting public health, enhancing healthcare delivery, and improving outcomes across communities. Strengthening their participation in health systems is essential for achieving long-term, sustainable improvements in population health worldwide.

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