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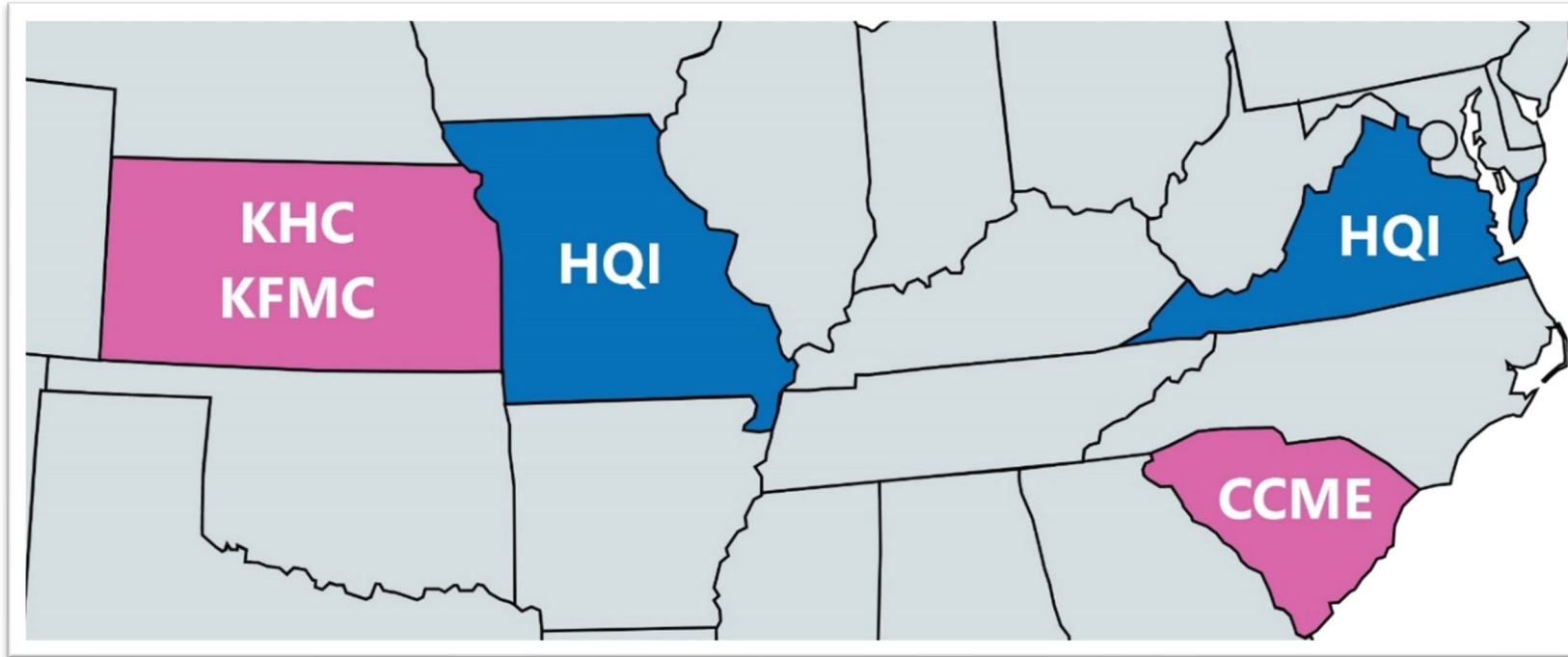


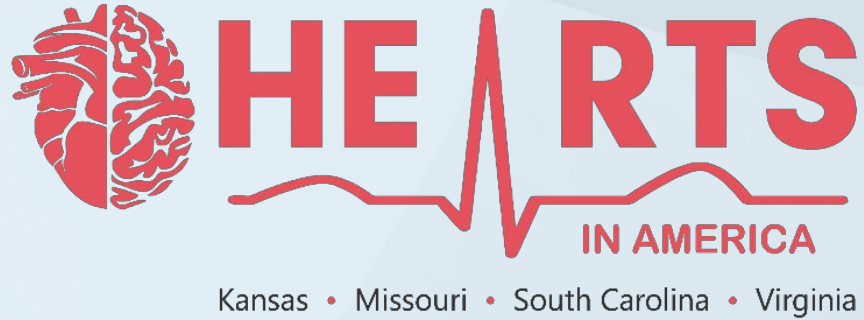
Health Quality Innovation Network

Hypertension Clinical Pathway: The Importance of Hypertension Control in Primary Care

November 16, 2022

Health Quality Innovation Network

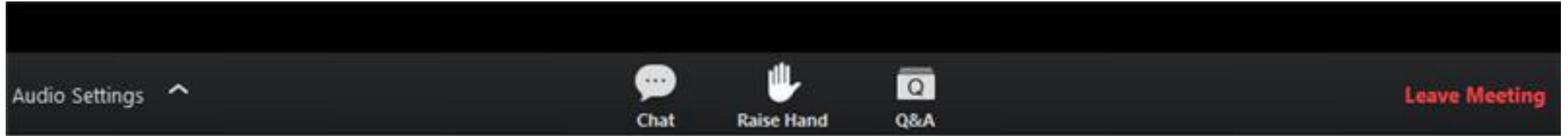




This HQIN **HEARTS in America** series is delivered by **HEARTS** subject matter experts. They are introducing the pillars of the [HEARTS Technical Package](#) while beginning the conversation about HEARTS in America.

If you would like to speak to a HEARTS Advisor, learn more about the initiative, and discuss possibilities for your organization, please connect with your HQIN Quality Improvement Advisor to begin the next steps.

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Links from today's session will be posted in **Chat**.

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Invited Faculty:

Andres Rosende, MD, MSc

No Financial Relationships Were Declared

Purpose & Learning Objectives

1. Review a comprehensive and straightforward hypertensive clinical pathway in the primary care settings.
2. Identify the appropriate methodology to taking an accurate blood pressure measurement.
3. Understand the role of cardiovascular risk assessment in the hypertension clinical pathway.
4. Review preferred pharmacologic treatment protocols and blood pressure treatment thresholds and targets.

Andres Rosende, MD



Andres Rosende is a physician specializing in cardiology. He obtained a Master's degree in clinical research and epidemiology from the University of Buenos Aires, Argentina. In 2018, and after several years of clinical practice, Andres began to work in the Ministry of Health of Argentina as the Coordinator of the National Program for Cardiovascular Disease Prevention, leading the implementation of the HEARTS initiative in the country.

Since 2021, he's been working as International PAHO Consultant for HEARTS in the Americas Initiative, specifically, overseeing the Medication and Standardized Treatment Protocols Pillar.



Hypertension Clinical Pathway

Importance of Hypertension Control in the Primary Care Setting

Andres Rosende, MD, MSc

PAHO Consultant for HEARTS in the Americas



Pan American
Health
Organization

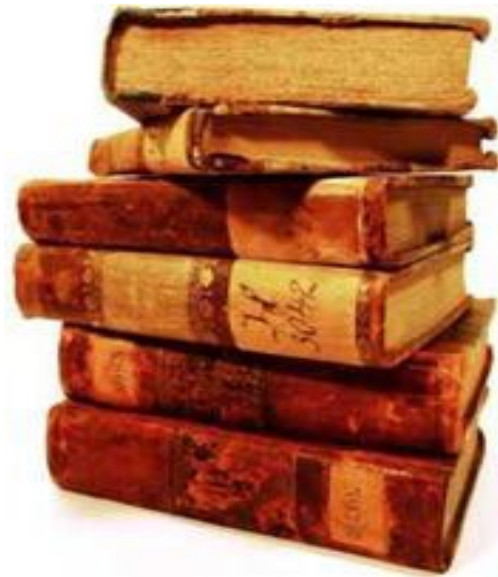


World Health
Organization
REGIONAL OFFICE FOR THE
Americas



HEARTS
EN LAS AMÉRICAS

Scientific Knowledge Evolution



Knowledge based on
pathophysiological reasoning

Knowledge based on clinical
evidence

The evidence is good but....

PubMed.gov

Hypertension

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Page 1 of 58,394

RESULTS BY YEAR

1908 1968: 2,454 2022

TEXT AVAILABILITY

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Hypertension and vascular disease.

1 Doyle AE.

Cite Am J Hypertens. 1991 Feb;4(2 Pt 2):1035-106S. doi: 10.1093/ajh/4.2.103s. PMID: 2021454 Review.

Share The use of antihypertensive drug treatment has altered the natural history of **hypertension**. Whereas congestive heart failure, cerebral hemorrhage, and renal failure were the major complications of untreated severe **hypertension**, myocardial infarction and thrombotic s ...

Systemic hypertension.

2 Elliott WJ.

Cite Curr Probl Cardiol. 2007 Apr;32(4):201-59. doi: 10.1016/j.cpcardiol.2007.01.002. PMID: 17398315 Review.

Share **Hypertension** is a growing public health problem worldwide. Only 37% of American **hypertensives**

The Clinical Guidelines are good but...

Box. Recommendations for Management of Hypertension

Recommendation 1
In the general population aged ≥ 60 years, initiate pharmacologic treatment to lower blood pressure (BP) at systolic blood pressure (SBP) ≥ 160 mm Hg or diastolic blood pressure (DBP) ≥ 90 mm Hg and goal SBP < 150 mm Hg and goal DBP < 90 mm Hg (Grade A)

Corollary Recommendation
In the general population aged ≥ 60 years, high BP results in lower achieved SBP, high BP results in lower achieved DBP, well tolerated and without adverse effects, treatment does not need to be adjusted.

Recommendation 2
In the general population < 60 years, lower BP at DBP ≥ 90 mm Hg and the 30–59 years, Strong Recommendation Expert Opinion - Grade E)

Recommendation 3
In the general population < 60 years, lower BP at SBP ≥ 140 mm Hg and the 30–59 years, Strong Recommendation Expert Opinion - Grade E)

Recommendation 4
In the population aged ≥ 18 years with lower BP at SBP ≥ 140 mm Hg and the 30–59 years, Strong Recommendation Expert Opinion - Grade E)

Recommendation 5
In the population aged ≥ 18 years with lower BP at SBP ≥ 140 mm Hg and the 30–59 years, Strong Recommendation Expert Opinion - Grade E)

Recommendation 6
In the general nonblack population antihypertensive treatment should include calcium channel blocker (CCB), angiotensin-converting enzyme inhibitor (ACEI), or angiotensin receptor blocker (ARB) (Grade B)

Recommendation 7
In the general black population, antihypertensive treatment should include calcium channel blocker (CCB), angiotensin-converting enzyme inhibitor (ACEI), or angiotensin receptor blocker (ARB) (Grade B)

Recommendation 8
In the population aged ≥ 18 years with CKD, antihypertensive treatment should include an ACEI or ARB. This applies to all CKD patients with or without diabetes status. (Moderate Recommendation)

Recommendation 9
The main objective of hypertension treatment is to lower BP. If goal BP is not reached within a month of the initial drug or add a second drug from the list provided. If goal BP cannot be reached with drug from the list provided. Do not use an ACEI or ARB in a patient with aortic stenosis or renovascular disease. If goal BP cannot be reached with medication 6 because of a contraindication or intolerance, add an antihypertensive drug to reach goal BP, antihypertensive drug used. Referral to a hypertension specialist is recommended when goal BP cannot be attained using the agent of complicated patients for whom a specialist opinion is needed. (Expert Opinion - Grade E)

Table 5. Strategies for Management of Hypertension

Strategy	Grade	Blood Pressure (mmHg)			
		High normal SBP 130–139 or DBP 85–89	Grade 1 HT SBP 140–159 or DBP 90–99	Grade 2 HT SBP 160–179 or DBP 100–109	Grade 3 HT SBP ≥ 180 or DBP ≥ 110
No other RF	A	• No BP			
1–2 RF	B	• Lifestyle	• No BP		
≥ 3 RF	B	• Lifestyle	• No BP		
OD, CKD stage 3 or diabetes	C	• Lifestyle	• No BP		
Symptomatic CVD, CKD stage ≥ 4 or diabetes with OD/RFs	C	• Lifestyle	• No BP		

Thiazide diuretics

Beta-blockers

Angiotensin-receptor blockers

Calcium antagonists

Other Antihypertensives

ACE inhibitors

Diuretic, calcium antagonist

ISH (elderly)
Metabolic syndrome
Diabetes mellitus
Pregnancy
Blacks

Reinforce medication and lifestyle adherence. Add and titrate thiazide-type diuretic if not previously selected and avoid ACEI or ARB.

Reinforce medication and lifestyle adherence. Add additional medication class (eg, β -blocker, aldosterone antagonist, or others) and/or refer to physician with expertise in hypertension management.

At goal blood pressure? No Yes

Continue current treatment and monitoring.⁵

The 2021 WHO Hypertension Guideline is focused on implementation

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

World Health Organization. Guideline for the pharmacological treatment of hypertension in adults. Geneva: WHO; 2021. Available at: <https://apps.who.int/iris/bitstream/handle/10665/344424/9789240033986-eng.pdf>

HEARTS in the Americas Innovation Group

Drivers and scorecards to improve hypertension control in primary care practice: Recommendations from the HEARTS in the Americas Innovation Group

Jeffrey W. Brettler,^{a,b} Gloria P Giraldo Arcila,^c Teresa Aumala,^d Allana Best,^e Norm RC Campbell,^f Shana Cyr,^g Angelo Gamarra,^c Marc G. Jaffe,^h Mirna Jimenez De la Rosa,^{ij} Javier Maldonado,^k Carolina Neira Ojeda,^l Modesta Haughton,^m Taraleen Malcolm,ⁿ Vivian Perez,^o Gonzalo Rodriguez,^p Andres Rosende,^c Yamil e Vald es Gonz alez,^q Peter W. Wood,^r Eric Z niga,^s and Pedro Ordunez^{c,*}

Summary

Background Cardiovascular disease (CVD) is the leading cause of morbidity and mortality in the Americas, and hypertension is the most significant modifiable risk factor. However, hypertension control rates remain low, and CVD mortality is stagnant or rising after decades of continuing reduction. In 2016, the World Health Organization (WHO) launched the HEARTS technical package to improve hypertension control. The Pan American Health Organization (PAHO) designed the HEARTS in the Americas Initiative to improve CVD risk management, emphasizing hypertension control, to date implemented in 21 countries.

Methods To advance implementation, an interdisciplinary group of practitioners was engaged to select the key evidence-based drivers of hypertension control and to design a comprehensive scorecard to monitor their implementation at primary care health facilities (PHC). The group studied high-performing health systems that achieve high hypertension control through quality improvement programs focusing on specific process measures, with regular feedback to providers at health facilities.

Findings The final selected eight drivers were categorized into five main domains: (1) diagnosis (blood pressure measurement accuracy and CVD risk evaluation); (2) treatment (standardized treatment protocol and treatment intensification); (3) continuity of care and follow-up; (4) delivery system (team-based care, medication refill), and (5) system for performance evaluation. The drivers and recommendations were then translated into process measures, resulting in two interconnected scorecards integrated into the HEARTS in the Americas monitoring and evaluation system.

The Lancet Regional Health - Americas
2022;9: 100223

Published online xxx
<https://doi.org/10.1016/j.lana.2022.100223>

Drivers for Hypertension Control. HEARTS in the Americas

Domain	Drivers	Recomendations	Goals
Diagnosis	BP measurement accuracy	<ul style="list-style-type: none"> BP measurement training every six months for all staff involved with BP measurement. BP measurement protocols, and repeated BP measurement if the first BP reading is elevated. Exclusive use of validated automatic BPMD 	≥ 90 % ≥ 90% ≥ 90%
	CVD risk assessment	<ul style="list-style-type: none"> Assess the CVD risk in all patients with hypertension to guide BP goal and frequency of follow-up. Use of combination BP medication, statin, aspirin (as needed) in high CVD risk patients, including those with diabetes and CKD. 	≥ 80% ≥ 80%
Treatment	Standardized Treatment Protocol	<ul style="list-style-type: none"> Standardized treatment protocol with specific medications and doses. Established protocol using FDC medication. 	Implemented Implemented
	Treatment intensification	<ul style="list-style-type: none"> Initiate pharmacological treatment immediately after the diagnosis of HTN is confirmed. Medication must be added or intensified as per standard protocol if BP ≥ 140/90 or SBP ≥130 mmHg for high-risk patients. 	≥ 70% ≥ 80%
Continuity of care and follow-up	Continuity of care and follow up	<ul style="list-style-type: none"> Follow-up of elevated BP within 2-4 weeks if not controlled. BP visit within six months for all patients with hypertension stable and well- controlled. BP visit within 3 months for all patients with hypertension and high CVD risk, including diabetes and CKD 	≥ 80% ≥ 80% ≥ 80%
Delivery System	Team-based care and task-shifting	<ul style="list-style-type: none"> BP measurement by NPHW appropriately trained and certified. Follow-up BP visits with NPHW under supervision and guided by protocol. Medication titration by a NPHW under supervision and guided by protocol 	≥ 90% ≥ 70% ≥ 70%
	Medication refill frequency	<ul style="list-style-type: none"> 3-month refill intervals for all BP medication prescriptions for patients stable and controlled 	3-month refill
System for performance evaluation	System for performance evaluation with feedback	<ul style="list-style-type: none"> Monthly performance evaluation for racking, prevent substantial deviations and promote timely program corrections. Bi-monthly evaluation and feedback can be acceptable for small facilities. Three months is the minimum acceptable) 	

Hypertension Clinical Pathway

1. BP measurement accuracy

2. CVD risk assessment

3. Standardized Treatment Protocol

4. Treatment intensification

5. Continuity of care and follow-up

6. Team-based care and task-shifting

7. Medication refill frequency

8. System for performance evaluation with feedback

A ACCURATE BLOOD PRESSURE MEASUREMENT

MEASURE BLOOD PRESSURE IN ALL ADULTS AND AT ALL VISITS

Whenever available, use validated automatic devices for the arm.

B CARDIOVASCULAR RISK

KNOW YOUR RISK OF CARDIOVASCULAR DISEASE AND HOW TO MODIFY 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 $\geq 140/90$ mmHg in all HYPERTENSIVES.
Systolic Blood Pressure ≥ 130 mmHg in HIGH-RISK HYPERTENSIVES (Established cardiovascular disease, Diabetes, Chronic Kidney Disease, Risk score $\geq 10\%$)

Cardiovascular risk	All Hypertensives	HIGH-RISK Hypertensives	
		WITH established cardiovascular disease	WITHOUT established cardiovascular disease
Blood Pressure TARGET $<140/90$ mmHg	✓		
Systolic Blood Pressure TARGET <130 mmHg		✓	✓
ASPIRIN 100 mg/daily		✓	✓
High-dose statins: ATORVASTATIN 40 mg/daily		✓	
Moderate-dose statins: ATORVASTATIN 20 mg/daily			✓

Avoid alcohol consumption

Body mass index between 18.5 and 24.9

Avoid foods high in sodium

1 1 Tablet of Telmisartan/Amlodipine 40/5 mg 1 MONTH

2 Patient above target after repeat measurement
1 Tablet of Telmisartan/Amlodipine 80/10 mg 1 MONTH

3 Patient above target after repeat measurement
1 Tablet of Telmisartan/Amlodipine 80/10 mg + ½ Tablet of Chlorthalidone 25 mg 1 MONTH

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

Patient above target:
Refer to the next level of care

Do 30 minutes of physical activity daily

Keep a healthy diet

No smoking

Patients under control	Minimum 6-MONTH follow-up	Minimum 3-MONTH follow-up	Supply medicines for 3 MONTHS	Vaccination		
				Influenza	Pneumococcus	COVID
All Hypertensives	✓		✓	✓	✓	✓
HIGH-RISK Hypertensives		✓	✓	✓	✓	✓

Country Name

Entity name

ASSESS TREATMENT ADHERENCE AT EACH VISIT

TAKE ALL MEDICATIONS AT THE SAME TIME EVERY DAY

This protocol is NOT INDICATED in WOMEN of CHILDBEARING AGE

Lancet Reg Health Am 2022. May;01:100223. doi.org/10.1016/j.lana.2022.100223.

Lancet Reg Health Am 2022. May;01:100219. doi.org/10.1016/j.lana.2022.100219

Hypertension Clinical Pathway

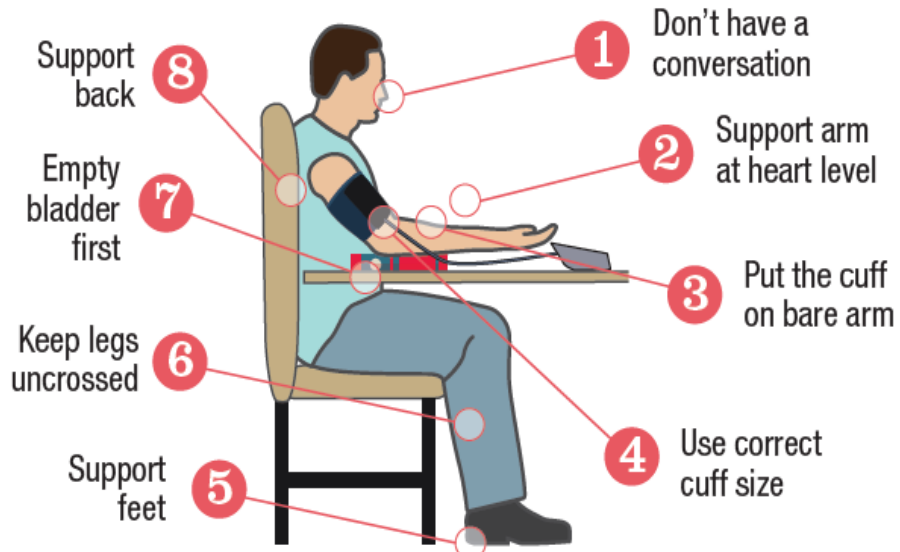
A

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C



TREATMENT PROTOCOL

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Blood Pressure $\geq 140/90$ mmHg in all HYPERTENSIVES.

Systolic Blood Pressure ≥ 130 mmHg in **HIGH-RISK HYPERTENSIVES**
(Established cardiovascular disease, Diabetes, Chronic Kidney Disease, Risk score $\geq 10\%$)

Cardiovascular risk

	All Hypertensives	HIGH-RISK Hypertensives	
		WITH established cardiovascular disease	WITHOUT established cardiovascular disease
Blood Pressure TARGET $<140/90$ mmHg 	✓		
Systolic Blood Pressure TARGET <130 mmHg 		✓	✓
ASPIRIN 100 mg/daily		✓	
High-dose statins: ATORVASTATIN 40 mg/daily		✓	
Moderate-dose statins: ATORVASTATIN 20 mg/daily			✓



Avoid alcohol consumption



Body mass index between 18.5 and 24.9



Avoid foods high in sodium

1

1 Tablet of Telmisartan/Amlodipine 40/5 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

**Patient above target:
Refer to the next level of care**



Do 30 minutes of physical activity daily




Keep a healthy diet



No smoking

Patients under control	Minimum 6-MONTH follow-up	Minimum 3-MONTH follow-up	Supply medicines for 3 MONTHS	Vaccination		
				Influenza	Pneumococcus	COVID
All Hypertensives	✓		✓			✓
HIGH-RISK Hypertensives		✓	✓	✓	✓	✓


Country name
Entity name



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TAKE ALL MEDICATIONS AT THE SAME TIME EVERY DAY

This protocol is
NOT INDICATED
in **WOMEN** of
CHILDBEARING
AGE



The Hypertension Clinical Pathway is the main tool for HEARTS implementation, catalyzing the recommendations from the new WHO guideline and the HEARTS Drivers for Hypertension Control.

There is a real pollution of scientific information on hypertension and this also includes the CPGs.

The traditional model of care, based on CPGs, has failed to achieve high rates of hypertension control. The right answer is the implementation of a simplified and standardized approach such as HEARTS in the Americas.

The HEARTS Clinical Pathway is the core of HEARTS implementation, enabling a more comprehensive approach to CVD risk management in PHC.



HEARTS
IN THE AMERICAS



Questions?

Join us for our next
HEARTS in America session:
November 30th, 2022

**Chronic Kidney Disease:
Screening and Early
Management**

Ben Broome, MD

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- Southern Medical Association (SMA) **will create an online account for you** including your unique login, **using the email address you provided during registration** (your username/ID is your email address).
- Upon receipt of your post-meeting email, click the link provided, and please **make sure that your name and email address appear at the top of the form before completion**.
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