

HEARTS Pharmacy: A framework for integrating pharmacists in hypertension and cardiovascular disease risk management in primary care

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Suggested citation Ridley E, DiPette DJ, Gysel S, Rosende A, Campbell NRC, Neira Ojeda C, et al. HEARTS Pharmacy: A framework for integrating pharmacists in hypertension and cardiovascular disease risk management in primary care. Rev Panam Salud Publica. 2025;49:e35. https://doi.org/10.26633/RPSP.2025.35

ABSTRACT

HEARTS Pharmacy, a project within the HEARTS in the Americas Initiative, provides a framework to integrate pharmacists into primary health care. Pharmacists are highly respected in health care but face challenges, such as limited scope of practice, regulatory barriers, and insufficient recognition, compounded by social norms that hinder their full potential. This paper presents compelling evidence that pharmacist-led interventions improve blood pressure control, lower cardiovascular risk, and reduce health care costs. It underscores the role of national pharmacy systems in ensuring access to high-quality medications. HEARTS Pharmacy emphasizes the role pharmacists play in team-based care, highlighting their expertise in medication management, patient education, and adherence. This paper advocates policy changes that empower pharmacists with greater responsibility, enabling them to play an active role in patient care. It also recommends actions to fully integrate pharmacists into care teams, positioning them as key players in hypertension control and cardiovascular disease risk management within primary health care.

Keywords

Hypertension; pharmacists; pharmacies; cardiovascular diseases; primary health care.

BACKGROUND

The Global HEARTS Initiative, led by the World Health Organization (WHO), aims to improve cardiovascular health worldwide (1, 2, 3). HEARTS in the Americas, a regional adaptation coordinated by the Pan American Health Organization (PAHO), focuses on strengthening health systems to improve hypertension and cardiovascular disease (CVD) risk

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management in primary health care (PHC) settings. Effective hypertension control not only prevents CVD but also reduces the burden of other major health problems, including diabetes, chronic kidney disease (CKD), and dementia, which are significant contributors to the disease burden in the Americas (4, 5).

HEARTS has expanded to 33 countries across Latin America and the Caribbean, making it the largest HEARTS implementation effort worldwide. Twenty-five of these countries have reached, or are on track to achieve, at least 80% coverage within their PHC networks. By 2026, this scale-up could triple the number of PHC centers participating, surpassing 17 000 facilities, and increase the number of people receiving treatment to over 10 million.

Each PHC facility implementing HEARTS is connected to a community pharmacy or has a designated area functioning as a "pharmacy." Overall, community pharmacies face similar challenges to those of PHC facilities, including infrastructure limitations, stock shortages, and lack of qualified personnel (5). These challenges hinder pharmacists from fully participating in care delivery, and many of them remain focused on basic tasks, such as storage and dispensing, rather than offering comprehensive pharmaceutical care. This issue arises not only from structural limitations but also from the lack of policies and strategies that integrate pharmacies and pharmacists into the PHC network, elevating their role in clinical care. HEARTS in the Americas is actively addressing these gaps, advocating for necessary changes, supporting ministries of health, and equipping PHC systems with practical, innovative tools to translate commitments into concrete

An international group of experts, primarily pharmacists, convened as part of the HEARTS Pharmacy program, has been focused on identifying key actions to advance this agenda. These actions include emphasizing robust evidence that supports the pharmacist's role in hypertension management, positioning HEARTS as a strategic opportunity to expand pharmacist roles in PHC and underscoring their unique capabilities to lead in this area. The group of experts is also clarifying the essential functions that community pharmacies and pharmacists can fulfill while identifying barriers to their integration into clinical care. For the purposes of this paper, pharmacy refers to the structure and pharmacist refers to the professional. Additionally, the experts are exploring actions to drive change while highlighting successful country efforts. HEARTS Pharmacy is expected to provide a framework for effectively integrating pharmacists into hypertension and CVD risk management within the PHC.

SUPPORTING EVIDENCE FOR ELEVATING THE PHARMACIST'S ROLE WITHIN TEAM-BASED CARE

The 2021 WHO *Guideline for the Pharmacological Treatment of Hypertension in Adults* emphasizes the significant role pharmacists can play in managing hypertension treatment with proper training, prescribing authority, established protocols, and physician oversight (6). Strong evidence supports this recommendation. A large systematic review and meta-analysis identified pharmacist-led team-based care with medication titration as the most effective approach for achieving blood pressure (BP) control (7).

In Alberta, Canada, pharmacists with prescribing privileges have achieved significantly greater reductions in systolic BP than standard care, resulting in lower CVD risk (8, 9). The RxEACH trial demonstrated that community pharmacists managing high CVD risk patients achieved a 21% reduction in CVD risk and notable improvements in low-density lipoprotein (LDL) cholesterol, systolic BP (–9.37 mm Hg), and smoking cessation within just 3 months (9).

In Southern California, a unique initiative partnered barbers with pharmacists to identify patients with uncontrolled hypertension and refer them for pharmacist-led care. This program and intervention resulted in a 21.6 mm Hg reduction in systolic BP, with 89.4% of patients achieving target BP levels below 140/90 mm Hg (10). In addition, a 2024 meta-analysis of 100 global studies showed that pharmacist-led interventions achieved the greatest BP reductions in patients diagnosed with hypertension, followed by community health worker–led interventions. Pharmacist-led efforts reduced BP by over 6 mm Hg on average, even in the interventions without pharmacist medication titration (11). Furthermore, a meta-analysis of 13 randomized controlled trials demonstrated that remote BP follow-up by pharmacists yielded significant reductions in systolic BP (12).

A Canadian randomized clinical trial demonstrated that the addition of a pharmacist on PHC teams resulted in significantly more patients with Type 2 diabetes achieving BP control in a cost-effective manner (13, 14). Furthermore, in comparison to physician-only care, having pharmacists as part of PHC teams within health maintenance organizations resulted in attaining targets for glycosylated hemoglobin (HbA1C), LDL cholesterol, and BP treatment, as well as significantly reducing the 10-year CVD risk (15).

In addition to clinical benefits, pharmacist-led hypertension management offers substantial cost savings. Expanding the RxEACH programs in Canada is projected to save C\$4.4 billion over 30 years if scaled to reach 15% of eligible patients (16). In the United States, scaling pharmacist interventions of the RxACTION study to 50% of the eligible population could yield US\$1.1 trillion in savings over 30 years (17). More broadly, pharmacists in team-based care models reduce costs by improving medication adherence, preventing errors, reducing adverse event risk, and enhancing patient outcomes (18).

In summary, substantial evidence shows that pharmacist-led care improves hypertension management, reduces CVD risk, and yields significant cost savings, supporting their expanded role in team-based care.

HEARTS: ADVANCING PHARMACISTS' ROLES IN PRIMARY HEALTH CARE

As part of the Global HEARTS Initiative, the WHO developed a technical package offering a practical approach to improving cardiovascular health, providing countries with an implementation guide. The HEARTS Technical Package consists of six modules designed to strengthen health care systems and improve outcomes for patients with hypertension and CVD.

The third module, Access to Essential Medicines and Technology, provides clear guidelines for ordering medications, estimating supply needs, and forecasting future requirements to ensure PHC facilities maintain a consistent stock of essential medicines for hypertension management (19).

The fifth module, *Team-Based Care* (20), outlines strategies for task-shifting and team-based care in CVD management, which are vital to providing care to more people, particularly in areas with limited access to physicians, such as rural and remote regions (21). The module underscores the importance of involving a wide range of health care professionals in managing hypertension and CVD.

To accelerate progress in hypertension control within PHC settings, the HEARTS in the Americas Innovation Group was formed to identify key drivers for improvement (22). The group examined best practices from high-performing programs and developed practical steps to address gaps in care. Pharmacists are integral to these strategies, particularly in implementing team-based care and task-shifting models where their expertise is essential.

With the publication of the WHO *Guidelines for the Pharmacological Treatment of Hypertension in Adults* (6) and the development of key drivers for hypertension control, HEARTS in the Americas introduced the *HEARTS Clinical Pathway for Hypertension and CVD Risk Management* (23). This pathway not only includes an example of a hypertension pharmacological treatment protocol but also integrates CVD risk assessment, accurate BP measurement technique with clinically validated devices, timely patient care intervals, and targeted immunizations (5, 23). It represents a significant gateway toward more integrated, team-based care positioning pharmacists as key members of the care team. Figure 2 illustrates the HEARTS Clinical Pathway, outlining the steps for improving patient outcomes in PHC settings.

By incorporating the role of pharmacists into the HEARTS framework, this comprehensive approach not only improves hypertension control but also fosters a more collaborative, efficient, and patient-centered health care model.

Figure 1. Illustration of the diverse health care professionals who can contribute to team-based care in managing hypertension



Source: Original figure created for this article.

NATIONAL PHARMACY SYSTEMS

National pharmacy systems play a crucial role in supporting the HEARTS framework by ensuring the availability, safety, and quality of medications in PHC settings. The success of HEARTS depends on overcoming challenges, such as medication stock-outs and ensuring access to appropriate medications, particularly ones recommended by the approved national clinical pathway, which are essential for effective hypertension and CVD risk management. Achieving a steady supply of these medications requires close coordination between national procurement agencies, health care facilities, and community pharmacies.

For optimal implementation, medications included in the country's clinical pathway must be available and listed on the national essential medicines list (EML). A recent study of medication access across 22 countries in Latin America and the Caribbean found that fewer than half had single-pill combination (SPC) antihypertensive medications on their national EML, and only seven included at least one SPC from the WHO EML. Many antihypertensive medications on national EMLs did not align with the WHO list (24).

Updating national EMLs to reflect the most current WHO guidelines would be a crucial step in improving access to medication. However, financial constraints often hinder the consistent supply of medications, particularly with rising costs. Streamlining the number of antihypertensive medications on the national EML and focusing procurement on fewer products could increase volumes and lower costs through bulk purchasing (25). Furthermore, participating in PAHO's Strategic Fund would provide a consistent procurement process, reduce costs, and ensure the quality of medicines (26). Alternatively, countries could coordinate with each other in their medication selection in order to leverage purchasing of specific SPCs.

KEY FUNCTIONS OF COMMUNITY PHARMACIES IN HEARTS

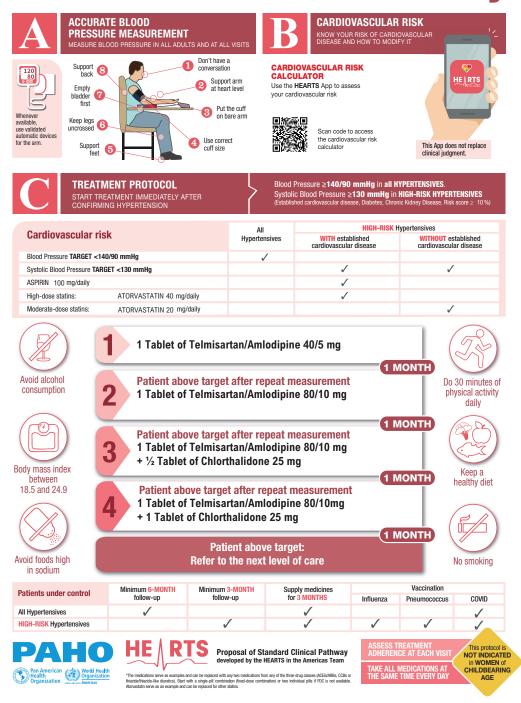
Despite the clear guidance provided by the HEARTS Technical Package and Clinical Pathway, inconsistent access to safe, standardized treatment medications, preferably using SPCs, hinders full program implementation and the achievement of optimal patient outcomes, such as hypertension control (26, 27).

Community pharmacies within PHC settings play a crucial role in ensuring the success of HEARTS. They are key to providing patients with safe, effective, and timely access to medications. The essential functions of community pharmacies in supporting HEARTS are as follows:

- Medication safety and storage: This step requires ensuring that medications are stored properly and stock is rotated to prioritize those with the shortest expiration date (19, 28). Organized medication storage is critical for maintaining safety and availability.
- **Procurement and stock management.** This step requires engaging in the procurement process by collaborating with national and regional supply agencies, monitoring medication stock, forecasting future needs, and regularly communicating to prevent stock-outs.
- Data management. This step requires utilizing electronic systems to track medication dispensing, monitor stock

Figure 2. HEARTS Clinical Pathway for hypertension and CVD risk management

HEARTS Clinical Pathway



Source: Rosende et al. 2022 (23)

turnover, and maintain up-to-date records. These systems support procurement strategies, inventory management, and quality assessments.

Community pharmacies are integral to the successful implementation of HEARTS in the Americas. By ensuring the availability of essential medications and supporting both stock

and data management, pharmacies help overcome barriers to access and contribute to improved outcomes. Continued investment in pharmacy infrastructure, training, and policy integration will elevate community pharmacies, making them a cornerstone of sustainable and effective cardiovascular care in PHC settings.

COMMUNITY PHARMACIST

Community pharmacists bring unique strengths to team-based care, positioning them as essential partners in managing hypertension and CVD (Figure 3). Their comprehensive expertise in medication management, along with their unique knowledge of drug-drug interactions, drug-food interactions, and side effect management, establishes that they have the critical skills for safely advancing treatments within approved clinical protocols under physician oversight.

Pharmacists are valuable in managing complex patients with multiple comorbidities. Specialized training and expertise allow them to optimize medication management for patients with conditions like diabetes, which often overlaps with hypertension and contributes to CVD and CKD (29). The HEARTS in the Americas Initiative has added a HEARTS-D module to address diagnosis and management of Type 2 diabetes, further integrating the pharmacist's role in managing cardiovascular risk factors.

Pharmacists also have access to prescription histories and refill data, which provide valuable insights into patient adherence. Medication nonadherence is linked to poor clinical outcomes and higher health care costs (30). With this information, pharmacists can make timely adjustments and share adherence insights with the care team, facilitating data-driven decision-making. Pharmacists' patient-centered approach helps address barriers to adherence and ensures that patients stay engaged in their care (31).

Interventions led by pharmacists, such as education and patient counseling, have shown significant improvements in BP control and medication adherence. Patient education is central to improving adherence, as it ensures patients understand hypertension and the reasons behind their treatment (32). The pharmacist's counseling skills enhance patient understanding of medication, lifestyle changes, and importance of adherence. Pharmacists can also implement practical adherence strategies, such as refill reminders, personalized medication calendars, and routine follow-up (30). Furthermore, pharmacists often

Figure 3. Essential functions of the community pharmacist



Source: Original figure created for this article.

help patients overcome financial barriers to medication by guiding them toward more affordable options.

By being easily accessible, pharmacists foster a supportive environment that empowers patients to stay informed and involved in their care. This accessibility and ability to communicate in a manner understood by the patient make pharmacists a common source of medical questions and advice. Therefore, it is not surprising that pharmacists are consistently ranked among the most trusted professionals. Their advocacy for patients beyond the clinical environment has been demonstrated to improve the overall health of patients and their quality of life (33). The location of some pharmacists outside the clinic, yet still in the local environment/neighborhood, also adds to their credibility with patients and family members.

By routinely measuring BP during medication refills with validated, automated BP measuring devices (BPMDs), pharmacists can provide timely feedback, supporting faster adjustments and better patient outcomes. They also contribute to quality improvement efforts by tracking prescription and adherence patterns, offering valuable insights into clinic performance and adherence to treatment protocols.

Together, these skills and capabilities make pharmacists indispensable in team-based management of hypertension and CVD. They enhance access to care, support better patient outcomes, and contribute to the overall effectiveness of PHC systems.

SPECIFIC ACTIONS PROPOSED BY HEARTS IN THE AMERICAS TO INTEGRATE PHARMACISTS

The HEARTS in the Americas Initiative proposes the following specific actions to incorporate pharmacists into PHC for the management of hypertension and CVD:

- Advocating policy changes. HEARTS actively advocates for policy changes to facilitate integration of pharmacists into the PHC network. This includes promoting regulations that grant pharmacists greater responsibility in clinical decision-making related to hypertension management, enabling them to play a more active role in patient care.
- Institutionalizing the HEARTS Clinical Pathway. The
 HEARTS Clinical Pathway represents a significant shift
 towards a more integrated, team-based care approach. By
 positioning pharmacists as key members of the care team,
 the pathway allows their expertise in medication management, patient education, and adherence support to be fully
 utilized.
- Promoting task-shifting and team-based care models.
 HEARTS encourages the adoption of task-shifting and
 team-based care models, especially in regions with limited
 access to physicians, such as rural and remote areas. This
 approach allows pharmacists to take on a broader range
 of responsibilities in managing hypertension and CVD, in cluding medication titration following the approved clin ical pathway.
- Emphasizing the pharmacist's expertise in medication management. The HEARTS initiative recognizes and promotes the specialized training and expertise of pharmacists in medication management. Their knowledge of drug interactions, adverse event prevention, and side effect management is seen as crucial for safely advancing

treatments within approved clinical protocols and under physician oversight.

- Enhancing the pharmacist's role in patient education and adherence. HEARTS acknowledges the significant impact of medication nonadherence on patient outcomes and health care costs. The initiative emphasizes the role of pharmacists in patient education and counseling, promoting their ability to enhance patient understanding of medications, lifestyle changes, and the importance of adherence.
- Empowering pharmacists to conduct routine blood pressure monitoring. HEARTS encourages pharmacists to routinely measure BP during medication refills using validated, automated BPMDs. This practice allows for immediate feedback, enabling timely adjustments to treatment and potentially leading to better patient outcomes.
- Strengthening national pharmacy systems. The initiative recognizes the crucial role of national pharmacy systems in ensuring the availability, safety, and quality of medications needed for effective hypertension management. HEARTS advocates for updating national EMLs to reflect the most current WHO guidelines, streamlining the number of antihypertensive medications for bulk purchasing and cost reduction, and encouraging participation in PAHO's Strategic Fund or equivalent mechanisms to ensure consistent procurement and medication quality.
- Improving community pharmacy infrastructure and training. HEARTS acknowledges the challenges faced by community pharmacies, such as infrastructure limitations, stock shortages, and lack of qualified personnel. Continued investment in pharmacy infrastructure, training, and policy alignment is deemed essential to fully support the community pharmacy.

By implementing these specific actions, HEARTS in the Americas aims to create a more integrated and robust health care system that effectively leverages the expertise of pharmacists in the fight against hypertension and CVD.

SUCCESSFUL CASE STUDIES

While traditions, culture, and regulatory factors often pose barriers to integrating pharmacists into hypertension and cardiovascular risk management within PHC, some inspiring examples are provided in the following to highlight the potential for positive change.

Chile

In 2019, Chile became one of the first countries to implement HEARTS in the Americas, starting with a standardized treatment protocol for hypertension management. This effort aimed to improve hypertension diagnosis, treatment, and control, particularly through the prominent role of nonphysician professionals. Recognizing the need to reach more people and perform timely medication titrations within the limited parameters of the country's regulations, work was done with the legal division of the Ministry of Health of Chile (MINSAL) and the ability to intensify pharmacological hypertension treatment was extended to nonphysician professionals, initially nurses then followed by pharmacists.

By early 2024, this authorization was granted, specifying that pharmacists must operate under the framework of comprehensive pharmacotherapeutic follow-up, as outlined in a manual published in 2019 by the Department of Noncommunicable Diseases of the Ministry of Health of Chile. In addition, pharmacists were also required to undergo training in standardized BP measurement, adhering to MINSAL's guidelines and PAHO's HEARTS Initiative. To gain consensus and support for this new paradigm of patient care management, meetings were held with scientific societies and professional associations for medicine, nursing, and pharmacy, all of whom endorsed this expanded role of nonphysician professionals.

However, a significant barrier emerged with the electronic health record (EHR), which initially lacked functionality for nonphysician professionals to prescribe medications or fulfill their roles as visit providers. To overcome this obstacle, changes were made with the software, which have enabled these tasks to be performed.

With the legal framework and EHR updates in place, a pilot program launched in two communities in December 2024. This pilot program will evaluate workflows, identify challenges, and refine implementation strategies before a nationwide rollout. Despite the challenges encountered, the efforts will ultimately lead to better patient outcomes, and continued program evaluation with quality improvement will be implemented to guarantee long-term success.

United States of America

Within South Carolina, a state in the southeastern United States, 1 in 3 people have hypertension, and CVD is the leading cause of death (34). Various efforts by pharmacists across health care settings in the state have been successful in engaging in team-based hypertension care to improve outcomes. Within one large health system, a pharmacist was placed both in the hospital's outpatient pharmacy and in an internal medicine resident teaching clinic, which cares for mainly low-income patients with poor health literacy and limited resource access. The work of the pharmacist primarily included assistance with medication access, adherence, patient education, and anticoagulation management under physician supervision. As the value of the pharmacist's role in medication management and outcomes improvement was realized, the role of the pharmacist was extended within the collaborative practice agreement beyond anticoagulation management to the management of other chronic disease states with medication titration. With the support of clinic leadership, team-based visits were also developed, focusing on hypertension management. The pharmacist has served as a key member of this hypertension team in assessing adherence through refill histories, addressing nonadherence, educating patients, guiding the team, and managing team logistics. Team-based care involving the pharmacist has further evolved with diabetes-focused team visits as well with the pharmacist also guiding that team. Over time, the integration of pharmacists within primary care practices has extended across the entire health system with the expansion of the pharmacist's role and improved outcomes seen.

Canada

In Alberta, Canada, a novel clinical community pharmacy practice focuses on accessible chronic disease management. Pharmacists in this province can register for authority to order laboratory tests. They may also apply for "additional prescribing authorization," which permits independent prescribing of medication. Each pharmacist at this community pharmacy practice has completed additional training with their own specialization in specific clinical areas. The pharmacists receive referrals from local primary care providers, specialist physicians, and through walk-ins for the management of chronic diseases, such as hypertension and diabetes.

At this pharmacy, there is a dedicated medication dispensing area along with private consultation rooms equipped with a medical exam table and a validated, automated BPMD. During consultation, the pharmacist conducts a limited physical assessment, obtains vital signs, and reviews the patient's provincial electronic health record for their medical history, laboratory values, and current medications. In the management of hypertension, pharmacists can diagnose, prescribe medications, provide dietary and lifestyle advice, order and monitor lab work, and adjust medications at follow-up visits to achieve BP targets. Cardiovascular risk assessment is also performed. Pharmacists collaborate with the patient's health care team by sending a summary of every consultation completed. In addition, the pharmacy team provides adherence support with medication refills, and through regular follow-ups, they can adjust pharmacotherapy. Patients with multiple comorbidities receive team-based pharmacist care leading to improved outcomes.

CONCLUSION

Over the past eight years, substantial progress has been made in controlling hypertension and managing CVD risk across Latin America and the Caribbean through the HEARTS in the Americas Initiative. However, achieving high rates of hypertension control remains a challenge. Limited access to medications and inadequate clinical management affect many patients, while cultural traditions and regulatory limitations hinder team-based care.

New opportunities exist to advance hypertension management by integrating pharmacy services and pharmacist leadership within a team-based care model. Elevating pharmacists to active roles within PHC teams can support treatment intensification and improve patient outcomes. Through projects like HEARTS Pharmacy, the initiative advocates policy changes that empower pharmacists to deliver comprehensive care, enhancing access to quality treatment and bolstering the sustainability of hypertension and CVD risk management across the Americas.

Contributors. ER, DJD, AR, and PO conceptualized the idea and designed the paper. ER collected and synthesized the evidence. ER, DJD, SG, and PO wrote the original manuscript draft and ER created Figures 1 and 3. AR, NRCC, and CNO made critical contributions through review and editing of the manuscript. All authors critically reviewed the final manuscript and provided feedback.

Conflicts of interest. None declared.

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Manuscript submitted 14 January 2025. Revised version accepted for publication on 5 March 2025.

HEARTS Farmacia: marco para integrar a profesionales de farmacia en la gestión del riesgo de hipertensión y enfermedades cardiovasculares en la atención primaria

RESUMEN

HEARTS Farmacia, un proyecto que forma parte de la iniciativa HEARTS en las Américas, proporciona un marco para integrar a profesionales de farmacia en la atención primaria de salud. Los profesionales de farmacia son muy respetados en el ámbito de la atención de salud, pero enfrenta algunas dificultades, como el alcance limitado de su labor, los obstáculos en la regulación y un reconocimiento insuficiente, que se ven agravados por normas sociales que les impiden desarrollar todo su potencial. En este artículo se presenta evidencia convincente que indica que las intervenciones dirigidas por profesionales de farmacia mejoran el control de la presión arterial, disminuyen el riesgo cardiovascular y reducen los costos de la atención de salud. Se subraya el papel de los sistemas nacionales de farmacia para garantizar el acceso a medicamentos de gran calidad. HEARTS Farmacia hace hincapié en el papel que desempeñan los profesionales de farmacia en la atención en equipo, y destaca su competencia en el manejo de medicamentos, la educación del paciente y la adhesión al tratamiento. En este artículo se aboga por cambios de política que empoderen a los profesionales de farmacia dándoles mayor responsabilidad y les permitan desempeñar un papel activo en la atención del paciente. También se recomiendan medidas para la integración plena de profesionales de farmacia en los equipos de atención, y para que sean un elemento clave en el control de la hipertensión y la gestión del riesgo de enfermedades cardiovasculares en la atención primaria de salud.

Palabras clave

Hipertensión; farmacéuticos; farmacias; enfermedades cardiovasculares; atención primaria de salud.

Farmácia HEARTS: um modelo para a integração de farmacêuticos na gestão dos riscos de hipertensão arterial e doenças cardiovasculares na atenção primária

RESUMO

A Farmácia HEARTS, um projeto da iniciativa HEARTS nas Américas, oferece uma estrutura para integrar farmacêuticos na atenção primária à saúde. Os farmacêuticos são profissionais bastante respeitados na atenção à saúde, mas enfrentam dificuldades, como limitações em sua área de atuação, barreiras regulatórias e falta de reconhecimento, que são agravadas por normas sociais que os impedem de desenvolver todo seu potencial. Este artigo apresenta evidências convincentes de que intervenções lideradas por farmacêuticos melhoram o controle da pressão arterial, reduzem o risco cardiovascular e diminuem os custos de saúde, ressaltando o papel dos sistemas nacionais de farmácia para garantir o acesso a medicamentos de alta qualidade. A Farmácia HEARTS enfatiza o papel dos farmacêuticos na atenção baseada em equipes, destacando seu conhecimento técnico em gestão de medicamentos, educação de pacientes e adesão ao tratamento. Este artigo defende mudanças nas políticas de modo a empoderar os farmacêuticos, dando-lhes mais responsabilidades e permitindo que tenham um papel ativo no cuidado dos pacientes. Além disso, recomenda ações para integrar plenamente os farmacêuticos às equipes de atenção, colocando-os como atores-chave no controle da hipertensão arterial e na gestão dos riscos de doenças cardiovasculares na atenção primária à saúde.

Palavras-chave

Hipertensão; farmacêuticos; farmácias; doenças cardiovasculares; atenção primária à saúde.