Innovations for improving hypertension and cardiovascular disease risk management in primary care

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Natalia Parra, MPP

Improving Clinical Management and NCD Surveillance in the Context of COVID-19 through HEARTS Implementation
Saint Lucia – 15-18 May 2023
Contents

• Burden of CVD and the Urgency.
• Hypertension Treatment Cascade and Key Interventions.
• Global HEARTS and HEARTS in the Americas.
• HEARTS Clinical Pathway.
• HEARTS Tools.
• Challenges
• Ecosystem
Cardiovascular Diseases in the Americas 2019

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- New cases: 14 million
- People living with this condition: 80 million
- CVD deaths: 2 million

- 29% of total deaths
- 35% of NCD deaths
- 49% of NCD deaths

- 30% of the 2 million annual CVD deaths in the Region of the Americas occurred in people under 70 years of age

- 80% of the CVD deaths could be averted or postponed to later ages through effective public health interventions, disease management, secondary prevention, and treatments

Cardiovascular disease burden - PAHO/WHO | Pan American Health Organization

https://www.paho.org/en/hearts-americas
Regional situation of CVD

Top 20 causes of Deaths
Region of the Americas, Both sexes, All Ages, 2019

1. Ischemic heart disease
2. Stroke
3. Alzheimer disease and other dementias
4. Chronic obstructive pulmonary disease
5. Liver respiratory infections
6. Diabetes mellitus (excluding CVD due to Diabetes)
7. Trachea, bronchus, lung cancers
8. Kidney diseases
9. Interpersonal violence
10. Hypertensive heart disease
11. Road injury
12. Cirrhosis of the liver
13. Colon and rectum cancers
14. Breast cancer
15. Prostate cancer
16. Self-harm
17. Neonatal conditions
18. Drug use disorders
19. Pancreas cancer
20. Falls

The slowdown in the reduction rate of premature mortality puts the Americas at risk of not achieving SDG 3.4 To reduce by 2030 premature mortality by 1/3 due to NCDs

### Hypertension treatment cascade


<table>
<thead>
<tr>
<th>Region of the Americas</th>
<th>BOTH SEXES</th>
<th>FEMALE</th>
<th>MALE</th>
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<td>36.7</td>
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<td>Bahamas</td>
<td>34.4</td>
<td>26.7</td>
<td>42.8</td>
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<td>Barbados</td>
<td>29.4</td>
<td>22.0</td>
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<tr>
<td>Belize</td>
<td>40.4</td>
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<td>Dominica</td>
<td>42.3</td>
<td>32.9</td>
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<td>Guyana</td>
<td>36.8</td>
<td>29.4</td>
<td>45.2</td>
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<tr>
<td>Haiti</td>
<td>43.6</td>
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<td>Saint Kitts and Nevis</td>
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<tr>
<td>Saint Lucia</td>
<td>30.7</td>
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<td>42.7</td>
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<tr>
<td>Saint Vincent and the Grenadines</td>
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<td>27.0</td>
<td>50.9</td>
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<td>Suriname</td>
<td>36.2</td>
<td>27.5</td>
<td>45.4</td>
</tr>
<tr>
<td>Trinidad and Tobago</td>
<td>40.0</td>
<td>32.4</td>
<td>47.7</td>
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</table>

*The table represents the proportion of hypertensive individuals in each category: Hypertensive - Unaware, Aware - Untreated, Treated - Uncontrolled, Treated - Controlled.*
Strong inverse association between HTN control and IHD and stroke mortality

1% popHTNc : 2.9% IHD mortality

1% popHTNc : 2.4% Stroke mortality

Hypertension cascade of care and hurdles to BP Control

Frieden et al. JCH 2019.
Key lessons from successful hypertension control program

Key interventions

- Drug- and dose-specific protocols
- Fixed dose combinations
- Drug supply
- Blood pressure measurement
- Team-based care
- Patient-centered services
- Monitoring/Information systems
- Accountability
- Prioritization

The 2021 WHO Hypertension Guideline is focused on implementation.

- Threshold for the initiation of pharmacological treatment
- Cardiovascular disease risk assessment
- Specific medication classes and use of FDC
- Target blood pressure
- Frequency of assessment
- Treatment by nonphysician professionals

HEARTS will be the institutionalized model of care for cardiovascular risk management, with special emphasis on the control of hypertension and secondary prevention in primary health care in the Americas by 2025.

- More than 3,232 PHC implementing HEARTS
- More than 2,867 PHC centers reporting data

**HEARTS TIMELINE OF ADHESION**

- **First cohort:** Barbados, Colombia, Chile, Cuba
- **Second cohort:** Argentina, Ecuador, Panama, Trinidad & Tobago
- **Third cohort:** Dominican Rep., Mexico, Peru, Saint Lucia
- **Fourth cohort:** Brazil, Bolivia, Costa Rica, El Salvador, Guyana, BVI
- **Fifth cohort:** Bahamas, Bermuda, Guatemala, Montserrat, St. Vincent & The Grenadines, Surinam
- **Sixth cohort:** Anguilla, Antigua & Barbuda, Grenada, St. Kitts & Nevis, Turks & Caicos, Uruguay
- **Seventh cohort:**

**2017-2022 and Scale-up Projection 2023-2025**

- 32 countries committed to implementing HEARTS
- More than 32,707,445 million people covered.

**Scale-Up Commitment by the numbers**

<table>
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<tr>
<th>Year</th>
<th>DEC 2022 # PHC CENTERS REPORTING (15 COUNTRIES)</th>
<th>DEC 2022 # PHC CENTERS IMPLEMENTING (17 COUNTRIES)</th>
<th>2023 CUMULATIVE COMMITMENT</th>
<th>2024 CUMULATIVE COMMITMENT</th>
<th>2025 CUMULATIVE COMMITMENT</th>
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<td>2023</td>
<td>14 (4)</td>
<td>329 (12)</td>
<td>10,000</td>
<td>100,000</td>
<td>1,000,000</td>
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<td>2024</td>
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<td>739 (12)</td>
<td>10,000</td>
<td>100,000</td>
<td>1,000,000</td>
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<tr>
<td>2025</td>
<td>1380 (15)</td>
<td>9690 (17)</td>
<td>10,000</td>
<td>100,000</td>
<td>1,000,000</td>
</tr>
<tr>
<td>2026</td>
<td>3232 (17)</td>
<td>15323 (17)</td>
<td>10,000</td>
<td>100,000</td>
<td>1,000,000</td>
</tr>
<tr>
<td>2027</td>
<td>22936 (17)</td>
<td>9690 (17)</td>
<td>100,000</td>
<td>1,000,000</td>
<td>100,000</td>
</tr>
</tbody>
</table>

- More than 2,867 PHC centers reporting data

**Number of PHEC (Log scale)**

- Actu

## HEARTS in the Americas

### Guiding Principles

<table>
<thead>
<tr>
<th>Principle</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country ownership</strong></td>
<td>HEARTS is led by the Ministries of Health, with the participation of other stakeholders and PAHO's technical cooperation.</td>
</tr>
<tr>
<td><strong>Simple and practical</strong></td>
<td>The Initiative provides pragmatic, cost-effective, and feasible solutions to PHC.</td>
</tr>
<tr>
<td><strong>Evidence-based</strong></td>
<td>HEARTS promotes the adoption of best practices in preventing and controlling CVD and improving health services organization.</td>
</tr>
<tr>
<td><strong>Accountability</strong></td>
<td>HEARTS is a data-driven initiative.</td>
</tr>
<tr>
<td><strong>Continuous learning</strong></td>
<td>Continuous learning cycles, peer-led teaching, dissemination of effective innovations, and lessons learned during implementation.</td>
</tr>
<tr>
<td><strong>Long-term sustainability</strong></td>
<td>Integrating elements into the existing health care systems.</td>
</tr>
<tr>
<td><strong>Increasing the PHC capacity</strong></td>
<td>Recruiting more PHC facilities and increasing the speed of model institutionalization.</td>
</tr>
</tbody>
</table>

## HEARTS model vs. Traditional model

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Traditional Model</th>
<th>HEARTS in the Americas</th>
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</thead>
<tbody>
<tr>
<td><strong>Level of care</strong></td>
<td>Specialty based</td>
<td>Primary care-based</td>
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<tr>
<td><strong>Providers</strong></td>
<td>Physician-centered</td>
<td>Team-based care with task shifting</td>
</tr>
<tr>
<td><strong>Training</strong></td>
<td>Not standardized</td>
<td>Standardized</td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td>Individualized, complex guidelines</td>
<td>Standardized treatment protocol</td>
</tr>
<tr>
<td><strong>BP Training</strong></td>
<td>Individualized technique</td>
<td>Standardized technique and training</td>
</tr>
<tr>
<td><strong>BP Devices</strong></td>
<td>May not be validated or automated</td>
<td>Automated validated devices</td>
</tr>
<tr>
<td><strong>CVD risk</strong></td>
<td>Inconsistently assessed</td>
<td>Part of treatment pathway</td>
</tr>
<tr>
<td><strong>Monitoring</strong></td>
<td>For administrative purposes</td>
<td>For evaluation and feedback</td>
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</tbody>
</table>

Association between population hypertension control and ischemic heart disease and stroke mortality in 36 countries of the Americas, 1990-2019: an ecological study
Martinez R et al

Assessing costs of a hypertension program in primary care: evidence from the HEARTS program in Mexico
Chivarré C et al

Impact of the HEARTS Initiative in a second level health institution in Colombia
Rivera Rivera S et al

Brief communications
Profile of blood pressure measurement devices purchased in Chile 2018-2020
Silva P et al

Evaluating progress and addressing actions to eliminate industrially produced trans fatty acids in the Americas
Rosado-Garcia Patterson S et al

Child’s public healthcare sector hypertension control rates before and during the pandemic and HEARTS Implementation
Banose F et al

Improving cardiovascular health in primary care in Saint Lucia through the HEARTS Initiative
Cyr Phiphers S et al

The HEARTS app: a clinical tool for cardiovascular risk and hypertension management in primary health care
Ordunez P et al

Moving toward improved access to medicines and health technologies for cardiovascular disease
Gron N et al

Opinion and Analysis
Ups and downs of hypertension control in Canada: critical factors and lessons learned
Campbell N et al

Control of arterial hypertension: a pending issue
Sosa Lopandí A et al

Developing population-based hypertension control programs
Jaffe M et al

Civil society’s role in improving hypertension control in Latin America
Champagne B et al

Current topics
HEARTS in the Americas appraisal checklist and clinical pathway for comprehensive hypertension management in primary care
Rosende A et al

Integrated approach for noncommunicable disease management in the Americas
Lucarn S et al

Letters to the editor
Concerning “The HEARTS app: a clinical tool for cardiovascular risk and hypertension management in primary health care”
Muñoz Laguna J et al

Authors’ response to the letter “Concerning The HEARTS app: a clinical tool for cardiovascular risk and hypertension management in primary health care”
Ordunez P et al

Preliminary results of the HEARTS Initiative in Mexico: facilitators and barriers in information systems
Casalos-Hernández M et al

Monitoring and evaluation platform for HEARTS in the Americas: improving population-based hypertension control programs in primary health care
Pardo P et al

Implementation of the HEARTS Initiative in Argentina: initial results
Rodríguez G et al

HEARTS in Cuba: Experiences after 5 years of implementation
Vazquez Gonzalez Y et al

Implementation design: HEARTS healthy habits and lifestyles in the first level of care in Mexico
Gonzalez M et al

Political will and governance, key to HEARTS Implementation in Peru
Perez V et al

Improving cardiovascular health with the patient-centered, integrated primary care HEARTS model in Trinidad and Tobago
Donn A et al

Addressing population dietary sodium reduction in the Americas: updated Regional Sodium Reduction Targets 2021-2025
Almeida L et al

Efficacy of a standardized and simplified strategy for the treatment of high blood pressure in Chile: the HEARTS Initiative in the Americas
Michos L et al

Integrating hypertension and diabetes management in primary health care settings: HEARTS as a tool
Pardo D et al

Building the health-economic case for scaling up the WHO-HEARTS hypertension control package in low- and middle-income countries
Morán A et al

Challenges

Break the political inertia and institutionalize HEARTS throughout the Americas.

Improve access to high-quality health care, including medicines and devices.

Strengthen Primary Health Care and its information systems.

Promote a culture based on continuous quality improvement.
<table>
<thead>
<tr>
<th>Cohort</th>
<th>Countries</th>
<th>Governance</th>
<th>Clinical Pathway</th>
<th>Team-based care</th>
<th>Medicines</th>
<th>Drivers</th>
<th>SM&amp;E</th>
<th>BPMD</th>
<th>Education</th>
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in the Americas

Ecosystem for improving population hypertension control
HEARTS will be the institutionalized model of care for cardiovascular risk management, with special emphasis on the control of hypertension and secondary prevention in PHC in the Americas by 2025.

Expand the overall number of PHC centers implementing HEARTS and to increase its political traction.

Adopt the HEARTS monitoring and evaluation platform to catalyze health system changes.

Implement the HEARTS Hypertension Clinical Pathway, integrating the Key Drivers for Hypertension Control.

Promote the exclusive use of validated BPMDs in PHC facilities.
The HEARTS Initiative
is the 2019 recipient of
Organizational Excellence
Award for Hypertension
Prevention and Control
World Hypertension League

The HEARTS Initiative
is the 2021 recipient of
WHF Advocacy Award in
Cardiovascular Health
World Heart Federation