

Global Strategies to Strengthen Community Pharmacists in Providing Primary Healthcare Services: Scoping Review

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ABSTRACT

Background: Community pharmacists (CPs) are pivotal in healthcare delivery; they are the first point of contact for healthcare services and are trusted by patients. Their role goes beyond the dispensing of medications to encompass emergency care and management, health promotion, and management of chronic diseases. The review aimed to explore strategies to strengthen the role of CPs in global primary healthcare service provision.

Methods: The search followed a framework described by Arksey and O'Malley, subsequently expanded by Levac et al.. An extensive search of relevant academic databases yielded 4530 articles for review. Three databases (PubMed, Embase, Google Scholar) were searched using a combination of keywords and controlled vocabulary terms related to "primary healthcare services", "community pharmacist", and "strengthening strategies." They were combined using Boolean Operators ('AND', 'OR', 'NOT'). Selection and elimination based on the eligibility criteria identified 18 relevant articles. Data analysis entailed a systematic approach, including the categorisation of strategies and the identification of common themes across the regions.

Results: The review demonstrated various strategies in different parts of the world, particularly policy support, professional development, collaboration, financial incentives, and public health initiatives. For instance, Portugal, the United States, and Canada demonstrated examples of policy and legislative support that allow pharmacists to expand their roles. In addition, financial conditions, seen in Indonesia, Canada, and the Netherlands, play a crucial role in the sustainability of pharmacist-led services. Britain, Europe, Portugal, Sudan, and Nigeria revealed the potential of pharmacists in public health, including health promotion and disease prevention.

Conclusion: The review highlighted the significance of integrating CPs into primary healthcare roles that could potentially improve access, quality, and equity in the healthcare system. However, the issue of regulatory barriers, the necessity of capacity building, and financial reimbursement have to be recognised as current challenges requiring much effort and collaboration.

1. Introduction:

Community pharmacists (CPs) are the most accessible healthcare providers in the community; hence, they play a critical role in healthcare delivery¹. They are often the first point of contact for individuals seeking healthcare advice or treatment. Their proximity to patients and communities makes them important in the provision of public health services and, therefore, are invaluable sources of aid for public health initiatives¹. Patients will visit community

pharmacies more often than primary care physicians, amounting to about several visits per year². This has helped establish patients' trust in community pharmacists' services as an integral part of their healthcare journey^{3,4}.

Pharmacists play a vital role in achieving universal healthcare coverage (UHC) and sustainable healthcare development goals (SDGs) related to the safe and effective use of medications⁵. Furthermore, the availability of pharmacists, particularly community pharmacists,

positions them to play an important role in the access and delivery of primary healthcare services, as stressed by the 2018 Astana Declaration^{6,7}.

Community pharmacists (CPs) offer services beyond dispensing medications; they also serve as frontline healthcare providers in emergencies, health promotion, disease management, point-of-care testing, and immunizations⁸. In addition to their role in providing healthcare advice and treatment, community pharmacists also play a crucial role in providing primary care roles such as medication management⁹. They help ensure that patients understand how to properly take their medications and can provide guidance on potential drug interactions or side effects¹. Furthermore, community pharmacists are often involved in collaborative care with other healthcare professionals, such as physicians and nurses, to optimize patient outcomes and improve overall healthcare delivery¹⁰. During the COVID-19 pandemic, community pharmacists have shown their important role in providing primary care roles that include continuity of care, medication provision, preventive services, and ensuring health equity^{8,11}. They similarly play a crucial role in addressing health disparities and also provide accurate health information¹¹. These demonstrated the abilities of community pharmacies to make a positive impact on public health despite the limitations of policy and regulation accompanying pharmacy practice across different countries around the globe⁹.

Despite the recognition of CPs as key players in the provision of primary healthcare services globally, there is a significant gap in the synthesis of evidence, especially in low- and middle-income countries, particularly Sub-Saharan Africa. Existing literature focuses more on high-income countries such as Canada, Portugal, and the USA, which have robust healthcare systems, established regulatory frameworks, and various sociocultural determinants of health as compared to sub-Saharan countries^{12,13,14}.

Nigerian CPs are often accessible healthcare providers, especially in underserved and rural communities¹⁵. Their strategic positioning gives them an advantage to address some public health needs of the patients, such as malnutrition, medication counselling, and basic preventive services¹⁵. However, with all these potentials, CPs are hindered by a fragmented policy framework, limited integration, lack of professional development opportunities, and lack of access to sustainable remunerations^{16,17}.

With few studies from Africa and Nigeria, little has been

explored on specific public health roles for CPs and their professional barriers, there is no extensive synthesis of strategies that contextualise global evidence that is applicable to Sub-Saharan Africa. Existing evidences are particularly global perspective and fails to highlight regional-specific strategies and barriers to integrate CPs into primary healthcare^{7,18}.

Therefore, to bridge these gaps, this evidence synthesis becomes essential to provide a regional perspective in understanding how to strengthen CPs within regional contexts such as Sub-Saharan and low-resource settings. The review identifies, categorises, and evaluates global strategies to highlight key opportunities for policy reforms, targeted training, viable financial options, and interprofessional collaborations^{19,20}.

Furthermore, the continued roles played by community pharmacists in the healthcare system are crucial in providing patient-focused services such as sexual and reproductive health²¹. It equally demonstrates the increasing primary healthcare services rendered by community pharmacies. Community pharmacies have proven to be valuable resources for underserved populations, particularly in areas with limited access to healthcare facilities. By offering a wide range of services, including vaccinations and medication management, community pharmacists can help bridge the gap in healthcare disparities^{22,23}. Additionally, their role in providing accurate health information and counselling can empower patients to make informed decisions about their sexual and reproductive health. This highlights the importance of community pharmacies as an integral part of the primary healthcare system¹¹.

Contextualising this study, the review provides critical insights on identify available literature on strategies, trends, and provide a detailed overview of research on community pharmacists' roles in providing primary healthcare services. This will help in supporting broader goals to achieve Universal Health Coverage (UHC), improve social determinants of health, improve health equity, and create a more resilient health system in Nigeria and beyond.

Methods:

Research Design:

The review was carried out according to the framework outlined by Arksey and O'Malley (2005)²⁴ and later enhanced by Levac *et al.* (2010)²⁵. The review was reported using the Preferred Reporting Items for Systematic Reviews and Meta-analyses for Scoping Reviews (PRISMA-ScR) checklist. It was carried out in the

following stages;

Search Strategy:

About 4530 literature were identified from academic databases that include PubMed, Embase, and Google Scholar. The search was conducted using a combination of keywords and controlled vocabulary terms related to “primary healthcare services”, “community pharmacist”, and “strengthening strategies.” They were combined using Boolean operators ('AND', 'OR', 'NOT'). The identified search results were transparently reported using the PRISMA guidelines.

Inclusion and Exclusion Criteria:

Studies identified focused on strategies aimed at improving community pharmacists' primary healthcare roles and services, including quantitative and qualitative studies, reviews as well as reports were eligible. Studies that are not related to strategies aimed at enhancing community pharmacists' services in primary healthcare, are not available in full text, and are not published in English were excluded.

Selection of studies:

Three members of the research team evaluated the eligibility of each paper in the preliminary stage using titles and abstracts, while the screening of the identified studies were conducted using full text by all the members of the research team. Disagreements were resolved through discussions on the eligibility of articles.

Data Extraction and Analysis:

A standard data extraction form was developed to select the appropriate literature and capture study characteristics, outcome measures, strategies, key findings, and relevance to the review.

The resulting selection of the identified studies was organised and categorised based on the identified strategies. Common themes were identified and analysed thematically. PRISMA checklist guidelines were utilised for transparent reporting. Furthermore, the analysed data was summarised in a narrative format.

Results:

A total of 4530 were identified through a literature search of databases from PubMed, Google Scholar, and Embase. Of these, 191 were identified as duplicates while 18 articles were determined to be suitable for full-text review (Figure

1). The studies included two qualitative studies, two cross-sectional studies, one structural equation modelling, one situational analysis, five reviews, and two commentaries. The geographical representations of the articles were four studies from the USA and Canada, two from the UK, and one each from Europe, Estonia, Finland, Indonesia, Jordan, Netherlands, Nigeria, Portugal, Spain, Sudan, Switzerland, and Turkey as shown in Table 1.

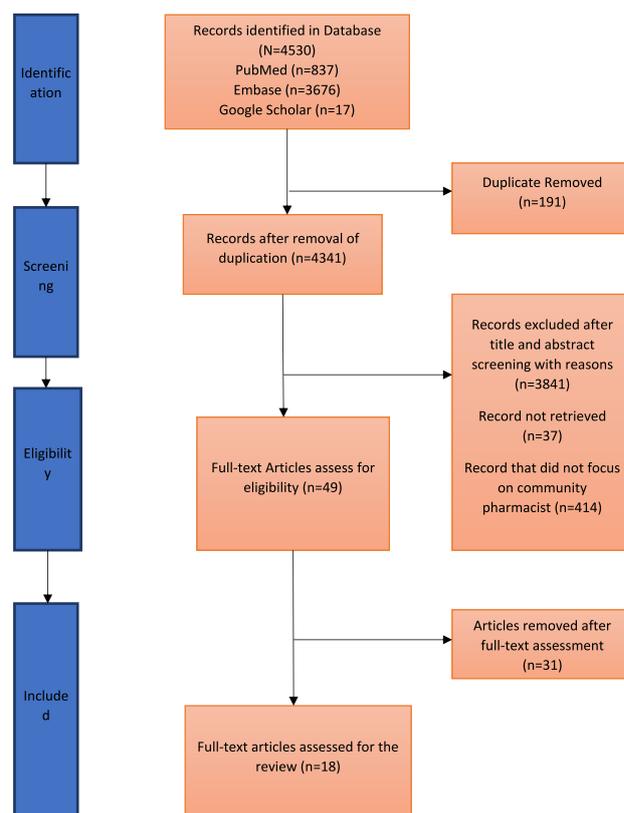


Figure 1: Study Selection Flow Chart

Table 1: Characteristics list of included studies

STUDY ID	AUTHOR(S)	TITLE OF THE STUDY	STUDY DESIGN	STUDY LOCATION	STUDY AIMS/RESEARCH QUESTIONS	POPULATION
2	(26)	Barriers in the public health role of community pharmacists: a qualitative study.	Qualitative design	UK	To identify barriers in the public health role of UK community pharmacists	UK Community pharmacists
3	(27)	Policy and vision for community pharmacies in Finland: A roadmap towards enhanced integration and reduced costs	Narrative review	Finland	No clear aim but describes the health services in the country and the status of CPs	Finland community pharmacies
6	(28)	Vision and practice of self-care for community pharmacy in Switzerland	narrative review	Switzerland	No clear aim but describes the health services in the country and the status of CPs	Swiss community pharmacies
8	(29)	Community pharmacy and public health in Great Britain, 1936 to 2006: how a phoenix rose from the ashes	Review	Britain	To explore how the roles of community pharmacists in public health begin in Great Britain	NIL
11	(30)	Primary health care policy and vision for community pharmacy and pharmacists in Jordan	Review	Jordan	Sketch community pharmacy and pharmacists in relation to PHC	community pharmacists
39	(31)	Pharmacists' involvement in COVID-19 vaccination across Europe: a situational analysis of current practice and policy	Situational analysis	Europe	Situational analysis of pharmacists' involvement in COVID-19 vaccination across Europe, highlighting the crucial role of pharmacists in the vaccination process.	Community Pharmacists
40	(12)	Community pharmacists' evolving role in Canadian primary health care: a vision of harmonization in a patchwork system	Report	Canada	To provide an overview of the evolving role of community pharmacists in Canadian primary health care.	community pharmacists, Canadian primary healthcare
41	(13)	Primary health care policy and vision for community pharmacy and pharmacists in Portugal.	Report	Portugal	Not define	Community pharmacy, primary healthcare
33	(16)	Involvement of Sudanese community pharmacists in public health activities.	cross-sectional study	Sudan	To evaluate the attitude of community pharmacists towards health education, promotion, and screening, assess the extent of their actual involvement in such activities, and identify barriers to their provision	community pharmacists
21	(32)	Primary health care policy and vision for community pharmacy and pharmacists in Spain	Descriptive analysis and review	Spain	To provide an analysis of the primary health care policy and vision for community pharmacies and pharmacists in Spain.	community pharmacy and pharmacists in Spain.
18	(33)	Clinical Pharmacy in Primary Care and Community Pharmacy	Review	Netherlands	To evaluate the impact of pharmaceutical care on patient outcomes in community pharmacy settings, assess the quality of pharmaceutical care practice, and identify the challenges and opportunities for integrating community pharmacists into the primary care team.	Pharmacists and Community Pharmacists
43	(14)	Primary healthcare policy and vision for community pharmacy and pharmacists in the United States	Commentary	United States of America	To emphasize the need for unified Community pharmacists' provider status at the federal level	Community pharmacists
44	(34)	Primary health care policy and vision for community pharmacy and pharmacists in Estonia	Commentary	Estonia	To highlight the negative impacts of legislative inconsistencies and poor professional manpower on the primary healthcare service provision by community pharmacies	Community pharmacies

47	(15)	Evaluating competency of community pharmacists in identifying and managing malnourished patients: A cross-sectional survey	quantitative cross-sectional survey	Kaduna, Nigeria	evaluating community pharmacists' knowledge, screening proficiency, range of malnutrition services provided, and competence in identifying patients at risk of malnutrition.	Community pharmacists in Kaduna State, Nigeria
22	(35)	Examining community pharmacists' intention to provide pharmacist-driven vaccination services: A structural equation modelling	A structural equation modelling	Turkey	To explain the "Pharmacist-Driven Vaccination Service Intention Model (PDV-SIM)" by using the theory of planned behavior (TPB).	Community pharmacists
23	(36)	Report of the 2009-2010 Professional Affairs Committee: pharmacist integration in primary care and the role of academic pharmacy	Report	USA and Canada	To study the role of pharmacists in primary healthcare and identify the public policy, workforce, education, and advocacy issues associated with advancing pharmacists' contributions to systems of primary care	Pharmacists
24	(37)	Primary health care policy and vision for community pharmacy and pharmacists in Indonesia	Report	Indonesia	To discuss the policy and vision for integrating community pharmacy into primary health care in Indonesia.	Community Pharmacy
27	(8)	Community pharmacists' expanding roles in supporting patients before and during COVID-19: An exploratory qualitative study.	An exploratory qualitative study	Canada	To describe Nova Scotian community pharmacists' roles in caring for unattached patients before and during the COVID-19 pandemic and identifying barriers and facilitators to optimizing patient access.	Nova Scotian community pharmacists

Categories of Strategies

The review revealed that several strategies were used to integrate community pharmacies into primary healthcare roles, such as:

Policy and Legislation: Eleven (11) papers^{8,13,14,3739} were identified and serve as an outline for incorporating community pharmacy into various primary healthcare responsibilities. According to a report from Portugal's national health plan, CPs were given the option of implementing a needle and syringe exchange program, medication adherence initiatives, and providing and renewing hospital-only drugs for chronically ill patients for extended periods. On the other hand, a paper from Estonia describes the negative impact of legislative inconsistencies in CP's provision of primary healthcare services. Jordan has shown its readiness to incorporate CPs' roles in primary healthcare services by enacting regulations to improve training, revise the curriculum, and enable CPs to administer vaccinations against influenza.

Professional Training and Development: Four (4) publications recognised training as a component of the plan to incorporate CPs into primary care positions. In Jordan

and Europe, CPs were trained to give vaccinations, whereas in Africa, two articles from Nigeria and Sudan proposed enhancing CP training to better integrate into primary healthcare responsibilities. The studies highlighted the importance of ongoing professional development for CPs to ensure they are equipped with the necessary skills and knowledge to effectively contribute to primary healthcare services. Additionally, they emphasised the need for standardised training programmes across different regions to promote consistency in CP roles and responsibilities.

Collaborations and communications: Countries such as Canada, Europe, the UK, and Indonesia have identified some strategies to integrate CPs in Primary healthcare roles. For instance, in Canada, because of CPs position to expand services and provide access, there is a focus on collaborating and integrating pharmacy teams to improve access and quality of care for Canadians. In Indonesia, initiatives to assign pharmacists to community health centres and programmes for rational drug use have improved the roles of pharmacists in Primary care practice. Furthermore, for better integration, there is a need for a smooth transition and referral of services from community pharmacies to other healthcare facilities, as identified in

studies from Europe and the UK.

Expansion of CP services: Medication treatment assessments and adherence services have been implemented in Spain, leading to positive intervention programs that integrate CPs into primary healthcare. The Netherlands explored drug-related concerns addressed in community pharmacies and their connection to patient-centred practices to research pharmaceutical care and its impact on patient outcomes. In the US, CPs provide standard dispensing services as well as vaccination, hormonal contraception, drug treatment management, synchronisation, and point-of-care testing. Portugal's new legislation has enabled CPs to offer public health services at the point of integration with primary care, such as integrated primary care programs, needle and syringe exchange programs, and medication adherence interventions. Canada CPs perform additional professional duties such as conducting medication reviews for patients, managing minor or common ailments like colds or flu symptoms while adhering to pharmacist prescribing protocols and providing smoking cessation counselling.

Funding and Reimbursement Strategies: In the U.S., there is an effort to nationalise CPS' provider status so that community pharmacists in primary care can be appropriately rewarded for their services, to focus on developing appropriate payment systems for non-drug pharmaceutical services such as medication management and point-of-care screening. In Canada, CP practitioners are looking for a coherent

approach in the country's fragmented primary healthcare system. This involves investigating strategies to get appropriate remuneration for the broader variety of professional duties performed by patient-oriented pharmacists. The strategies used in Turkey are aimed at understanding CPs' intentions to provide vaccines to increase the number of people vaccinated, enhance the healthcare system, and achieve better health outcomes. In Estonia, the existence of legislative inconsistencies and a lack of personnel in the professional provision of primary healthcare services through CPs are demonstrated.

Themes Identified Based on Region

Africa: In Africa, two prominent themes emerged: professional development and training, as well as engagement in public health programs.

East Asia: Common elements recognised as unique to East Asia were policy and legislative support, collaboration, and financial incentives.

Europe: All five themes were found to be peculiar to Europe.

The most common themes discovered in the **Middle East** were policy and legislative support, as well as collaboration and integration.

North America has three key themes: policy and legislative support, collaboration and integration, and financial incentives (Table 2).

Table 2: Identification of common themes emerging from the strategies employed

Identified strategies	Frequency	Regional Distribution	Region
Policy and Legislative Support	7	Portugal, Indonesia, Canada, USA, Switzerland, Jordan, Spain,	East and Middle Asia, North America and Europe
Professional Development and Training	4	Britain, Europe, Sudan, and Nigeria	Africa and Europe
Collaboration and Integration	4	Europe, Indonesia, Canada, and the USA	East and Middle East Asia, Europe, and North America
Financial Incentives	3	Indonesia, Canada, and the Netherlands	East Asia, North America, and Europe
Public Health Initiatives	5	Britain, Europe, Sudan, Portugal, Turkey, and Nigeria	Africa and Europe

Classification of strategies for integration into thematic categories

- A. Policy and Advocacy:** Promote community pharmacists as effective primary care providers through supporting policies and legislation. National lobbying efforts to promote the inclusion of community pharmacy services into primary care systems.
- B. Professional Development and Training:** Pharmacists can benefit from specialised training programs that enhance their knowledge and abilities in providing basic health care services. Helping pharmacists get additional skills or certifications so that they can practice in an expanded spectrum of primary care settings.
- C. Collaboration and Communication:** Facilitating collaboration and communication between community pharmacists and other healthcare professionals is necessary to ensure that patients receive coordinated treatment and have easy transitions between sites of care. Developing interprofessional collaboration and coordination of care strategies to improve patient outcomes.
- D. Service Expansion and Innovation:** Expanding the services offered by community pharmacies to include immunisations, health screenings, chronic disease management, and medication management in primary healthcare. Telepharmacy or mobile health units may be considered an innovative technique to target poor people and enhance access to medical care.
- E. Financial Incentives and remuneration:** Promoting equitable remuneration and financing for community pharmacists to provide non-dispensing services in primary care settings. Investigating alternative payment structures and value-based care arrangements to promote quality outcomes and cost-effective care delivery.
- F. Public Health Initiatives:** Community pharmacist engagement in public health education and promotion is important in promoting public activities in the community pharmacy settings. It will enhance preventive care, health education, and patient screening, and improve public health outcomes (Table 3).

Table 3: Patterns and implementation strategies of identified themes

	Patterns	Implementation Strategies
1	Policy Emphasis:	Studies consistently highlight the importance of supportive policies and legislative changes to enhance the role of community pharmacists in primary care. Implementation patterns focus on advocating for standardized practices and scopes of practice to ensure regulatory consistency.
2	Training and Development:	Common implementation patterns involve the promotion of continuous training and education programs to enhance pharmacist skills and expand their scope of services. Strategies often emphasize the need for ongoing professional development to keep pace with evolving healthcare needs.
3	Collaborative Care Models:	Implementation patterns emphasize the integration of community pharmacists into primary care teams through collaborative care models. Studies highlight the importance of interprofessional collaboration to optimize patient care and improve health outcomes.
4	Financial Support:	Patterns include advocating for financial incentives and reimbursements for non-drug services provided by community pharmacists to incentivize their involvement in primary healthcare. Implementation strategies address the importance of sustainable reimbursement mechanisms to support pharmacist participation in primary care.
5	Public Health Engagement:	Implementation patterns focus on promoting public health initiatives within community pharmacy settings to enhance preventive care and health promotion. Strategies often involve encouraging community pharmacists to engage in health education and screening activities to improve public health outcomes.

Discussion:

Community pharmacists are assuming new roles, especially during emergencies, and their proximity to the population further places them at an advantage for easy access to healthcare services, especially in communities that find it difficult to access healthcare services. As seen during the COVID-19 pandemic, community pharmacists have proven their adaptability and resilience in times of crisis by stepping up to offer vital healthcare services to unattached patients, which significantly helped to reduce the burden of overwhelming the healthcare system. Therefore, it becomes imperative to empower and support community pharmacists to expand their services by assuming some primary healthcare responsibilities, which will further strengthen the health system and patient outcomes.

The review findings highlighted different strategies to be used to integrate community pharmacies into primary healthcare roles across different regions. Several themes were identified from different published studies worldwide, each reflecting on the need to optimise the contributions of community pharmacists within a wider healthcare context. These themes include several approaches, ranging from policy and legislative support to professional development and capacity building, collaborations, financial incentives, and public health initiatives.

Policy and legislative support were identified during the review as a crucial factor in aiding the integration of community pharmacies into providing primary healthcare services^{8,13,14,28,30,32,37,38}. Reports from Portugal, the USA, Canada, Indonesia, Jordan, Switzerland, and Spain recognised policy and legislation as a barrier as well as an enabler to achieving this milestone^{8,13,14,30,32,37,38}. For instance, in Portugal, pharmacists are allowed to prescribe some medications for certain conditions and administer vaccines¹³, as well as in Canada, pharmacists were also given an expanded scope of practice to administer vaccines¹². A study by Pantasri (2021) states that legislative changes are crucial to the effective empowerment of CPs to provide additional responsibilities⁴⁰. Another study similarly highlighted that some policy changes are crucial to enable pharmacists to expand their roles in universal health coverage¹⁷. However, there exist some hindrances in the realisation and implementation of these policies and regulatory framework, as cited by Hess *et al.*³⁶. These expanded roles have led to increased vaccination coverage, access to primary healthcare services and a better healthcare outcome¹⁷. Some of these policy and legislative changes

will allow community pharmacies to conduct health screening, administer vaccines, manage chronic disease management, infectious disease management, malnutrition and drug therapy management, which consequently improve overall access to healthcare. Additionally, the review emphasises on professional development and training, recognising the importance of ongoing education and skill development for community pharmacists to improve their skill set and professional growth towards the provision of primary healthcare services. Reports from the review highlighted that countries such as Britain, Europe, Sudan, and Nigeria suggested focusing on equipping community pharmacists with advanced clinical competencies, counselling techniques, leadership skills, and patient screening^{15,16,29,31}. This is evident in some literature, as noted by Emenike *et al.*¹⁹. Investing in such development and training among others will strengthen and ensure that community pharmacists remain competent and adaptable to the evolving healthcare systems. However, there is a lack of standardised curricula for an effective training programme for CPs across different regions³⁶. Therefore, training programmes should be tailored towards the specific needs of the region for better integration.

Furthermore, collaboration and integration with other healthcare professionals and facilities were also identified to foster a holistic patient care approach, which consequently will lead to better healthcare outcomes and patient satisfaction. The ongoing need for collaborations between healthcare providers such as physicians, nurses, and others for a collaborative healthcare model that allows for easy transition were highlighted in Canada, Europe, and the USA^{31,36}. Effective communication is important among healthcare providers for shared decision-making and is essential in comprehensive care³⁶. Effective collaboration is essential to improve communication processes, reduce healthcare costs, and improve overall quality of care³⁶. A study by Hess *et al.*³⁶ discusses the benefit of collaboration in improving health outcomes and patient satisfaction. On the contrary, Emenike *et al.*¹⁹ noted that there exist challenges in interprofessional collaboration and communication with healthcare professionals¹⁹. However, a structured approach is essential for patients to get better quality of care with a coordinated and comprehensive approach across different specialties and healthcare settings.

Moreover, financial reimbursement serves as the fundamental theme for the integration of CPs. This was highlighted in reports from Indonesia, Canada, and the Netherlands, which emphasise an adequate incentive

structure for services provided by CPs^{12,33,37}. These may also include clinical services, performance, and innovative practice grants and bonuses to improve the economic capacity of CPS-led primary healthcare services⁴¹. This is consistent with another review from the UK that states lack of remuneration and lack of support from stakeholders as a significant barrier to CPs public health services provision³⁸. In some states in the USA, pharmacists were granted provider status to bill for services provided to patients⁴². It is obvious that financial incentives are crucial to sustaining CPs' integration into primary healthcare services, otherwise, they may struggle to sustain the services⁴⁰. Therefore, CPs' must be supported economically to harness their full potential to provide public health services. Public health initiatives such as health promotion, disease prevention awareness campaigns, and community outreaches are important in creating awareness of the expertise and accessibility of CPs. To help address the challenges of improving the health of the population, countries such as Britain, Europe, Portugal, Sudan and Nigeria highlighted the need for CPs to engage in public health programs to effectively address the needs of the population in their community^{13,15,16,29,31}. A review study stressed the importance of CPs in public health programmes tailored toward the community they serve to identify the specific needs of the community¹⁷. However, another study highlighted the concern for the scalability and implementation of these programmes as challenging³⁶. Nevertheless, stakeholders should be able to find a balance between effective implementation and sustainability of CPs public health initiatives to maximise their importance in primary healthcare services.

Another interesting finding revealed some theme variations that were employed across different continents, as indicated in Table 2. In Africa, professional development and training, and public health initiatives were identified, with an emphasis on the need for skills enhancement and public health engagement by CPs. A study by Daly *et al.*²⁰ recognised the importance of pharmacists' training on social determinants of health²⁰. The study similarly highlights the proactive engagement of CPs in public health²⁰. North American, Middle Eastern, and East Asian themes were primarily focused on policy and legislation, collaborations, and financial incentives. Hermansyah *et al.*³⁷ and Daly *et al.*²⁰ emphasise the significance of regulatory support, teamwork, and financial support to optimise CPs' roles in the primary healthcare system. The presence of all five themes in Europe was a demonstration of a much more comprehensive approach to better enhancing CP's roles in

primary healthcare systems than in Africa, the Middle East, East Asia, and North America.

CPs are playing a crucial role in addressing some of the healthcare challenges, especially in communities that lack access or have inadequate healthcare facilities. Therefore, leveraging this concept could proper solutions to some of the healthcare systems' challenges, such as social determinants of health, improve healthcare coverage, and improve patient outcomes across diverse populations.

Strengths and Limitations of the Study

The review highlighted various strategies that aimed to integrate CPs into primary healthcare roles. Utilising data from a diverse region of the world, representing a majority of the continents.

The study may be limited by overemphasising other perspectives of certain studies, such as publication bias and language barrier, which may influence selection for the review, hence leading to selection bias. We did not evaluate the quality of the studies included, which may vary, thus affecting data quality, reliability and validity of the findings. Another significant issue is the selection of three databases, which may have reduced the breadth of findings available in additional databases not covered in this study. Similarly, the reliance on published literature may have led to ignoring unpublished data and grey literature, potentially affecting the breadth of the review.

Conclusion

The review stressed the significance of integrating CPs into primary healthcare roles that could potentially improve access, quality, and equity in the healthcare system. It also emphasised the need for substantial policy and legislative reforms, professional development, and public health initiatives. Despite efforts made to improve on policy reforms, professional training and development, collaborations, and public health initiatives, there exist some challenges such as regulatory barriers, capacity building, financial reimbursement, and poor implementation hurdles still persist. Addressing these challenges requires coordinated efforts from policymakers, healthcare stakeholders, and CPs themselves to maximize the impact of CP-led primary care services and improve patient outcomes.

Recommendation

Moving forward, stakeholders should prioritize focusing on some of the following recommendations to effectively strengthen CPs for better integration into primary healthcare roles.

Advocate for policies and legislative supports, with a focus on regulatory frameworks that aid CPs' integration into primary healthcare roles. Development of standard training programmes that prioritise evolving roles in primary healthcare such as screening, clinical and counselling skills, and leadership development. Similarly, a formal interprofessional collaboration and communication channel should be strategized and structured to help optimize coordinated patient care and promote seamless transition between CPs and other healthcare facilities. Furthermore, a structural mechanism for financial reimbursement for services provided by CPs is inevitable for a sustainable integration to help make CP-led primary services economically viable. And most importantly CPs should be involved in public health initiatives that are specific to their communities to address implementation challenges better and for a sustainable intervention model.

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Authorship Statement:

Conceptualisation: AMS and BKL. Research question: AMS, BKL and FAI. Methodology: AMS. Data extraction: AMS, BKL, AM, JS, MB, UHB, AI and FAI. Data management: AMS. Data synthesis: AMS, BKL and FAI. Data analysis: AMS. Writing — original draft: AMS. Writing — reviewing and editing: AMS, BKL, AM, JS, MB, UHB, AI and FAI.

Ethics Statement

Ethical approval is not required for scoping reviews as per PRISMA guidelines because literatures used are publicly available.

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Data Availability

The data supporting the findings of this research are accessible upon request from the corresponding author.

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