

# Conquering the Silent Killer: Hypertension Prevention and Management in India

## BACKGROUND

Hypertension is one of the important risk factors contributing to the high burden of cardiovascular diseases and stroke, especially in low- and middle-income countries. It can be present in apparently healthy individuals for years without any symptoms and hence referred to as “Silent Killer.”<sup>[1]</sup> Risk factors associated with hypertension are modifiable ones like obesity, lifestyle, and eating habits and non-modifiable ones like age, sex, and genetic predisposition.<sup>[2]</sup>

As per a pooled analysis using data from 1990 to 2019, more than 1.2 billion people live with hypertension around the globe (626 million women and 652 million men), nearly half of whom are unaware of their condition.<sup>[3]</sup> Only 21% of hypertensive patients had their blood pressure under control in 2021 globally.<sup>[4]</sup>

The prevalence of hypertension has shown an increasing trend in India as well. The fifth round of the National Family Health Survey (NFHS 5) has reported a prevalence of 24% in men and 21% in women, an increase from 19% and 17%, respectively, from NFHS 4.<sup>[5]</sup> A recent meta-research study using data from 2001 to 2022 reported improvement in population-level hypertension control rates in India over the last two decades but remains low at 22.5%. The study also reported regional variations in hypertension control, with the southern part of the country showing better control rates than the north and the west.<sup>[5]</sup>

A study conducted in 2019 using a nationally representative sample reported that while the proportion of those with hypertension who had ever had their BP measured was high (76%), only less than half (45%) of individuals with the condition were aware of their diagnosis, less than 1 in 7 (13%) reported currently taking BP-lowering medication, and less than 1 in 10 (8%) had achieved control.<sup>[6]</sup> These findings highlight the need to focus particularly on raising awareness and management of hypertension. The same study also reported significant variations in these findings among states and population groups with households of low economic status and those living in rural areas faring poorly.<sup>[6]</sup>

## Initiatives by the government of India

Screening is vital for hypertension detection and awareness.<sup>[7]</sup> In order to ensure early diagnosis and management of hypertension, population-level screening services were initiated under the National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular diseases and Stroke (NPCDCS) in 2016. After the launch of the Ayushman Bharat – Health and Wellness Centre (AB-HWC) program in 2018, population-based screening was made an integral

component of non-communicable disease (NCD) service provision at AB-HWCs. Under this initiative, trained frontline workers (FLWs) such as ASHAs, ANMs, and CHOs screen all individuals aged 30 years and above for common NCDs like hypertension, diabetes, and breast, cervical, and oral cancers along with risk assessment using CBAC forms coupled with assured teleconsultation (e-Sanjeevani HWC portal) and referral support to higher-level facilities.<sup>[8]</sup>

Implementation challenges include lack of awareness, reluctance for screening, internet connection for teleconsultation, limited availability and capacities of FLWs, heavy burden on them from managing multiple health priorities, and administrative difficulties in the last-mile delivery of services, record keeping, drugs availability, follow up, etc.<sup>[9]</sup> Technology is being appropriately leveraged to address these challenges for effective implementation. CPHC-NCD technology solution including a mobile app for ASHAs, HWC App for ANM/CHO, PHC Web Portal & App for the Staff Nurses and MO PHC, CHC/DH Portal and App, “Admin” Portal and health officials’ dashboard was launched in 2018. An array of activities like population enumeration, risk assessment, diagnosis, follow-up, and monitoring of the screening initiative by functionaries at all levels of the health system is conducted through this. CPHC-NCD solution is customized to meet the requirements of the Indian public health delivery system with the fundamental objective of ensuring continuum of care (CoC) and supporting registered patients throughout the treatment period.<sup>[9,10]</sup> It is also integrated with Ayushman Bharat Digital Mission (ABDM) to enable the creation of ABHA Health IDs and for linking existing Health IDs in the CPHC-NCD system.

## What after screening?

Following the screening, those with a systolic BP of over 140 and a diastolic BP of over 90 mm of Hg and above are referred to the CHO or Medical Officer (MO) at the nearest health and wellness center for diagnosis and treatment, which will be added to the digital health record.<sup>[11]</sup> The prescribed and dispensed medication is also added to the digital health record and tracked along with any upward referrals made. Doctors at higher-level facilities can securely access the patient’s health records using the web portal. ASHAs get alerts and reminders, which enable them to make timely follow-ups. Additionally, the technology allows health administrators at state and national levels to monitor the progress up to the village level in near real time.<sup>[12]</sup>

## Implementation research helping the hypertension management

The India Hypertension Control Initiative (IHCI) was launched in 2018 by NIE, ICMR, and MoHFW, along with other

partners with strategies of standardized treatment protocol; drug availability; team-based care; and systematic and accurate information systems for tracking and follow-up, and showed that concerted efforts can increase the control rates of hypertension.<sup>[12]</sup> The mobile phone-based “Simple app” helped the FLWs as well as the patients to chart their own progress and reminders for medications.<sup>[13,14]</sup>

### Integration of CPHC – NCD app and Simple app

Learnings from IHCI have been suitably incorporated in the CPHC-NCD app in 2022 to obviate duplication of work by the FLWs. The CPHC-NCD app now has the additional features of “Simple app” and is now more efficient with simplified workflow, quick enrolment, user dashboard, standard treatment protocols, ABHA ID-based unique QR code, cohort reporting, and facility-wise line listing till the peripheral level. The integration process is currently underway. The revamped CPHC-NCD app is expected to drive acceptance and adoption across the country.

### Way forward

The old “rule of halves” for hypertension<sup>[15]</sup> needs to be consigned to the dustbin of history with early diagnosis, appropriate and timely treatment, ensuring drugs and follow-up of all cases to prevent complications. These efforts need to be strengthened with the prevention of HTN in first place. The comprehensive primary health care delivered through AB-HWCs lays emphasis on health promotion, primary prevention, early detection, and adequate management as vital strategies to achieve this.<sup>[11]</sup>

The Government of India has expanded the number of essential drugs and diagnostics available at all levels of public health facilities. Programs like Free Drugs and Free Diagnostics Initiatives are also being implemented nationwide to reduce out-of-pocket expenditure. However, logistics management for drugs and diagnostics, starting from planning and forecasting, procurement, storage, supply and distribution, needs strengthening. Many states have established corporations for drug procurement and supply, albeit each is at different maturity and efficiency levels.<sup>[16]</sup> Another critical aspect requiring focus is ensuring the availability of independently validated, automated digital blood pressure monitors meeting specifications at all public health facilities.<sup>[13]</sup> Funding for procuring drugs, diagnostics, and equipment is being provided to states under the National Health Mission.

Another important aspect requiring renewed focus is the quality of training and capacity building of ASHAs, ANMs, CHOs, MOs, and Staff Nurses implementing the NCD program. As Norman Kaplan famously said, “the measurement of blood pressure is likely the clinical procedure of greatest importance that is performed in the sloppiest manner.”<sup>[17]</sup> Ensuring the quality of training and skill development of healthcare workers is paramount for ensuring the quality of the population-based screening initiative. Healthcare workers’ capacity building should emphasize the importance of follow-up and treatment adherence for meeting the program’s overall objectives.

The Government of India has developed systems and tools to tackle the challenge of hypertension. How effectively we use them will determine the trajectory of disease burden due to hypertension in the coming years.

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