

# HEARTS: a public health approach to managing hypertension in primary care to reduce morbidity and mortality from stroke and other comorbidities

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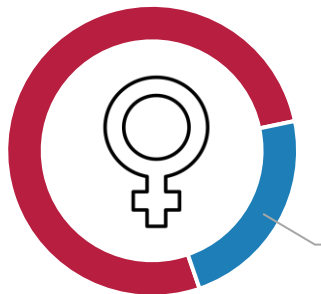
# CVDs: Key facts

- CVDs are the number 1 cause of death globally: more people die annually from CVDs than from any other cause.
- An estimated 17.9 million people died from CVDs in 2016, representing 31% of all global deaths.
- **Of these deaths, 85% are due to heart attack and stroke.**
- Over three quarters of CVD deaths take place in low- and middle-income countries.
- Out of the 17 million premature deaths (under the age of 70) due to noncommunicable diseases in 2015, 82% are in low- and middle-income countries, and 37% are caused by CVDs.

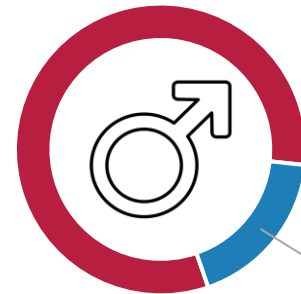


# Hypertension

- Hypertension – raised blood pressure – affects around **1.28 billion adults aged 30–79 years worldwide have hypertension (HTN).**
- **Only 23% of women and 18% of men have it under control** – *despite there being cost-effective treatment options.*



Only 23% of  
women...



Only 18% of  
men have...

# Closing the gap and saving lives

- **Undiagnosed**
- An estimated **41%** of women and **51%** of men with HTN are **undiagnosed**.
- **Treated**
- **47%** of women and **38%** of men with HTN are **diagnosed and treated**.
- **Controlled**
- Of those with HTN, **23%** of women and **18%** of men have it **under control**.



### Risk factor prevention

Population policy measures for tobacco, alcohol, diet, physical activity and air pollution

### Primary care

Management of hypertension, diabetes and dyslipidaemia  
Secondary prevention of CVDs

### Secondary and tertiary care

Management of acute coronary syndrome and stroke

World Stroke Organization  
Voice for Stroke



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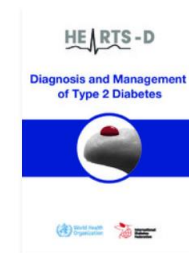
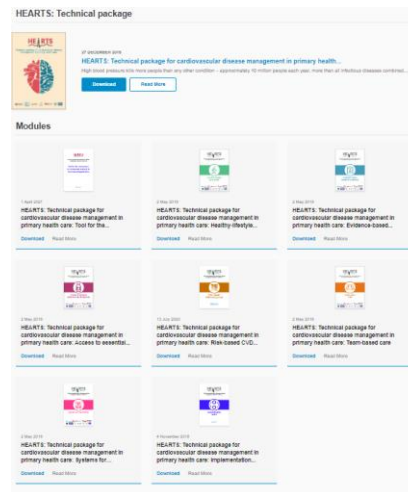
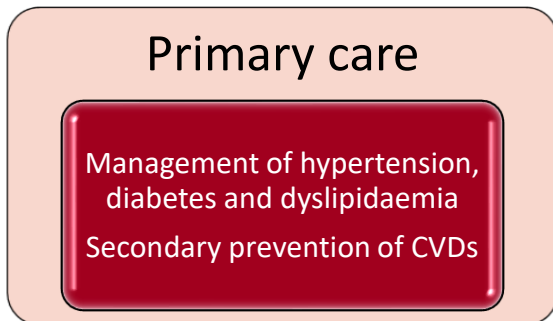
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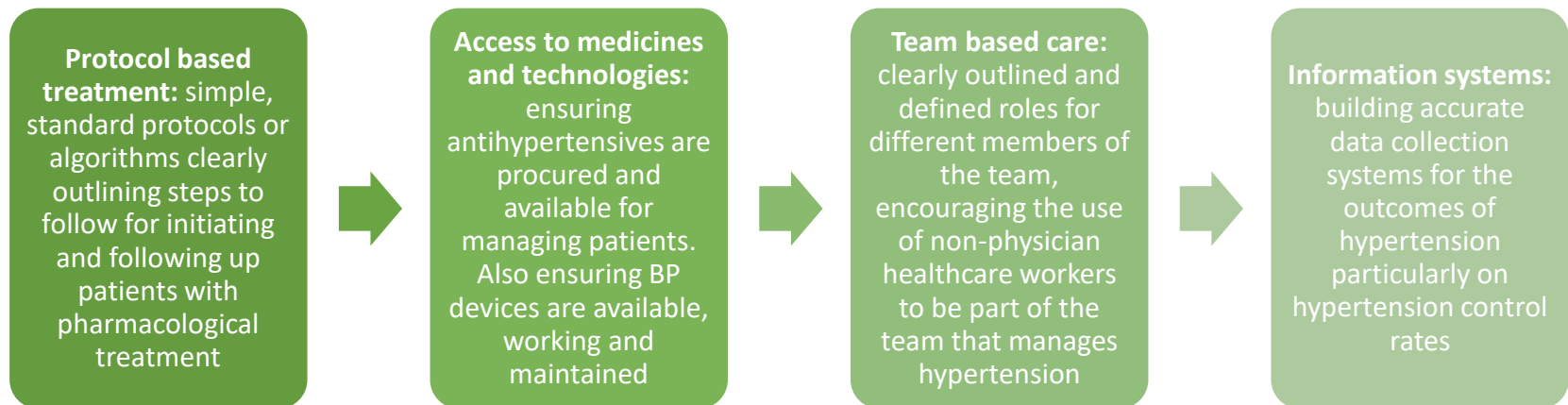
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# HEARTS – primary care

- A public health approach to managing hypertension and other CVD risk factors at the primary level
- Involves reorientation and strengthening of health systems to incorporate treatment of hypertension
- Must be embedded in universal health coverage benefit packages – pathfinder to UHC



# Modules of HEARTS – focus on hypertension control



# Guideline for the pharmacological treatment of hypertension in adults



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## GUIDELINE FOR THE PHARMACOLOGICAL TREATMENT OF HYPERTENSION IN ADULTS

More people die each year from cardiovascular disease (CVD) than from any other cause.



In 2019, out of 56 million deaths,

18 million were due to CVD.



Diseases of the heart, brain, kidneys and other organs are significantly increased by hypertension (HTN), which afflicts about 1.28 billion people worldwide. Only 23% of women and 18% of men have it under control.

The guideline makes eight recommendations:

### DRUG THERAPY INITIATION



**R1: BP threshold for starting drug treatment**  
Those with diagnosis of HTN and BP of  $\geq 140/\geq 90$  mmHg

Those with CVD and SBP  $\geq 130$ –139 mmHg

Those without CVD but with high CVD risk, diabetes, CKD and SBP  $\geq 130$ –139 mmHg



**R2 & 3: Whether screening and assessment are needed before treatment is started**  
Obtain tests to screen for comorbidities and conduct CV risk assessment **but only if it doesn't delay treatment**



**R4 & 5: Which drug(s) to prescribe and in which combinations**  
Any of these drug classes: diuretics/ACEi or ARB/CCBs

To improve adherence and persistence **combination therapy is recommended preferably in a single pill**

### TARGETS AND FOLLOW UP



**R6: BP target for control of HTN**  
**140/90 mmHg**  
in those without comorbidities

SBP 130 mmHG  
in those with CVD

SBP  $< 130$  mmHg  
in those with high CVD risk, diabetes and CKD



**R7: Follow-up intervals**  
**Monthly follow up**  
until patient reaches target BP  
**3–6 month follow up**  
once target BP is reached



**R8: Use of nonphysician HCWs in further management of HTN**  
Treatment can be provided by **nonphysician professionals** as long as they are given training, prescribing authority, management protocols and physician oversight

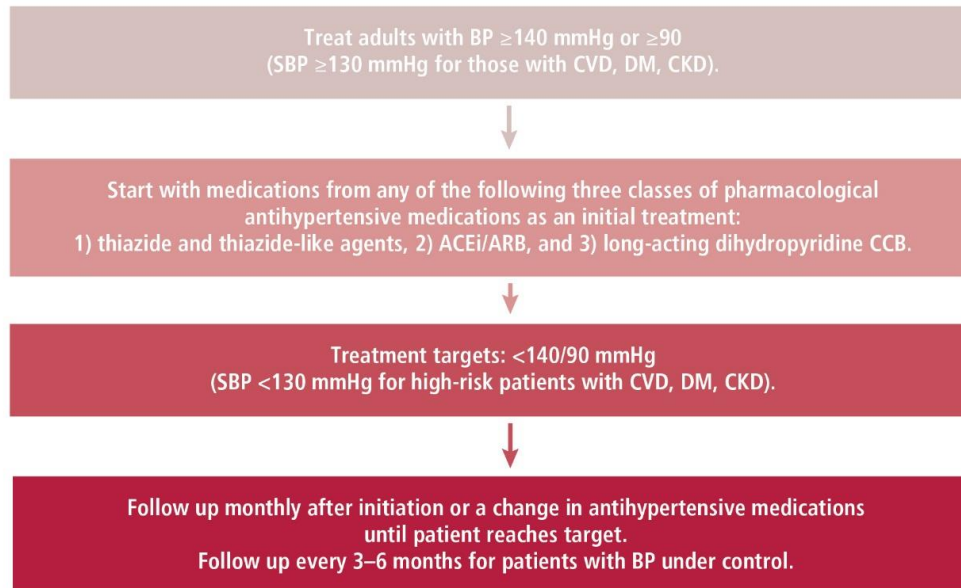


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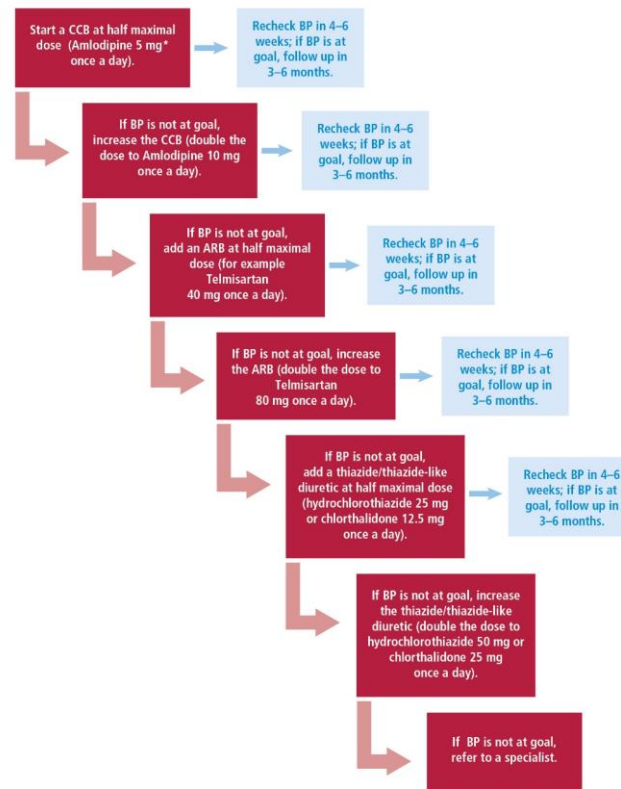


# Recommended patient-care pathway: *not* using single-pill combination



- Pharmacological treatment to be initiated when:
  - A diagnosis of HTN has been made
  - BP level is high or there is accompanying evidence of end organ damage
- Patient should be counselled about starting medication
- Basic lab testing and CVD risk assessment to take place only if it does not delay treatment.
- Consider using diuretics or CCB in patients 65 years or older, or those of African or Afro-Caribbean descent, beta-blockers (BBs) post MI, ACEis/ARBs in those with diabetes, heart failure or CKD.

# Protocol 2: Initiation of treatment *not* using a single-pill combination



- A CCB, rather than a thiazide-type diuretic or ACEi/ARB, was selected as first-line medication if one agent is used, to avoid the need for electrolyte measurements or to alleviate concerns regarding potential change in glomerular filtration rate.
- Drugs affecting the renin–angiotensin system (ACEis, ARBs, and aliskiren) have been associated with serious fetal toxicity, including renal and cardiac abnormalities and death; they are contraindicated for use during pregnancy.

# Implementation of HEARTS

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Currently HEARTS is being implemented in over 32 countries globally

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There are now more than 12 million adults being treated according to protocol-based treatment for their hypertension

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Control rates are improving in all countries but is variable and ranges from improvements from 10-40% improvement in community control rates

# India Hypertension Control Initiative (IHCI)

- Is being implemented in 150 Districts across 27 states
  - Phase I states – 5 states
  - Phase II states – 22 states implemented
- Recently started in 5 additional districts
- Approx. 5 Million Patients with Hypertension and 2.5 Million Patients are registered for treatment till April 2023
- IHCI Strategies now part of Operational guidelines for NP-NCD ( National program for NCDs)

- **Improvement in control average, for initial 26 districts:**
- Facility level control rate in 26 initial districts from 5 states – 30% in 2018 to 35% in 2022 (Number of patients with BP under control increased from 57,478 in 2018 to 3,47,301 in 2022)
- Community level control rate in 26 initial districts from 5 states – 0.26% in 2019 to 5.2% in 2022
- **Total number of staff supported:**
- Medical: 37 Cardio-Vascular Health Officers at State & District level, 2 CVH Consultants at Ministry of Health
- Non-Medical: 85 Senior Treatment Supervisors, 3 Data team
- **Medication**
- Drug availability is streamlined in most of the states where IHCT is implemented (18 out of 23 implementing states have first & second-line hypertension protocol drugs sufficient for at-least 2 months)
- **Integration**
- Integration of services for Diabetes patients done and services as per HEARTS package is being delivered



**Dr Mansukh Mandaviya** ✓  
@mansukhmandviya · [Follow](#)



India wins an **@UN** award for "India Hypertension Control Initiative (IHCI)" - a large scale hypertension intervention within existing primary healthcare system under National Health Mission.

IHCI has strengthened PM **@NarendraModi** Ji's mission to ensure health & wellness for all.

5:57 PM · Sep 21, 2022



[Read the full conversation on Twitter](#)

India wins UN awards for Large-scale Initiative against Hypertension

## India wins UN awards for Initiative against Hypertension



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## Ayushman Ka Amrit Mahotsav



**75 million**  
**people with**  
**hypertension or diabetes**  
**on standard care by**  
**2025**

**Roadmap to scale up hypertension and diabetes services in primary health care**



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### APPROACH

#### Assess the present status at state, district and subdistrict levels

- Infrastructure
- Manpower
- Drugs and logistics
- Information system (National NCD Portal)

#### Setting up of state / district specific targets

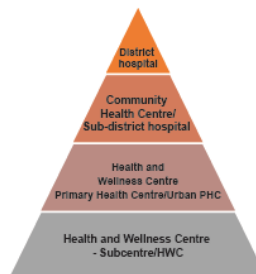
- Estimate the load, as per prevalence
- Total patients on treatment with longitudinal records
- Number of patients to be put on treatment by 2025 (80% of total estimated)
- Number of patients with blood pressure/blood sugar under control

#### Scale up plan to achieve the targets

- Sustain the IHCI strategies
- List the new interventions required to accelerate the coverage and follow up
- Continuous cohort monitoring
- Adequate budgetary requirement in the state PIP

#### Regular facility-based monitoring and supportive supervision

- Review progress at all levels on monthly basis
  - Patients on treatment
  - Patients with at-least one follow up in last three months
  - Patients with blood pressure/blood sugar under control
  - Number of facilities with adequate drugs and logistics



#### Secondary healthcare level : (DH/SDH/CHC)

Opportunistic screening, back referral of stabilized patients to HWC using CPHC NCD solution, teleconsultation services, management of complicated cases, annual screening for complications, supportive supervision, motivating patients to utilize services at HWC.

#### HWC PHC/UHPC :

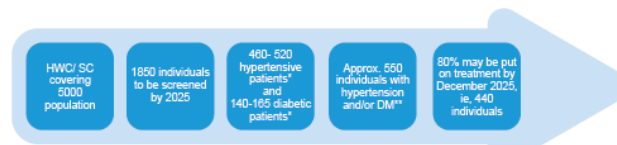
Opportunistic screening, team-based care, timely diagnosis and protocol based management, ensure availability of drugs and diagnostics, decentralized care, timely disbursement of incentives, supportive supervision of Subcentre HWC, use CPHC NCD data for monthly review meeting and patient tracking

#### Subcentre/HWC:

Complete screening of all individuals aged 30 years and above. All suspected individuals will be facilitated for timely diagnosis and initiation of treatment through teleconsultation, monthly follow up of diagnosed cases, referral of uncontrolled cases and patient tracking.

HWC PHC/UHPC along with Subcentre HWC can manage nearly 90% of all diagnosed hypertension and diabetes patients. Nearly 70% - 75% of all diagnosed patients can be managed at HWC Sub centres. (Patients with blood pressure and/or blood sugar under control, without complications/other comorbidities).

### Contribution of health and wellness centres to achieve 75 by 25 target



\* Considering hypertension prevalence (25% - 28%) and diabetes prevalence (7% - 9%)

\*\* Considering combined prevalence of both the diseases

Further, most of the targeted patients are already on treatment, however longitudinal follow up mechanisms have to be put in place.



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# Healthy Hearts Program: Philippines



## PROVINCE OF ILOILO

Number of municipalities:	<b>42 municipalities &amp; 1 component city</b>
Number of barangays:	<b>1,721</b>
Number of rural health units:	<b>43</b>
Number of barangay health stations:	<b>496</b>
Estimated adult population, 20 years and above (2023):	<b>1,330,569</b>





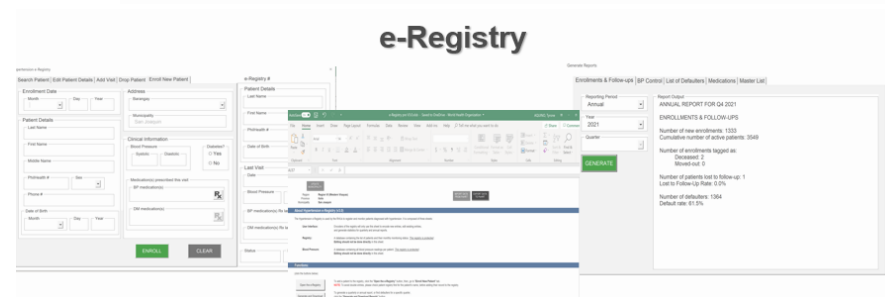
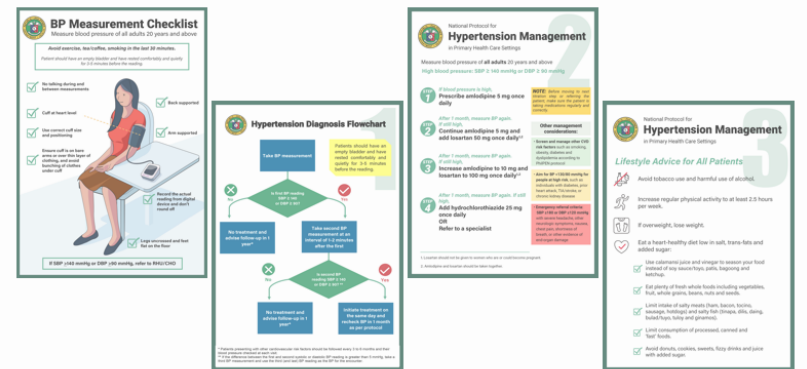
## PROVINCE OF ANTIQUE

Number of municipalities:	<b>18</b>
Number of barangays:	<b>590</b>
Number of rural health units:	<b>20</b>
Number of barangay health stations:	<b>302</b>
Estimated adult population, 20 years and above (2023):	<b>365,551</b>

# Accomplishments

- **Governance and political will:**
- Engagement of local, regional, and national government stakeholders in the project, and government ownership
- Political will at all levels is remarkably strong
- Policy changes have resulted in HEARTS implementation facilities being accredited for PhilHealth Konsulta (comprehensive outpatient benefits as mandated by the Universal Health Care Law of 2019)
- **Team-based care:**
- One of the best demonstration of team-based care
- Barangay health workers provide home based care and support to their communities

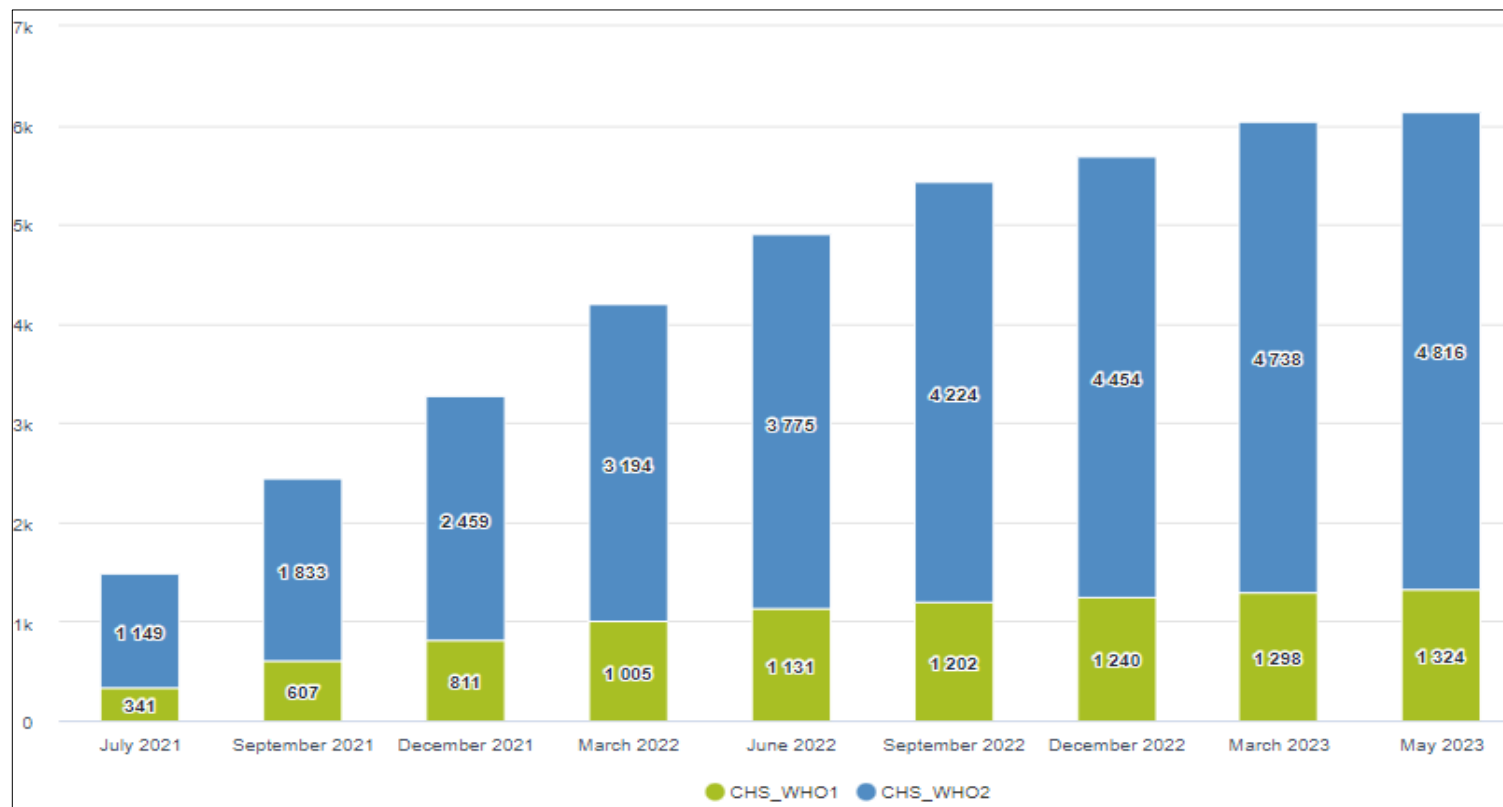
## Development of training materials and job aids



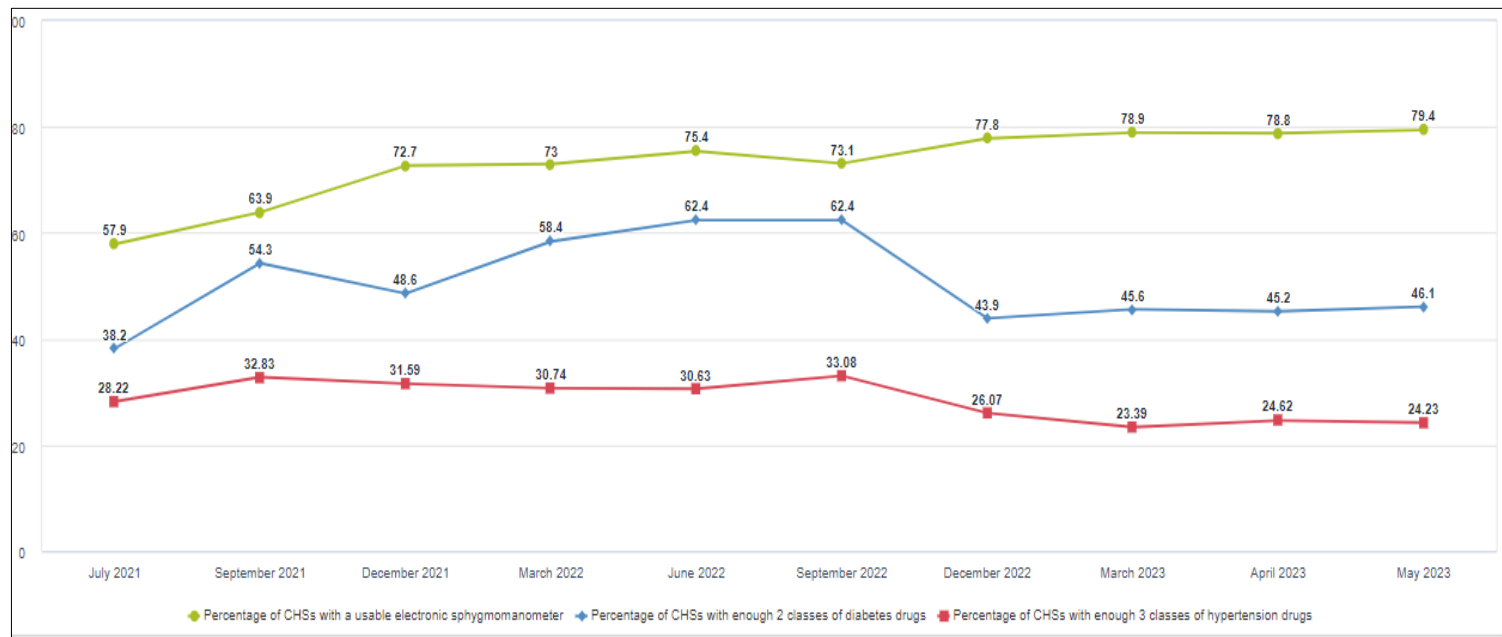
# Vietnam

- The Vietnam HEARTS program started in 2017 and since 2019 has expanded from 21 to 52 out of 63 total provinces
- Approximately 141,000 HTN patients have been enrolled in care
- Over 3,000 commune health stations (CHS's) are implementing the program in 52 provinces
- Resulted in major policy changes – NCDs in primary care were under the jurisdiction of the hospitals – through HEARTS this was moved to fall under the public health services system resulting in decentralized care
- Vietnam has integrated NCD hypertension and diabetes indicators into DHIS 2

# CHS supported and expanded in 2 phases



# Other indicators (5): Percentage of CHS with electronic BP monitor, enough types of medicines for HTN and DM



# Regional adaptation of HEARTS

- HEARTS in the Americas

- 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 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.



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- SEA HEARTS- launched on May 17<sup>th</sup> 2023

- An initiative to accelerate CVD prevention and control.
- Target: 100 million people treated through standardized care for hypertension and diabetes by 2025



- <https://www.who.int/southeastasia/activities/seahearts-for-accelerating-cvd-control>



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24 countries committed to implement HEARTS

2,117 PHC facilities implementing HEARTS in countries

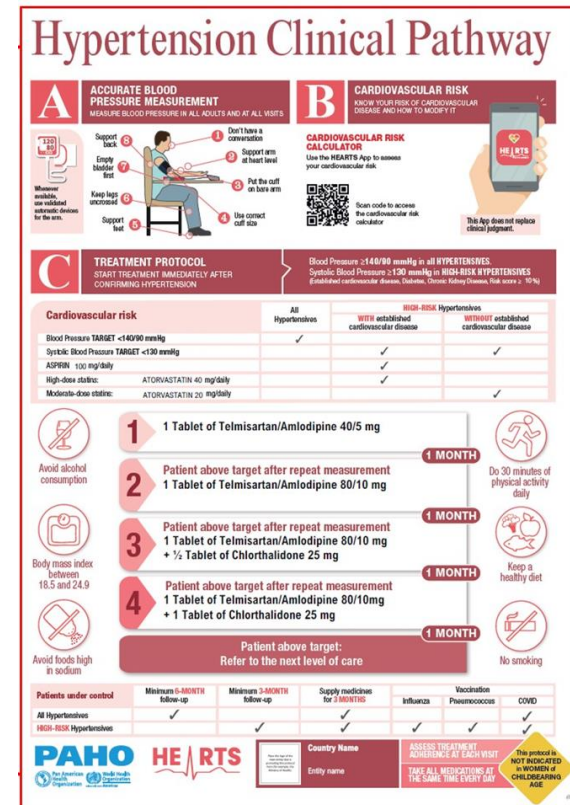
1,343,128 patients in treatment currently

63% of hypertension control among treated (<140/90)



**VISION:** 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.

- 17 countries have defined their treatment protocols and 15 were updated
- 15 countries start with combination therapy (in two separate pills) in the first treatment step.
- 15 countries added statins (75% are using high-intensity doses in secondary prevention)
- Technical cooperation for procurement of validated BMDs by Ministries of Health and improvement of regulations was provided to eight countries





# Challenges

- **Governance:** Sustained and strong political will is critical to success
- **Policy:** financing, UHC, decentralization of services, medicines, team-based care
- **Protocols:** In some instances, cardiologists and other specialists are reluctant to endorse protocols and allow devolution of care
- **Access to medicines:** huge bottleneck, issues with resources as well as obstacles through the supply chain
- **Human resources:** often inadequate to meet demands
- **Monitoring:** Often facility-based monitoring for patient outcome data is not established. IT issues with DHIS 2 capacity to store longitudinal data especially for such prevalent conditions

# THANK YOU

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