HEARTS IN THE AMERICAS
Regional Workshop

Punta Cana, Dominican Republic

May 14-17, 2019

Implementing HEARTS in India

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Resolve to Save Lives, Vital Strategies

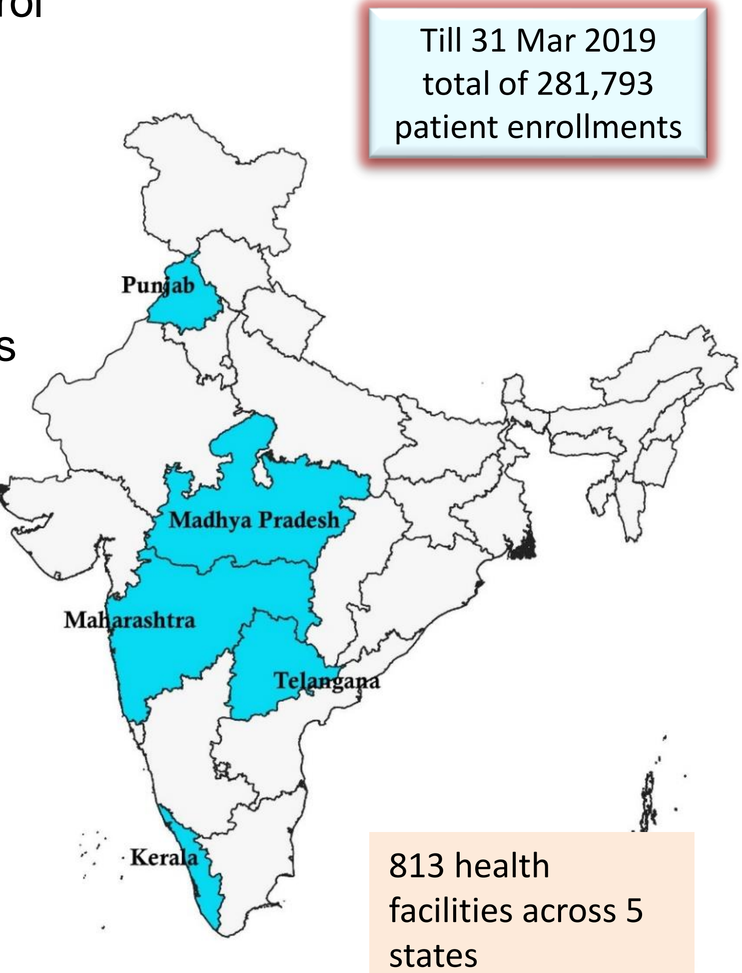
India

Setting the context

- India's population : 1.36 billion
- Number of HTN patients estimated 200 million; control rate of 10%
- GOI target: 25% relative reduction in prevalence of raised BP by 2025
- Additional numbers to be treated: 45 million
- IHMI launch: Nov 2017, with 5 HEARTS components

States	Population in millions	Pop under IHMI (m)	Prev. of HTN	Est # HTN pts IHMI districts (>30) (m)
Kerala	33	9.8	34.5%	1.8
Madhya Pradesh	73	5.9	21.9%	0.57
Maharashtra	112	6.4	24.8%	0.82
Punjab	28	6.0	34.8%	0.98
Telangana	32	7.1	20%	0.66
	278	35 (12.6%)		4.8

Till 31 Mar 2019 total of 281,793 patient enrollments



813 health facilities across 5 states

Implementation steps

- State government approval
- Consensus workshop for protocol development
- Recruitment of consultants: CVHO/ STS
- Training of all levels of health care providers- as relevant
- Drug logistics planning
- District appraisal before roll out
- Recording and reporting
- Periodic reviews

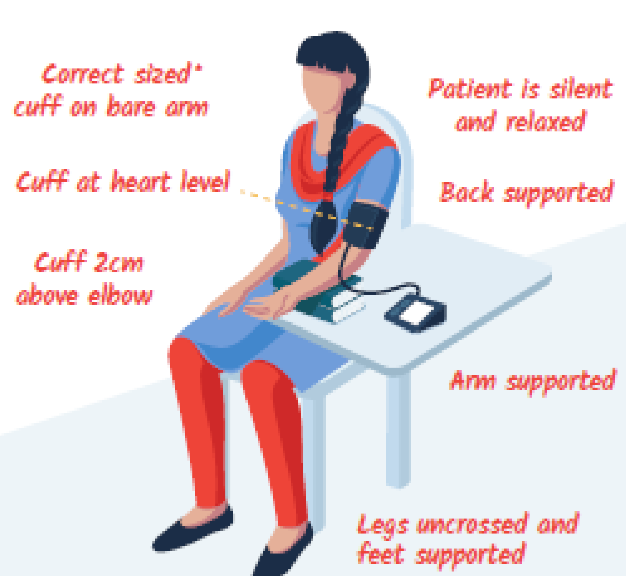
India Hypertension Management Initiative

Effective Diagnosis, Treatment, and Monitoring of Hypertension in Primary Care

Healthcare Provider Training Module
Maharashtra
August 2018

BP Measurement Checklist

Measure blood pressure of all adults ≥ 18 years



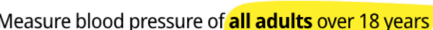
Ensure patient has not exercised, had tea/coffee, or used tobacco in last 30 min

IN THE AMERICAS

Protocols

Punjab

Hypertension Protocol

Measure blood pressure of  **all adults** over 18 years

High BP: **SBP ≥ 140** or **DBP ≥ 90** mmHg

Step 1 — If BP is high:*
Prescribe Amlodipine 5mg

Step 2 — After 30 days# measure BP again. If still high:
Increase to Amlodipine 10mg

Step 3 — After 30 days# measure BP again. If still high:
Add Telmisartan 40mg

Step 4 — After 30 days# measure BP again. If still high:
Increase to Telmisartan 80mg

Step 5 — After 30 days# measure BP again. If still high:
Add Chlorthalidone 12.5mg**

Step 6 — After 30 days# measure BP again. If still high:
Increase to Chlorthalidone 25mg**

... After 30 days measure BP again. If still high:
Check if the patient has been taking medications regularly and correctly. If yes, refer to a specialist.

Pregnant women and women who may become pregnant
- ▲ DO NOT give Telmisartan or Chlorthalidone.
- Statins, ACE inhibitors, angiotensin receptor blockers (ARBs), and thiazide/thiazide-like diuretics should not be given to pregnant women or to women of childbearing age not on effective contraception.
- Calcium channel blocker (CCB) can be used. If not controlled with intensification dose, refer to a specialist.

Diabetic patients
- Treat diabetes according to protocol.
- Aim for a BP target of < 140/90 mmHg.

Heart attack in last 3 years
- Add beta blocker to Amlodipine with initial treatment.

Heart attack or stroke, ever
- Begin low-dose aspirin (75mg) and statin.

People with high CVD risk
- Consider aspirin and statin.

Chronic kidney disease
- ACEI or ARB preferred if close clinical and biochemical monitoring is possible.

Lifestyle advice for all patients

Avoid tobacco and alcohol

Exercise 2.5 hr/week

Reduce salt, under 1 tsp/day

Eat less fried foods

Eat 5 servings of fruits and vegetables per day.

Avoid papads, chips, chutneys, dips, and pickles.

Use healthy oils:
E.g. sunflower, mustard, or groundnut.

Limit consumption of foods containing high amounts of saturated fats.

Reduce weight if overweight.

Reduce fat intake by changing how you cook:
- Remove the fatty part of meat
- Use vegetable oil
- Boil, steam, or bake instead of fry
- Limit reuse of oil for frying

Avoid processed foods containing trans fats.

Avoid added sugar.

- * If SBP ≥ 180 or DBP ≥ 110, refer patient to a specialist after starting treatment.
  If SBP 160-179 or DBP 100-109, start treatment on the same day.
  If SBP 140-159 or DBP 90-99, check on a different day and if still elevated, start treatment.
- # Dose of anti-hypertension medications can be titrated at 15 days frequency if required.
- ** Hydrochlorothiazide can be used if Chlorthalidone is not available (25 mg starting dose, 50 mg intensification dose).

India Hypertension Management Initiative: Punjab 1.00-5-15

Maharashtra

Hypertension Protocol

Measure blood pressure of **all adults** over 18 years

High BP: **SBP ≥ 140** or **DBP ≥ 90** mmHg

Check for compliance at each visit before titration of dose or addition of drugs

Step 1 — If BP is high*
Prescribe Amlodipine 5 mg + adherence counseling

Step 2 — After 30 days measure BP again. If still high:
Add Telmisartan 40mg**

Step 3 — After 30 days measure BP again. If still high:
Increase Telmisartan to 80mg

Step 4 — After 30 days measure BP again. If still high:
Increase Amlodipine to 10mg

Step 5 — After 30 days measure BP again. If still high:
Add Chlorthalidone 6.25mg

Step 6 — After 30 days measure BP again. If still high:
Increase Chlorthalidone to 12.5mg

... After 30 days measure BP again. If still high:
Check that patient has been taking drugs regularly and correctly. If so, refer patient to a specialist.

Women who are or could become pregnant
- ▲ DO NOT give Telmisartan or Chlorthalidone.
- ACE inhibitors, angiotensin receptor blockers (ARBs), thiazide/thiazide like diuretics and statins should not be given to pregnant women or to women of childbearing age not on highly effective contraception.
- Calcium channel blocker (CCB) can be used. If not controlled with intensification dose, refer to specialist.

Diabetic patients
- Treat diabetes according to protocol.
- Aim for BP target of <140/90.

Heart attack in last 3 years
- Add beta blocker to Amlodipine at initial treatment.

Heart attack or stroke ever
- Begin low-dose aspirin (75 mg) and statin.

Chronic kidney disease
- ACE inhibitor or ARB preferred if close clinical and biochemical monitoring possible after specialist opinion.

* **If SBP 140-159 and/or DBP 90-99**, start on lifestyle management for one month prior to initiation of medications.

If SBP ≥180 and/or DBP ≥110 start treatment and refer to specialist immediately.

Recommended investigations at initiation of therapy: CBC, blood sugar, serum creatinine, electrolytes (optional). If S creatinine >1.5 mg, refer to specialist.

** **If Telmisartan not available:** replace with Enalapril 5 mg (initiation dose) and 10 mg (intensification dose).

Lifestyle advice for all patients

Eat less than 1 tsp of salt per day; avoid papads, chips, chutneys, dips, pickles, etc.

If overweight, lose weight.

Exercise regularly: 2.5 hours per week

Avoid alcohol and tobacco

- Limit intake of fried foods.
- Avoid foods with high amounts of saturated fats (e.g. cheese, ice cream, fatty meat).
- Avoid processed foods containing trans fats.
- Avoid added sugar.

- Eat 5 servings of fruits and vegetables per day.
- Use healthy oils: polyunsaturated and monounsaturated oils.
- Reduce fat intake by changing how you cook: remove the fatty part of meat; use vegetable oil; boil, steam or bake rather than fry; limit reuse of oil for frying.

IN THE AMERICAS

Supervision

Cardiovascular Health Officer (CVHO)

- Support District and State level officers
- Capacity building
- Drug logistic planning
- Supportive supervision
- Monitoring/ reporting

CVH Senior Treatment Supervisor (CVH-STS)

- Support CVHOs – supervisory field visits, training, monitoring

India Hypertension Management Initiative (IHMI)
Hypertension Treatment Supportive Supervision Checklist

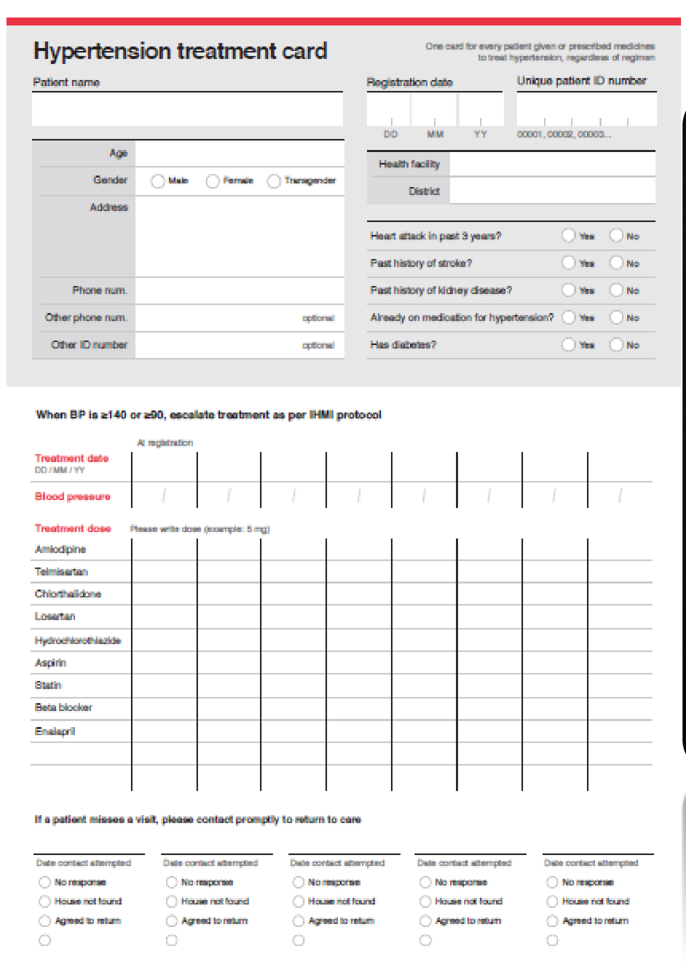
District name: Facility type & name: DH/ AH/ SDH/ CHC/ PHC/ UPHC/ RH/SC .... Name of medical officer in charge:		Name of supervisor: Designation: Date:
Number of HTN patients registered till date:		
Is the treatment algorithm displayed on the wall or desk? ☐ Yes ☐ No		
1	**Screening and BP measurement**	
1.1	Number of functional BP instrument/s in the facility (Digital/Aneroid/Mercury)	___D, ___ A, ___M
1.2	Is there a designated place for opportunistic BP measurement in the facility	Y N
1.3	Is BP measured for all adult outpatients who come to the clinic	Y N
1.4	Are all adults with BP ≥140/90 referred to the medical officer for treatment?	Y N NA
1.5	a) Number of adults observed for BP measurement b) Number of adults BP was measured correctly	0 1 2 3 4 5 0 1 2 3 4 5
2	**Treatment outcome**	
Review treatment cards of at least 50* consecutive patients, registered one quarter earlier. If total registered patients are less than 50, then review all cards.		
2.1	Number of cards reviewed (scratch numbers in sequence on page 3)	

Assess treatment outcome for each card. (Use a tally mark to count only one treatment outcome per card)				
a. Number with BP controlled (<140 and <90) at last visit	b. Number with BP uncontrolled (≥140 or ≥90) and on protocol at last visit	c. Number with BP uncontrolled (≥140 or ≥90) and not on protocol at last visit	d. Number for whom BP not documented at last visit	e. Number who did not visit the clinic for previous two months (defaulted)

2.3	Is there a system for identification & retrieval of defaulter patients	Y N
3	**Patient recording and reporting system**	
3.1	Is the facility HTN register up to date till last week	Y N
3.2	Number of blank treatment cards available at the health facility	
3.3	a) Is there a place to store treatment cards? b) Is there a two stack system in place for arranging treatment cards?	Y N NA Y N NA

Monitoring systems

Treatment cards



Hypertension treatment card

One card for every patient given or prescribed medicines to treat hypertension, regardless of regimen

Patient name

Registration date (DD MM YY)

Unique patient ID number (00001, 00002, 00003...)

Age

Gender: ◯ Male ◯ Female ◯ Transgender

Address

Phone num.

Other phone num. (optional)

Other ID number (optional)

Health facility

District

Heart attack in past 3 years? ◯ Yes ◯ No

Past history of stroke? ◯ Yes ◯ No

Past history of kidney disease? ◯ Yes ◯ No

Already on medication for hypertension? ◯ Yes ◯ No

Has diabetes? ◯ Yes ◯ No

When BP is ≥140 or ≥90, escalate treatment as per IHMI protocol

At registration

Treatment date (DD / MM / YY)

Blood pressure

Treatment dose — Please write dose (example: 5 mg)

Amlodipine

Telmisartan

Chlorthalidone

Losartan

Hydrochlorothiazide

Aspirin

Statin

Beta blocker

Enalapril

If a patient misses a visit, please contact promptly to return to care

Date contact attempted	Date contact attempted	Date contact attempted	Date contact attempted	Date contact attempted
◯ No response	◯ No response	◯ No response	◯ No response	◯ No response
◯ House not found	◯ House not found	◯ House not found	◯ House not found	◯ House not found
◯ Agreed to return	◯ Agreed to return	◯ Agreed to return	◯ Agreed to return	◯ Agreed to return
◯	◯	◯	◯	◯

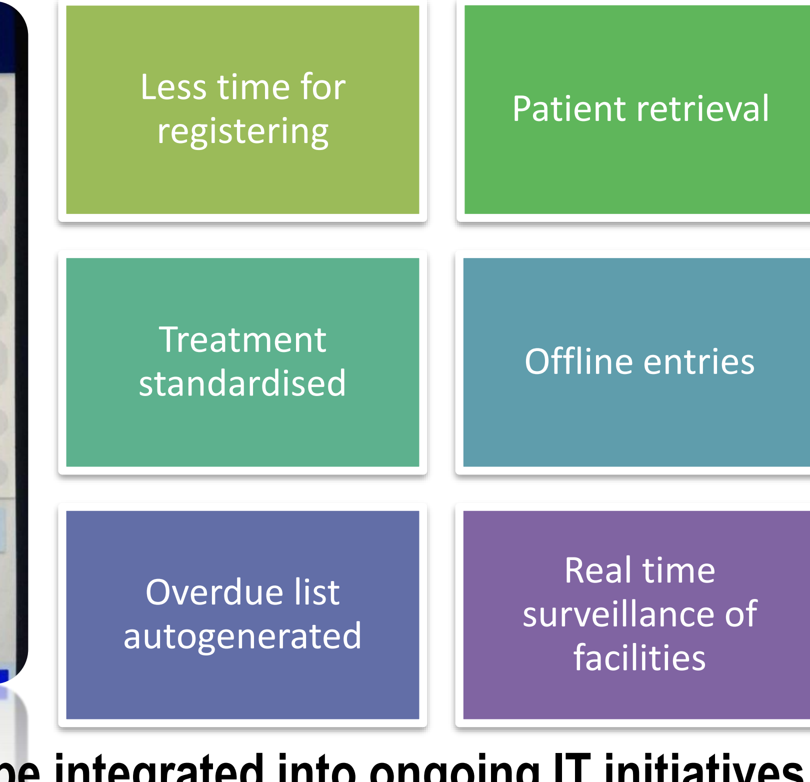
SIMPLE App

29% 1:17 pm

BP Medicines

Medicine		
Amlodipine	✓ 5mg	10mg
Telmisartan	40mg	80mg
Chlorthalidone	12.5mg	25mg
Losartan	50mg	100mg
Atenolol	25mg	50mg
Hydro-chlorothiazide	12.5mg	25mg
Aspirin	75mg	81mg
Enalapril	20mg	40mg

ADD ANOTHER MEDICINE

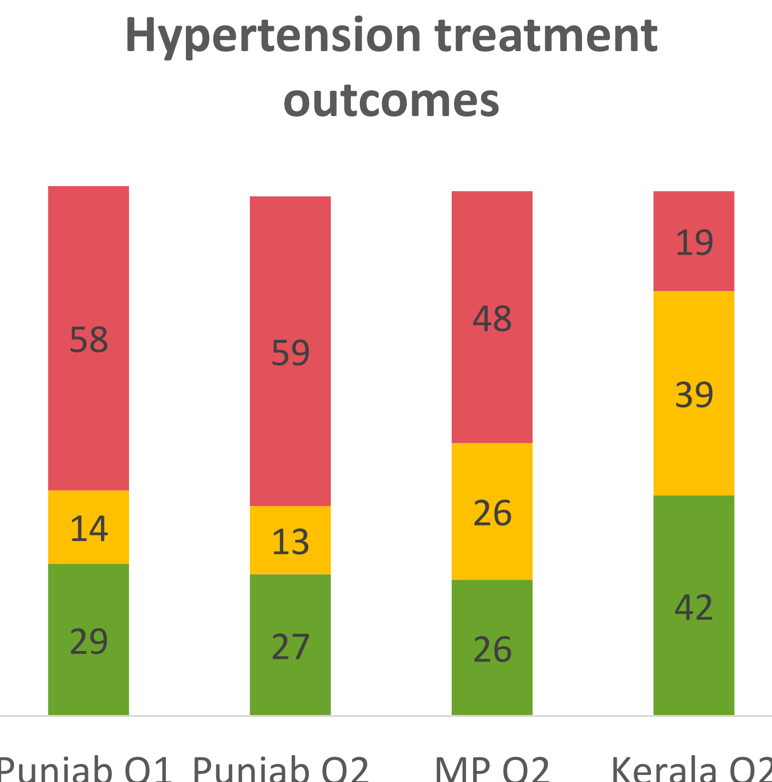


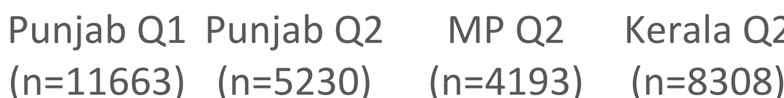
Potential to be integrated into ongoing IT initiatives

Success in implementation

- Governance mechanisms and partnerships at the national level
  - Technical advisory group and Steering Committee
- Treatment protocols in collaboration with state governments and experts
- Data collection and documentation for key indicators: Quarterly BP control rates
- Recognized as a "best practice" by GOI

Hypertension treatment outcomes





Positive lessons learnt

1. Local experts can agree on state-specific hypertension treatment protocols
2. Value of accurate digital BP devices recognized and procured by some States
3. Training with clear materials and job aids welcomed by staff at all levels
4. Patient flow can be improved by engaging the nurse and other staff
5. Task-shifting is possible and shows results
6. Use of existing and estimated patient load for placing drug demands
7. Dispensing of 30-day supplies of anti-hypertensive medications is possible
8. Mobile phone based information system showing HTN control rates is welcomed

Ongoing challenges

Cross cutting	Budgetary limitations	Shortage of staff	Low levels of utilization of public health facilities	Limited involvement of private healthcare
Detection	Low case registration <10%	Poor opportunistic screening	Limited task sharing	Resistance of doctors to digital BP monitors
Control	Shortage of medications	Therapeutic inertia	Poor default retrieval mechanisms	Decentralization: Community health workers

Areas requiring further enhancement

- IEC material
- Involve private sector
- Improve patient flow
- Opportunistic screening
- Use of FDCs
- Simple app/ Digital tool
- Increase case detection
- Task sharing

Thank you