HEARTS

Improving hypertension control in 3 million people

Country experiences of programme development and implementation

World Health Organization

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Contents

Foreword

Hypertension – or elevated blood pressure – is a serious medical condition that significantly increases the risk of heart attack, stroke, kidney failure and blindness. It is the leading cause of premature death worldwide. Of the estimated 1.13 billion people who have hypertension, fewer than one in five has it under control. The main contributors to the high and rising prevalence of hypertension in low- and middle-income countries are unhealthy diets – especially excess sodium and also insufficient potassium – physical inactivity, and the consumption of alcohol.

To combat global mortality from noncommunicable diseases, at the Sixty-sixth World Health Assembly in 2013 Member States adopted resolution WHA66.10 and set global targets that include achieving a 25% relative reduction in the prevalence of raised blood pressure by 2025. The World Health Organization (WHO) is supporting countries to meet the global target and to reduce hypertension as part of WHO's Thirteenth General Programme of Work (2019–2023), which focuses on measurable impacts on people's health at the country level.

To support governments in strengthening the prevention and control of cardiovascular disease, WHO and the United States Centers for Disease Control and Prevention (CDC) launched the Global Hearts Initiative in September 2016, which includes the HEARTS technical package. In September 2017, WHO started a partnership with Resolve to Save Lives, an initiative of Vital Strategies, to support national governments to implement the Global Hearts Initiative. Other partners contributing to the global initiative are: the CDC Foundation, the Global Health Advocacy Incubator, the Johns Hopkins Bloomberg School of Public Health, the Pan American Health Organization (PAHO) and the US CDC. Over the past three years, there has been substantial progress demonstrated across low- and middle-income countries.

Hypertension control is a pathfinder for universal health coverage. This case series reports on country programmes that cover 3 million people, deliver protocol-based hypertension treatment through person-centred models of care, and provide state- and country-level information on improved hypertension control rates. These programmes demonstrate the feasibility and effectiveness of standardized hypertension control programmes. We hope that this case series will set a new standard for scalable public health hypertension control and broader primary care programmes and will be an impetus for the urgently needed advances in this field.

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Abbreviations

BP	blood pressure
ARB	angiotensin-receptor blocker
ACE	angiotensin-converting enzyme
CCB	calcium channel blocker
CPG	clinical practice guideline
CVHO	cardiovascular health officer
DoH	department of health
DoPH	department of public health
FDC	fixed-dose combined
HTN	hypertension
ICMR	Indian Council of Medical Research
IHCI	Indian Hypertension Control Initiative
MoH	ministry of health
MoPH	ministry of public health
NCD	noncommunicable disease
PHC	primary health care
RESOLVE	Resolve to Save Lives
PAHO	Pan American Health Organization
STS	senior treatment supervisor
WHO	World Health Organization

Executive summary

An estimated 1.13 billion people globally have hypertension, of whom two-thirds are living in low- and middle-income countries. The World Health Organization (WHO) Global Hearts Initiative supports governments to strengthen prevention and control of cardiovascular diseases (CVDs) with high-impact and evidence-based interventions through five technical packages. The MPOWER package focuses on tobacco control, the ACTIVE package on increasing physical activity, the SHAKE package on salt reduction, and the REPLACE package on elimination of industrially produced trans fats from the global food supply. On the management side, the HEARTS technical package is aimed at strengthening the management of CVDs in primary health care. Details of HEARTS modules and other resources are provided in Annex 1.

The WHO, Resolve to Save Lives (RESOLVE) – an initiative of Vital Strategies – and other partners are working with national and subnational governments to support their work to improve the control of hypertension (HTN) using the HEARTS technical package. The aim of the partnership is to prevent millions of deaths from CVD by reducing salt consumption, eliminating industrially produced trans fats, and controlling hypertension. One of the main strategies is implementing the HEARTS technical package, which provides proven, affordable and scalable solutions to improve control of hypertension at the primary care level. Five components are necessary for a successful hypertension control programme: drug- and dose-specific treatment protocols; access to quality-assured medications and blood pressure (BP) monitors; team-based care; patient-centred care delivered in the community, and information systems to enable quality improvement.

This case series aims to showcase the experience of 18 countries that have adopted the HEARTS technical package for scaling up hypertension control. Countries included are: Argentina, Chile, Colombia, Cuba, Dominican Republic, Ecuador, Ethiopia, India, Mexico, Nigeria, Panama, Peru, Philippines, Saint Lucia, Thailand, Trinidad and Tobago, Turkey and Vietnam. National and subnational ministries of health are developing and implementing programmes with the support of WHO and RESOLVE. In Latin America and the Caribbean, a programme led by the ministries of health and supported by Pan American Health Organization (PAHO) and other partners is active in 11 countries. HEARTS in the Americas has been supported technically and financially by the United States Centers for Disease Control and Prevention (CDC) and RESOLVE, along with the World Hypertension League, World Heart Federation, Inter-American Society of Cardiology, Latin-American Society of Hypertension, and several universities across the Americas.

Country case series

The country cases describe the development, implementation and status, as of June 2020, of the hypertension control programmes, based on the periodic reports and additional information provided by the focal person in each country. The information is presented using domains aligned to the elements of the HEARTS technical package.

- **Programme launch**: This section indicates the engagement of multiple partners, led by the national ministries of health, facilitated by WHO and RESOLVE. Engaging national institutions and professional agencies is important in terms of getting their buy-in and ensuring that all parties are on board. States within India became involved through a national-level process, described separately. In PAHO countries, the HEARTS programme builds on previously successful projects and programmes to optimize resources and establish the necessary synergies to make the initiative work.
- **Consensus protocol**: An evidence-based drug- and dose-specific protocol helps programme delivery and the procurement of medicines. A standard hypertension treatment protocol, developed though consensus workshops facilitated by the national (or subnational) ministries of health, academia, scientific societies, RESOLVE and the WHO is presented. The country cases indicates the availability of the protocol, and the full protocols for all countries are presented in Annex 2.
- **Service delivery**: This section presents the service delivery model adopted in each country: the level of health care where services are provided, the cadre of providers and their roles, and the type of health facility enrolling people on treatment.
- **Medicines and technology**: An uninterrupted supply of medicines and the availability of BP measuring devices are critical for the success of the programme. They are primarily provided by the national and subnational governments. The programme has raised demand above the routine level, and the section provides some indication of the additional quantities procured in some countries.
- **Capacity building**: This section presents the methods and approaches for human resource development for hypertension control in countries. This is an ongoing activity, and having

package in the Americas is expanding steadily and the projected numbers are presented in the PAHO country cases.

- **Number of people enrolled**: The increasing number of people with hypertension enrolled from the inception of the programme up until the end of June 2020 is presented. Nigeria and Philippines have just started the programme, and hence the number of people is not yet listed. The number of people on treatment may be much higher in some countries, but for this report only the number enrolled from the programme inception up until June 2020 is included.
- **Hypertension control rate**: The indicator used is the 6-month control rate of hypertension, as given in the *Systems for monitoring* module of the HEARTS technical package. Six-month hypertension control rate indicates the proportion of people on treatment with controlled blood pressure (SBP <140 and DBP <90 mmHg) at six months from the initiation of treatment among all people put on treatment. Some countries have reported a 3–6-month control rate and others have used different time frames. Additional indicators, such as people lost to follow up and stock-out of medicines, are important but were not included in this first report.

Enabling factors and challenges

Preliminary observations of enabling factors and challenges are presented, based on the reports received. More formal evaluation and implementation research is underway in many countries and will add to the lessons learned.

Many factors emerged as prerequisites for a sustainable programme. Engagement of ministries of health, local government institutions and scientific communities was a critical step for ensuring the mandate and leadership. Availability of a consensus treatment protocol and effective monitoring systems were found to be essential. The support of partners and the availability of guidance through the HEARTS technical package facilitated the programme. Provision of catalytic funds helped to address critical gaps and to scale up the programme rapidly.

Primary health care capacity was a defining factor and varied widely between countries. While implementation has begun in all countries, speed of adaptation and scale up has varied, reflecting the readiness of countries' primary health care systems. Ensuring the availability of drugs specified in the agreed protocol was a challenge, especially as programme growth resulted in a very high demand for medicines. Limitations in procurement systems for medicines and BP measuring devices was a major bottleneck. Hypertension and other noncommunicable diseases (NCDs) are often not part of the standard health information system indicator set in many countries. Six-month hypertension control rates can only be calculated from longitudinal follow up of individual patients, which ideally requires an electronic system or a well-managed paper-based system. This was not