



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

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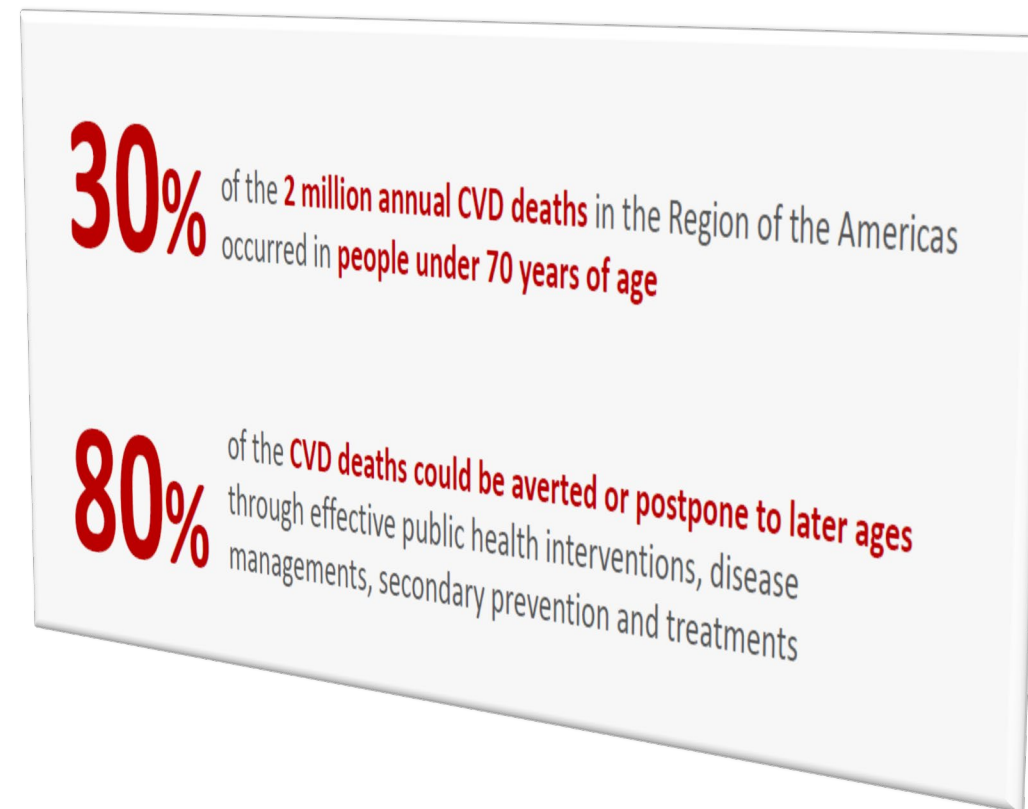
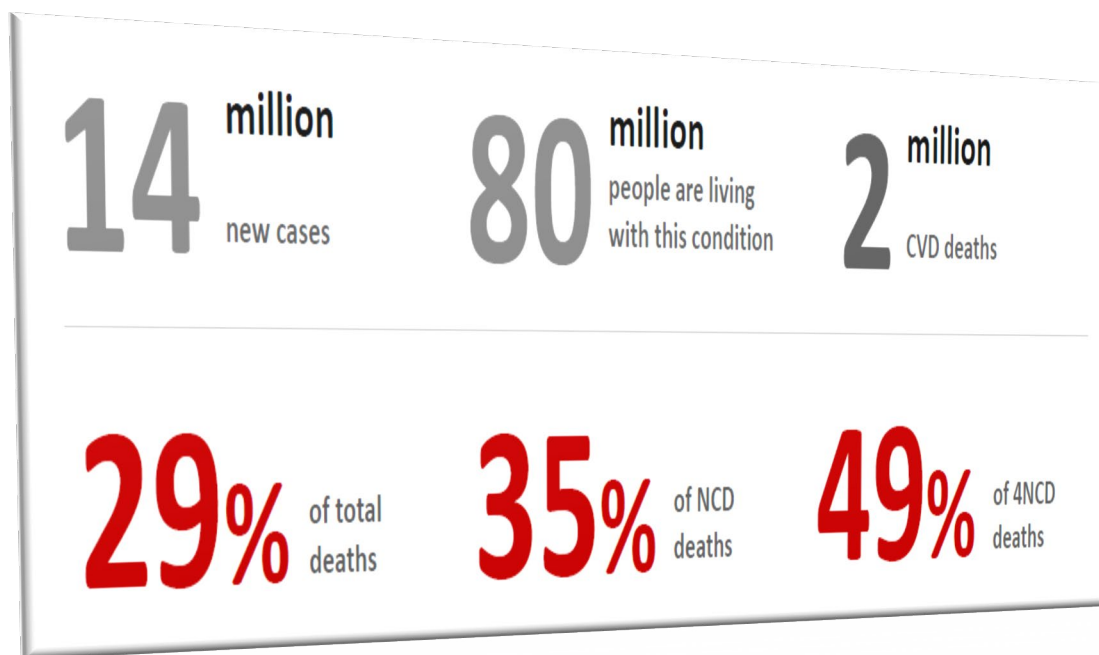
Improving Clinical Management and NCD Surveillance in the
Context of COVID-19 through HEARTS Implementation
Saint Lucia – 15-18 May 2023

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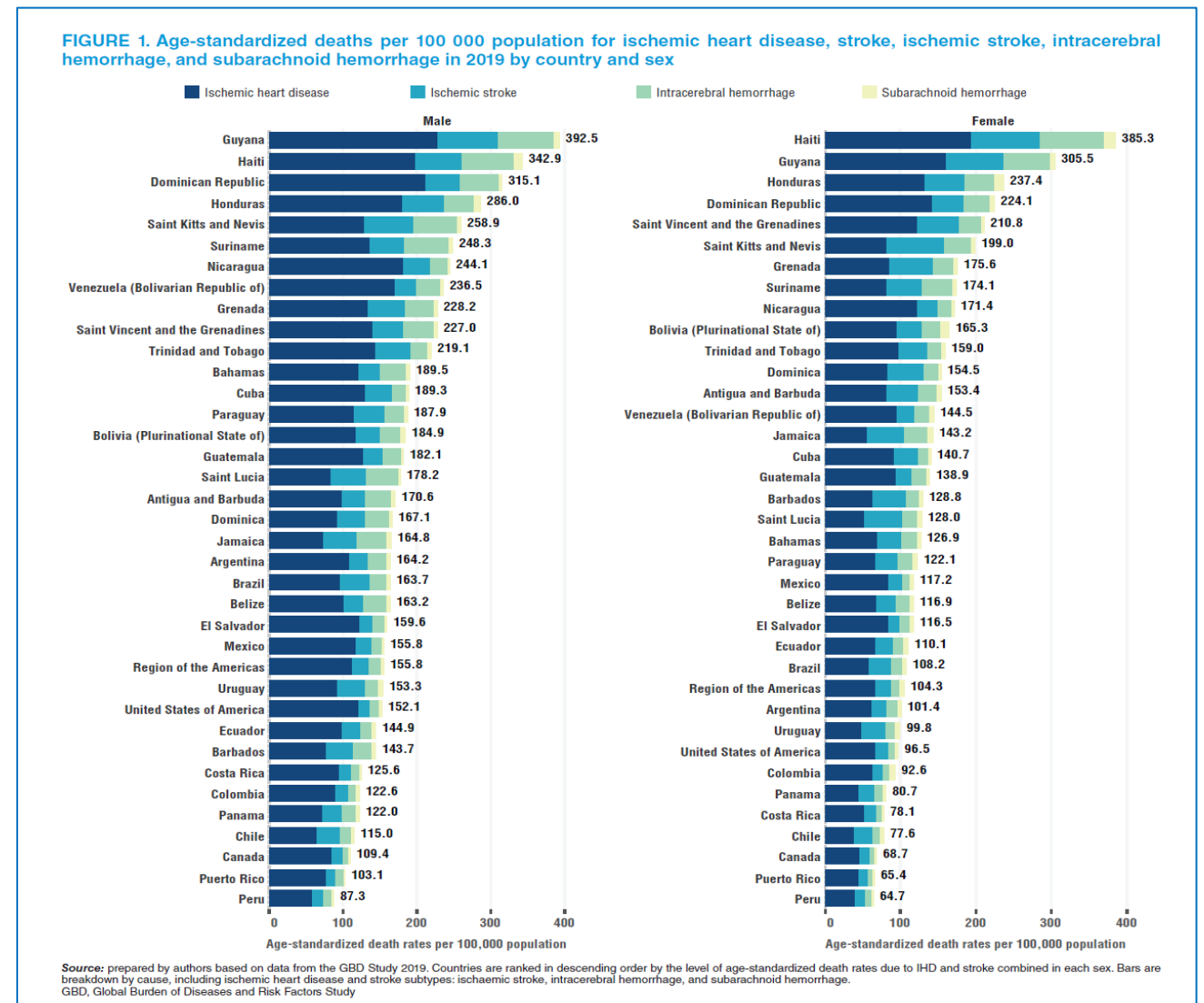
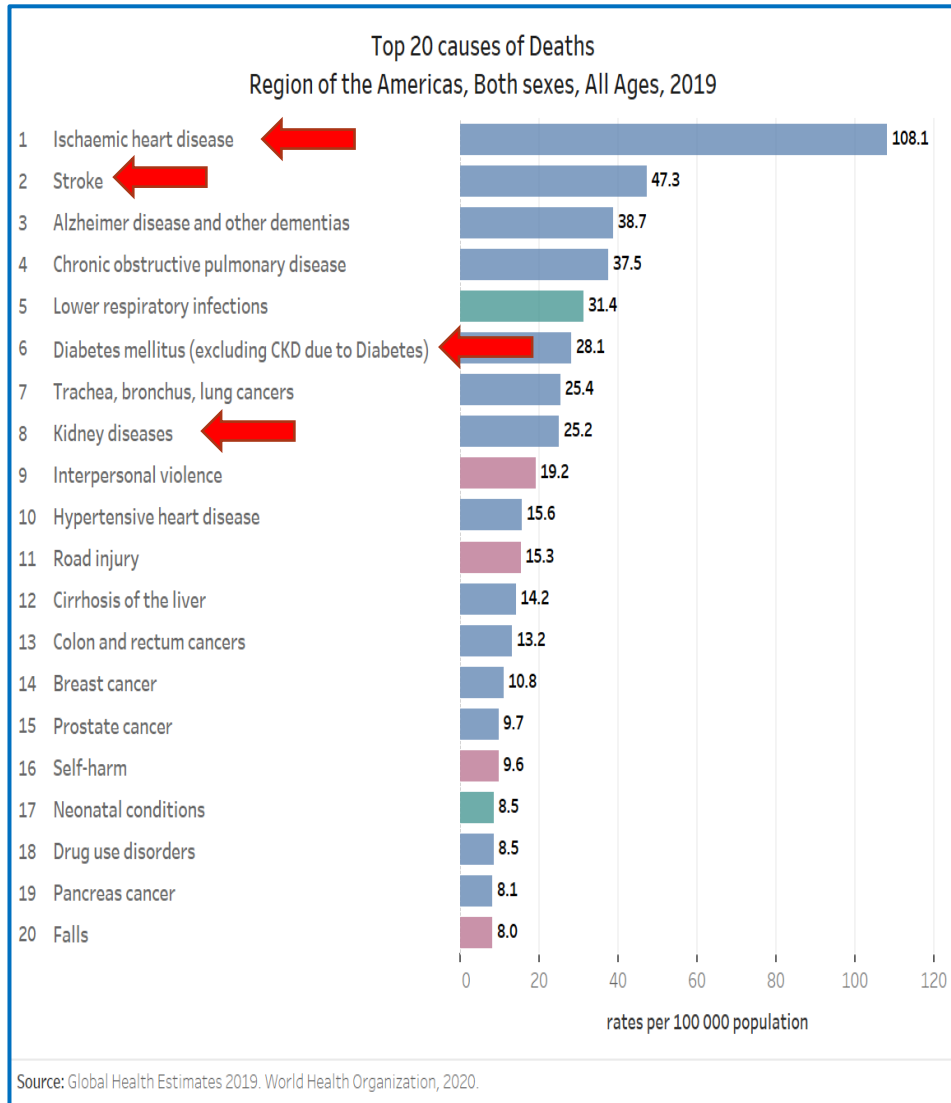
- Burden of CVD and the Urgency.
- Hypertension Treatment Cascade and Key Interventions.
- Global HEARTS and HEARTS in the Americas.
- HEARTS Clinical Pathway.
- HEARTS Tools.
- Challenges
- Ecosystem



Cardiovascular Diseases in the Americas 2019

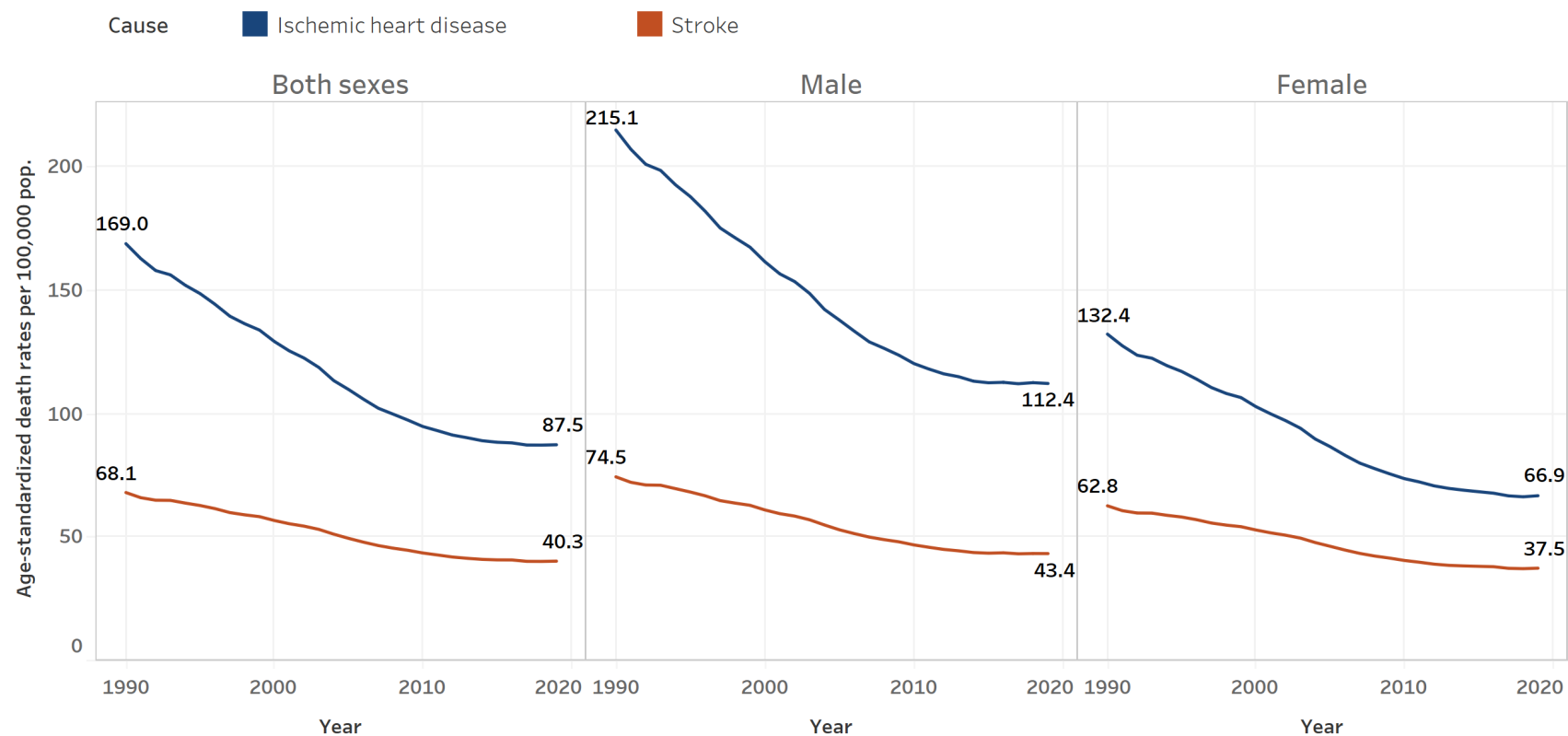


Regional situation of CVD



IHD and stroke mortality trend

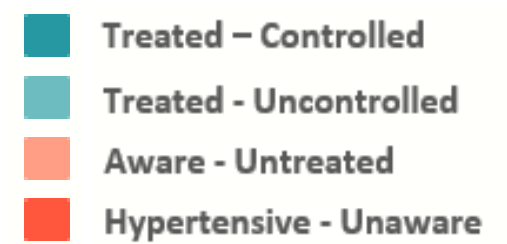
Age-standardized death rates from **ischemic heart disease** and **stroke** by sex in the Region of the Americas, 1990-2019



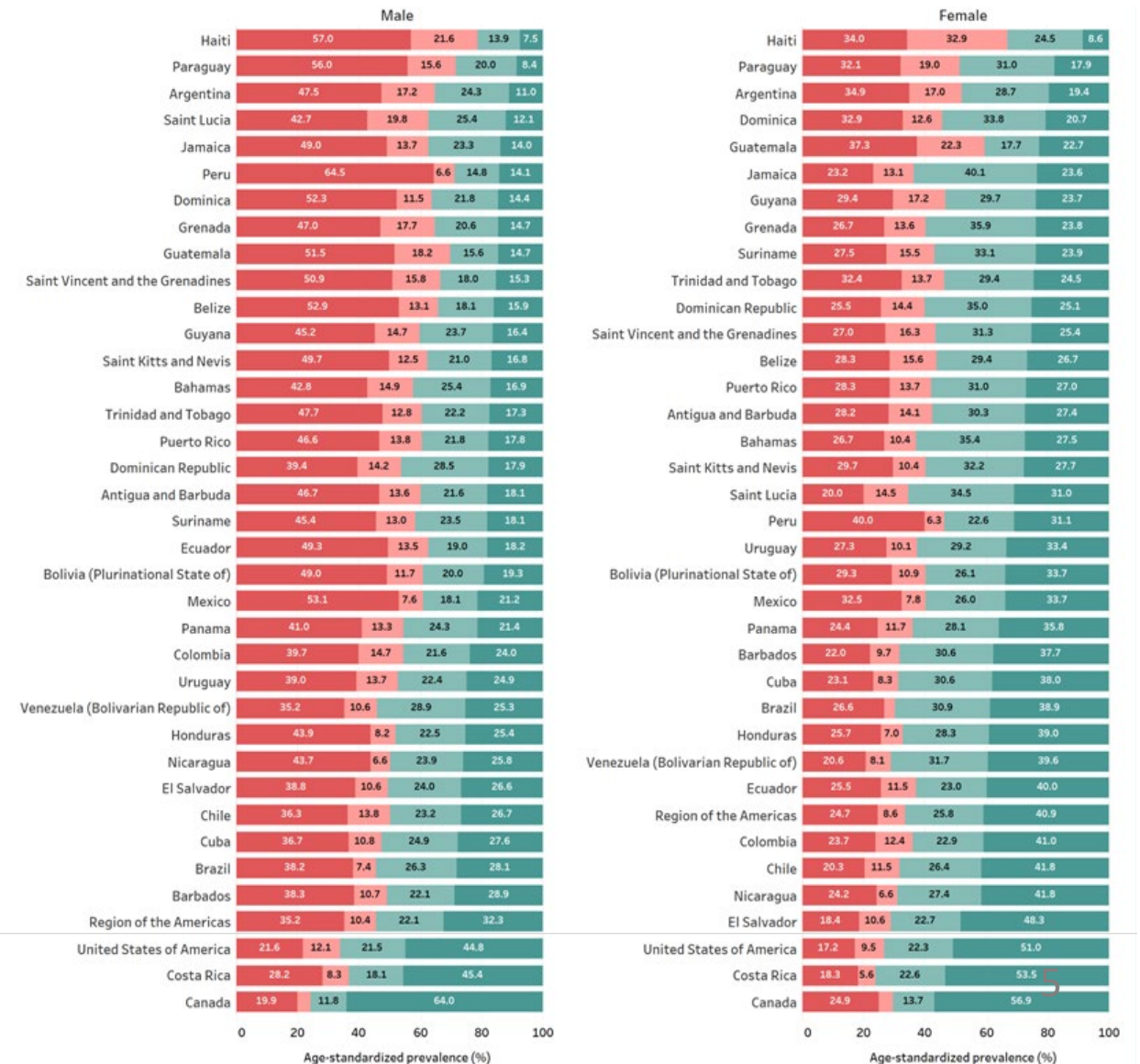
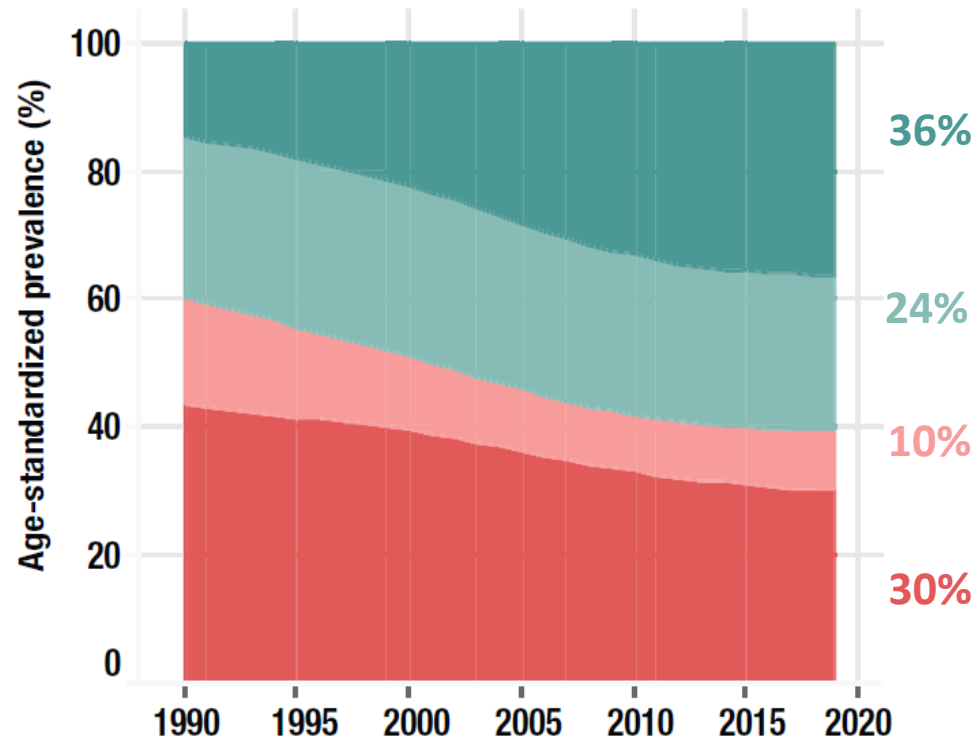
The slowdown in the reduction rate of premature mortality puts the Americas at risk of not achieving SDG 3.4

To reduce by 2030 premature mortality by 1/3 due to NCDs

Hypertension treatment cascade

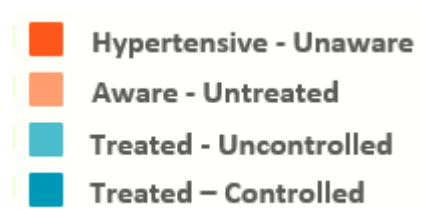


Both sexes, Region of the Americas, 1990-2019



Hypertension treatment cascade

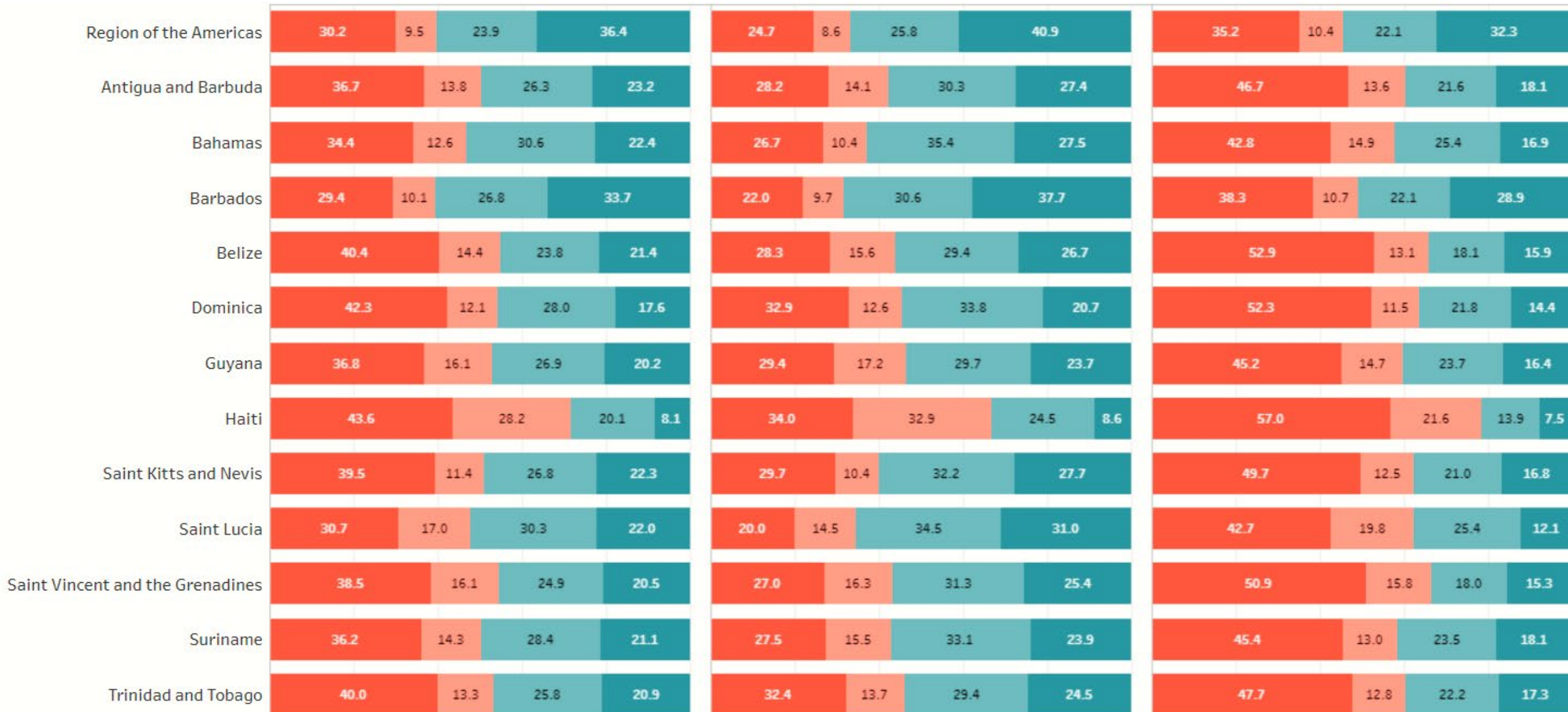
Martinez R et al. *Rev Panam Salud Publica.* 2022;46:e143. <https://doi.org/10.26633/RPSP.2022.143>



BOTH SEXES

FEMALE

MALE



Strong inverse association between HTN control and IHD and stroke mortality

↑ 1% popHTNc : 2.9% ↓ IHD mortality

↑ 1% popHTNc : 2.4% ↓ Stroke mortality

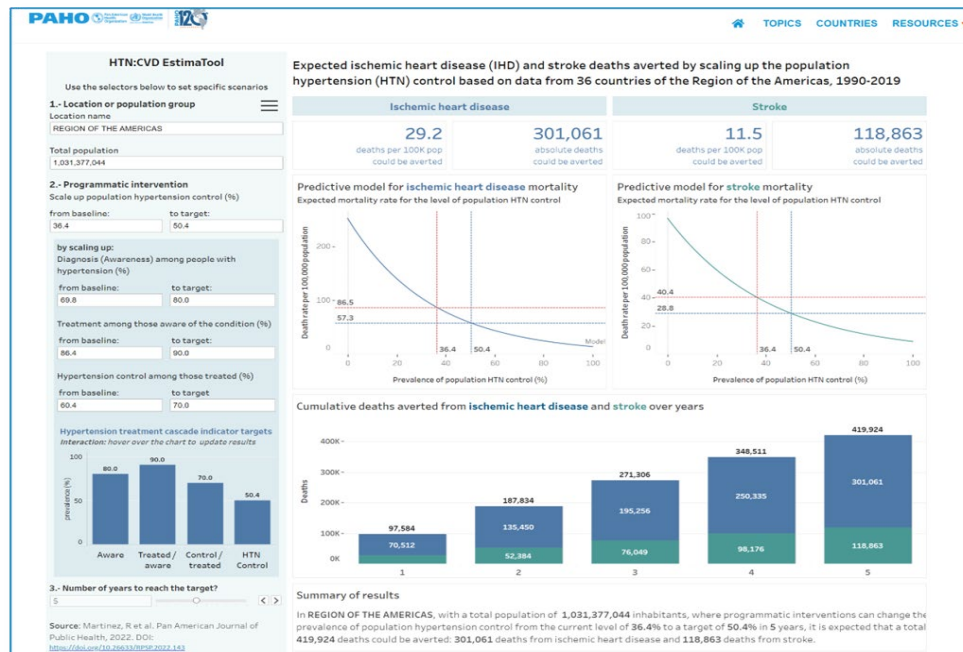
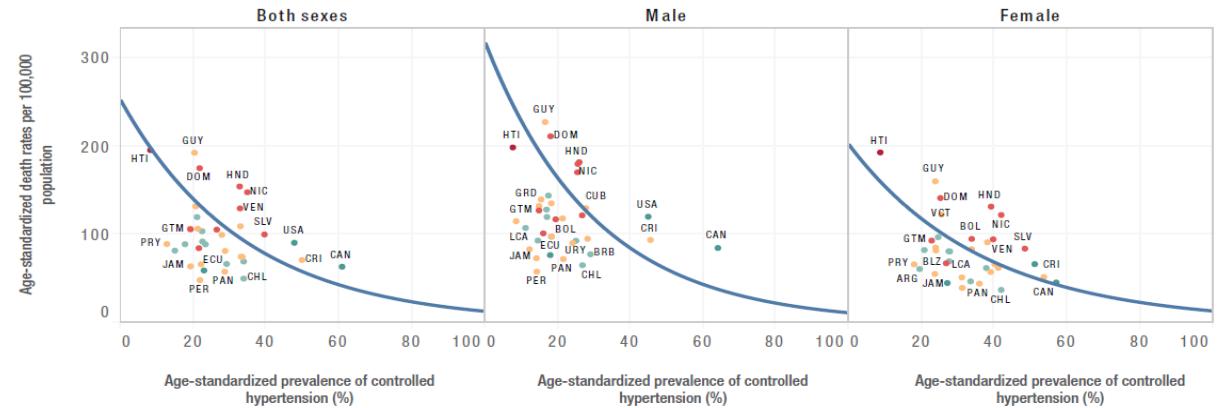
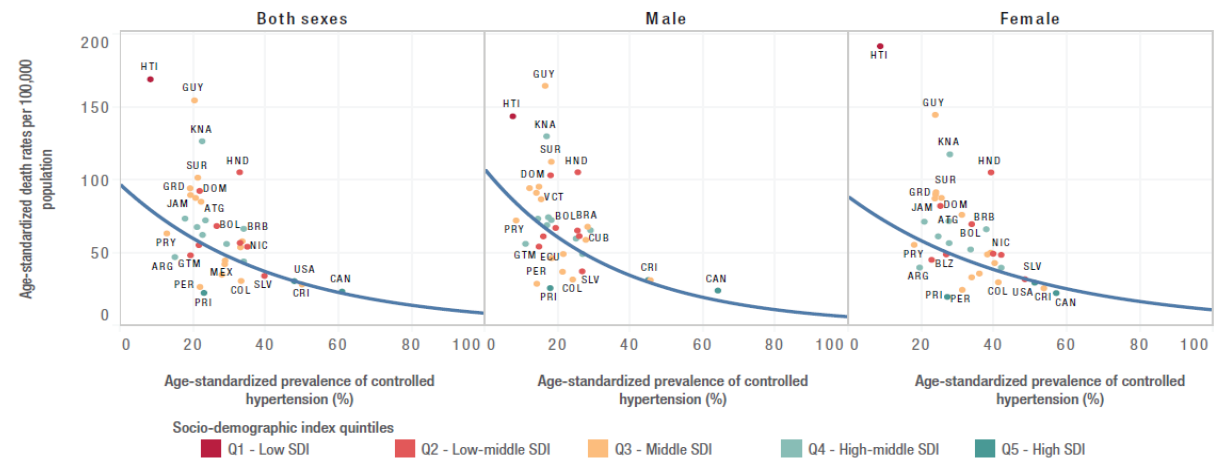


FIGURE 5. Age-standardized death rates due to (A) IHD and (B) stroke versus the prevalence of controlled hypertension by sex in countries and territories in 2019, and the best-fitted regression model for the Region of the Americas over the period 1990-2019

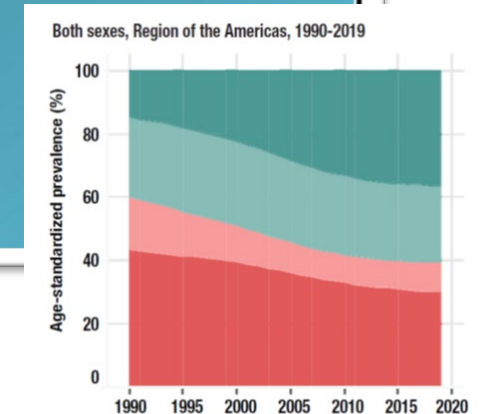
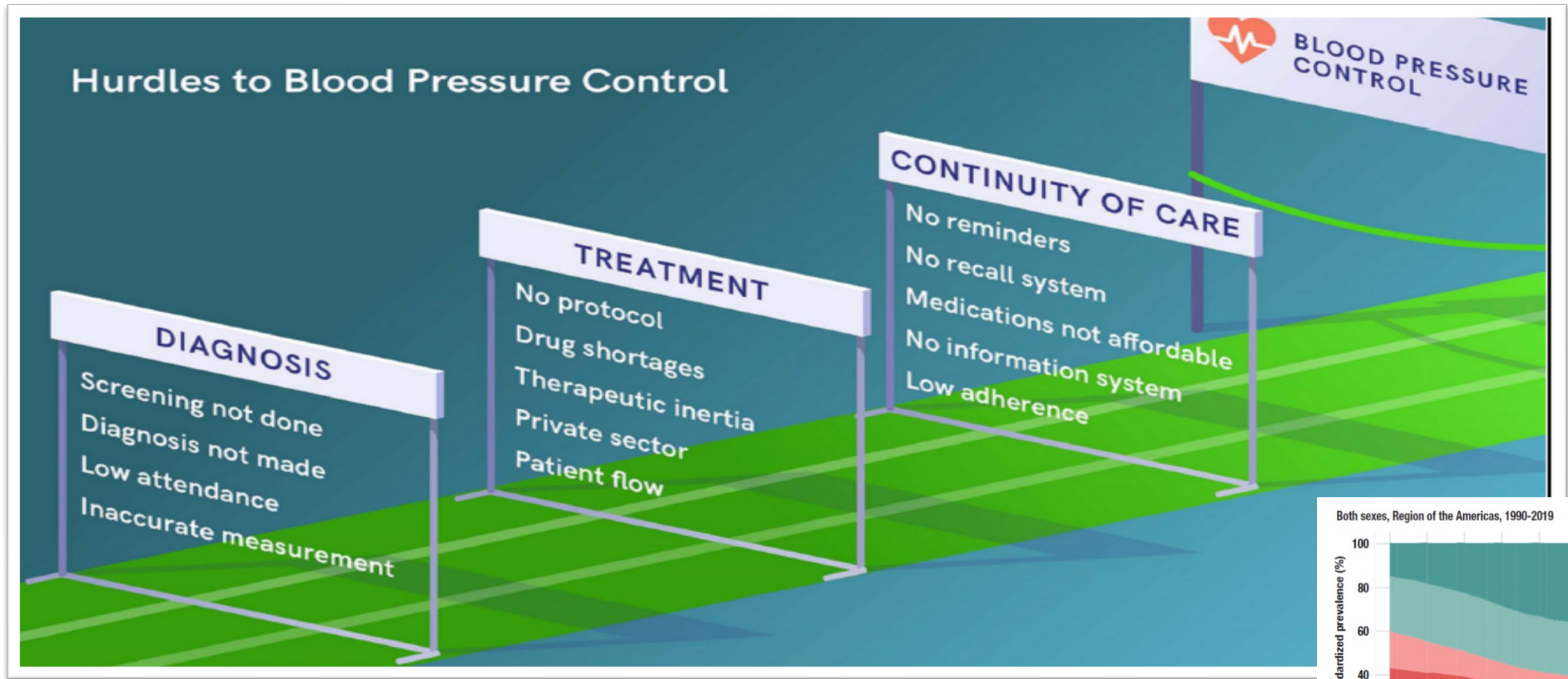
A: Ischemic heart disease mortality vs. prevalence of controlled hypertension, 2019



B: Stroke mortality vs. prevalence of controlled hypertension, 2019



Hypertension cascade of care and hurdles to BP Control

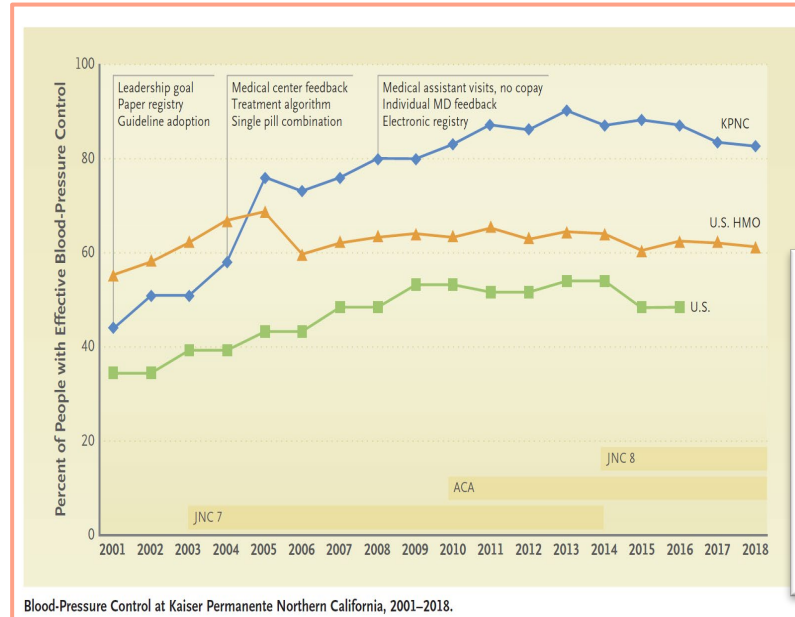


Frieden et al. JCH 2019.

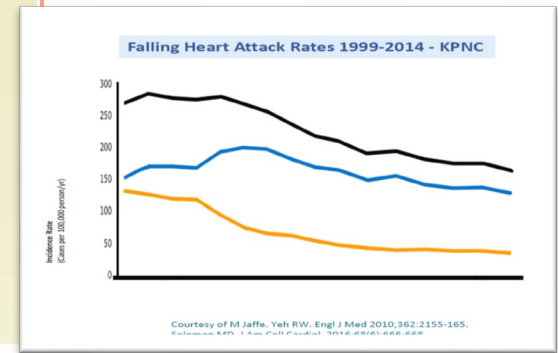
Key lessons from successful hypertension control program

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



McGlynn EA. NEJM 2020.



Canadian Experience: BP Control 12% to 62% from 1992 to 2016

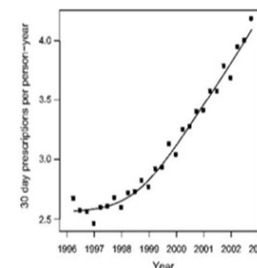


Figure 1. Total antihypertensive prescription sales (IMS Health-Canada) in Canada from 1996 to 2003. The prescription rates for 30-day prescriptions per person-year. The line is a nonparametrically modeled average, and the squares represent quarterly population-adjusted rates.

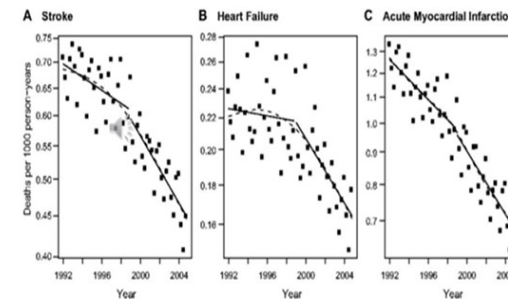


Figure 2. Mortality rates from stroke (A), HF (B), and AMI (C) in Canada from 1992 to 2003. The squares are quarterly rates adjusted for age and gender per 1000 population. The dark line is linear modeling for 1992–1998 and 1999–2003, and the dotted line is a nonparametrically modeled line.

Campbell et al. Hypertension Feb 2009

Global Hearts Initiative



Population Approach

Health Services/Clinical Approach

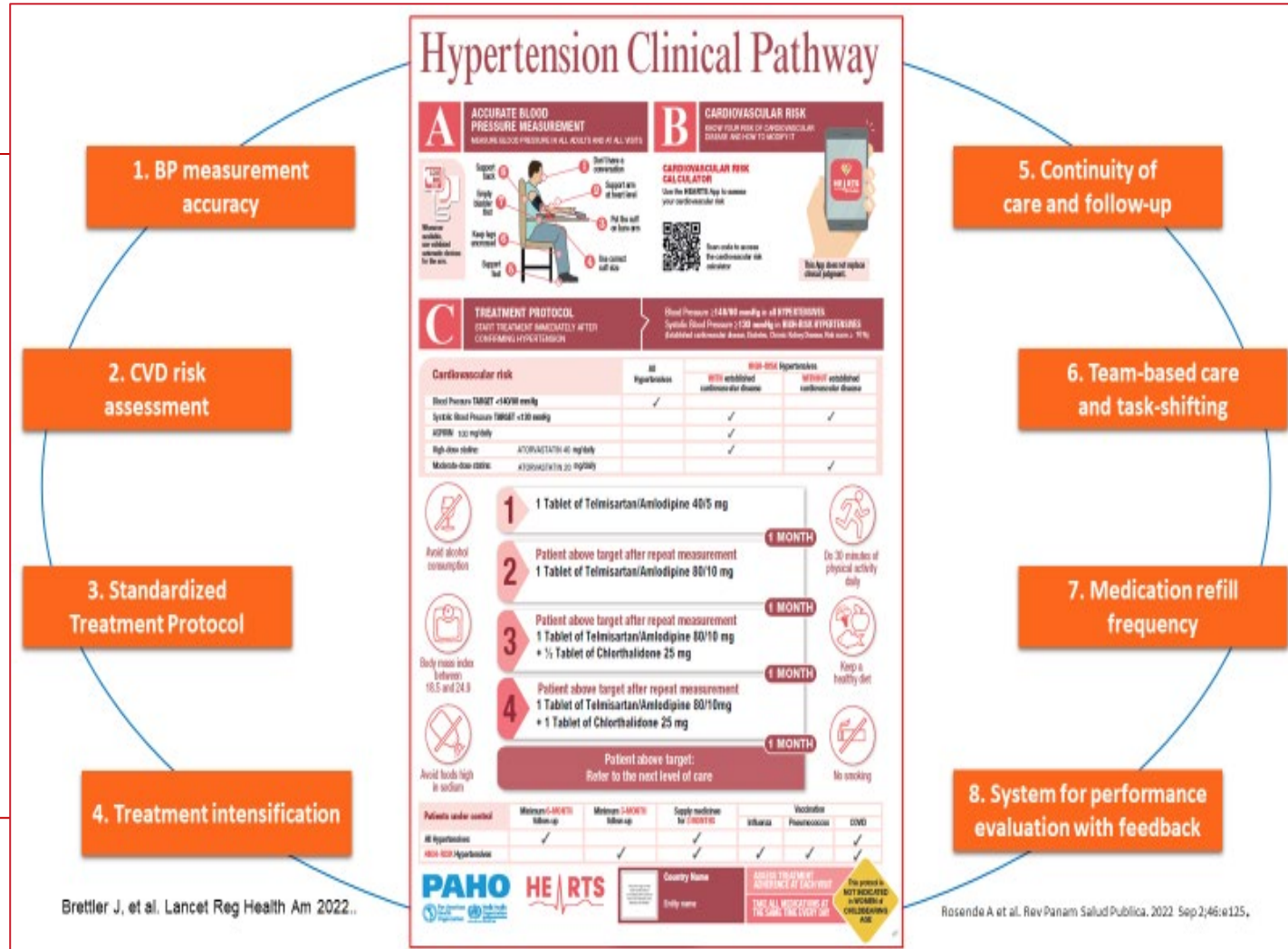
<p>HEARTS Technical package for cardiovascular disease management in primary health care</p> <p>Evidence-based treatment protocols</p>	<p>HEARTS Technical package for cardiovascular disease management in primary health care</p> <p>Access to essential medicines and technology</p>	<p>HEARTS Technical package for cardiovascular disease management in primary health care</p> <p>Risk-based management</p>	<p>HEARTS Technical package for cardiovascular disease management in primary health care</p> <p>Team-based care</p>	<p>HEARTS Technical package for cardiovascular disease management in primary health care</p> <p>Systems for monitoring</p>
<p>HEARTS Technical package for cardiovascular disease management in primary health care</p> <p>Healthy-lifestyle counselling</p>	<p>Chronic Care Model</p>			<p>HEARTS-D Diagnosis and Management of Type 2 Diabetes</p>

Guideline for the pharmacological treatment of hypertension in adults



- 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

The 2021 WHO Hypertension Guideline is focused on implementation



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

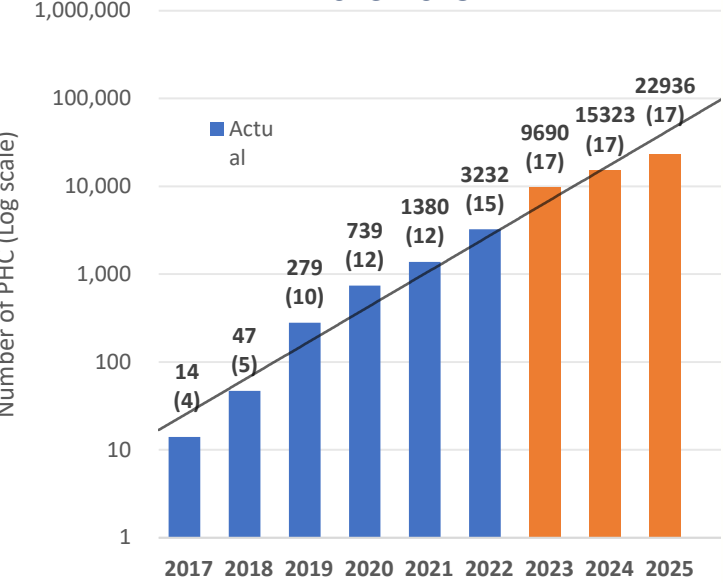
HEARTS TIMELINE OF ADHESION



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

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

2017-2022 and Scale-up Projection 2023-2025



Scale-Up Commitment by the numbers

	DEC 2022 # PHC CENTERS REPORTING (15 COUNTRIES)	DEC 2022 # PHC CENTERS IMPLEMENTING (17 COUNTRIES)	2023 CUMULATIVE COMMITMENT	2024 CUMULATIVE COMMITMENT	2025 CUMULATIVE COMMITMENT
# of HEARTS PHC centers	2,867	3,232	9,690	15,323	22,936
Scale-up progress as a % of the 2025 commitment	13%	14%	42%	67%	100%
Number of adults in catchment area	32,707,445	-	85,375,100	130,175,606	156,989,952
Estimated total of people with hypertension	9,076,848	-	24,417,279	37,230,223	44,899,126
Estimated Number of hypertensives in treatment***	3,948,280	-	12,914,299	19,691,065	23,747,148



Ordunez P, et al. HEARTS in the Americas: innovations for improving hypertension and cardiovascular disease risk management in primary care. Rev Panam Salud Publica. 2023

HEARTS in the Americas

Guiding Principles

Country ownership

HEARTS is led by the Ministries of Health, with the participation of other stakeholders and PAHO's technical cooperation.

Simple and practical

The Initiative provides pragmatic, cost-effective, and feasible solutions to PHC.

Evidence-based

HEARTS promotes the adoption of best practices in preventing and controlling CVD and improving health services organization.

Accountability

HEARTS is a data-driven initiative.

Continuous learning

Continuous learning cycles, peer-led teaching, dissemination of effective innovations, and lessons learned during implementation.

Long-term sustainability

Integrating elements into the existing health care systems.

Increasing the PHC capacity

Recruiting more PHC facilities and increasing the speed of model institutionalization.

HEARTS model vs. Traditional model

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

Orduñez P, et al. HEARTS in the Americas, an innovative approach to improve hypertension and cardiovascular disease risk management in the primary care setting. Rev Panam Salud Publica. 2022 Jul 16;46:e96

HEARTS in the Americas Clinical Pathway

ST. LUCIA

Hypertension Clinical Pathway

A ACCURATE BLOOD PRESSURE MEASUREMENT

MEASURE BLOOD PRESSURE IN ALL VISITS

B CARDIOVASCULAR RISK

ASSESS RISK OF CARDIOVASCULAR DISEASE

C TREATMENT PROTOCOL

START TREATMENT IMMEDIATELY AFTER CONFIRMED HYPERTENSION

Riesgo cardiovascular	Todos los hipertensos	Hipertensos de ALTO RIESGO
NIETa ni menor a 140/90 mmHg	1 Tableta de Losartan/Amlodipine 50/5 mg	1 Tableta de Losartan/Amlodipine 50/5 mg
NIETa ni menor a 130/80 mmHg	2 Tabletas de Losartan/Amlodipine 50/5 mg	1 Tableta de Losartan/Amlodipine 50/5 mg + 1 Tableta de Chlorthalidone 12.5 mg
NIETa ni menor a 130/80 mmHg	2 Tabletas de Losartan/Amlodipine 50/5 mg	1 Tableta de Losartan/Amlodipine 50/5 mg + 1 Tableta de Chlorthalidone 25 mg

PROFESIONALES DE SALUD

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

EL SALVADOR

HIPERTENSIÓN

A OBTENER UNA LECTURA PRECISA DE LA PRESIÓN ARTERIAL

MEASURE BLOOD PRESSURE IN ALL VISITS

B EVALUAR EL RIESGO CARDIOVASCULAR

ASSESS RISK OF CARDIOVASCULAR DISEASE

C UTILIZAR EL PROTOCOLO DE TRATAMIENTO

START TREATMENT IMMEDIATELY AFTER CONFIRMED HYPERTENSION

Riesgo cardiovascular	Todos los hipertensos	Hipertensos de ALTO RIESGO
NIETa ni menor a 140/90 mmHg	1 Tableta de Losartan/Amlodipine 50/5 mg	1 Tableta de Losartan/Amlodipine 50/5 mg
NIETa ni menor a 130/80 mmHg	2 Tabletas de Losartan/Amlodipine 50/5 mg	1 Tableta de Losartan/Amlodipine 50/5 mg + 1 Tableta de Chlorthalidone 12.5 mg
NIETa ni menor a 130/80 mmHg	2 Tabletas de Losartan/Amlodipine 50/5 mg	1 Tableta de Losartan/Amlodipine 50/5 mg + 1 Tableta de Chlorthalidone 25 mg

PROFESIONALES DE SALUD

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

BVI

Hypertension Clinical Pathway

A ACCURATE BLOOD PRESSURE MEASUREMENT

MEASURE BLOOD PRESSURE IN ALL VISITS

B CARDIOVASCULAR RISK

ASSESS RISK OF CARDIOVASCULAR DISEASE

C TREATMENT PROTOCOL

START TREATMENT IMMEDIATELY AFTER CONFIRMED HYPERTENSION

Riesgo cardiovascular	Todos los hipertensos	Hipertensos de ALTO RIESGO
NIETa ni menor a 140/90 mmHg	1 Tablet Amlodipine 10mg	1 Tablet Amlodipine 10mg + 1 Tablet Lisinopril 40mg
NIETa ni menor a 130/80 mmHg	1 Tablet Amlodipine 10mg + 1 Tablet Lisinopril 20mg	1 Tablet Amlodipine 10mg + 1 Tablet Lisinopril 40mg
NIETa ni menor a 130/80 mmHg	1 Tablet Amlodipine 10mg + 1 Tablet Lisinopril 40mg	1 Tablet Amlodipine 10mg + 1 Tablet Lisinopril 40mg + 1 Tablet Indapamide 1.5mg

PROFESIONALES DE SALUD

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

MEXICO

VÍA CLÍNICA DE HIPERTENSIÓN

A MEDICIÓN PRECISA DE LA PRESIÓN ARTERIAL

MEASURE BLOOD PRESSURE IN ALL VISITS

B RIESGO CARDIOVASCULAR

ASSESS RISK OF CARDIOVASCULAR DISEASE

C PROTOCOLO DE TRATAMIENTO

START TREATMENT IMMEDIATELY AFTER CONFIRMED HYPERTENSION

Riesgo cardiovascular	Todos los hipertensos	Hipertensos de ALTO RIESGO
NIETa ni menor a 140/90 mmHg	1 Comprimido de Telmisartán 40 mg + 1 Comprimido de Amlodipina 5 mg	1 Comprimido de Telmisartán 40 mg + 1 Comprimido de Amlodipina 5 mg
NIETa ni menor a 130/80 mmHg	1 Comprimido de Telmisartán 40 mg + 1 Comprimido de Amlodipina 5 mg	1 Comprimido de Telmisartán 40 mg + 1 Comprimido de Amlodipina 5 mg + 1 Comprimido de Clortalidona 12.5 mg
NIETa ni menor a 130/80 mmHg	1 Comprimido de Telmisartán 40 mg + 1 Comprimido de Amlodipina 5 mg	1 Comprimido de Telmisartán 40 mg + 1 Comprimido de Amlodipina 5 mg + 1 Comprimido de Clortalidona 25 mg

PROFESIONALES DE SALUD

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

GUYANA

Hypertension Clinical Pathway

PREFERRED TREATMENT ALGORITHM

A ACCURATE BLOOD PRESSURE MEASUREMENT

MEASURE BLOOD PRESSURE IN ALL VISITS

B CARDIOVASCULAR RISK

ASSESS RISK OF CARDIOVASCULAR DISEASE

C TREATMENT PROTOCOL

START TREATMENT IMMEDIATELY AFTER CONFIRMED HYPERTENSION

Riesgo cardiovascular	Todos los hipertensos	Hipertensos de ALTO RIESGO
NIETa ni menor a 140/90 mmHg	1 Tablet Telmisartan/Amlodipine 40/5 mg	1 Tablet Telmisartan/Amlodipine 40/5 mg
NIETa ni menor a 130/80 mmHg	1 Tablet Telmisartan/Amlodipine 40/5 mg	1 Tablet Telmisartan/Amlodipine 40/5 mg + 1 Tablet Chlorthalidone 12.5 mg
NIETa ni menor a 130/80 mmHg	1 Tablet Telmisartan/Amlodipine 40/5 mg	1 Tablet Telmisartan/Amlodipine 40/5 mg + 1 Tablet Chlorthalidone 25 mg

PROFESIONALES DE SALUD

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

PERU

Vía Clínica de Hipertensión

A MEDICIÓN PRECISA DE LA PRESIÓN ARTERIAL

MEASURE BLOOD PRESSURE IN ALL VISITS

B RIESGO CARDIOVASCULAR

ASSESS RISK OF CARDIOVASCULAR DISEASE

C PROTOCOLO DE TRATAMIENTO

START TREATMENT IMMEDIATELY AFTER CONFIRMED HYPERTENSION

Riesgo cardiovascular	Todos los hipertensos	Hipertensos de ALTO RIESGO
NIETa ni menor a 140/90 mmHg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg
NIETa ni menor a 130/80 mmHg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg + 1 Comprimido de Clortalidona 25 mg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg + 1 Comprimido de Clortalidona 25 mg
NIETa ni menor a 130/80 mmHg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg + 1 Comprimido de Clortalidona 25 mg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg + 1 Comprimido de Clortalidona 25 mg

PROFESIONALES DE SALUD

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

COSTA RICA

Vía Clínica de Hipertensión

A MEDICIÓN PRECISA DE LA PRESIÓN ARTERIAL

MEASURE BLOOD PRESSURE IN ALL VISITS

B RIESGO CARDIOVASCULAR

ASSESS RISK OF CARDIOVASCULAR DISEASE

C PROTOCOLO DE TRATAMIENTO

START TREATMENT IMMEDIATELY AFTER CONFIRMED HYPERTENSION

Riesgo cardiovascular	Todos los hipertensos	Hipertensos de ALTO RIESGO
NIETa ni menor a 140/90 mmHg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg
NIETa ni menor a 130/80 mmHg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg + 1 Comprimido de Clortalidona 25 mg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg + 1 Comprimido de Clortalidona 25 mg
NIETa ni menor a 130/80 mmHg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg + 1 Comprimido de Clortalidona 25 mg	1 Comprimido de Telmisartán/Amlodipina 80/10 mg + 1 Comprimido de Clortalidona 25 mg

PROFESIONALES DE SALUD

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

TTO

Protocol A - Acceptable Hypertension Clinical Pathway

A ACCURATE BLOOD PRESSURE MEASUREMENT

MEASURE BLOOD PRESSURE IN ALL VISITS

B CARDIOVASCULAR RISK

ASSESS RISK OF CARDIOVASCULAR DISEASE

C TREATMENT PROTOCOL

START TREATMENT IMMEDIATELY AFTER CONFIRMED HYPERTENSION

Riesgo cardiovascular	Todos los hipertensos	Hipertensos de ALTO RIESGO
NIETa ni menor a 140/90 mmHg	1 ACE-Lisinopril 10mg plus (+) CCB - Amlodipine 5mg	1 ACE-Lisinopril 20mg plus (+) CCB - Amlodipine 5mg
NIETa ni menor a 130/80 mmHg	1 ACE-Lisinopril 20mg plus (+) CCB - Amlodipine 5mg	1 ACE-Lisinopril 20mg plus (+) CCB - Amlodipine 5mg + 1 Comprimido de Amlodipina 5mg
NIETa ni menor a 130/80 mmHg	1 ACE-Lisinopril 20mg plus (+) CCB - Amlodipine 5mg	1 ACE-Lisinopril 20mg plus (+) CCB - Amlodipine 5mg + 1 Comprimido de Amlodipina 5mg + 1 Comprimido de Amlodipina 5mg

PROFESIONALES DE SALUD

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

ECUADOR

Vía Clínica de Hipertensión

A TOMA ACURADA DE LA PRESIÓN ARTERIAL

MEASURE BLOOD PRESSURE IN ALL VISITS

B CALCULAR EL RIESGO CARDIOVASCULAR

ASSESS RISK OF CARDIOVASCULAR DISEASE

C PROTOCOLO DE TRATAMIENTO

START TREATMENT IMMEDIATELY AFTER CONFIRMED HYPERTENSION

Riesgo cardiovascular	Todos los hipertensos	Hipertensos de ALTO RIESGO
NIETa ni menor a 140/90 mmHg	1 Comprimido de Losartán 100 mg + 1 Comprimido de Amlodipina 5mg	1 Comprimido de Losartán 100 mg + 1 Comprimido de Amlodipina 5mg + 1 Comprimido de Clortalidona 25 mg
NIETa ni menor a 130/80 mmHg	1 Comprimido de Losartán 100 mg + 1 Comprimido de Amlodipina 5mg	1 Comprimido de Losartán 100 mg + 1 Comprimido de Amlodipina 5mg + 1 Comprimido de Clortalidona 25 mg
NIETa ni menor a 130/80 mmHg	1 Comprimido de Losartán 100 mg + 1 Comprimido de Amlodipina 5mg	1 Comprimido de Losartán 100 mg + 1 Comprimido de Amlodipina 5mg + 1 Comprimido de Clortalidona 25 mg

PROFESIONALES DE SALUD

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS

CHILE

Vía Clínica de Hipertensión Arterial

Para persona de salud

A LECTURA PRECISA DE LA PRESIÓN ARTERIAL

MEASURE BLOOD PRESSURE IN ALL VISITS

B RIESGO CARDIOVASCULAR (RCV)

ASSESS RISK OF CARDIOVASCULAR DISEASE

C PROTOCOLO DE TRATAMIENTO

START TREATMENT IMMEDIATELY AFTER CONFIRMED HYPERTENSION

Riesgo cardiovascular	Todos los hipertensos	Hipertensos de ALTO RIESGO
NIETa ni menor a 140/90 mmHg	1 Losartán 50 mg día + Amlodipino 5 mg/día	1 Losartán 50 mg cada 12 horas + Amlodipino 10 mg/día
NIETa ni menor a 130/80 mmHg	1 Losartán 50 mg cada 12 horas + Amlodipino 10 mg/día	1 Losartán 50 mg cada 12 horas + Amlodipino 10 mg/día + Hidroclorotiazida 50 mg/día
NIETa ni menor a 130/80 mmHg	1 Losartán 50 mg cada 12 horas + Amlodipino 10 mg/día	1 Losartán 50 mg cada 12 horas + Amlodipino 10 mg/día + Hidroclorotiazida 50 mg/día

PROFESIONALES DE SALUD

HEALTHCARE PROVIDERS

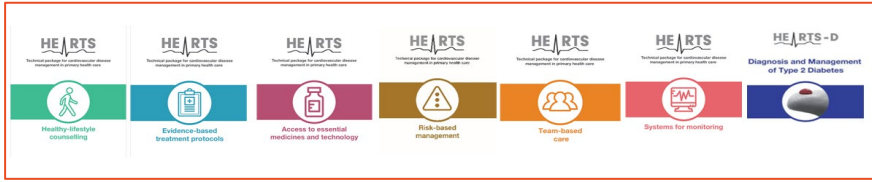
HEALTHCARE PROVIDERS

HEALTHCARE PROVIDERS



Rosende A, et al. HEARTS appraisal checklist and clinical pathway for comprehensive hypertension management in primary healthcare. Rev Panam Salud Publica. 2022;46:e125.

HEARTS in the Americas Tools to Transform Practice



8 REQUIREMENTS FOR OBTAINING AN ACCURATE BLOOD PRESSURE READING

IDEALLY, USE EFFER ARM CALIBRATED ELECTRONIC DEVICES

1. SEATED
2. REST
3. SUPPORT
4. CORRECT POSITION
5. CORRECT CUFF SIZE
6. CORRECT CUFF POSITION
7. CORRECT CUFF INFLATION
8. CORRECT CUFF DEFLATION

AUSCULTATION If only this method is available, the preparations described in the above quadrants should apply.

www.paho.org/HEARTS

LISTA DE DISPOSITIVOS DE MEDIR LA PRESIÓN ARTERIAL AUTOMÁTICOS VALIDADOS

ENTIDAD	DESCRIPCIÓN	SITIO WEB
STRIDEIP	Stride es una organización científica internacional sin fines de lucro fundada por expertos en hipertensión con la misión de mejorar la precisión de la medición de la presión arterial y el diagnóstico y manejo de hipertensión. STRIDE es propiciadora, orientación y herramientas prácticas sobre la metodología y la tecnología para una evaluación precisa de la presión arterial según la última evidencia científica. STRIDEIP es copatrocinada por la Sociedad Europea de Hipertensión y la Sociedad Internacional de Hipertensión.	https://stridep.org/en-members
Medaval	Medaval es una empresa que evalúa y enumera tanto dispositivos de presión arterial validados como no validados disponibles a nivel mundial. Tiene la mayor base de datos. La evaluación del estado de validación se realiza de acuerdo con Protocolos científicos internacionales. Certificación de validación según los protocolos de evaluación de precisión actuales proporcionados por Medaval y sujeto a aplicación y pago por parte de los fabricantes. Los informes de validación y los de comparación de equivalencia son revisados por los miembros de sus paneles de revisión. También proporciona enlaces a las recomendaciones de otras listas de dispositivos validados.	https://medaval.es/
dat® Educational Trust	El propósito del sitio web dat® Educational Trust es producir regularmente revisiones de dispositivos de medir la presión arterial para que el posible comprador a través de un mercado complejo. Como la mayoría de los dispositivos no han sido validados independientemente, los dispositivos enumerados en el sitio web representan solo una fracción de los muchos dispositivos disponibles. El patrocinio es proporcionado por varios fabricantes.	http://www.dateducational.com.org/physiomatico-meters/devices_2_sign.html
Lista de dispositivos validados de los EE. UU. (VLD)	Se diseñó un proceso independiente para determinar qué dispositivos de medir la presión arterial disponibles en los EE. UU. cumplen con los criterios establecidos por la Asociación Médica Estadounidense (AMA, por su sigla en inglés) para validar la precisión clínica. Este proceso de revisión resulta en una lista formal de dispositivos, la "lista de dispositivos validados" o "VLD" (por su sigla en inglés). AMA no recibe fondos de los fabricantes.	https://www.validatebp.org
Sociedad Británica e Irlandesa de Hipertensión (BHIS)	Todos los monitores para uso doméstico ("home") y para uso especializado ("specialist use") han sido aprobados por la Sociedad Británica e Irlandesa de Hipertensión (BHIS, por su sigla en inglés) para precisión. La lista también incluye dispositivos no validados. Los que tienen el logo de BHIS han sido evaluados en la institución. El resto ha sido evaluado de manera independiente y sus informes públicos han sido revisados por pares y aprobados por BHIS.	https://bhiscc.org/bp-monitor

*La OPS no respalda ninguno de los sitios web enumerados, solo los enumera como recursos que pueden ser utilizados por los Estados Miembros.

OPS Organización Panamericana de la Salud Organización Mundial de la Salud

HEARTS in the Americas Regulatory Pathway to the Exclusive Use of Validated Blood Pressure Measuring Devices

PAHO Pan American Health Organization World Health Organization HEARTS IN THE AMERICAS

Hypertension Clinical Pathway

A ACCURATE BLOOD PRESSURE MEASUREMENT

MEASURE BLOOD PRESSURE IN ALL ADULTS AND AT ALL VISITS

1. Don't have a conversation
2. Support arm
3. Rest for 5 min
4. Put the cuff on
5. Rest for 5 min
6. Take the cuff off

Whoever administers the validated device for the exam. Support feet.

B CARDIOVASCULAR RISK

KNOW YOUR RISK OF CARDIOVASCULAR DISEASE AND HOW TO AVOID IT

CARDIOVASCULAR RISK CALCULATOR

Use the HEARTS app to assess your cardiovascular risk.

Scan code to access the cardiovascular risk calculator. This app does not replace clinical judgment.

C TREATMENT PROTOCOL

START TREATMENT IMMEDIATELY AFTER CONFIRMING HYPERTENSION

Blood Pressure $\geq 144/90$ mmHg in all HYPERTENSIVES. Systolic Blood Pressure ≥ 138 mmHg in HIGH-RISK HYPERTENSIVES. (Established conditions in Stroke, CAD, Chronic Kidney Disease, Diabetes, etc.)

Cardiovascular risk	HYPERTENSIVES	WITH established cardiovascular disease	HIGH-RISK HYPERTENSIVES	WITHOUT established cardiovascular disease
Blood Pressure TARGET $\leq 140/90$ mmHg	✓	✓	✓	✓
Systolic Blood Pressure TARGET ≤ 130 mmHg	✓	✓	✓	✓
ASPIRIN 100 mg daily	✓	✓	✓	✓
High-dose statin: ATORVASTATIN 40 mg daily	✓	✓	✓	✓
Moderate-dose statin: ATORVASTATIN 20 mg daily	✓	✓	✓	✓

1. 1/2 Tablet of Telmisartan/Amlodipine 80/10 mg
2. Patient above target after repeat measurement 1 Tablet of Telmisartan/Amlodipine 80/10 mg
3. Patient above target after repeat measurement 1 Tablet of Telmisartan/Amlodipine 80/10 mg + 1/2 Tablet of Chlorthalidone 25 mg
4. Patient above target after repeat measurement 1 Tablet of Telmisartan/Amlodipine 80/10mg + 1 Tablet of Chlorthalidone 25 mg

1 MONTH 1 MONTH 1 MONTH 1 MONTH

Avoid alcohol consumption. Do 30 minutes of physical activity daily. Keep a healthy diet. No smoking.

Patients under control: Minimum 6-MONTH follow-up. Supply medicines for 3 MONTHS. Influenza. Vaccination Pneumococcus. COVID.

All hypertensives HIGH-RISK hypertensives

Country name Entity name HEARTS

ASSASS TREATMENT ADHERENCE BY EACH VISIT TAKE ALL MEDICATIONS AT THE SAME TIME EVERY DAY

This protocol is NOT RECOMMENDED in CHILDREN or ELDERLY PEOPLE.

HEARTS IN THE AMERICAS

7:13 AM

How to optimize the use of CVD Risk evaluation

Instructions for using the calculator

How to get an accurate blood pressure reading

Calculate

- Cardiovascular Risk
- Glomerular Filtration
- Body Mass Index
- Therapeutic recommendations

PAHO Pan American Health Organization World Health Organization

This work was carried out with the financial contribution of the Centers for Disease Control and Prevention in Atlanta, GA, U.S. HEARTS / CDC Award # 6 NU2HG000081-01-01

HEARTS IN THE AMERICAS

GUIDE AND ESSENTIALS FOR IMPLEMENTATION

PAHO Pan American Health Organization World Health Organization

HEARTS IN THE AMERICAS

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HEARTS IN THE AMERICAS

The SF HEARTS List

- 2016: 50 molecules - 100 concentrations
- 2017: 23 molecules - 100 concentrations
- 2019: WHO Inclusion of fixed dose combination
- Present: 9 molecules - 15 concentrations (LTA) Essential medicines for cardiovascular disease

PAHO Pan American Health Organization World Health Organization

#UniversalHealth

Report 101 HEARTS Current Performance

4 Countries 11 Provinces 88 Health Facilities 1,355,793 Adults 22.24% Hypertensive 301,510 Hypertensive 21.45% Controlled (Pop.) 64,687 Controlled (Pop.)

92K 30.5% 65K 70.4%

Hypertension Country Map

Hypertension Distribution

Hypertension Country Cascade

Hypertension Breakdown

PAHO Pan American Health Organization World Health Organization

Data Collected by PAHO | Dashboard Created by Patric Prado

PAHO Self-learning courses

Four training courses on CVD

These courses are open access, you can complete them at your own pace without defined times and independently. When it comes to specific requires, access will be closed to new registrations.

Implementation of the HEARTS Technical Package in Primary Care

Prevenção secundária de enfermidades cardiovasculares para profissionais de saúde

Cours virtuel sur la mesure automatisée de la pression artérielle

Curso virtual sobre medicina automática a presión de sangre

Curso virtual Actualización sobre manejo de la hipertensión

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SPECIAL ISSUE



HEARTS

IN THE AMERICAS



Editorials

Scaling up cardiovascular disease management in primary care through HEARTS in the Americas

Etienne C

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

Frieden T et al

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

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Preliminary results of the HEARTS Initiative in Mexico: facilitators and barriers in information systems

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Implementation design: HEARTS healthy habits and lifestyles in the first level of care in Mexico.

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

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

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Concerning "The HEARTS app: a clinical tool for cardiovascular risk and hypertension management in primary health care"

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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

A century supporting public health in the Americas



PAHO



HEARTS

EN LAS AMÉRICAS

<https://www.paho.org/journal/en/special-issues/hearts-americas>

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.



HEARTS in the Americas

Ecosystem for improving population hypertension control



The way forward

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.



<https://www.paho.org/en/heart-america>

HEARTS
IN THE AMERICAS

A white graphic featuring the word "HEARTS" in a large, bold, sans-serif font. The letter "A" is replaced by a stylized ECG (heart rate) line. Below "HEARTS" is a horizontal line with a small wave on the left and a larger wave on the right. Below this line, the words "IN THE AMERICAS" are written in a smaller, bold, sans-serif font.