



COMMUNITY PHARMACY SERVICES, PREVENTION, AND MEDICATION ADHERENCE: A 15-YEAR NARRATIVE REVIEW

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ABSTRACT

Over the past fifteen years, community pharmacies have evolved from traditional dispensing sites to integrated “pharmacies of services” capable of delivering structured clinical, preventive, and adherence-enhancing interventions. This narrative review synthesizes international evidence published between 2010 and 2025 on the impact of pharmacy-based services on prevention and medication adherence. Across multiple systematic reviews and randomized controlled trials, pharmacist-led interventions consistently improve adherence, with meta-analytic estimates showing mean increases of approximately 0.08 in the proportion of days covered (PDC) and a 9% higher likelihood of achieving PDC ≥ 80% compared with usual care.^[3] Studies in cardiovascular disease, diabetes, COPD, and polypharmacy populations demonstrate that medication reviews, motivational counselling, and medication therapy management programs yield adherence gains of 5–15 percentage points^[1,2,4], often accompanied by clinically meaningful reductions in systolic blood pressure (–4 to –8 mmHg)^[6] and LDL-cholesterol (–5 to –15 mg/dL).^[7] Preventive services delivered in pharmacies—including vaccination, cardiovascular risk screening, smoking cessation, and lifestyle counselling—further enhance population health, with pharmacy-based vaccination programs increasing coverage by 5–20 percentage points^[9] and screening initiatives identifying 5–15% of participants with previously undiagnosed hypertension or diabetes.^[10] Collectively, the evidence supports the effectiveness of the “pharmacy of services” model in strengthening primary and secondary prevention, improving therapeutic adherence, and contributing to better chronic disease control.

KEYWORDS: Community pharmacy, Pharmacy of services, Medication adherence, Preventive healthcare, Pharmacist-led interventions.

INTRODUCTION

The role of community pharmacies has expanded significantly over the last decade and a half, driven by increasing chronic-disease burden and the need for more

accessible health services. This evolution has given rise to the concept of the “pharmacy of services,” in which pharmacists provide structured clinical interventions beyond medication dispensing.^[11] Evidence accumulated

over the past 15 years suggests that these services can meaningfully improve medication adherence^[1,3,15] and contribute to both primary and secondary prevention.^[9,10] This review synthesizes the international literature to evaluate the effectiveness of community-pharmacy services in improving adherence and preventive health outcomes.

METHODS

This narrative review draws on systematic reviews, randomized controlled trials (RCTs), quasi-experimental studies, and observational cohorts published between 2010 and 2025. Eligible studies evaluated community-pharmacy-based services aimed at improving medication adherence, chronic-disease management, or preventive health. Outcomes included adherence metrics (particularly PDC), clinical parameters (blood pressure, LDL-cholesterol, HbA1c), preventive indicators (vaccination uptake, screening yield), and health-care utilization. Key sources included major systematic reviews^[1–5,7,9,10,12–15] and landmark RCTs.^[6,8]

Procedures

Across the included studies, community-pharmacy interventions followed a consistent procedural framework. Most programs began with a comprehensive medication review^[1,12], followed by individualized counselling using motivational interviewing.^[4,15] Many interventions included scheduled follow-up visits for monitoring clinical parameters such as blood pressure, lipid levels, and glycemic control.^[6–8] Preventive services—vaccination and screening—followed standardized protocols validated in multiple systematic reviews.^[9,10] These procedural elements form the backbone of the “pharmacy of services” model and are consistently associated with improved outcomes.

RESULTS

Medication Adherence: A 2025 meta-analysis of 29 studies found that pharmacist-led interventions increased mean PDC by 0.08 and raised the proportion of patients achieving PDC $\geq 80\%$ by 9%.^[3] Earlier reviews reported significant adherence improvements across chronic conditions including hypertension, dyslipidemia, COPD, and asthma.^[1,2,4,15] Refill persistence improved by 6–12%^[13], and early discontinuation decreased meaningfully.

Clinical Outcomes: Adherence gains translated into measurable clinical benefits. In hypertension programs, systolic blood pressure decreased by 4–8 mmHg.^[6] Lipid-management interventions achieved LDL-cholesterol reductions of 5–15 mg/dL.^[7] Diabetes programs reported HbA1c reductions of 0.3–0.8%.^[8]

Preventive Outcomes: Pharmacy-based vaccination programs increased coverage by 5–20 percentage points.^[9] Screening initiatives identified 5–15% of participants with previously undiagnosed hypertension or diabetes.^[10]

Health-care Utilization: Several studies reported reductions in hospitalizations (10–30%) and emergency visits (8–20%) among patients receiving structured pharmacy services.^[11,12] Medication-related problems decreased by 20–40%^[12], and potentially inappropriate prescribing declined by 10–25%.^[11]

DISCUSSION

The findings of this review demonstrate that community-pharmacy services consistently improve medication adherence^[1–5,15], enhance preventive care^[9,10], and contribute to better clinical outcomes.^[6–8] The adherence improvements—though modest in absolute terms—are highly meaningful at a population level, particularly for chronic conditions where even small increases reduce morbidity and health-care costs.^[13,14]

Clinical benefits associated with pharmacist-led interventions underscore the value of integrating pharmacies into chronic-disease management pathways. Reductions in blood pressure^[6], LDL-cholesterol^[7], and HbA1c^[8] are comparable to those achieved with pharmacological intensification. Preventive services delivered in pharmacies also demonstrate substantial public-health impact. Increased vaccination coverage^[9] and early detection of undiagnosed conditions^[10] highlight the strategic role of pharmacies as accessible health-care touchpoints.

Despite these strengths, heterogeneity exists across studies, particularly in populations with complex psychosocial barriers or limited integration with primary care. Future research should focus on long-term sustainability, cost-effectiveness, and standardized intervention frameworks.

CONCLUSION

Over the last fifteen years, community pharmacies have emerged as key contributors to medication adherence, chronic-disease management, and preventive health. Pharmacist-led services consistently improve adherence^[1–5,15], enhance clinical outcomes^[6–8], increase vaccination coverage^[9], and facilitate early detection of chronic conditions.^[10] These findings provide a compelling rationale for further integrating community pharmacies into primary-care systems.

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