INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH
2026, Vol. 7, No. 11, 4807 – 4822
http://dx.doi.org/10.11594/ijmaber.07.11.06

Research Article

Pharmacists as Health Promoters: A Structured Literature Review of Roles, Interventions, Outcomes, and Implementation Challenges

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Article history:
Submission 10 September 2026
Revised 15 November 2026
Accepted 23 November 2026

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ABSTRACT

As healthcare systems place increasing emphasis on disease prevention and early intervention, pharmacists have an important opportunity to contribute to health promotion through accessible, community-based and patient-centered services. This structured literature review synthesized evidence on pharmacist-led health-promotion roles and interventions, target populations and settings, reported outcomes, implementation factors, and remaining evidence gaps. Literature published from 2015 to 2025 was reviewed using Google Scholar, PubMed/MEDLINE, Embase, Scopus, and Philippine E-Journals, supplemented by reference-list screening of included studies and relevant review articles. The review followed a predefined process of literature identification, screening, eligibility assessment, data extraction, and thematic synthesis, with reporting guided by PRISMA 2020. Of the 1,655 records identified, 935 duplicates were removed, 720 records were screened, 145 full texts were assessed, 109 were excluded, and 36 studies were included. Findings were synthesized across six themes: health education and patient empowerment; screening and early detection; lifestyle and behavioral health promotion; immunization and infectious-disease prevention; health promotion among specific population groups; and referral, collaboration, and continuity of care. The evidence indicates that pharmacists contribute across prevention and primary care through education, screening, behavioral interventions, immunization, population-specific services, and referral. However, translation into routine practice remains constrained by workload and time limitations, limited patient information, inadequate financial support, insufficient public awareness, and limited recognition of pharmacists' capabilities. Sustained implementation therefore requires alignment of professional competency with organizational capacity, training, interprofessional collaboration, supportive regulation, and sustainable service structures.

How to cite:
Arca, E. (2026). Pharmacists as Health Promoters: A Structured Literature Review of Roles, Interventions, Outcomes, and Implementation Challenges. *International Journal of Multidisciplinary: Applied Business and Education Research*. *7*(11), 4807 – 4822. doi: 10.11594/ijmaber.07.11.06

Keywords: *Community Pharmacy, Health Promotion, Pharmacists, Pharmacist-Led Interventions, Primary Healthcare, Public Health*

Introduction

Health promotion has become an increasingly important component of healthcare delivery as health systems place greater emphasis on disease prevention, early detection, and patient participation in maintaining health (Nutbeam & Muscat, 2021). The COVID-19 pandemic demonstrated the importance of accessible healthcare services and the contribution of community-based providers to public health responses. Community pharmacists remained accessible to patients during the pandemic and contributed to the delivery of frontline health services (Hedima et al., 2020). These developments have reinforced the relevance of pharmacy practice beyond the traditional functions of dispensing and medication supply.

Pharmacists have progressively assumed broader responsibilities in patient care, including health education, medication counseling, immunization, screening, and support for chronic disease prevention and management (Mossialos et al., 2015; Shirdel et al., 2021; Kremin et al., 2023). Community pharmacies provide accessible points of contact where patients can receive health information, preventive services, and guidance alongside medication-related care (Hedima et al., 2020; Steed et al., 2019; Thomson et al., 2019). These services position pharmacists to contribute to health promotion through routine patient encounters and sustained interaction with local communities.

In the Philippines, Republic Act No. 11223, or the Universal Health Care Act of 2019, provides a policy framework that emphasizes access to promotive and preventive healthcare, primary care, and coordinated health service delivery. The Act also recognizes pharmacies and drug outlets within its definition of healthcare providers. This policy direction provides an opportunity to strengthen the participation of community pharmacies in primary healthcare and public health initiatives. The recognition of pharmacies within the healthcare system does not, by itself, ensure the consistent delivery of health-promotion services. Their contribution will also depend on professional capacity, service organization, appropriate financing, and coordination with other healthcare providers.

The potential for greater pharmacist involvement is also reflected in public expectations and professional practice. Kazaryan et al. (2020) reported patient interest in the participation of community pharmacists in health-promotion initiatives. Pharmacists have also been identified as potential contributors to community health assessment, disease monitoring, surveillance, and health-outcome evaluation (Strand et al., 2020). Their activities may extend to patient empowerment, lifestyle modification, screening, vaccination, and referral, depending on the needs of the population and the capacity of the healthcare setting.

Despite this expanding role, the delivery of health-promotion services remains uneven. Barriers include workload and time limitations, restricted access to patient information, inadequate financial support, and insufficient public and professional recognition of pharmacists' capabilities (Agomo et al., 2016; Kharaba et al., 2022). Educational preparation and effective patient-centered communication are also important in supporting pharmacists' participation in preventive and public health services (Ilardo & Speciale, 2020; Sendekie et al., 2023). These indicate that professional capability alone is insufficient to ensure the sustained integration of pharmacists into health promotion.

Evidence on pharmacist-led health promotion remains distributed across different interventions, populations, healthcare settings, and reported outcomes. Previous studies and reviews have examined individual pharmacy-based services and public health interventions, the broader contribution of pharmacists and the conditions influencing implementation require further synthesis. This review examines pharmacists' health-promotion roles and interventions, the populations and settings served, reported outcomes, implementation barriers and facilitators, and remaining evidence gaps.

Problem Statement

Evidence concerning pharmacist-led health promotion is distributed across different interventions, populations, settings, and outcomes, making it difficult to determine the overall scope of the pharmacist's health-promotion role and the conditions under which these interventions are effective.

Research Gap

Previous reviews have examined specific pharmacy-based services and broader public health interventions. Additionally, some studies have focused on particular aspects of health promotion, including physical activity promotion and the factors that influence the uptake of public health interventions. The existing evidence remains scattered across various health promotion activities, populations, settings, and implementation factors. This review aims to consolidate these areas to delineate the scope of pharmacists' roles in health promotion, the reported outcomes, and the factors that affect implementation.

Review objectives/questions

This review addressed five research questions.

RQ1: What health-promotion roles and interventions are performed by pharmacists?

RQ2: What populations and settings are targeted?

RQ3: What health, behavioral, and service outcomes are associated with pharmacist-led health-promotion interventions?

RQ4: What barriers and facilitators influence implementation?

RQ5: What gaps remain in the evidence concerning pharmacists' role in health promotion?

Methodology

Review Design

This study employed a structured literature review to synthesize evidence on the role of pharmacists in health promotion. The review examined pharmacist-led health-promotion interventions, target populations and settings, reported outcomes, and factors influencing implementation. The review process followed a predefined sequence of literature identification, screening, eligibility assessment, data extraction, and thematic synthesis. Reporting was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) framework. Two additional sources were used to provide conceptual and contextual support for the review but were not included in the thematic synthesis. These sources were used only to inform the background and framing of the review and were not counted among the 36 studies included in the thematic synthesis or Table 1.

Search Strategy

A systematic literature search was conducted in January 2026 using Google Scholar, PubMed/MEDLINE, Embase, Scopus, and Philippine E-Journals. The search was limited to peer-reviewed literature published from 2015 to 2025. The search strategy combined free-text terms related to pharmacists, pharmacy practice, health promotion, health education, disease prevention, and public health.

The core search strategy used the following concepts:

(pharmacist OR "community pharmacist" OR "pharmacy professional*") AND ("health promotion" OR "health education" OR prevention OR "public health") AND (pharmacy OR "community pharmacy"). The search strategy was adapted to the requirements of each database. Reference lists of included studies and relevant review articles were also screened to identify additional eligible studies.

Eligibility Criteria

Studies were included when they:

1. Examined pharmacists or pharmacist-led services.
2. Addressed health promotion, disease prevention, health education, screening, lifestyle modification, vaccination, behavioral change, or related preventive activities.
3. Reported pharmacist roles, intervention outcomes, implementation factors, or stakeholder perspectives relevant to health promotion.
4. Published in peer-reviewed journals from 2015 to 2025.
5. Provided sufficient information to determine eligibility and relevance to the review.

Studies were excluded when they:

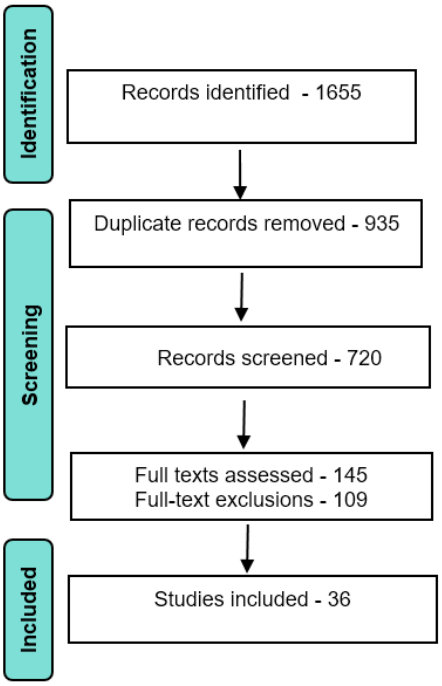
1. Focused exclusively on medication dispensing or pharmaceutical supply without a health-promotion component.
2. Examined interventions delivered exclusively by other healthcare professionals.
3. Focused solely on pharmacological efficacy or medication effectiveness without a health-promotion component.
4. Were editorials, commentaries, letters, protocols, conference abstracts, or opinion papers.

Lacked sufficient information to determine eligibility or relevance to the review.

Study Selection

Retrieved records were compiled, and duplicates were removed before screening. Titles and abstracts were screened against the predefined eligibility criteria, followed by a full-text assessment of potentially relevant studies. Full-text exclusions were primarily due to failure to meet the predefined population, intervention, publication type, or health-promotion criteria. Studies meeting the inclusion criteria were retained for data extraction and thematic synthesis. Extracted information included study characteristics, target population and setting, pharmacist role or intervention, reported health, behavioral, and service outcomes, and barriers or facilitators affecting implementation. The selection process was documented using a PRISMA 2020 flow diagram.

PRISMA 2020 flow diagram for new systematic reviews that included searches of databases



Methodological Quality Assessment

The included studies were manually examined by the author during the review and synthesis process, with attention to their relevance to the review objectives and the information reported on pharmacist-led health-promotion activities, study populations, interventions, and outcomes. No standardized methodological quality appraisal or risk-of-bias assessment tool, such as the Mixed Methods Appraisal Tool (MMAT) or Joanna Briggs Institute (JBI) checklists, was applied. The methodological quality of the included studies was not formally scored. This limitation was considered when interpreting the findings, particularly given the differences in study designs, settings, and outcome measures.

Data Extraction and Thematic Synthesis

The author reviewed the extracted information and grouped studies according to similarities in pharmacist roles, intervention characteristics, target populations, and implementation contexts. Studies were then assigned to the theme that best represented their primary health-promotion focus. Information from the 36 included studies was organized according to study characteristics, target populations and settings, pharmacist roles and interventions, reported outcomes, and implementation barriers and facilitators. The studies were examined and compared based on the nature of the health-promotion activities performed by pharmacists. This approach allowed studies addressing similar roles and services to be grouped into six analytical themes: (1) health education and patient empowerment; (2) screening and early detection; (3) lifestyle and behavioral health promotion; (4) immunization and infectious-disease prevention; (5) health promotion among specific population groups; and (6) referral, collaboration, and continuity of care. Within each theme, the interventions, populations served, reported outcomes, and implementation conditions were examined. Barriers and facilitators were also considered across the six themes to identify recurring factors affecting the delivery and sustainability of pharmacist-led health-promotion activities.

Reporting of Findings

The findings were organized according to the six analytical domains and presented through narrative synthesis and summary tables. Study characteristics, intervention characteristics, reported outcomes, and implementation factors were presented separately to distinguish the nature of pharmacist involvement from the effectiveness and feasibility of the interventions. The synthesis was used to identify consistent findings, areas of limited or conflicting evidence, and priorities for future research, pharmacy education, practice, and health policy.

Results

The 36 included studies were synthesized across six analytical themes reflecting the principal areas of pharmacist involvement in health promotion.

Theme 1: Health Education and Patient Empowerment

Health education and patient empowerment involve more than providing medication-related information. The studies indicate that pharmacists can support patient participation, self-care, and informed healthcare decisions. Jull et al. (2021) discussed decision coaching and patient decision support, while Straw et al. (2023) described the contribution of community pharmacists to self-care empowerment. These roles suggest that health education can help patients become more involved in decisions concerning their health rather than remaining passive recipients of information.

The delivery of these services also depends on pharmacists' professional capabilities and the practice environment. Kremin et al. (2023) identified different professional roles within pharmacy practice, while Kalalo et al. (2022) described pharmaceutical-care practices among hospital pharmacists. Ilardo and Speciale (2020) further identified factors affecting patient-centered communication in community pharmacy. These studies indicate that patient empowerment requires not only access to health information but also pharmacists who can communicate effectively and support patients' participation in their care. The studies represent different practice contexts and do not establish that the same educational approach produces comparable outcomes across settings.

Theme 2: Screening and Early Detection

Screening and early detection demonstrate how pharmacists can contribute to identifying potential health concerns and connecting patients with appropriate healthcare services. Waszyk-Nowaczyk et al. (2020) described community-pharmacy hypertension screening supported by counseling and physician referral. In comparison, Ramos et al. (2021) examined pharmacist–physician collaboration in the early detection and monitoring of cognitive impairment. Although these studies addressed different health conditions, both linked

pharmacist involvement in screening with further clinical assessment or follow-up.

Screening becomes more meaningful when supported by counseling, referral, and collaboration with other healthcare professionals. Rather than functioning as an isolated pharmacy service, it can provide an entry point for early intervention and coordinated care. The two studies represent specific service models and do not establish uniform effectiveness across different health conditions or healthcare settings.

Theme 3: Lifestyle and Behavioral Health Promotion

Pharmacists contribute to lifestyle and behavioral health promotion through activities addressing smoking cessation, weight control, alcohol moderation, physical activity, and noncommunicable disease prevention. Shirdel et al. (2021) identified a broad range of health-promotion services delivered through pharmacies, while Sendekie et al. (2023) examined pharmacist involvement in noncommunicable disease health-promotion services. Lobelo and De Quevedo (2016) also discussed the role of healthcare professionals, including pharmacists, in promoting physical activity.

The studies show that pharmacists can support preventive health through education and advice on modifiable risk factors. The reported outcomes vary across interventions and health conditions. Steed et al. (2019) reported improvements in some health-related behaviors, intermediate clinical outcomes, and quality of life, but also found variation in intervention effects. The evidence supports pharmacists' involvement in behavioral health promotion, although the effectiveness of these services depends on the intervention and its implementation context.

Theme 4: Immunization and Infectious-Disease Prevention

Pharmacists contribute to immunization and infectious-disease prevention through vaccination, health information, and preventive services. Czech et al. (2020) examined pharmacists' involvement in influenza vaccination, while Petrelli et al. (2019) discussed their roles in vaccination, health information, and health promotion. During the COVID-19 pandemic, Hedima et al. (2020) highlighted the frontline contribution of community pharmacists to healthcare services in low- and middle-income countries. These illustrate different contributions to infectious-disease prevention, from vaccination services to public-health information and support for populations with specific healthcare needs. However, the scope of pharmacist involvement differs across settings and population groups. The findings support pharmacists' participation in prevention efforts but do not establish that the same service model can be applied uniformly across healthcare systems.

Theme 5: Health Promotion Among Specific Population Groups

Pharmacist-led health promotion is adapted to the healthcare needs of specific population groups. Cobb et al. (2023) described pharmacists' roles in addressing medication-related challenges and social determinants of health among people living with psychiatric disorders. For older adults, Rodrigues et al. (2022) discussed interventions involving medication management, patient education, deprescribing, dosage support, medication evaluation, and reconciliation. In underserved areas, Kessinger et al. (2022) highlighted pharmacists' contribution through non-dispensing services in health professional shortage areas. Aljadeeah and Borek (2025) also described community pharmacists' role in addressing healthcare access and promoting preventive-health awareness among migrant populations.

Health-promotion services differ according to the needs of the population served. Medication management and education are particularly relevant to older adults, while people with psychiatric conditions may require support that considers medication-related and social challenges. Migrants and underserved communities may benefit from accessible pharmacy services and preventive-health information. These findings indicate that population-specific health promotion requires services adapted to local needs rather than a uniform approach.

Theme 6: Referral, Collaboration, and Continuity of Care

Referral, collaboration, and continuity of care connect pharmacy-based services with other healthcare professionals and healthcare settings. Strand et al. (2020) described opportunities for pharmacists to contribute to population health activities. Stroedecke et al. (2022) examined an integrated pharmacist collaborative-care model in specialty disease-state clinics and reported improved continuity and pharmacist referrals. Similarly, Bamgboye et al. (2024) emphasized the role of community pharmacists in care transitions, particularly in supporting continuity, quality, and safety.

Pharmacist involvement can extend beyond direct patient counseling and medication-related services when supported by referral systems and collaboration with other healthcare professionals. While Stroedecke et al. (2022) focused on collaborative care in specialty clinics, Bamgboye et al. (2024) addressed care transitions in community pharmacy. Both highlight the importance of connecting pharmacy services with broader healthcare pathways. However, the models differ across settings, and their implementation depends on the availability of functional referral and collaborative-care arrangements.

Table 1. Descriptive and Analytical Synthesis of the 36 Included Studies

No.	Study	Population/ Setting	Pharmacist Role/ Intervention	Reported Finding/ Outcome	Theme
1	Agomo et al. (2016)	Community pharmacists	Public-health role and health-promotion activities	Identified barriers affecting pharmacists' public-health role	Health education and patient empowerment
2	Ahmed & Tamim (2025)	Community and hospital pharmacy	Prescription oversight, medication safety, and patient guidance	Pharmacists contributed to patient care and medication safety	Health education and patient empowerment
3	Alghamdi et al. (2023)	Community pharmacists	Extended community pharmacy services	Examined pharmacists' perspectives toward extended services	Health education and patient empowerment
4	Aljadeeah & Borek (2025)	Community pharmacy; migrant population	Addressing healthcare needs and preventive-health awareness	Pharmacists contributed to healthcare access and health promotion among migrants	Health promotion among specific population groups
5	Bamgboye et al. (2024)	Community pharmacies, Nigeria	Care-transition services	Supported continuity, quality, and safety of care	Referral, collaboration, and continuity of care
6	Brian (2017)	Community pharmacy	Expanded health-promotion activities	Highlighted pharmacists' potential contribution to population health and universal health coverage	Health education and patient empowerment
7	Cobb et al. (2023)	People living with psychiatric disorders	Addressing medication-related and social determinants of health	Pharmacists can identify and address drug-related challenges	Health promotion among specific population groups

No.	Study	Population/ Setting	Pharmacist Role/ Intervention	Reported Finding/ Outcome	Theme
8	Czech et al. (2020)	Pharmacies	Influenza vaccination and pharmacist involvement in vaccination	Supported pharmacists' role in vaccination and infectious disease prevention	Immunization and infectious-disease prevention
9	Dalton & Byrne (2017)	Pharmacy practice	Pharmacist clinical services	Reported reduced likelihood of adverse medication events and improved patient outcomes	Health education and patient empowerment
10	Dave (2024)	Pharmacy practice	Health-promotion activities	Described pharmacists' contributions to health promotion	Health education and patient empowerment
11	Eldooma et al. (2023)	Community pharmacies	Pharmacist-led pharmaceutical care	Reported clinical, economic, educational, informational, and preventive benefits	Health education and patient empowerment
12	Fares et al. (2025)	Community pharmacies	Pharmacist-led pharmaceutical care	Synthesized reported outcomes of pharmacist-led pharmaceutical care	Health education and patient empowerment
13	Hedima et al. (2020)	Community pharmacies in LMICs	Health services during COVID-19	Highlighted pharmacists' frontline contribution to health services	Immunization and infectious-disease prevention
14	Jull et al. (2021)	Healthcare decision-making	Decision coaching and patient decision support	Supported patient-centered communication and decision support	Health education and patient empowerment
15	Kalalo et al. (2022)	Hospital pharmacists, CALABARZON	Pharmaceutical care	Described current pharmaceutical care practices	Health education and patient empowerment
16	Kazaryan et al. (2020)	Pharmacy users	Pharmacist participation in health promotion	Majority of patients expressed interest in pharmacist involvement	Health education and patient empowerment
17	Kessinger et al. (2022)	Health professional shortage areas	Non-dispensing pharmacy services	Reported pharmacists' contributions to underserved populations	Health promotion among specific population groups
18	Kharaba et al. (2022)	Community and hospital pharmacists, UAE	Pharmaceutical-care services	Examined pharmacists' views regarding pharmaceutical-care provision	Health education and patient empowerment

No.	Study	Population/ Setting	Pharmacist Role/ Intervention	Reported Finding/ Outcome	Theme
19	Kremin et al. (2023)	Pharmacy profession	Professional pharmacist roles	Identified ten principal professional roles relevant to pharmacy functions	Health education and patient empowerment
20	Ilardo & Speciale (2020)	Community Pharmacy	Patient-centered care communication	Identified perceived barriers and factors affecting patient-centered communication	Health education and patient empowerment
21	Lobelo & De Quevedo (2016)	Healthcare professionals	Physical-activity role modeling	Supported healthcare professionals' role in promoting physical activity	Lifestyle and behavioral health promotion
22	Meslamani (2025)	Pharmacy/ public-health context	Disease prevention and public-health activities	Highlighted pharmacists' accessibility and contribution to primary care	Lifestyle and behavioral health promotion
23	Mossialos et al. (2015)	Community pharmacy	Chronic disease management and expanded pharmacist role	Described the transformation of pharmacists toward healthcare-provider roles	Health education and patient empowerment
24	Nsengimana et al. (2022)	Community pharmacists, Rwanda	Health-promotion activities	Reported positive attitudes toward health promotion	Lifestyle and behavioral health promotion
25	Petrelli et al. (2019)	Pharmacy practice	Health information, vaccination, and health promotion	Supported pharmacists' preventive and vaccination role	Immunization and infectious-disease prevention
26	Ramos et al. (2021)	Community pharmacists, general practitioners, and neurologists	Inter-professional cognitive-impairment detection	Enhanced identification and monitoring of cognitive impairment	Screening and early detection
27	Rodrigues et al. (2022)	Older adults, Portugal	Medication management, education, deprescribing, dosage support, and medication reconciliation	Supported pharmacist involvement in older adult care and medication management	Health promotion among specific population groups
28	Sendekie et al. (2023)	Community pharmacists, Northwest Ethiopia	NCD health-promotion services	Described pharmacist involvement in NCD health promotion	Lifestyle and behavioral health promotion
29	Shirdel et al. (2021)	Pharmacies	Education, immunization, screening, family planning,	Identified a broad range of pharmacy-	Lifestyle and behavioral

No.	Study	Population/ Setting	Pharmacist Role/ Intervention	Reported Finding/ Outcome	Theme
			blood-pressure assessment, smoking cessation, alcohol moderation, and weight control	based health promotion services	health promotion
30	Steed et al. (2019)	Community pharmacy	Health-promotion interventions	Examined effects on professional practice and health outcomes	Lifestyle and Behavioral Health Promotion
31	Strand et al. (2020)	Pharmacy/public-health settings	Population-health activities	Supports expanded pharmacy contribution to population health	Referral, collaboration, and continuity of care
32	Strand (2025)	Pharmacy/ public-health context	Expanded pharmacy role in public health	Described the future contributions of pharmacy to public health	Health education and patient empowerment
33	Straw et al. (2023)	Community pharmacies, United States	Self-care empowerment	Supported pharmacists' contribution to self-care	Health education and patient empowerment
34	Stroedecke et al. (2022)	Specialty disease-state clinics	Integrated pharmacist collaborative-care model	Enhanced continuity and pharmacist referrals	Referral, collaboration, and continuity of care
35	Thomson et al. (2019)	Community pharmacy	Public-health interventions	Examined the population health effects and health inequalities	Health promotion among specific population groups
36	Waszyk-Nowaczyk et al. (2020)	Community pharmacy, Poznan, Poland	Hypertension screening and counseling	Supported early identification, pharmacist guidance, and physician referral	Screening and early detection

Source: Processed data, 2026

Table 1 presents the 36 included studies according to their populations and settings, pharmacist roles and interventions, reported findings, and corresponding analytical themes. The studies demonstrate the range of pharmacist involvement in health promotion across different healthcare settings and population groups. The six themes provide the basis for comparing these roles, reported outcomes, and implementation contexts.

Outcomes of Pharmacist-Led Health Promotion

The reported findings extend beyond individual clinical outcomes to include access to healthcare, continuity of care, and referrals across healthcare settings. Meslamani (2025) reported that more than 85% of the global population lives within a short distance of a pharmacy, highlighting pharmacists' accessibility as primary healthcare providers. Bamgboye et al. (2024) similarly described community pharmacists' role in providing primary care and fa-

cilitating referrals or transitions to higher levels of care, with continuity, quality, and safety identified as key transition-of-care goals. Pharmacist-led health promotion may contribute not only through specific preventive or clinical services but also by improving access points and supporting continuity across care pathways.

Barriers and Facilitators

Practical and recognition-related barriers influence the implementation of pharmacist-led health promotion. Kharaba et al. (2022) identified limited time and patients' limited awareness of pharmacists' healthcare roles as major constraints on pharmacists' influence in practice. The availability of pharmacist expertise alone does not ensure the delivery of health-promotion services; implementation also depends on sufficient time within practice and patients' recognition of the pharmacist's role.

Discussion

The review indicates that pharmacists contribute to health promotion across health education and patient empowerment, screening and early detection, lifestyle and behavioral health promotion, immunization and infectious-disease prevention, health promotion among specific population groups, and referral, collaboration, and continuity of care. This breadth is consistent with previous reviews describing diverse public health and health promotion services delivered through community pharmacies (Shirdel et al., 2021; Steed et al., 2019; Thomson et al., 2019).

A central pattern across the six themes is that pharmacist involvement occurs at multiple points in the care pathway rather than through a single health-promotion function. Their roles range from education and self-care support to screening and referral, vaccination, population-specific medication support, and care coordination. For example, screening models connected pharmacist identification of health concerns with counseling, physician referral, or interprofessional monitoring, while collaborative-care and care-transition models incorporated pharmacists into referral and continuity of care (Ramos et al., 2021; Stroedecke et al., 2022; Bamgboye et al., 2024). These findings indicate that the contribution of pharmacists is not limited to isolated pharmacy-based activities but can extend across connected stages of prevention and care.

The breadth of pharmacist involvement should not be equated with uniform effectiveness. The included evidence varied substantially in intervention type, population, healthcare setting, study design, and outcome measures. Steed et al. (2019) reported small improvements in health-related behaviors, intermediate clinical outcomes, and quality of life across heterogeneous community-pharmacy interventions, while also identifying variation in effects between conditions. The findings support pharmacist involvement in health promotion while indicating that the magnitude and consistency of outcomes remain context-dependent. The evidence is better interpreted as supporting specific pharmacist roles and reported benefits rather than establishing a consistent effect across all health-promotion interventions.

The differences across healthcare settings also influence the scope of pharmacist involvement. Studies from European settings, including those examining pharmacy-based influenza vaccination and preventive health services, document pharmacist participation in vaccination and health promotion (Czech et al., 2020; Petrelli et al., 2019). In contrast, Hedima et al. (2020) emphasized the frontline contribution of community pharmacists in low- and middle-income countries during the COVID-19 pandemic. These examples suggest that pharmacist involvement is shaped not only by professional competencies but also by the organization and resources of the healthcare system. While some settings support specific preventive services, others rely on the accessibility of community pharmacies to maintain public access to essential health information and services during health emergencies. These differences should be considered when adapting international pharmacy practice models to local healthcare conditions.

The review also identifies a recurring gap between pharmacists' professional capacity and the conditions required for sustained implementation. Time and workload constraints,

limited access to patient information, inadequate financial support, insufficient public awareness, and limited recognition of pharmacists' capabilities were identified as barriers to broader participation in health-promotion activities (Agomo et al., 2016; Kharaba et al., 2022). This suggests that expanding pharmacists' responsibilities alone may be insufficient when the organizational and healthcare-system environment does not provide the capacity to deliver those services consistently.

The future contribution of pharmacists to health promotion depends on both the scope of professional involvement and the context in which services are implemented. The heterogeneity of the evidence limits the application of a single model across populations and healthcare systems.

Interpreting Heterogeneous Evidence for Local Implementation

The heterogeneity of the included evidence indicates that pharmacist-led health promotion should be assessed based on local implementation capacity rather than relying on a single, standardized model. Variations in intervention types, target populations, healthcare settings, and outcome measures hinder direct comparisons among studies. In resource-constrained contexts, policymakers should consider factors such as workforce availability, pharmacist training, time and workload constraints, access to patient information, financing options, referral capabilities, and regulatory support when selecting or adapting services. This evidence underscores the importance of a context-sensitive approach, where both intervention feasibility and sustainability are weighed alongside potential health outcomes.

Policy Implications

The findings support the integration of pharmacist-led health promotion into Philippine primary healthcare and public health programs. Republic Act No. 11223, or the Universal Health Care Act, provides a policy basis for this direction by recognizing pharmacies and drug outlets within the definition of healthcare providers and emphasizing access to promotive, preventive, and primary care services. The participation of community pharmacies in these services requires clear professional responsibilities, service standards, referral arrangements, and coordination with established primary care providers.

PhilHealth may consider expanding the scope of outpatient preventive services and developing appropriate reimbursement mechanisms for pharmacist-delivered health education, risk assessment, medication counseling, and other preventive interventions. Pharmacy participation could be explored through accredited primary care networks and clearly defined service arrangements, subject to applicable accreditation requirements, professional scope of practice, and evaluation of service quality and cost-effectiveness. Such mechanisms may provide financial support for preventive services beyond traditional dispensing activities.

Pharmacy education should also continue to strengthen competencies relevant to primary care and public health. CHED Memorandum Order No. 25, Series of 2021, already includes public health pharmacy and pharmacoepidemiology, health policy, patient safety, immunization, communication, and interprofessional collaboration within the BS Pharmacy program. Pharmacy schools may further strengthen the application of these competencies through community-based learning, supervised preventive-care activities, patient counseling, screening, referral, and collaboration with other healthcare professionals.

The heterogeneity of the reviewed evidence indicates that implementation should be adapted to local healthcare conditions. Policymakers and health institutions should consider workforce availability, pharmacist training, workload, financing, referral capacity, and population needs when selecting services for implementation. Pilot programs with defined service indicators and evaluation of patient outcomes, feasibility, and sustainability may help determine which pharmacist-led interventions are appropriate for different Philippine healthcare settings.

Conclusion

The evidence supports pharmacists as an underutilized health-promotion resource, but translating their demonstrated potential into

sustained public-health impact depends on aligning professional competency with organizational, financial, regulatory, and healthcare-system support. Future research should therefore move beyond documenting pharmacist involvement to determine which interventions produce meaningful outcomes, for which populations, and under what implementation conditions.

Disclosure of AI-Assisted Writing

AI-enhanced tools like ChatGPT and Quillbot were used for linguistic refinement and clarity. All intellectual content, analysis, and interpretation are exclusively attributed to the author.

Conflict of Interest

The author states that there are no conflicts of interest related to the publication of this paper.

Funding Source

This research did not receive any specific support from public, commercial, or non-profit agencies.

Acknowledgement

The author acknowledges the contributions of the listed study authors and the Philippine statutes and regulations that shaped this research.

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