

HEARTS in the Americas: saving lives from the world's deadliest disease

Thomas R. Frieden¹, Andrew E. Moran^{1,2} and Renu Garg¹

Suggested citation Frieden TR, Moran AE, Garg R. HEARTS in the Americas: saving lives from the world's deadliest disease. *Rev Panam Salud Publica*. 2022;46:e171. <https://doi.org/10.26633/RPSP.2022.171>

Cardiovascular disease (CVD) has long been the leading cause of death in the Americas and globally, with high blood pressure accounting for more than half of CVD. The Region of the Americas, with pioneering policies in several countries, is a global leader in public health approaches to dietary sodium reduction. However, even if sodium reduction – the most scalable approach to preventing hypertension, possibly in combination with increased use of low-sodium salts to also increase potassium intake to healthier levels – is highly successful, more than one hundred million people in the Region will still need treatment of hypertension. Despite the availability of low-cost, generic, safe, and effective treatment for hypertension, most people with the condition are not adequately treated, resulting in millions of preventable heart attacks, strokes, and deaths every year. Only a few countries in the Region have achieved a population hypertension control rate greater than 50%.

The World Health Organization (WHO) Global HEARTS Initiative aims to accelerate hypertension treatment at the population level with five core program components: a standard treatment protocol, consistent supplies of quality-assured medications and blood pressure monitors, team-based care, patient-centered care, and information systems that facilitate real-time feedback on patient progress and program performance.

HEARTS in the Americas, the regional adaptation of the WHO initiative spearheaded by the Pan American Health Organization (PAHO), is now entering its sixth year of implementation.⁽¹⁾ As of June 2022, more than one million patients were receiving treatment under this initiative at approximately 2 000 primary health care centers in 24 countries. More than half of these patients are being provided with care that controlled their blood pressure to less than 140/90 mmHg. However, this represents only a small fraction of the need for hypertension treatment, even in the communities where the program is active.

HEARTS in the Americas has been in the forefront of implementing the WHO-HEARTS technical package, including

working with countries to develop and implement standardized hypertension treatment protocols at national, subnational, and primary health care facility levels. A drug- and dose-specific protocol is quite different from and much more useful than a guideline. A protocol provides, consistent with national policies, a step-by-step schedule for initiation, titration, and addition of a core group of medications to facilitate simplicity, speed, and scale of program implementation.

Practical treatment protocols increase rates of hypertension control by reducing the cost of medications and treatment; facilitate team-based care that is better able to support patients; enable better training and supportive supervision for front-line health workers; increase ease of program logistics; and reduce both unwarranted clinical variability and therapeutic inertia.⁽²⁾ Of course, clinicians are free to deviate from the protocol when they judge that this is clinically indicated. The best performing health systems use standardized treatment protocols and regular information feedback to improve program quality and hypertension control rates. Kaiser Permanente Northern California, an integrated care delivery system with more than four million members, used this approach to more than double hypertension control rates, from 42% to nearly 90%.⁽³⁾

Most individuals with hypertension, particularly those whose initial blood pressure is >160/100 mmHg, will eventually require two or more antihypertensive medications to achieve blood pressure control.⁽⁴⁾ Using two or more drugs improves blood pressure control and can reduce adverse effects due to the lower dosages required. Ideally, fixed-dose combination drugs will be used; these formulations increase medication adherence, decrease pill burden, simplify logistics and dosing schedules, and can improve blood pressure control rates. HEARTS in the Americas countries are global leaders in terms of implementing combination antihypertensive drug therapy in national treatment protocols, with many country protocols initiating hypertension treatment with a combination of two medicines.

¹ Resolve to Save Lives, New York, United States of America

² Columbia University, New York, United States of America

One hurdle to improved treatment of hypertension is the cost of medications. Using a pooled, regional approach to procure drugs and blood pressure monitors, as is done by the PAHO Strategic Fund, results in negotiated pricing that makes recommended antihypertensive drugs affordable for most people and governments.⁽⁵⁾ Pooled procurement is an important strategy to reduce prices for medications that treat HIV and tuberculosis, which also use standardized treatment protocols. This approach, if used widely for antihypertensive drugs, has the potential to greatly increase access to treatment and thereby save lives.

Other innovations, such as use of the open-source Simple mobile application (<https://www.simple.org>) to support large-scale hypertension and diabetes management programs, have the potential to increase blood pressure control rates and improve population health. Community-based interventions that structure environments to make healthy behaviors the default choice, although sometimes subject to opposition from commercial interests, are especially promising for long-term, sustainable improvements in cardiovascular health.

Healthier people are more resilient and better protected against health threats of all types, including those caused by infectious and non-infectious disease emerging from natural or man-made sources. COVID-19 has been so deadly in part because so many people were vulnerable as a result of their poor health status.

The articles in this special issue on HEARTS in the Americas illustrate a wide range of important research on implementing the comprehensive HEARTS model throughout the Americas.

Results show that this approach works in countries with differing social and political environments and can be scaled up to serve large populations.

Public health programs work best when they focus on specific, measurable, ambitious, achievable targets. In hypertension control, this means focusing on steadily increasing the proportion of all people with estimated hypertension who are adequately treated. More than 6 out of 10 people living with hypertension in the Americas are not adequately treated today.⁽⁶⁾ Unless progress providing life-saving antihypertensive treatment accelerates substantially, addressing this fundamental health need and human right, the Region will not provide effective treatment to even half of the population in need until 2050, and is likely to miss the Sustainable Development Goal (SDG) target for preventing death from non-communicable disease at a young age. With focus and acceleration, most people in the Region can be treated effectively. Widespread application of the HEARTS strategy with a focus on achieving the 80-80-80 target for hypertension diagnosis, treatment, and control ⁽⁷⁾ could save millions of lives, prevent avoidable expense and suffering, accelerate progress toward achieving the SDGs, and make the Region a global model for cardiovascular disease prevention.

Manuscript received on 15 August 2022. Accepted for publication on 23 August 2022.

REFERENCES

1. Ordunez P, Campbell NRC, Giraldo Arcila GP, Angell SY, Lombardi C, Brettler JW, et al. HEARTS in the Americas: innovations for improving hypertension and cardiovascular disease risk management in primary care. *Rev Panam Salud Publica*. 2022;46:e96. <https://doi.org/10.26633/RPSP.2022.96>
2. Frieden TR, King SM, Wright JS. Protocol-based treatment of hypertension: a critical step on the pathway to progress. *JAMA*. 2014;311:21-22.
3. Jaffe MG, Young JD. The Kaiser Permanente Northern California story: improving hypertension control from 44% to 90% in 13 years (2000 to 2013). *J Clin Hypertens*. 2016;18:260-261.
4. Wald DS, Law M, Morris JK, Bestwick JP, Wald NJ. Combination therapy versus monotherapy in reducing blood pressure: meta-analysis on 11,000 participants from 42 trials. *Am J Med*. 2009;122:290-300.
5. Under pressure: strategies to improve access to medicines to treat high blood pressure in low- and middle-income countries. *Resolve to Save Lives*; 2022 [cited 8 August 2022]. Available from: <https://resolvetosavelives.org/assets/Downloads/Docs/RTSL%20Under%20Pressure.pdf>
6. Campbell NRC, Paccot Burnens M, Whelton PK, Angell SY, Jaffe MG, Cohn J, et al. 2021 World Health Organization guideline on pharmacological treatment of hypertension: Policy implications for the region of the Americas. *Lancet Reg Health Am*. 2022;9:100219. <https://doi.org/10.1016/j.lana.2022.100219>.
7. Pickersgill SJ, Msemburi WT, Cobb L, Ide N, Moran AE, Su Y, et al. Modeling global 80-80-80 blood pressure targets and cardiovascular outcomes. *Nat Med*. 2022;28:1693:1699. <https://doi.org/10.1038/s41591-022-01890-4>.