

HYPERTENSION CONTROL PROJECTS

HEARTS 2.0: Hypertension control and integrated CKM Care in the implementation era

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Eight years that changed the conversation

Hypertension is one of the best-understood but least well-controlled major risk factors for cardiovascular disease. Effective medicines have been available for decades; the benefits of blood pressure reduction are beyond dispute, and few areas of medicine have generated such extensive clinical evidence and so many clinical practice guidelines. Yet hypertension control remains low worldwide, even in most high-income countries, highlighting the persistent gap between knowledge and implementation.¹

Launched in the Americas in 2018, as an adaptation of the WHO Global HEARTS Initiative, HEARTS shifted the focus from producing more recommendations to strengthening health-system capacity to deliver existing evidence through primary health care.² It has since been adopted by 34 countries and territories across the Region, reaching nearly 15,000 primary health care facilities serving a catchment population of approximately 68 million adults. Thirty-one countries have developed standardized clinical pathways, and 15 have expanded implementation across more than 80% of their primary care centers. HEARTS has thus become the largest regional implementation initiative for hypertension control.³

HEARTS' greatest contribution has been to reframe hypertension control as a health-system challenge. In practice, this has meant shifting from conventional manual blood pressure

measurement to clinically validated automated devices; from discretionary prescribing to standardized treatment protocols specifying medicines, doses, and titration schedules; from stepwise monotherapy to early combination treatment, preferably as a single-pill; from a physician-centred approach to team-based care; and from administrative reporting to routine performance monitoring for continuous quality improvement.⁴

Progress, however, has been uneven. Some countries have used HEARTS to strengthen primary health care and advance broader chronic disease management, whereas others remain at earlier stages, reflecting differences in political commitment, institutional leadership, and investment.

As HEARTS matured, cardiovascular prevention was also evolving. The growing recognition that hypertension, cardiovascular disease, chronic kidney disease, diabetes, obesity, and related metabolic disorders should be managed more cohesively, together with major therapeutic advances, challenged traditional disease-specific models of care.⁵ The question was no longer whether HEARTS remained relevant—it clearly did—but whether it could evolve without losing the simplicity and practicality that had made large-scale implementation possible. HEARTS 2.0 was our answer.

HEARTS 2.0: The Evolution of HEARTS

As HEARTS gained regional momentum and became a priority for PAHO and many Ministries of Health, countries increasingly adopted its policy frameworks, operational tools, training resources, and implementation experience to strengthen primary health care. HEARTS had evolved from a technical program into a regional implementation platform, creating the conditions for its next evolution.

Recently published in *The Lancet Primary Health Care*, the HEARTS 2.0 Clinical Pathway broadens the original model to more effectively address cardiovascular-kidney-metabolic conditions. Rather than becoming another clinical practice guideline, it integrates the strongest recommendations already available into a single framework for primary care.⁶

Clinical practice guidelines define standards of care. Standardized treatment protocols translate clinical recommendations into structured therapeutic and follow-up actions by specifying medicines, doses, titration schedules, and criteria for treatment intensification. Clinical pathways organize how that care is delivered. HEARTS 2.0 translates contemporary recommendations into a standardized clinical pathway that can be implemented consistently in primary health care.⁷

HEARTS 2.0 was developed in three phases. An international multidisciplinary group identified candidate interventions from contemporary evidence. Countries implementing HEARTS in the Americas assessed their feasibility in routine primary care. Finally, an international expert panel prioritized the interventions most appropriate for standardized implementation across diverse health systems.⁸ The result was the HEARTS 2.0 Clinical Pathway (**Figure 1**).

The Clinical Pathway is the operational core of HEARTS 2.0. Hypertension remains its clinical backbone and entry point, while contemporary evidence is organized into four connected components covering diagnosis, risk assessment, treatment, and follow-up. Rather than creating parallel disease pathways, it integrates cardiovascular, kidney, and metabolic care into a single sequence of clinical decisions that can be

delivered, measured, and continuously improved through primary health care.⁶

This evolution also introduces new implementation dilemmas⁶—not shortcomings of the Clinical Pathway, but inevitable trade-offs when higher clinical standards are translated into routine practice.

The first dilemma is how to balance integration with feasibility. People with hypertension often have CKM conditions that must be managed together, yet broader pathways are more difficult to implement. The challenge is to harmonize recommendations, prioritize interventions with the greatest clinical value, and preserve practicality without omitting essential care.

The second dilemma is how to balance standardization with clinical individualization. Evidence now strongly supports standardized treatment protocols over discretionary prescribing. Clinical judgement should guide justified exceptions, not replace standardized care.

The third dilemma is how to reconcile higher clinical standards with scalability and equity. Better care often requires more resources, but the response cannot be to accept lower standards for vulnerable populations. Nor should feasibility be used to exclude interventions supported by robust evidence. The challenge is to advance coverage and quality together—and equitably—through careful prioritization, phased implementation, adequate financing, and stronger health systems.

The fourth dilemma is how to strengthen primary health care while preserving the essential role of specialists. Strengthening primary health care does not diminish specialized care; it allows specialists to focus on patients whose diagnosis or management requires expertise or resources beyond standardized primary care pathways.

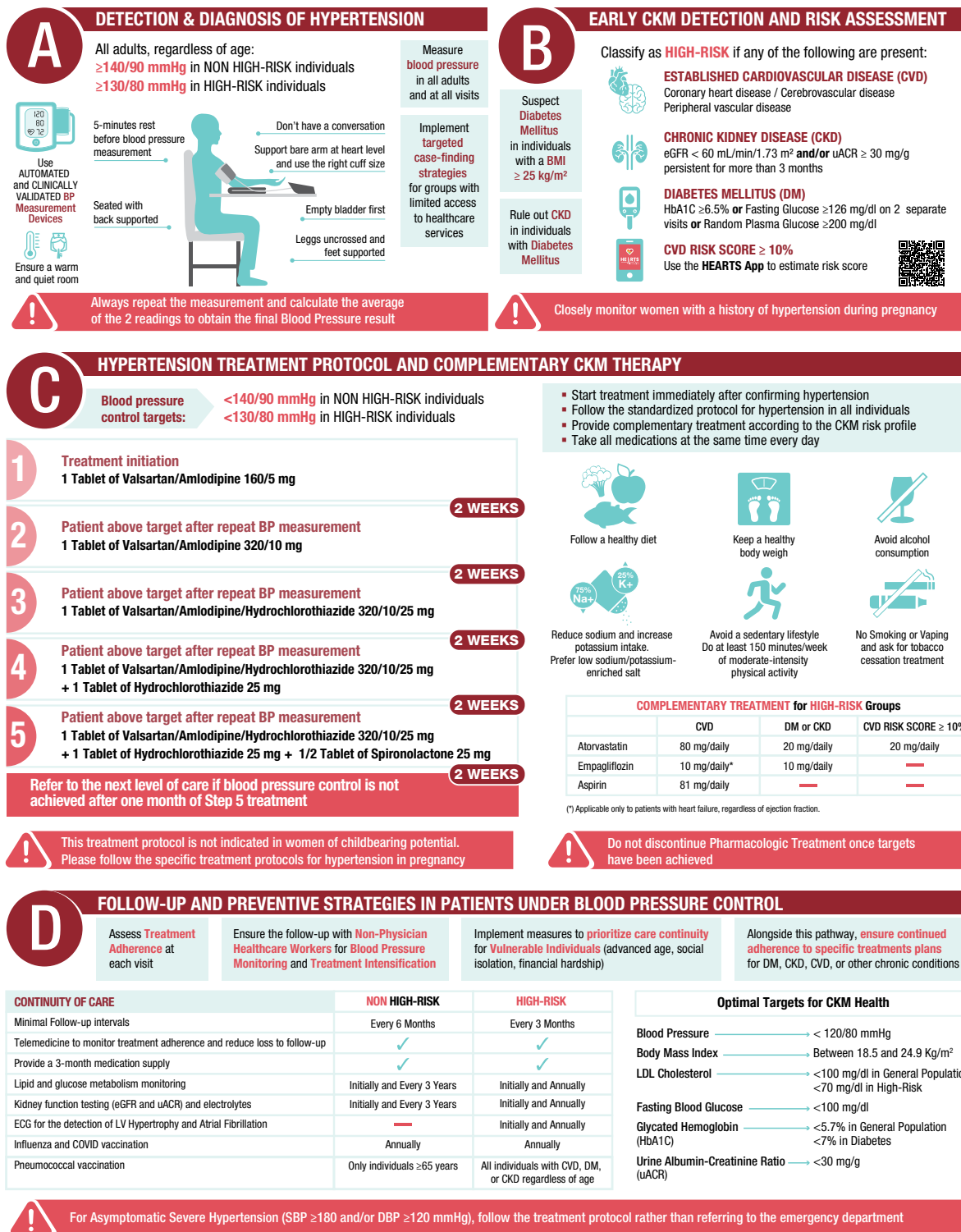
Taken together, these dilemmas reinforce an important conclusion: HEARTS 2.0 should not be viewed as a stand-alone solution. Even a well-designed clinical pathway cannot by itself overcome the organizational, educational, regulatory, and financial barriers that continue to limit hypertension control. Addressing these barriers defines the next frontier in the era of implementation.



Figure 1. HEARTS 2.0 Standard Clinical Pathway designed by the authors.

HEARTS 2.0 Standard Clinical Pathway

Integrated Cardiovascular-Kidney-Metabolic (CKM) Management for Primary Care



Beyond HEARTS 2.0: From Clinical Pathway to Institutionalized Practice

The publication of the HEARTS 2.0 Clinical Pathway is only the beginning. Its long-term value will depend less on endorsement than on institutionalization. To improve hypertension control at scale, HEARTS 2.0 must become part of routine health care. That is the defining challenge of the implementation era.⁴

Institutionalization means embedding agreed standards of care into the policies, financing, procurement systems, workforce organization, information systems, quality assurance processes, and accountability mechanisms that shape everyday practice. It transforms recommended care into consistently delivered care.

HEARTS 2.0 also reflects a broader shift in hypertension care. Contemporary guidelines still differ in important respects, but they increasingly converge around a core set of evidence-based practices: accurate blood pressure measurement with clinically validated devices; integrated cardiovascular risk assessment; simple, standardized treatment protocols with early combination therapy; timely treatment intensification; team-based care; and routine performance monitoring.

Bringing these elements together in a single clinical pathway may promote greater harmonization across guidelines for hypertension, diabetes, chronic kidney disease, lipid management, and cardiovascular prevention. Patients experience one clinical journey; our recommendations should reflect that reality. In the future, clinical practice guidelines may be judged not only by the quality of their recommendations, but also by their feasibility, their capacity to reduce fragmentation, and their potential for sustainable implementation.

This new era also expands the scientific agenda.⁹ Clinical research will continue to refine pharmacological treatment, risk prediction, and individualized care. Equally important, however, is understanding how proven interventions can be delivered consistently, equitably, and at scale.

Some of the most important advances in hypertension over the next decade may come not from another head-to-head trial or another debate over treatment thresholds, but from learning how to translate existing evidence into better population outcomes. The next frontier extends beyond efficacy to effectiveness and implementation. The ultimate purpose of clinical research is not simply to determine what works, but to ensure that it benefits everyone who needs it.¹⁰

Hypertension is already one of the best-understood conditions in medicine. The next challenge is to make it one of the best implemented.

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