

Hypertension Management

Training Overview

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

Introduction

This hypertension management training is designed for primary health care workers and managers and focuses on the use of a standardized protocol and other clinical management tools, such as patient cards, registers, and reporting templates. A section on guidance and recommendations for district supervisors is also included.

Interactive lectures, case studies, and activities draw on national cardiovascular disease/hypertension guidelines and public health technical packages (e.g., HEARTS).

Course goal

At the end of the course, participants will be able to effectively diagnose, treat, and monitor hypertensive patients at the primary health care level.

Course outcomes

This training will enhance workforce capacity by equipping participants with the skills to:

- Effectively diagnose and treat hypertension
- Make hypertension management patient-focused
- Strengthen patient and hypertension programme monitoring

Target users

- Primary health care providers such as doctors, nurses and other clinical staff
- Facility managers
- District supervisors of primary health centres

Estimated time

- Variable; training can range from one to three days, depending on participants and available time.
- The recommended time frame for primary health care providers and facility managers is up to two days.
- The recommended time frame for district supervisors is up to three days.

Course design

The course is designed to facilitate easy adaptation and inclusion of country-specific information. Prior to conducting the training, the course content should be tailored to the country context. Guidance on how to adapt the training is provided in Annex 1. Within the course content, **red text** denotes places where country-specific modifications are required.

The necessary course materials are listed in Table 1. The course outline and time estimates for session activities are provided in Table 2. A site visit, including actual performance in a clinic, is recommended.

The pre–post test is provided in Annex 2, with the answer key provided in Annex 3. A workshop evaluation form is provided in Annex 4.

Workshop materials:

- At the beginning of the training, each participant should be provided with copies of the PowerPoints (three slides per page with notes sections) and the relevant session Participant Guide (PG). Facilitators will also want to have the current session’s handouts ready for distribution, if applicable. Necessary handouts are listed in Table 1 and provided at the end of the Facilitator Notes (FN). It is the facilitator’s responsibility to make sure there are an appropriate number of copies for each participant.
- Participants should keep the Participant Guide to serve as a resource.

Materials and equipment needed

Table 1. Course materials: Effective diagnosis, treatment, and monitoring of hypertension in primary care

Format of material	Title
Summary document (Word)	Hypertension management training overview
Session 1:	
PowerPoint (PPT)	Burden of cardiovascular disease and hypertension around the globe and in [COUNTRY]
FN (Word)	Burden of cardiovascular disease HANDOUT: Exercise 1
PG (Word)	Burden of cardiovascular disease and hypertension around the globe and in [COUNTRY]
Session 2:	
FN (Word)	Measurement of blood pressure
PG (Word)	Measurement of blood pressure
Session 3:	
PPT	Treatment of hypertension
FN (Word)	Treatment of hypertension REFERENCE DOC: Country/district hypertension treatment protocol
PG (Word)	Treatment of hypertension
Session 4:	
PPT	Service delivery and patient monitoring
FN (Word)	Service delivery and patient monitoring HANDOUTS: Exercises 2 & 3
PG (Word)	Service delivery and patient monitoring
Session 5:	
PPT	Reporting and monitoring system
FN (Word)	Reporting and monitoring system HANDOUTS: Exercises 1 & 3
PG (Word)	Reporting and monitoring system
Session 6:	
PPT	Assessment: Turning data into actionable intelligence
FN (Word)	Assessment: Turning data into actionable intelligence HANDOUT: Exercise 1
PG (Word)	Assessment: Turning data into actionable intelligence
Session 7:	
PPT	Supervision
FN (Word)	Supervision
PG (Word)	Supervision

Training techniques

Content and examples should be presented through lectures and group discussion. Case scenarios and activities can be completed in groups and individually.

Facilitators should practise the following adult learning principles when delivering the material:

- Autonomy – create opportunities for participation and contribution, show respect for participants' independence and capabilities
- Readiness – frame the learning activities according to participants' needs and priorities
- Experience – tailor the information to the participants' background and respect their prior experience and knowledge
- Action – focus on how participants can immediately apply what is being learned and how it will be supported in the workplace

Preparing to teach

- Review slides, participant guides, and facilitator notes prior to the training workshop.
- Orient yourself on the country's cardiovascular disease/hypertension guidelines and with the HEARTS technical package.
- Adapt materials for your context, using the red text as a guide for where country-specific modifications are needed.
- Review case scenarios and exercises to become familiar with the content, activities, and answers.
- If available, review participant biographies, resumes, or curriculum vitae to inform training.
- Make copies of handouts for each session you will be teaching.

Table 2. Outline: Effective diagnosis, treatment, and monitoring of hypertension in primary care

Competency	Topics covered	Intended users	Activities	Length*
Session 1: Burden of cardiovascular disease and hypertension around the globe and in [COUNTRY]				
Ability to convey to patients, health care workers, and leaders the importance of improved treatment of hypertension	<ul style="list-style-type: none"> • Global burden of cardiovascular disease and hypertension – globally and in [COUNTRY] • Reasons to focus on hypertension • Essential components of a scalable hypertension programme 	<ul style="list-style-type: none"> • Health care providers • Facility managers • District supervisors 	Lecture Exercise 1: Exam room role play	20 mins 40 mins
Session 2: Measurement of blood pressure				
Ability to correctly measure blood pressure and diagnose hypertension	<ul style="list-style-type: none"> • When to measure blood pressure • How to measure blood pressure • Diagnosis of hypertension 	<ul style="list-style-type: none"> • Health care providers • Facility managers 	Live demonstration Exercise 1: Practise measuring blood pressure	20 mins 30 mins
Session 3: Treatment of hypertension				
Ability to treat patients with hypertension using standardized protocol, follow-up for adherence to treatment, and manage associated co-morbidities to achieve target blood pressure control	<ul style="list-style-type: none"> • Essential treatment components • Who should receive treatment • Common medications used for treating hypertension (class, dose, side-effects) • Treatment target • Special considerations (pregnancy, diabetes mellitus, elderly, known CVD) • Compliance with long-term clinic follow-up and medication adherence 	<ul style="list-style-type: none"> • Health care providers • Facility managers • District supervisors 	Lecture Exercise 1: Treatment of hypertension Exercise 2: Discussion: Drug selection considerations Exercise 3: Role play exercise: Adherence on treatment	30 mins 50 mins 30 mins 10 mins

*Session content can be reduced or expanded to fit the timing of the training course.

Competency	Topics covered	Intended users	Activities	Length*
Session 4: Service delivery and patient monitoring				
Ability to identify current service delivery strengths and gaps and to correctly fill out primary health care-level recording tools	<ul style="list-style-type: none"> • Service delivery and patient flow • Individual patient treatment card • Storage of cards 	<ul style="list-style-type: none"> • Health care providers • Facility managers • District supervisors 	Lecture Exercise 1: Patient flow and service delivery Exercise 2: Completing a patient treatment card Exercise 3: Spot the mistakes Exercise 4: Completing a patient treatment card with follow-up visits	20 mins 40 min 20 mins 15 mins 25 mins
Session 5: Reporting and monitoring system				
Ability to correctly fill out primary health care-level recording and reporting tools	<ul style="list-style-type: none"> • Facility register for hypertension treatment • Quarterly and annual reports • Standardized indicators 	<ul style="list-style-type: none"> • Health care providers • Facility managers • District supervisors 	Lecture Exercise 1: Completing a hypertension treatment register Exercise 2: Determining the quarter Exercise 3: Completing the quarterly and annual report Exercise 4: Conducting a site visit to a health facility	30 mins 40 mins 10 mins 20 mins Half-day fieldwork
Session 6: Assessment: Turning data into actionable intelligence				
Ability to manage, analyse and interpret data and prepare periodic performance reports	<ul style="list-style-type: none"> • Data management and checking data for accuracy • Data analysis and interpretation • Performance reports for monitoring and feedback 	<ul style="list-style-type: none"> • Facility managers • District supervisors • Higher-level staff 	Lecture Exercise 1: Setting benchmarks Exercise: Charting a trend over time	30 mins 20 mins 20 mins

*Session content can be reduced or expanded to fit the timing of the training course.

Competency	Topics covered	Intended users	Activities	Length*
Session 7: Supervision				
Ability to conduct supervisory visits and provide constructive feedback to PHC staff	<ul style="list-style-type: none"> Supervision visits schedule preparation Supportive supervision checklist Interpersonal communication and effective feedback 	<ul style="list-style-type: none"> District supervisors Higher-level staff 	Lecture Exercise 1: Discussion: Positive and negative experiences of being supervised Exercise 2: Supportive supervision planning Exercise 3: Discussion: Collecting information for the supervision checklist Exercise 4: Supervision checklist review Exercise 5: Problem solving and feedback role play Exercise 6: Conducting a site visit to a health facility	30 mins 15 mins 40 mins 30 mins 30 mins 30 mins Half-day fieldwork and half day follow-up

*Session content can be reduced or expanded to fit the timing of the training course.

ANNEX 1: Course content adaptation resource

The tailoring and adaptation of existing training materials is crucial to ensure that examples and scenarios are relevant to the country context, thereby increasing participant's acceptance and understanding. Informed by scientific literature, health education training lessons, and cultural adaptation principles, this reference document can be helpful when beginning to adapt the hypertension management training content.

It is important to clarify that the core principle of the training – hypertension management using a standard protocol – will remain the same; however, the way it is presented, discussed, and explained will be tailored to the intended audience, country context, and clinical parameters.

Adaptation process

1. Convene a multicultural and multidisciplinary team to identify required adaptations, ensuring that:
 - o Information is accurate, current and based on country guidelines/standards
 - o Content is presented in a culturally appropriate manner
 - o Training is relevant to the intended audience.
2. Review the hypertension management training overview document.
3. Determine goal(s), objectives and intended audience(s) for the training workshop.
4. Conduct a thorough review of the course content to determine any critical content adjustments, additions or substitutions that should be taken into consideration (see Table A). Potential areas that require updates are denoted in red within the course content. Ensure that adaptation aligns with national guidelines and health systems, taking into consideration international standards (e.g., HEARTS).
5. Create timelines for adaptation. Factor in time for translation, if needed. (Table B)
6. Identify and designate “point(s) of contact” responsible for developing a tailored course.

General considerations

- Intended user(s): Before adaptation, it is important to first define the intended user(s) so that the information presented is relevant to the participants' day-to-day work. The users of the hypertension management training – primary health care workers – were selected to be broad in nature so that the training content can be easily modified to align with the intended user's needs.
- Number of days: The modular nature of this training allows for the timeframe to range anywhere from one to three days. Intensity of the training will also vary, depending on the number of case studies, group exercises and discussions selected.

- Facilitation: The modules were designed to be delivered using lecture and group discussions, supplemented with case-study activities and exercises. Regardless of the number of participants attending the training, it is strongly recommended that provisions be made to encourage discussion and exchange among small groups of participants. Facilitators should practise the following adult learning principles upon delivery:
 - Autonomy (i.e., create opportunities for contribution)
 - Readiness (i.e., recognize participants' needs and priorities)
 - Experience (i.e., tailor information based on background of participants)
 - Action (i.e., focus on how participants can apply what is being learned).
- Language translation (if applicable): Translation of materials from English to another language can be complicated and time consuming. In order for the training to be executed successfully, it is imperative that words are not translated verbatim but convey the appropriate underlying concept and connotation. This is especially important when translating technical content.

Table A. Hypertension Management Training Course adaptation

Example questions to ask during the adaptation process

- What do different participants already know about this topic and what is their proficiency? Does the module content need to be scaled up or simplified?
- What national guidelines exist that could inform or be integrated into the training material? (e.g., national hypertension guidelines)
- Are the examples, concepts and images culturally relevant? How can the content be made more country-specific?
- What activities/questions could be used to encourage participant interaction and critical thinking?
- What resources (e.g., additional reading, technology/apps, pocket guides, etc.) are available to support participants' implementation of new skills? How can these be incorporated into the training?
- Is there new evidence or cross-cutting concepts that need to be incorporated?

Table B. Sample timeline

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
1. Form a multidisciplinary in-country working group								
2. First working group meeting (e.g. define partners/roles and responsibilities; finalize training agenda and timelines; prepare budget)								
3. Adapt training materials								
4. Review of adapted training by working group								
5. Recruit facilitators to participate in the workshop								
6. Logistics coordination (e.g., travel, meeting space)								
7. Translation (if necessary)								
8. Recruit participants to attend the workshop								
9. Send out participant and facilitator letter of invitation								
10. Workshop								
11. Evaluation and project summary report								

ANNEX 2: Pre–post test

1. Treat all individuals if BP ≥ 140 and/or ≥ 90
 - a) True
 - b) False
2. When discussing the importance of hypertension treatment, the following facts can be used to support your case:
 - a) Hypertension treatment can be practical and uncomplicated when a precise protocol is used.
 - b) Hypertension treatment is needed because currently there is no way to predict which patients will have a heart attack or stroke.
 - c) Hypertension treatment is affordable. The medicines to treat hypertension are inexpensive.
 - d) All of the above
3. Ideally when taking a person's blood pressure, the participant should sit quietly for a period of 5 minutes before the first blood pressure is taken. They should be seated comfortably, feet flat on the floor with their back supported. They should not have smoked or had any caffeine within the last 30 minutes before starting measurements.
 - a) True
 - b) False
4. Using the ACD acronym, list the three main classes of common treatment medications.

A _____

C _____

D _____

5. The following steps are related to applying the blood pressure cuff. Which step is incorrect?
 - a) Place their arm on the table, relaxed with palm facing upward.
 - b) Make sure the arm cuff is slightly inflated before placing it around the patient's upper arm.
 - c) Wrap the cuff comfortably or snugly above the elbow, about 2cm (or 2 finger widths) from the elbow and secure the Velcro tape.
 - d) Keep the cuff at the level of the heart during measurement. The tubing should fall over the front centre of the elbow crease, if it is positioned correctly.
6. In reviewing the practices at your clinic, you recognize that adherence rates for patients have been low. List two practices that can be implemented to improve adherence.

7. List two hypertension management tools:
8. Successful monitoring of a clinic's effectiveness at treating patients is not dependent on accurate blood pressure readings and treatment for hypertensive patients.
- a) True b) False
9. Special circumstances exist for specific patients receiving hypertension treatment. Match the sample patient with the appropriate treatment.
- | | |
|---|---|
| History of heart attack within the previous three years | Add beta block to amlodipine with initial treatment |
| History of heart attack or stroke ever | If blood pressure is not controlled on higher doses of calcium channel blocker, amlodipine and diuretic, consult a specialist |
| Women who are or could become pregnant | Begin low dose aspirin |
10. [INCLUDE ONLY FOR SUPERVISOR PRE/POST-TEST] Methods for collecting information on supervision visits include which of the following examples:
- a) *Observe how services are organized, including BP measurement, counselling, and treatment.*
 - b) *Speak with various teams of health workers to understand their roles.*
 - c) *Observe health workers talking to patients. Interrupt when incorrect information is provided.*
 - d) *Interview pharmacist or clinic manager about the drug stocks*

ANNEX 3: Pre–post test answer key

Correct answers given in bold type

1. Treat all individuals if BP ≥ 140 and/or 90
 - a) **True**
 - b) False
2. When discussing the importance of hypertension treatment, the following facts can be used to support your case:
 - a) Hypertension treatment can be practical and uncomplicated when a precise protocol is used.
 - b) Hypertension treatment is needed because currently there is no way to predict which patients will have a heart attack or stroke.
 - c) Hypertension treatment is affordable. The medicines to treat hypertension are inexpensive.
 - d) **All of the above**
3. Ideally when taking a person's blood pressure, the participant should sit quietly for a period of 5 minutes before the first blood pressure is taken. They should be seated comfortably, feet flat on the floor with their back supported. They should not have smoked or had any caffeine within the last 30 minutes before starting measurements.
 - c) **True**
 - d) False
4. Using the ACD acronym, list out the three main classes of common treatment medications.

A: Angiotensin Converting Enzyme inhibitors (ACE inhibitors) and Angiotensin Receptor Blockers (ARBs)

C: Calcium Channel Blockers (CCB)

D: Diuretics

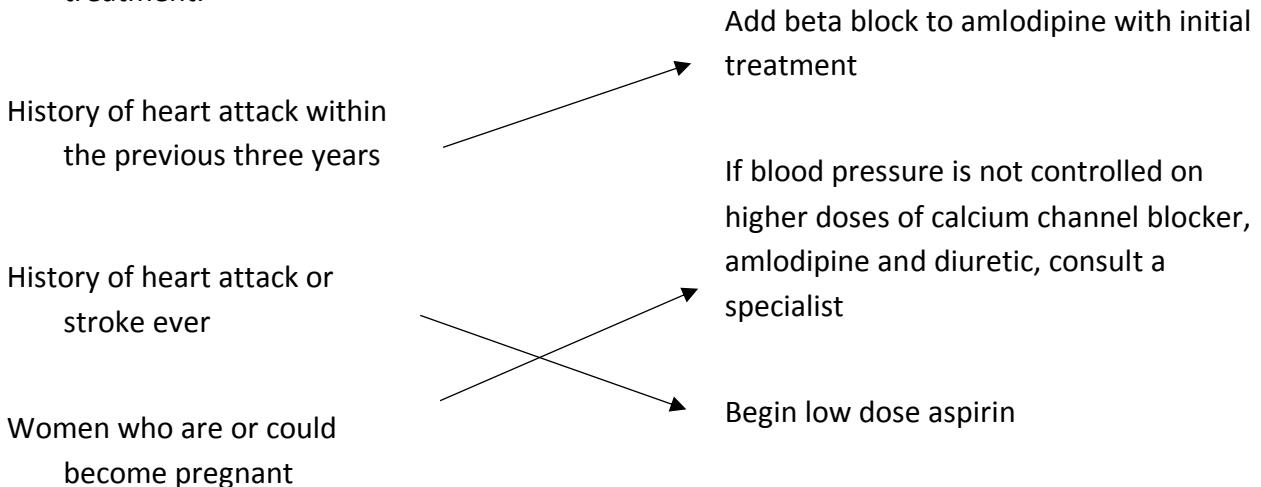
5. The following steps are related to applying the blood pressure cuff. Which step is incorrect?
 - a) Place their arm on the table, relaxed with palm facing upwards.
 - b) Make sure the arm cuff is **slightly inflated** before placing it around the patient's upper arm.
 - c) Wrap the cuff comfortably or snugly above the elbow, about 2cm (or 2 finger widths) from the elbow and secure the Velcro tape.
 - d) Keep the level of the cuff at the heart level during measurement. The tubing should fall over the front centre of the elbow crease, and it is centred correctly.
6. In reviewing the practices at your clinic, you recognize that adherence rates for patients have been low. List two practices that can be implemented to improve adherence.

- Medication reminders with alarms or applications
- Clear prescription instructions
- Written and / or verbal education materials
- Medication side effects
- Rewards for adherence
- Positive feedback
- Easily accessible medications
- Refill requests
- Consistent follow-ups
- System for patient monitoring and counselling

7. List two hypertension management tools:

Answers will vary by context.

8. Successful monitoring of a clinic's effectiveness at treating patients is not dependent on accurate blood pressure readings and treatment for hypertensive patients.
- a) True
 - b) **False**
9. Special circumstances exist for specific patients receiving hypertension treatment. Match the sample patient with the appropriate treatment.



10. [INCLUDE ONLY FOR SUPERVISOR PRE/POST-TEST] Methods for collecting information on supervision visits include which of the following examples:

- a. **Observe how services are organized including BP measurement, counselling, and treatment.**
- b. **Speak with various teams of health workers to understand their roles.**
- c. **Observe health workers talk to patients. Interrupt when incorrect information is provided.**
- d. **Interview pharmacist or clinic manager about the drug stocks**

ANNEX 4: Participant evaluation form

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

Course Evaluation for Health Care Workers

Thank you for participating in the training workshop.

Your comments are valuable to us and will help us to improve the training content.

Please provide us with your feedback by answering the questions below. All of the information you provide will be used confidentially.

Background information

1. Age: _____
2. Gender (*Please circle one*): Male Female Other
3. Profession (*Please circle one*): Doctor Nurse Dentist
Other: _____
4. Organization level (*Please circle one*): National Provincial City
Other: _____
5. Work setting (*You can circle more than one*): Government Private
Not-for-profit organization Other: _____
6. Have you ever been previously trained in hypertension management?
(*Please circle one*) Yes No

Course evaluation

7. I feel confident that I will be able to apply the information I learned in this course in my current job. (*Please circle one*)
Agree Somewhat agree Somewhat disagree Disagree

Please list any expected benefits or barriers to putting into practice the information you learned:

8. Please circle your response for each of the statements:

<u>Before the course, my knowledge or skill level as related to the given competency was:</u>					<u>Competency</u>	<u>After the course, my knowledge or skill level as related to the given competency was:</u>								
1 → 5 Poor Excellent						1 → 5 Poor Excellent								
1	2	3	4	5	Ability to convey to patients, health care workers, and leaders the importance of improved treatment of hypertension					1	2	3	4	5
1	2	3	4	5	Ability to correctly measure blood pressure and diagnose hypertension					1	2	3	4	5
1	2	3	4	5	Ability to treat and follow-up with hypertensive patients and manage associated co-morbidities to achieve target blood pressure control					1	2	3	4	5
1	2	3	4	5	Ability to rigorously follow the national hypertension treatment protocol to achieve target blood pressure control					1	2	3	4	5
1	2	3	4	5	Ability to monitor the quality of hypertension treatment programme using key facility-level indicators					1	2	3	4	5
1	2	3	4	5	Ability to accurately complete primary health care monitoring tools (treatment card, patient register, facility reports).					1	2	3	4	5
1	2	3	4	5	Ability to work as a team to organize and deliver services effectively					1	2	3	4	5

9. What elements of the workshop enhanced your understanding of the content?
(Please circle all that apply)

Role play exercise Group discussions Case scenarios Presentations

Other: _____

Time allocated for presentations and activities was:

Very reasonable Reasonable N/A Unreasonable Very unreasonable

The facilitators:

11. Were well prepared

Agree	Somewhat agree	N/A	Somewhat disagree	Disagree
-------	----------------	-----	-------------------	----------

12. Were easy to understand

Agree	Somewhat agree	N/A	Somewhat disagree	Disagree
-------	----------------	-----	-------------------	----------

13. Presented material in an organized manner

Agree	Somewhat agree	N/A	Somewhat disagree	Disagree
-------	----------------	-----	-------------------	----------

14. Held my interest

Agree	Somewhat agree	N/A	Somewhat disagree	Disagree
-------	----------------	-----	-------------------	----------

15. Clearly stated objectives/ expectations for the course

Agree	Somewhat agree	N/A	Somewhat disagree	Disagree
-------	----------------	-----	-------------------	----------

16. Would you recommend this course to your colleagues?

(Please circle one) Yes No

Why or why not?

17. What is your overall rating of the training?

Effective	Somewhat effective	Somewhat ineffective	Ineffective
-----------	--------------------	----------------------	-------------

18. Additional comments:

Sources

- Community IYCF counselling package: adaptation guide. UNICEF; 2012. www.unicef.org/nutrition/files/Adaptation_GuideOct_2012.pdf. Accessed February 1, 2018.
- Morical K, Benhong T. Adapting training for other cultures. American Society for Training and Development. 1992; 46.4:65.
- Wallace MF, Fulwood R, Alvarado M. NHLBI step-by-step approach to adapting cardiovascular training and education curricula for diverse audiences. *Prev Chronic Dis.* 2008; 5.2:1-7.
- Wingood GM, DiClemente RJ. The ADAPT-ITT model: a novel method of adapting evidence-based HIV interventions. *J Acquir Immune Defic Syndr.* 2009; 47:S40-46.