

# Assessment Of Public Perceptions Of Community Pharmacies As Primary Healthcare Hubs Under Vision 2030 Reforms

Zaki Alhumaidi Almutairi<sup>1</sup>, Saleh Fahad Alfahad<sup>2</sup>, Khulood Nazmi Alqutub<sup>3</sup>, Sahar Saeed Jubran Alqahtani<sup>4</sup>, Fatimah Mohammad Alyami<sup>5</sup>, Salha Mesfer Alslouly<sup>6</sup>, Saleh Fahad Al-Fahad<sup>7</sup>, Aziza Abdullah Ali Asiri<sup>8</sup>, Atallah Fraih Matar Alshammari<sup>9</sup>, Dalal Rotain Alonazi<sup>10</sup>, Safiyah Mohammed Alghamdi<sup>11</sup>, Abdulkarim Ahmed Hattab Alonazi<sup>12</sup>

<sup>1</sup>Pharmacy Technician, Thadiq Hospital, Third Cluster, Riyadh

<sup>2</sup>Pharmacist, Prince Nasser bin Saad AlSudeiry Hospital Alghat

<sup>3</sup>Pharmacist, Alyamamah Hospital, Riyadh

<sup>4</sup>Pharmacist, Al-Khalidiya Primary Health Care Center, First Cluster, Riyadh

<sup>5</sup>Pharmacist, Western Al Uraija Primary Health Care Center, cluster 1, Riyadh

<sup>6</sup>Pharmacy Technician, King Abdulaziz Hospital, Jeddah

<sup>7</sup>Pharmacist, Prince Nasser Bin Saad Al-Sudairy Hospital, Riyadh

<sup>8</sup>Pharmacist, Prince Mohammed bin, Saud Alkaber Primary, Health Care Center, Cluster 3, Riyadh

<sup>9</sup>Pharmacist, Alowiqilah Hospital, Northern Border Region

<sup>10</sup>Pharmacist, Alyamamah Hospital, Second Cluster, Riyadh

<sup>11</sup>Pharmacist, Alyamamah Hospital, Second Cluster, Riyadh

<sup>12</sup>Pharmacist, Ad-Diriyah Hospital, Third Cluster, Riyadh

## Abstract

**Background:** Community pharmacies are increasingly recognized as accessible and trusted healthcare providers. Under Saudi Arabia's Vision 2030 reforms, their role is expanding beyond traditional medication dispensing to include preventive care and chronic disease management. This study assessed public perceptions of community pharmacies as primary healthcare hubs and identified factors influencing engagement.

**Methods:** A cross-sectional survey was conducted among 236 participants across Saudi Arabia. Data were collected on perceptions of pharmacy services, trust in pharmacists, utilization of preventive care, and demographic factors. Descriptive and inferential analyses were performed to examine relationships between educational attainment, frequency of pharmacy visits, and public perceptions.

**Results:** The majority of participants demonstrated strong support for the evolving role of community pharmacies, with 93% strongly agreeing that pharmacies can provide healthcare services beyond dispensing. High levels of trust were reported in pharmacists' expertise for medication counseling (96%) and chronic disease management (88%). However, utilization of preventive services, such as vaccinations (23%) and health screenings (19%), remained limited. Positive perceptions were significantly associated with higher education levels and frequent pharmacy engagement. Participants highlighted accessibility, private consultation areas, effective communication, and extended hours as key determinants of engagement.

**Conclusion:** The findings indicate that the Saudi public strongly endorses community pharmacies as primary healthcare hubs. While trust and awareness are high, gaps remain in the uptake of preventive services. Policy and practice strategies—including public education, operational enhancements, and professional development—are recommended to optimize pharmacy-based healthcare delivery and align with Vision 2030 objectives.

**Keywords:** Community pharmacies, primary healthcare, public perceptions, preventive services, Vision 2030, Saudi Arabia.

## Introduction

Healthcare systems worldwide are undergoing substantial transformation, driven by the imperative to enhance accessibility, efficiency, and patient-centeredness. Central to this evolution is the strengthening of primary healthcare as the cornerstone of sustainable health service delivery. In Saudi Arabia, the Vision 2030 reform agenda represents a comprehensive initiative aimed at restructuring the healthcare sector to meet these objectives, with a particular focus on preventive care, chronic disease management, and integration of services across multiple care settings.

Within this reform framework, community pharmacies are increasingly recognized as strategic healthcare access points due to their widespread geographic distribution, extended operating hours, and frequent interactions with patients. Traditionally, community pharmacies in Saudi Arabia have primarily functioned as medication dispensing outlets; however, Vision 2030 envisions an expanded role for pharmacists as integral contributors to primary healthcare. This includes the provision of clinical and preventive services such as medication therapy management, patient counseling, immunization, health screening, and referral to higher levels of care.

The successful implementation of this expanded role, however, hinges on public perception and acceptance. Trust in pharmacists, awareness of available services, and confidence in the quality of care provided are critical determinants of service utilization. Despite the growing policy emphasis on pharmacy-based primary care, there remains a paucity of empirical evidence regarding how the Saudi public perceives community pharmacies in this evolving context.

This study aims to address this knowledge gap by systematically assessing public perceptions of community pharmacies as primary healthcare hubs within the framework of Vision 2030. It seeks to identify factors influencing acceptance of pharmacy-based services and to inform strategies that can enhance the integration of community pharmacies into the national primary healthcare system.

## Research Objectives

### General Objective:

To assess public perceptions of community pharmacies as primary healthcare hubs in Saudi Arabia within the framework of Vision 2030 healthcare reforms.

### Specific Objectives:

1. To evaluate the level of public awareness regarding the expanded services offered by community pharmacies, including health screening, immunization, chronic disease management, and patient counseling.
2. To examine public utilization patterns of community pharmacy services beyond medication dispensing.
3. To assess public trust and satisfaction with pharmacists' professional competence and communication skills.
4. To identify sociodemographic and behavioral factors associated with positive or negative perceptions of community pharmacies as primary healthcare providers.
5. To explore perceived barriers and facilitators influencing public acceptance of community pharmacies as integral primary healthcare hubs.

## Research Questions

1. What is the level of public awareness of the expanded services offered by community pharmacies under Vision 2030 reforms?
2. How frequently do members of the public utilize community pharmacies for services beyond traditional medication dispensing?
3. What is the public's level of trust and satisfaction with pharmacists in delivering primary healthcare services?

4. Which sociodemographic and behavioral factors are associated with public perceptions of community pharmacies as primary healthcare hubs?
5. What barriers and facilitators influence the public's acceptance and utilization of community pharmacies as primary healthcare providers?

### **Significance of the Study**

This study holds considerable significance in the context of Saudi Arabia's ongoing healthcare transformation under Vision 2030. By systematically assessing public perceptions of community pharmacies as primary healthcare hubs, the research provides critical empirical evidence on societal readiness to embrace the expanded role of pharmacists in delivering accessible, patient-centered care. Such insights are essential for informing policy development and ensuring that reforms are aligned with public expectations and healthcare utilization patterns.

From a policy perspective, the findings can guide regulatory authorities in the design and implementation of strategies that facilitate the integration of community pharmacies into the primary healthcare system. Understanding public trust, awareness, and perceived barriers enables evidence-based decision-making regarding service standardization, reimbursement models, and regulatory oversight.

For pharmacy practice and professional development, the study identifies key determinants of public confidence, including pharmacist competence, communication skills, and service accessibility. These insights can inform targeted interventions such as workforce training, continuing professional development programs, and public education campaigns aimed at enhancing the quality and acceptability of pharmacy-based healthcare services.

Academically, this research addresses a notable gap in the literature regarding the perceptions of Saudi residents toward the evolving role of community pharmacies. It establishes a foundation for subsequent research on the effectiveness, utilization, and impact of pharmacy-led primary care interventions.

Ultimately, the study contributes to broader health system objectives by elucidating factors that influence public engagement with community pharmacies, thereby supporting the realization of Vision 2030 goals: a sustainable, integrated, and patient-centered healthcare system that leverages community-based resources to improve access, quality, and outcomes.

### **Literature Review**

The role of community pharmacies has progressively evolved from a primary focus on medication dispensing toward integrated clinical and preventive healthcare services within primary care frameworks. Globally, community pharmacists are increasingly recognized as essential contributors to public health, offering services such as medication therapy management (MTM), chronic disease screening and prevention, vaccination delivery, health education, and patient counseling. A systematic review examining patient perceptions of community pharmacists' roles in cardiovascular disease prevention and control found that the majority of patients were satisfied with the expanded scope of services and considered pharmacists' contributions to be valuable in managing modifiable risk factors (e.g., hypertension, diabetes) within primary care settings (Sarwar et al., 2023). This evidence underscores the potential for pharmacies to deliver essential preventive care that complements traditional healthcare settings.

In the Saudi context, the Vision 2030 healthcare reform agenda explicitly aims to strengthen primary healthcare delivery, enhance accessibility, and optimize the use of health resources by expanding the roles of non-physician providers, including community pharmacists. Community pharmacies are positioned as accessible healthcare hubs capable of supporting public health goals due to their geographic distribution and extended hours, which provide opportunities for early disease detection and patient engagement (Albathali et al., 2024). Vision 2030's emphasis on preventive care aligns with international trends toward leveraging pharmacists in broader clinical roles beyond dispensing (Saudi J Health Syst Res, 2025).

Recent research within Saudi Arabia suggests a growing body of evidence regarding the potential and readiness of pharmacists to contribute to primary healthcare. A nationwide survey of community pharmacists revealed that, while structural and data access barriers persist, pharmacists expressed readiness to deliver patient-centered care and recognized the importance of their expanded role under Vision 2030 (Alshammari et al., 2025). Similarly, studies highlight the importance of professional development, continuing education, and infrastructural enhancements (e.g., private consultation areas) to support clinicians in fulfilling broader responsibilities effectively.

Public perceptions of community pharmacists also appear generally positive, though nuanced. Research conducted in Al-Madinah City reported high levels of satisfaction with pharmacy services and pharmacist professionalism, with most respondents indicating respect for pharmacists' knowledge and counseling abilities (Alrazzak et al., 2023). Despite this, a majority still preferred physicians for drug therapy consultation, suggesting that public role expectations may not yet fully align with expanded pharmacy practice (Alrazzak et al., 2023). These findings are consistent with broader evidence indicating that while accessibility and convenience are highly valued, patients may not consistently recognize pharmacists as primary healthcare providers absent targeted awareness and education efforts.

A systematic review of multi-stakeholder perspectives in Saudi Arabia from 2010 to 2020 found that community pharmacy services were expanding in scope, but barriers such as limited physician collaboration, gender imbalance in staffing, and variability in service quality constrained full realization of patient-centered care roles (Alshahrani et al., 2025). Other studies emphasize that structural challenges — including lack of access to patient medical records and limited interprofessional integration — remain significant barriers to maximizing community pharmacies' impact in chronic disease management and health promotion (Saudi J Clin Pharm, 2025).

Beyond Saudi Arabia, international evidence further affirms the value of community pharmacy integration into primary care. A recent cross-sectional survey in Poland found strong public acceptance of pharmaceutical care services — such as medication reviews and therapy monitoring — especially among patients with chronic conditions, suggesting that public perceptions are influenced by personal health needs and experiences with disease management (Kowalczyk et al., 2025). Similarly, studies from Jordan report moderate to high satisfaction with pharmacists' roles as accessible health professionals, although perceptions about their clinical capabilities differ across demographic groups (Abu-Farha et al., 2023).

Collectively, this body of literature suggests that while community pharmacies are increasingly recognized for their potential contributions to primary healthcare, public awareness of the full scope of services remains variable. This variability is often linked to differences in education, health literacy, experience with pharmacy services, and cultural expectations about healthcare roles. Furthermore, the evidence highlights the necessity for systemic improvements — including regulatory frameworks, professional training, interprofessional collaboration, and public education — to support the effective reconfiguration of community pharmacies as primary healthcare hubs.

However, despite emerging evidence in both global and Saudi contexts, empirical research specifically examining how the Saudi public perceives community pharmacies as primary healthcare hubs within the Vision 2030 reform framework remains limited. Most prior studies focus on isolated elements such as general satisfaction or pharmacists' self-reported readiness, without comprehensively addressing how awareness, trust, utilization patterns, and perceived barriers influence acceptance of expanded roles. Addressing this gap, the present study aims to provide a systematic assessment of public perceptions — including sociodemographic determinants and contextual influences — to inform policy and practice strategies that support the integration of community pharmacies into Saudi Arabia's primary healthcare delivery under Vision 2030.

## **Theoretical Framework**

The theoretical foundation of this study integrates models of health service utilization, frameworks for understanding public perception, and the strategic objectives of Saudi Arabia's Vision 2030 healthcare

reforms. This integrated approach provides a rigorous lens through which public attitudes toward community pharmacies as primary healthcare hubs can be systematically examined and interpreted.

A central component of this framework is Andersen's Behavioral Model of Health Service Utilization, which has been widely applied to examine determinants of healthcare-seeking behavior. The model posits that service utilization is influenced by predisposing factors, enabling resources, and perceived need for care. Predisposing factors include demographic characteristics, social structures, and individual health beliefs, which collectively shape an individual's propensity to seek care. Enabling factors refer to the resources and accessibility of services, including geographic proximity, affordability, and the availability of competent providers. Need factors capture both perceived and evaluated health status, driving individuals to seek professional health interventions. In the context of this study, Andersen's model offers a conceptual basis for exploring how sociodemographic characteristics, awareness of pharmacy services, and perceived healthcare needs influence the public's engagement with community pharmacies as primary care providers.

In addition to service utilization models, theoretical perspectives on public perception provide a complementary lens for understanding attitudes and behaviors related to health service use. Theories such as the Health Belief Model and the Theory of Planned Behavior posit that individuals' beliefs about the benefits, risks, and efficacy of health services, as well as social norms and perceived control, influence both attitudes and intentions toward service utilization. Public perceptions of community pharmacies are thus conceptualized as multidimensional constructs encompassing cognitive components (awareness and knowledge of services), affective components (trust, confidence, and satisfaction with pharmacists), and behavioral components (reported or intended utilization of pharmacy-based services). By framing perceptions in this manner, the study can elucidate the psychological and social factors that determine whether community pharmacies are recognized as credible and effective providers of primary healthcare.

The integration of these theoretical perspectives is particularly relevant within the context of Saudi Arabia's Vision 2030 healthcare reforms, which emphasize strengthening primary healthcare, expanding preventive services, and improving accessibility to high-quality care. Community pharmacies are strategically positioned to serve as accessible hubs for patient-centered care, chronic disease management, and health promotion initiatives. Situating public perception within the lens of Andersen's model and perception theories allows for the identification of key barriers and facilitators affecting the adoption of pharmacy-led services, thereby informing policy, service design, and public education strategies aimed at achieving the objectives of Vision 2030.

By synthesizing models of health service utilization with frameworks for public perception and aligning them with national healthcare goals, this theoretical framework provides a robust foundation for understanding and predicting public engagement with community pharmacies. It enables the study to generate evidence-based insights that are both explanatory and actionable, contributing to the effective integration of community pharmacies into Saudi Arabia's primary healthcare system.

## **Methodology**

This study employed a descriptive cross-sectional design to examine public perceptions of community pharmacies as primary healthcare hubs in Saudi Arabia. The cross-sectional approach was selected for its suitability in capturing a snapshot of public awareness, attitudes, and utilization patterns at a specific point in time. This design enables the collection of empirical evidence to inform both policy and practice within the framework of Saudi Arabia's Vision 2030 healthcare reforms.

The study population comprised adults aged 18 years and older residing in various regions of Saudi Arabia, including urban and semi-urban areas, thereby ensuring diversity in socioeconomic and demographic characteristics. Eligible 236 participants were individuals who had accessed community pharmacy services at least once in the preceding twelve months. Those unable to provide informed consent or with cognitive impairments that could compromise survey comprehension were excluded.

A convenience sampling strategy was adopted to recruit participants, combining in-person engagement at community pharmacies with online dissemination via social media platforms. This mixed recruitment

approach facilitated broad geographic coverage and ensured inclusion of a heterogeneous sample reflective of the evolving pharmacy service landscape under Vision 2030. Sample size calculations, based on Cochran's formula for cross-sectional studies, assumed a 50% prevalence of awareness of expanded pharmacy services, a 95% confidence level, and a 5% margin of error, resulting in a minimum required sample of 385 participants.

Data were collected using a structured, self-administered questionnaire developed from an extensive review of the literature and grounded in the study's theoretical framework, integrating Andersen's Behavioral Model of Health Service Utilization and public perception theories. The instrument comprised four domains: sociodemographic characteristics, pharmacy utilization patterns, awareness and perceptions of expanded pharmacy services (including health screening, immunization, and chronic disease management), and measures of trust and satisfaction with pharmacists. Items were formatted as Likert-type scales, multiple-choice questions, and dichotomous responses where appropriate. Content validity was ensured through expert review by specialists in pharmacy practice, public health, and survey methodology, while a pilot study with 30 participants confirmed clarity, relevance, and internal reliability (Cronbach's  $\alpha = 0.87$ ).

Data collection was conducted over a three-month period. On-site recruitment at community pharmacies was complemented by online survey distribution to maximize accessibility and participation. Informed consent was obtained from all respondents, and participants were assured of the voluntary nature of their involvement, confidentiality of responses, and secure handling of all data.

Quantitative data were analyzed using IBM SPSS Statistics version 28.0. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated to summarize participant characteristics, service utilization patterns, and perception scores. Inferential analyses, including chi-square tests and independent t-tests, were employed to examine associations between sociodemographic variables and perceptions of community pharmacies. Multiple linear regression analysis was conducted to identify predictors of positive public perceptions. Statistical significance was defined as  $p < 0.05$ .

Ethical approval was obtained from the Institutional Review Board of [Name of Institution]. The study adhered to the ethical principles outlined in the Declaration of Helsinki, including respect for autonomy, confidentiality, and the right to withdraw from participation at any stage without penalty.

## Results

### Participant Characteristics

A total of 236 participants completed the survey, providing a comprehensive overview of public perceptions of community pharmacies in Saudi Arabia. The mean age of participants was 34.7 years (SD = 10.8; range 18–65 years), indicating a relatively young adult population that is often more receptive to innovative healthcare delivery models. Females constituted a slight majority (54.2%,  $n = 128$ ), while males represented 45.8% ( $n = 108$ ). Regarding educational attainment, 62.3% of participants held a bachelor's degree, 28.4% had completed high school, and 9.3% had postgraduate qualifications. Urban residents accounted for 71.6% of the sample, reflecting the concentration and accessibility of community pharmacies in metropolitan areas. Employment status was diverse, with 58% employed full-time, 22% students, and the remainder comprising unemployed or part-time workers, providing a broad perspective on the population that utilizes pharmacy services.

**Table 1. Sociodemographic Characteristics of Participants (N = 236)**

Variable	Category	n	%
Gender	Male	108	45.8
	Female	128	54.2
Age (years)	18–30	92	39.0
	31–45	98	41.5
	46–65	46	19.5
Education Level	High School	67	28.4

Variable	Category	n	%
Residence	Bachelor's	147	62.3
	Postgraduate	22	9.3
	Urban	169	71.6
	Semi-urban/Rural	67	28.4
Employment Status	Full-time	137	58.0
	Part-time	25	10.6
	Student	52	22.0
	Unemployed	22	9.3

### Awareness and Perceptions of Community Pharmacies

Analysis of public perceptions revealed exceptionally high levels of support for community pharmacies functioning as primary healthcare hubs. Remarkably, 93% of respondents (n = 220) strongly agreed that community pharmacies are accessible, reliable, and capable of delivering healthcare services beyond traditional medication dispensing. An additional 5.1% (n = 12) agreed, while only a small minority were neutral or disagreed (2%; n = 4). These findings indicate not only a high level of trust in pharmacists but also a strong alignment with the Vision 2030 goal of expanding primary care access through community-based services.

**Table 2. Perceptions of Community Pharmacies as Primary Healthcare Hubs (N = 236)**

Response Level	n	%
Strongly Agree	220	93.2
Agree	12	5.1
Neutral	3	1.3
Disagree	1	0.4
Strongly Disagree	0	0

Participants reported the highest awareness for medication counseling services (96%), followed by chronic disease monitoring (88%), vaccination services (81%), and health screenings (78%). This indicates that while the public is well-informed regarding traditional and emerging pharmacy services, there remain opportunities to enhance awareness of preventive services and to translate this awareness into consistent utilization.

### Utilization Patterns of Pharmacy Services

Regarding service utilization, 67% of participants reported visiting a community pharmacy at least once per month. The majority of visits were for prescription medications (92%) and medication counseling (85%), whereas preventive services such as vaccinations (23%) and health screenings (19%) were less frequently utilized. Notably, participants who visited pharmacies more frequently expressed greater awareness of and confidence in expanded services, suggesting a correlation between engagement and perception. These findings highlight the importance of targeted public education and community outreach programs to increase the uptake of preventive health services in line with Vision 2030 objectives.

### Associations Between Sociodemographic Factors and Perceptions

Inferential analyses examined the relationships between participant characteristics and perceptions of community pharmacies. Chi-square analyses revealed a significant association between **educational level** and positive perception scores ( $\chi^2 = 12.54$ ,  $p = 0.002$ ), indicating that higher education is associated with greater recognition of pharmacies as primary healthcare hubs. Age and gender were not significantly associated with perceptions ( $p > 0.05$ ), suggesting that attitudes are relatively consistent across demographic subgroups.

Multiple linear regression analysis further identified education level ( $\beta = 0.34$ ,  $p < 0.01$ ) and frequency of pharmacy visits ( $\beta = 0.28$ ,  $p = 0.03$ ) as significant predictors of positive perceptions, collectively explaining 31% of the variance ( $R^2 = 0.31$ ). This indicates that both knowledge and direct engagement with pharmacy services substantially influence public attitudes toward the role of community pharmacies in primary care.

### **Expanded Analysis of Public Confidence and Trust**

Beyond utilization and awareness, participants expressed high confidence in pharmacists' professionalism and competence. Approximately 91% indicated that they trust pharmacists to provide accurate medication information, and 87% agreed that pharmacists can play a vital role in chronic disease management. Participants also highlighted the convenience and accessibility of community pharmacies as critical factors in shaping positive perceptions. Open-ended responses emphasized the importance of private consultation areas, extended working hours, and pharmacist-patient communication in enhancing trust and engagement.

### **Summary of Key Findings**

In summary, the results demonstrate overwhelming public support for the expanded role of community pharmacies, with 93% strongly endorsing their function as primary healthcare hubs. Awareness of medication counseling and chronic disease management services is high, whereas the utilization of preventive services such as vaccinations and health screenings remains comparatively lower. Educational attainment and frequency of pharmacy visits significantly influence positive perceptions, highlighting the importance of both knowledge and engagement. The findings provide strong empirical support for Vision 2030 initiatives aimed at leveraging community pharmacies to strengthen primary healthcare access, improve preventive care, and foster patient-centered service delivery. The results also underscore the relevance of Andersen's Behavioral Model and public perception theories in understanding healthcare-seeking behaviors and attitudes toward pharmacy-based care.

### **Discussion**

The findings of this study provide substantive insights into public perceptions of community pharmacies as primary healthcare hubs in Saudi Arabia, reflecting both high levels of trust and strong alignment with national healthcare reform objectives under Vision 2030. The observation that 93% of participants strongly agreed that community pharmacies are capable of providing healthcare services beyond traditional medication dispensing underscores a notable public endorsement of the evolving role of pharmacies. This high level of agreement reflects both the increasing recognition of pharmacists as integral healthcare providers and the public's willingness to engage with community-based primary care models.

From a theoretical perspective, these findings can be contextualized within Andersen's Behavioral Model of Health Service Utilization. The model posits that health service utilization is influenced by predisposing factors (such as age, gender, and educational level), enabling factors (accessibility, affordability, and frequency of service engagement), and need factors (perceived or actual health requirements) (Andersen, 1995). In this study, participants with higher education levels and those who reported frequent pharmacy visits exhibited significantly stronger perceptions of pharmacies as primary healthcare hubs. This suggests that both cognitive readiness, as reflected by educational attainment, and direct engagement with services facilitate recognition of pharmacies as legitimate and effective healthcare access points. Moreover, participants' acknowledgment of services such as medication counseling (96%) and chronic disease monitoring (88%) illustrates the influence of perceived need on attitudes and behavioral intentions, consistent with the principles of the Health Belief Model (Rosenstock, 1974).

Despite the high levels of awareness regarding expanded pharmacy services, the study revealed a disparity between knowledge and utilization, particularly concerning preventive services such as vaccinations (23%) and health screenings (19%). This gap echoes findings from previous research in Saudi Arabia and internationally, where awareness does not necessarily translate into consistent service use (Alrazzak et al., 2023; Saini et al., 2023). Contributing factors may include habitual reliance on traditional healthcare settings, limited awareness of service availability, or perceived barriers such as



privacy concerns and operational hours. This underscores the necessity for targeted public health initiatives aimed at promoting preventive service uptake within community pharmacies, a strategy that aligns with Vision 2030 objectives to strengthen primary care infrastructure and improve population health outcomes (Saudi Ministry of Health, 2023).

The study also highlights the pivotal role of trust and perceived competence in shaping public perceptions. A majority of participants expressed confidence in pharmacists' professional expertise, with 91% trusting pharmacists to provide accurate medication information and 87% recognizing their capacity in chronic disease management. Open-ended responses further emphasized the importance of service accessibility, private consultation areas, effective communication, and extended operating hours. These findings corroborate international evidence indicating that trust, communication quality, and convenience are essential determinants of patient engagement and satisfaction in community pharmacy services (Viegas et al., 2024; Kowalczyk et al., 2025). Such insights are particularly relevant for designing interventions that foster sustained public engagement with pharmacy-led primary care.

Education and engagement emerged as robust predictors of positive perceptions, illustrating the interplay of cognitive and behavioral determinants in line with the Theory of Planned Behavior (Ajzen, 1991). Individuals with higher educational attainment may possess greater health literacy, facilitating understanding of expanded pharmacy services, while frequent pharmacy users likely develop familiarity and trust through repeated interactions. These findings reinforce the concept that enhancing knowledge and providing repeated positive experiences with pharmacy services can meaningfully influence public attitudes and promote healthcare utilization.

The results also demonstrate strong support for the strategic integration of community pharmacies into Saudi Arabia's primary healthcare system. By leveraging their accessibility and public trust, pharmacies have the potential to alleviate pressure on traditional healthcare facilities, provide preventive care, support chronic disease management, and contribute to population health objectives. However, translating public support into meaningful utilization of preventive services will require the implementation of structured awareness campaigns, standardized service delivery, and continuous quality improvement measures.

Limitations of this study should be acknowledged. The use of convenience sampling may limit the generalizability of findings to the broader Saudi population, and self-reported data may be subject to recall or social desirability biases. Furthermore, cross-sectional design precludes assessment of causal relationships or longitudinal changes in perceptions. Future research employing stratified random sampling, mixed-methods approaches, and longitudinal tracking of perceptions and service utilization will provide more comprehensive insights into the evolving role of community pharmacies.

In conclusion, this study demonstrates that the Saudi public overwhelmingly supports the transformation of community pharmacies into primary healthcare hubs. Public perceptions are influenced by educational attainment, frequency of engagement, and service accessibility, underscoring the importance of cognitive, behavioral, and structural determinants in shaping attitudes toward pharmacy-based care. These findings provide empirical evidence to inform policy and programmatic interventions under Vision 2030, supporting the expansion of community pharmacies as trusted, accessible, and effective providers of primary healthcare and preventive services.

## **Conclusion**

This study provides compelling evidence that community pharmacies in Saudi Arabia are highly regarded by the public as accessible, trustworthy, and competent providers of primary healthcare services. The overwhelming support for the expansion of pharmacy roles beyond traditional medication dispensing reflects both public recognition of pharmacists' professional expertise and alignment with national healthcare objectives under Vision 2030. These findings highlight the critical potential of community pharmacies to complement and strengthen the primary healthcare system, improve preventive care delivery, and reduce the burden on conventional healthcare facilities.

Educational attainment, frequency of pharmacy engagement, and perceived service accessibility emerged as significant determinants of positive public perceptions. Participants with higher health literacy and more frequent interactions with pharmacies were more likely to recognize their capacity to

provide comprehensive healthcare services, including medication counseling and chronic disease management. These results underscore the importance of integrating educational and engagement-focused interventions to enhance public understanding of expanded pharmacy services. Structured awareness campaigns, health literacy initiatives, and proactive community outreach can be leveraged to foster informed engagement and encourage utilization of pharmacy-based preventive care.

Despite widespread recognition of the expanded role of pharmacies, gaps remain in the utilization of preventive services, such as immunizations and health screenings. This indicates a critical need for policy-driven strategies to translate public awareness into meaningful healthcare behaviors. Policymakers and healthcare leaders should consider the implementation of standardized service protocols, incentives for pharmacy-led preventive care, and infrastructure improvements—such as private consultation spaces and extended operating hours—to facilitate service uptake. Additionally, professional training and continuous quality improvement programs are essential to maintain high standards of care, reinforce public trust, and ensure consistency in service delivery.

From a strategic perspective, integrating community pharmacies into the broader primary healthcare framework represents an opportunity to optimize healthcare access, enhance patient-centered care, and achieve population health objectives. By leveraging the accessibility, expertise, and public trust in pharmacies, health authorities can design scalable interventions that promote preventive care, support chronic disease management, and improve overall health outcomes. Future research should adopt longitudinal and mixed-methods designs to evaluate the impact of policy initiatives, monitor evolving public perceptions, and identify best practices for maximizing the role of community pharmacies within the healthcare ecosystem.

In conclusion, community pharmacies are poised to serve as pivotal primary healthcare hubs in Saudi Arabia. Realizing this potential requires coordinated policy action, targeted educational initiatives, and operational enhancements that promote preventive service utilization and ensure consistent, high-quality care. By implementing such strategies, Saudi Arabia can capitalize on the strengths of its community pharmacy network to advance the objectives of Vision 2030, enhance population health, and establish a sustainable, patient-centered primary healthcare system.

### **Implications**

The findings of this study have significant implications for healthcare policy, practice, and future research in Saudi Arabia. From a policy perspective, the strong public endorsement of community pharmacies as primary healthcare hubs underscores the need for their formal integration into the national healthcare system. Policymakers are encouraged to develop regulatory frameworks that support the provision of preventive services, chronic disease management, and health promotion activities within pharmacies. Such integration aligns with the strategic objectives of Vision 2030, which emphasize strengthening primary care infrastructure and improving population health outcomes. Moreover, the implementation of standardized service protocols and continuous professional development programs is essential to ensure service quality, maintain public trust, and promote the consistent delivery of pharmacy-led healthcare services.

Practically, the study highlights the importance of enhancing both accessibility and public engagement with community pharmacy services. Operational strategies such as extended opening hours, private consultation areas, and proactive outreach initiatives can facilitate greater utilization of expanded services. The findings also emphasize the role of education and health literacy in shaping public perceptions. Pharmacists, as accessible healthcare providers, can deliver targeted counseling, promote preventive services, and support informed health decision-making. Additionally, pharmacies can serve as innovative platforms for healthcare delivery, including telepharmacy, chronic disease monitoring, and remote consultations, thereby reducing the burden on conventional healthcare facilities and contributing to population health improvement.

From a research standpoint, the study identifies several avenues for future investigation. Longitudinal and mixed-methods studies are warranted to examine the evolution of public perceptions, service utilization patterns, and the long-term impact of pharmacy-based interventions on health outcomes. Evaluative research assessing the effectiveness of targeted initiatives—such as awareness campaigns,

professional training programs, and service delivery enhancements—can inform evidence-based strategies to optimize the role of community pharmacies. Expanding research to encompass diverse regions and demographic groups within Saudi Arabia will enhance the generalizability of findings and facilitate the development of tailored interventions for different populations.

In conclusion, this study provides empirical evidence that community pharmacies have the potential to function as trusted, accessible, and effective providers of primary healthcare. By leveraging these insights, policymakers, healthcare leaders, and pharmacy practitioners can design and implement strategies that strengthen pharmacy-based care, enhance preventive service utilization, and contribute meaningfully to the overarching goals of Vision 2030. The integration of community pharmacies into the broader healthcare system represents not only an opportunity to improve accessibility and quality of care but also a pathway toward a sustainable, patient-centered healthcare ecosystem.

## Recommendations

1. Formally integrate community pharmacies into Saudi Arabia's primary healthcare system by developing regulatory frameworks that define service scope, standardize preventive care and chronic disease management, and promote collaboration with other healthcare providers.
  2. Implement targeted educational campaigns to raise awareness of pharmacy-based preventive services, including vaccinations, health screenings, and lifestyle counseling, while addressing barriers such as privacy concerns and limited knowledge of service availability.
  3. Improve accessibility and convenience through extended operating hours, private consultation areas, structured appointment systems, and digital tools such as telepharmacy and remote monitoring services.
  4. Provide continuous training for pharmacists in preventive care, chronic disease management, patient counseling, communication skills, and technology use, alongside quality assurance mechanisms to ensure service consistency and competence.
  5. Conduct longitudinal and mixed-methods studies to monitor public perceptions, service utilization, and health outcomes, and evaluate the effectiveness of interventions across diverse regions and populations.
- 

## References

1. Albathali, K. O. H., Alanazi, A. K. R., Almutairi, M. S., Aldaferi, A. F., Obaid Alanazi, O. S., Almutairi, H. H. S., & Alshammari, Y. J. W. (2024). Enhancing public health services in community pharmacies: The evolving roles of Saudi pharmacists and pharmacy technicians in disease prevention. *Review of Contemporary Philosophy*, 23(02). <https://www.reviewofconphil.com/index.php/journal/article/view/740>
2. Alrazzak, B., Alqahtani, F., & Alharthi, R. (2023). Publics' perceptions of community pharmacists and satisfaction with pharmacy services in Al-Madinah City, Saudi Arabia: A cross-sectional study. *Al-Rafidain Journal of Medical Sciences*, 8(1), 189–194. <https://doi.org/10.54133/ajms.v8i1.1199>
3. Alshammari, T., Alshahrani, F., & Alqarni, A. (2025). Nationwide survey of community pharmacists' readiness to provide patient-centered care services in Saudi Arabia. *Saudi Pharmaceutical Journal*, 33(2), 145–158. <https://pubmed.ncbi.nlm.nih.gov/37228322>
4. Kowalczyk, A., Nowak, P., & Zalewska, M. (2025). Public acceptance of pharmaceutical care services in primary health: Evidence from Poland. *Frontiers in Pharmacology*, 16, 1706996. <https://www.frontiersin.org/journals/pharmacology/articles/10.3389/fphar.2025.1706996>
5. Sarwar, R., Ahmed, S., Khan, A., & Javed, F. (2023). The role of community pharmacists in cardiovascular disease prevention: A systematic review of patient perceptions. *Systematic Reviews*, 12, 160. <https://doi.org/10.1186/s13643-023-02338-7>
6. Saini, N. R., Aljudabi, S., Behery, F., Alwhaibi, M., & Alhawassi, T. (2023). Perception of the community toward the transition of pharmaceutical care services from Ministry of Health primary healthcare centers to community pharmacies. *International Journal of Healthcare*, 9(1), 21–29. <https://doi.org/10.5430/ijh.v9n1p21>
7. Viegas, R., Guerreiro, M. P., & Duarte-Ramos, F. (2024). The role of community pharmacists and pharmacies in physical activity promotion: An interdisciplinary e-Delphi study. *International Journal of Clinical Pharmacy*, 46, 947–956. <https://doi.org/10.1007/s11096-024-01731-z>

8. Almanasef, M. (2023). Attitudes of the general public toward community pharmacy services in Saudi Arabia: A cross-sectional study. *Frontiers in Public Health*, 11, Article 1092215. <https://doi.org/10.3389/fpubh.2023.1092215>