HEARTS

Technical package for cardiovascular disease management in primary health care

Systems for monitoring

World Health Organization
American Heart Association | American Stroke Association
Centre for Chronic Disease Control
International Diabetes Federation
International Society of Hypertension
ISN
RESOLVE TO SAVE LIVES
Pan American Health Organization
World Health Organization Americas
WORLD HEART FEDERATION
World Hypertension League
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CDC Centers for Disease Control and Prevention

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HEARTS Technical Package

More people die each year from cardiovascular diseases (CVDs) than from any other cause. Over three-quarters of heart disease and stroke-related deaths occur in low- and middle-income countries.

The HEARTS technical package provides a strategic approach to improving cardiovascular health. It comprises six modules and an implementation guide. This package supports Ministries of Health to strengthen CVD management in primary care and aligns with WHO's Package of Essential Noncommunicable Disease Interventions (WHO PEN).

HEARTS modules are intended for use by policymakers and programme managers at different levels within Ministries of Health who can influence CVD primary care delivery. Different sections of each module are aimed at different levels of the health system and different cadres of workers. All modules will require adaptation at country level.

The people who will find the modules most useful are:

- National level – **Ministry of Health NCD policymakers responsible for**:
  - developing strategies, policies and plans related to service delivery of CVD
  - setting national targets on CVD, monitoring progress and reporting.
- Subnational level – **Health/NCD programme managers responsible for**:
  - planning, training, implementing and monitoring service delivery
- Primary care level – **Facility managers and primary health care trainers responsible for**:
  - assigning tasks, organising training and ensuring the facility is running smoothly
  - collecting facility-level data on indicators of progress towards CVD targets.

Target users may vary, based on context, existing health systems and national priorities.

MODULES OF THE HEARTS TECHNICAL PACKAGE				
Module	**What does it include?**	**Who are the target users?**		
		National	**Subnational**	**Primary care**
Healthy-lifestyle counselling	Information on the four behavioural risk factors for CVD is provided. Brief interventions are described as an approach to providing counselling on risk factors and encouraging people to have healthy lifestyles.		✓	✓
Evidence-based protocols	A collection of protocols to standardize a clinical approach to the management of hypertension and diabetes.	✓	✓	✓
Access to essential medicines and technology	Information on CVD medicine and technology procurement, quantification, distribution, management and handling of supplies at facility level.	✓	✓	✓
Risk-based CVD management	Information on a total risk approach to the assessment and management of CVD, including country-specific risk charts.		✓	✓
Team-based care	Guidance and examples on team-based care and task shifting related to the care of CVD. Some training materials are also provided.		✓	✓
Systems for monitoring	**Information on how to monitor and report on the prevention and management of CVD. Contains standardized indicators and data-collection tools.**	✓	✓	✓

Introduction

Monitoring is a crucial element in any successful programme. It is important to know if health care facilities – and ultimately countries – are meeting the agreed goals and objectives for preventing and managing cardiovascular diseases (CVD).

Monitoring is the on-going collection, management and use of information to assess whether an activity or programme is proceeding according to plan and/or achieving defined targets. Not all outcomes of interest can be monitored. Clear outcomes must be identified that relate to the most important changes expected to result from the project and to what is realistic and measurable within the timescale of the project. Once these outcomes have been articulated, indicators can be chosen that best measure whether the desired outcomes are being met.

To allow progress to be monitored, this module provides a set of indicators on CVD management. Agreeing on a set of indicators allows countries to compare progress in CVD management and treatment across different districts or subnational jurisdictions, as well as at a facility level, identify where performance can be improved, and track trends in implementation over time. Monitoring these indicators also helps identify problems that may be encountered so that implementation efforts can be redirected.

This module starts from the collection of data at facility level, which is then "transferred up" the system: facility-level data are aggregated at subnational level to produce reports that allow tracking of facility and subnational performance over time and allow for comparison among facilities. National-level data are obtained through population-based surveys.

Implementing a monitoring system requires action at many levels. At national and subnational levels, staff can determine how best to integrate data elements into existing data collection systems – such as the routine service-delivery data that are collected through facility-level Health Management Information Systems (HMIS). In the facility setting, personnel must be aware of what data are needed. Sample data-collection tools are included, recognizing that countries use different data-management systems for HMIS, so the CVD monitoring tools will be adapted to work with the HMIS system being used by the country, such that the indicators can be collected with minimal disruption/work to existing systems and tools.

This module provides:

- indicators – including defining each indicator, the data elements that need to be collected for each indicator, and the data sources
- sample tools for data collection and reporting.

Use of module

This module is intended for facility managers and subnational and/or national-level staff involved in collecting, planning or adapting monitoring systems for CVD-management services in primary health care.

Choosing indicators

Indicators are the foundation of a monitoring system.

A monitoring system starts with defining the indicators needed to answer the most important monitoring questions. It is essential that indicators are standardized so that they can be used for comparisons across time, place, and populations.

Collecting and analysing data to calculate indicators involves time and resources. Any system will have limits on the amount of data it can obtain in a way that is timely and useful and that assures good data quality. A limited number of carefully selected indicators that are related to action and that can be relatively easily collected and integrated into existing country health management information systems (HMIS) is preferable to a large number of indicators that may end up being inconsistently collected, of poor quality, or not used.

The number and type of indicators that can feasibly be collected also depends on the type of HMIS used in a country. For example, a country with a mainly paper-based HMIS will be more limited in the indicators it can feasibly obtain compared with a country that has a system based on electronic health records. Indicators must be standardized so that they can be used for comparisons over time and across places and populations. This involves defining the way it is calculated, providing a definition for the numerator and the denominator, and suggesting the sources, tools, and frequency of collection.

Levels of monitoring

The CVD monitoring system consists of three types of monitoring that work together to provide the CVD management indicators.

Health-facility level

At the health-facility level, individual patient monitoring involves monitoring of the health status and the management of a single patient over time, using an individual CVD patient treatment card (see Annex). A facility-based register combines the details of all patients in the facility. Subsets of data from the CVD patient treatment card are extracted and used for programme monitoring. The elements of the CVD patient treatment card can also be used to monitor services such as quality of care for hypertension and diabetes, including adherence to medication, follow-up examinations, and end organ damage, depending on the local context.

Subnational level

At subnational level, aggregated data from health facilities can help to assess the outcomes within the programme and also monitor availability of medicines. Some elements of quality of care can be assessed at the subnational level using the checklists.

Population level monitoring

Population-level monitoring involves surveys in the population at the national or subnational level. Surveys use standardized tools and can provide an estimate of the prevalence of the condition and related parameters, such as the proportion of people receiving medication and the proportion with blood pressure at target, etc. Population-based indicators are a reflection of all interventions and programmes in the catchment area. Over time, they can provide trends and will serve as an overall indicator of the effectiveness and coverage of the programme.

Models of record keeping

Model 1: Paper-based system

The data collection described in this module represents a basic system that could be implemented in all contexts, including low-resource settings. This model is based on a system of paper-based individual health records, registers, and data-collection tools. Once collected, the data are entered into electronic databases for aggregation and analysis at subnational level.

Model 2: Hybrid paper and electronic system

A data-collection model using a longitudinal register (paper-based or electronic) may also be considered. In a longitudinal register, the patient's name is entered once in the register, but selected clinical information is entered at successive visits along the same line in the register. Immunization registers or TB treatment registers are examples of longitudinal registers. A sample longitudinal register (facility register) is provided in the Annex.

Model 3: Electronic record system

Where a system of electronic health records is operational, a CVD module could be included in the electronic individual record. The electronic system should collect and aggregate the facility data exactly as the paper-based system does, but with significantly more ease, particularly for the large volume of patients with CVD. This system enables tracking of key individual patient CVD parameters as well as regular, and potentially more frequent, automated extraction of data for aggregate reporting.

1 Indicators

This section outlines a list of indicators to be used for monitoring HEARTS implementation. Some of these data come from the health facilities providing the services, while other components will need to be collected by population-level surveys. Monitoring needs to take place in three settings to get the data needed for these indicators: at the health-care delivery (facility setting), the district or subnational level for aggregated indicators, and at the population level.

Table 1: Indicators

Health-facility level				
No.	**Indicator**	**Source of data**	**Reporting frequency**	**Health system considerations**
1	Six-monthly control of blood pressure among people treated for hypertension	Hypertension treatment register in the facility	Once in 3 months	Feasible in all settings in primary health care and a core indicator for quality of services
Subnational (district/province/state) level (aggregated from health facilities offering the services within the programme)				
	Indicator	**Source of data**	**Reporting frequency**	**Considerations in the interpretation**
2	Control of blood pressure among people with hypertension within the programme	Aggregated reports from all the health facilities reporting the hypertension indicator in a defined subnational area; estimation of hypertension prevalence	Once in 12 months	This will give estimated community control rates with the numerator coming from facilities reporting as part of the programme (in some instances patients may be receiving BP meds from private sector or other levels of care within the public system)
3	Availability of core cardiovascular disease/ diabetes drugs	Aggregated reports from all the health facilities reporting drug availability indicators in a defined subnational area	Once in 3 months	This is for the programme quality control and will assist with forecasting of medicines and improvements in supply chain management
Population level (control of hypertension, diabetes and CVD risk)				
	Indicator	**Survey method**	**Frequency**	**Other considerations**
4	Hypertension control in the population	Population-based sample survey (STEPS or similar survey)	Once in 3–5 years	Population-level survey as part of national survey or a special survey for the programme
5	Proportion of eligible persons receiving drug therapy and counselling (including glycaemic control) to prevent heart attacks and stroke *(1)*	Population-based sample survey (STEPS or similar survey)	Once in 5 years	Population-based (preferably nationally representative) survey, including behavioural parameters with physical and biochemical measurements

Table 2: Six-monthly control of blood pressure among people treated for hypertension

Definition	Proportion of patients registered for hypertensive treatment at the health facility whose blood pressure is controlled 6 months after treatment initiation
Purpose	To measure the effectiveness of clinical services in the programme to control blood pressure among cohorts of treated patient
Method of calculation	**A** = Number of patients with controlled blood pressure (SBP <140 and DBP <90 mmHg) at the last clinical visit in the most recent quarter (just before the reporting quarter) out of **B** **B** = Number of patients registered for treatment of hypertension during the quarter that ended 6 months previously Calculation: **A** ÷ **B**
Source of data	Health facility register for hypertension
Recommended target	Fix a target as per the local context
Key data elements	Date of registration, date of last visit, systolic blood pressure, diastolic blood pressure
Frequency of reporting	Quarterly
Users of data	Facility managers: to understand what proportion of patients at their facility are achieving the blood pressure goal District-level manager: to assess the overall quality of hypertension treatment services, to identify poorly performing facilities and rectify problems at an early stage
Data collection tool	Facility register for hypertension (see Annex)

Table 3: Control of blood pressure among people with hypertension

Definition	The proportion of hypertensive people at health facilities in a given geographical area, such as a district, province, or state, with controlled blood pressure
Purpose	To measure the increase in coverage of the programme to treat and control hypertension in a given geographical area, such as a district, province, or state
Method of calculation	**A** = Cumulative number of registered patients with controlled blood pressure (SBP <140 and DBP <90) in the most recent quarter at all health facilities in a given geographical area, such as a district, province, or state **B** = Estimated number of people with hypertension at the subnational level Calculation: **A** ÷ **B**
Source of data	Numerator: registers from health facilities reporting in the given geographical area such as a district, province, or state Denominator: Prevalence of hypertension from population-based survey (STEPS or similar survey)
Disaggregated by	Health facility
Recommended target	Fix a target as per local context
Key data elements	Date of last visit, systolic blood pressure, diastolic blood pressure
Frequency of reporting	Annual
Users of data	District, province, or state programme managers to monitor increase in programme coverage of hypertension services within a geographical area National programme managers to monitor progress towards universal health coverage
Data collection tool example	Health facility register for hypertension (see Annex) Health facility report (see Annex)

Table 4: Availability of core CVD/diabetes drugs

Definition	The proportion of facilities in a given geographical area that have core CVD/diabetes drugs available (see list of drugs below)
Purpose	To ensure uninterrupted supply of essential drugs and thereby improve patient treatment adherence
Method of calculation	**A** = number of health facilities in the programme reporting "no stock-out" of core CVD/diabetes drugs in the last quarter **B** = Number of health facilities participating in the programme Calculation: **A** ÷ **B**
Source of data	Aggregated health-facility drug stock register; health facility report
Disaggregated by	Health facility
Recommended target	No stock-out
Key data elements	Count of number of facilities reporting ''no drug stock-out" in the last quarter; number of days of drug stock-out of selected medicine at each health facility
Frequency of reporting	Quarterly
Users of data	District- and province-level managers to focus supervision on health facilities reporting drug stock-outs, prevent drug stock-out situations and strengthen health systems to ensure uninterrupted drug supply
Data collection tool example	Health facility report (see Annex)

Core CVD/diabetes drugs

- thiazide or thiazide-like diuretic
- calcium channel blocker (CCB) (long acting) (amlodipine)
- angiotensin converting enzyme inhibitor (ACE-I) (long acting) and angiotensin receptor blocker (ARB)
- statin
- insulin
- metformin
- glibenclamide
- beta-blocker
- aspirin.

Table 5: Hypertension control in the population

Definition	Proportion of all hypertensive people with controlled blood pressure in the population
Purpose	To measure population-level hypertension control, including trends over time
Method of calculation	**A** = Number of respondents with SBP <140 and DBP <90 who are EITHER being currently treated with medications for hypertension OR have been diagnosed with hypertension **B** = Number of survey respondents with SBP ≥140 or DBP ≥90 OR who are currently treated with medicines for hypertension Calculation: **A ÷ B**
Source/methodology	Population-based sample survey (national or subnational health survey)
Disaggregated by	Age, sex, socio-economic status
Frequency of reporting	Once in 3–5 years
Users of data	National policy makers to measure progress toward universal health coverage, formulate national health policies, allocate programmatic budget Global policy makers to compare progress in UHC across countries
Data collection tool example	http://www.who.int/ncds/surveillance/steps/en/

Table 6: Proportion of eligible persons receiving drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes

Definition	Percentage of eligible persons (defined as aged 40 years and older with a 10-year cardiovascular disease (CVD) risk ≥30%, including those with existing CVD) receiving drug therapy and counselling* (including glycaemic control) to prevent heart attacks and strokes
Purpose	To measure change in population-level CVD-risk management
Method of calculation**	**A** = Number of eligible survey participants who are receiving drug therapy and counselling*** **B** = Total number of eligible survey participants. (defined as aged 40 years and older with a 10-year cardiovascular risk ≥30%, including those with existing cardiovascular disease) Calculation: **A ÷ B**
Source/methodology	This is generated from population-based surveys such as a population-based sample survey (STEPS or similar survey)
Disaggregated by	Age, sex, socio-economic status
Recommended target	5% increase every year
Frequency of reporting	Once in 5 years
Users of data	National policy makers to measure progress towards NCD global action plan targets Global policy makers to compare progress in NCD global action plan targets across countries
Data collection tool example	http://www.who.int/ncds/surveillance/steps/en/

* Feasible in settings that have a comprehensive population-based survey with behavioural parameters along with physical and biochemical measurements.

** More information on the indicator is available at http://www.who.int/nmh/ncd-tools/indicators/GMF_Indicator_Definitions_Version_NOV2014.pdf

*** Use of the term "eligible persons" does not imply that others should not receive treatment. Countries may wish to consider analyses that include persons at high risk as defined by the national guidelines.

2 Data collection and reporting tools

1 Health-facility level

Table 7: Health-facility-level reporting

Tool	Use	Advantages
Treatment card	This captures data for the management of an individual patient being registered in the system. Each patient assessed and managed for hypertension, diabetes and/or cholesterol should have an individual record in which information is recorded at every follow-up visit. An example of a patient treatment card is shown in the Annex.	Highlights the key CVD-related information that the health worker should review and record at each visit Facilitates comparison of key clinical information over time Can serve as a clinical reminder of important aspects of care Can be used as a basis for supervision Serves as a primary source of data for the minimum indicators
Facility registers	A patient register to which selected patient data extracted from the individual patient treatment card are recorded. Data from an individual patient are entered in the register once only, when the patient is first registered at the facility. If the patient is started on treatment, this is indicated. If the treated patient is then transferred out, lost to follow-up or dies, then this information is also indicated.	Provides the health facility with a quick way of assessing the number of patients registered in the system, stratified by gender, age, and systems approach. Allows a quick assessment, each quarter, of the number cumulatively transferred-out, lost to follow-up, or who have died, enabling health facility staff to check on their preparation of quarterly reports Useful to maintain an out-patient register to fill in brief information (name, ID number, date of visit, hypertension status, diabetes status, and SBP/DBP) which can be compared to patient cards during clinical audits and regular compilation of indicators.
Facility-based quarterly report	The data for the quarterly report is compiled by using the patient treatment cards as well as the patient register. The register can be used to calculate the denominators. For some indicators, treatment cards may be needed to calculate the numerators. As the cumulative number of patients in the clinic increases, this task becomes more time consuming if reliant on paper-based systems. Movement to an electronic records system would considerably ease the task.	The review of aggregate patient data occurs at regular time intervals, such as every three months, and these are termed “quarterly reports”. These quarterly reports focus on the agreed minimum set of indicators that are used to monitor progress of the programme. Supervision and audit are also carried out at set intervals (monthly or quarterly) to ensure that guidelines and processes are being followed

2 Subnational level (aggregated data)

Table 8: Subnational-level reporting

Report	Process of compiling	Review
District-level quarterly report	Data collated from facility-level reports	The review of aggregate patient data from all facilities in the district occurs at regular intervals, usually quarterly, enabling district performance to be assessed, and comparisons made between facilities in the district. Challenges encountered during facility-based supervision visits, referring to use of supervision and audits tools, are discussed at district quarterly meetings. Annual programme reviews build on quarterly cumulative reports and assess progress made each year against the key indicators.

3 National level

Data collection for national indicators

Data for the population-level indicators can come from different sources. One example, the WHO STEPwise approach to Surveillance (STEPS), is a simple, standardized method for collecting, analysing and disseminating data in WHO member countries. By using the same standardized questions and protocols, all countries can use STEPS information not only for monitoring within-country trends, but also for making comparisons across countries. The approach encourages the collection of small amounts of useful information on a regular and continuing basis.

The STEPS survey, usually carried out every 3–5 years, provides population-level indicators on the prevalence of CVD risk factors, the proportion of people on treatment for diabetes and raised blood pressure, and the proportion of those who have it under control. Other global surveys, such as the Demographic and Health Surveys may also be able to provide this information. In addition, countries may have their own health surveys, which can be a good source of this information. Any survey is acceptable, provided the required data can be obtained.

STEPS

The tool used to collect data and measure noncommunicable disease (NCD) risk factors within the WHO STEPwise approach to surveillance is called the STEPS Instrument. The STEPS Instrument covers three different levels or “steps” of risk-factor assessment:

Step 1: questionnaire

Step 2: physical measurements

Step 3: biochemical measurements.

When undertaking national STEPwise surveys or other similar surveys, countries can use the indicators relevant for hypertension and also have additional sample size to get estimates from the population of interest (population covered by hypertension management). Standalone surveys can be conducted in the

population of interest using the STEPS approach, and the WHO STEPS manual provides the details of how to do this.

Population-based surveys are taken up through the national NCD surveillance focal point in the country and also with the support of academic institutions or health research institutions in the country.

For more information see:
http://www.who.int/ncds/surveillance/steps/instrument/en/

4 Supervision and clinical audit checklist

A clinical audit is a part of the continuous quality-improvement process. It consists in measuring a clinical outcome or a process against well-defined standards, established using the principles of evidence-based medicine. The Annex provides sample tools for supervision and clinical audit. The comparison between clinical practice and standards leads to the formulation of strategies, in order to improve the quality of daily care. *(2)*

The uses of a supervision and clinical audit:

- enables extraction of data from a random sample of patient records to measure the minimum indicators for quality of care and health outcomes
- can be used as a supervision tool to review a limited number of records for data quality (completeness and coherence with register) as well as quality of care
- can be used to review a limited number of records as part of internal facility quality-management processes.

3 Analysing and reviewing data

The purpose of collecting data is to improve patient care and service delivery. Analysis and review of data and indicators takes place at different levels of the health system to meet the monitoring and management needs at each level.

Table 9: Examples of data-review processes for CVD management at different levels of the health system

Level	Process
Individual patient monitoring	Review of patient data takes place at each visit of an individual patient.
Facility-level monitoring	Periodic internal quality review and/or supervision: • Review output/outcomes data as reported in the facility quarterly report. • Review sample of between 5 and 10 records using clinical audit tool; use as case studies for further discussion. • Review availability of resources using facility assessment tool as a checklist.
District-level monitoring	Quarterly district meeting: • Review output data from all facilities, including district totals and compare results across facilities. • Highlight challenges encountered during supervision visits, referring to use of clinical audit tool as a supervision aid. Annual programme review: • Review annual output data: o Review annual trends of district totals. o Compare facility performance. • Conduct clinical audit: o Present district summary indicators. • If sample sizes permit, present facility comparisons.
National-level monitoring	Annual program review: • Review annual output data: o Review annual trends of national totals. o Compare district performance. • Compare district performance for outcomes.

Annex: Example recording tools

Examples of tools for recording and reporting treatment and services at all levels are provided as follows:

CVD patient treatment card

Facility register for hypertension and diabetes

Health facility report

Supervision and clinical audit tools:

- Treatment supervision / audit form
- Patient interviews
- Summary of supervision vision

CVD PATIENT TREATMENT CARD

Name of Health Facility:

Name of District/ State/Province:

Date of registration:

Unique patient treatment number:

A. Patient identification information

Patient ID number:

Name:

Father's/husband's name:

Sex: Age:

Address:

Phone number:

Alternative phone number:

B. Diagnosis

1. Hypertension:

☐ Yes, treatment initiated

☐ Yes, was already on treatment when registered

Other co-morbidity

2. Prior heart attack: ☐ Yes ☐ No
3. If yes, h/o heart attack in the past 3 years? ☐ Yes ☐ No
4. Prior stroke: ☐ Yes ☐ No
5. Chronic kidney disease: ☐ Yes ☐ No
6. Diabetes: ☐ Yes ☐ No
7. H/o smoking: ☐ Yes ☐ No

C. Hypertension treatment at registration

1. Medication dose
2. Medication dose
3. Medication dose
4. Medication dose

D. Diabetes treatment at registration

1. Medication dose
2. Medication dose
3. Medication dose
4. Medication dose

Additional notes

Life-style modification (LSM)

☐ Life-style modification alone ☐ Both lifestyle modification & medication

Any other advice :

E. Initial and follow-up visit														
SL n°		At Rx start	Visit	Visit	Visit	Visit	Visit	Visit	Visit	Visit	Visit	Visit	Visit	Visit
1	Date attended													
2	Blood pressure – systolic													
3	Blood pressure – diastolic													
4	Blood sugar fasting													
5 Treatment dose and code	amlodipine													
	telmisartan													
	enalapril													
	chlorthalidone													
	aspirin													
	statin													
	beta blocker													
	metformin													
F	Referred to specialist													
G	Date of next visit													
H	Signature of doctor													

Treatment dose and code. Indicate dosage. Note when starting (N for new), and stopping (D for discontinued).

I. Additional investigations if available			
Visit date			
1. Serum potassium			
2. Serum creatinine			
3. Total cholesterol			
4. Urine protein			
5. Fundus examination			
6. Foot examination			

J. New complications			
Visit date			
1. Stroke			
2. Hypertension			
3. CVD			
4. Renal failure			
5. Lower limb amputation			
6. Others			

K. Additional information

FACILITY REGISTER FOR HYPERTENSION

Date of reg.	Unique patient treatment no.	Name	Address	Gender M/F	Age	Quarterly HTN outcome: BP controlled? Y/N (6–9 months after reg.)	Annual HTN outcome: BP controlled: Y/N (Q1, year 2019)	Annual HTN outcome: BP controlled: Y/N (Q1, year 2020)	Annual HTN outcome: BP controlled: Y/N (Q1, year 2021)

Page summary	
Total number registered:	
Total number with documented control in Q1 6–9 months after registration	
Total number with documented control in Q1 of 2019	
Total number with documented control in Q1 of 2019	
Total number with documented control in Q1 of 2020	

BP control:

Y = systolic blood pressure <140 mmHg and diastolic blood pressure <90 mmHg during last quarter

N = if blood pressure ≥140/90 or patient did not visit for follow up, or blood pressure not measured

6–9-month cohort monitoring – registration and corresponding reporting dates	
If patient registered between:	Report to district on:
1 January – 31 March	15 October
1 April – 30 June	15 January
1 July – September 30	15 April
1 October – 1 December	15 July

HEALTH FACILITY REPORT	
Sections A and B will be filled out by health facilities where HTN Facility Register is placed. *Sections C and D will be filled out by all health facilities*	
Name of health facility:	Name of district:
Name of state:	Date of reporting (day/month/year)
Quarter for which you are making the report:	Quarter: Year:
	This is the 'Reporting Quarter'. Usually this is the most recent quarter that has just finished.

Section A: Quarterly treatment enrolment and outcomes	**Number of patients**
A1: Number of patients registered two quarters earlier	
A2: Out of (A1), number of patients whose BP was documented to be <140/90 mmHg in the Reporting Quarter	
Section B: Annual treatment enrolment and outcomes *(To be filled in only once a year, with Quarter 1 report)*	**Number of patients**
B1: Number of patients whose BP is documented as <140/90 mmHg during Quarter 1. *(If the patient made more than one visit in the quarter, use most recent reading.)*	
B2: Estimated number of people with hypertension in the catchment population *(only for district level)*.	

Section C: Drug consumption and availability		
Quarterly consumption of drugs *(Give number of tablets)*	**Quantity of drugs available at the health facility** *(Give number of tablets)*	**Quantity of drugs requested for the next quarter** *(Give number of tablets)*
calcium channel blocker		
angiotensin receptor blocker		
angiotensin converting enzyme inhibitor		
thiazide/thiazide like diuretic		
statin		
aspirin		
beta blocker		
Section D: Quarterly supervision		
Was there a supervision visit to this health facility by district staff during the reporting quarter?	Yes	No

TREATMENT SUPERVISION/AUDIT FORM		
Facility name:	District name:	Date:
Name of supervisor:	Name of medical officer:	
Has the facility started the hypertension treatment programme? Circle, as appropriate:		Y N NA
N°	**Indicator**	**Circle any**
1	Screening and BP measurement	
1.1	Is opportunistic screening done for all adults?	Y N
1.2	Is the BP measurement protocol displayed on the wall/desk?	Y N NA
1.3	Is there at least one functioning BP instrument in the facility?	Y N NA
1.4	Are all patients with BP ≥140/90 referred to the medical officer for treatment?	Y N NA
1.5	For how many patients was BP measured correctly? (Observe 5, >2 of each staff who measure BP.)	0 1 2 3 4 5
2	**Treatment**	
2.1	Is the treatment algorithm displayed on the wall/desk?	Y N NA
	Randomly audit 10 patient treatment cards (see Patient card audit form). Write for what proportion of patients:	Proportion:
2.2	BP was recorded at every visit for the last three visits	
2.3	Initial antihypertensive medication was given as per protocol	
2.4	Medication was intensified or added as per protocol if BP ≥140/90 (write NA if not applicable)	
2.5	Aspirin was given if patient had prior CVD (write NA if not applicable)	
2.6	Statin was given if patient >40 yrs with diabetes or if patient had prior CVD (NA if not applicable)	
2.7	Referral to a specialist was made if BP ≥140/90 after treating with three drugs (NA if not applicable)	
2.8	BP was <140/90 at last visit	
3	**Counselling and follow-up**	
3.1	Is there a staff assigned for patient counselling?	Y N NA
3.2	Are patient counselling tools/materials available?	Y N NA
3.3	Is there a system for counselling patients individually or as a group?	Y N NA
3.4	Is there a system for tracking initial defaulters?	Y N NA
3.5	Is there a functional system for patient reminder and follow-up?	Y N NA
4	**Service delivery. Interview 5 patients and validate (see Patient interview report card).** Circle number of positive responses	
4.1	Was BP measured at every visit?	0 1 2 3 4 5
4.2	Did the patient receive all prescribed medicines at this visit?	0 1 2 3 4 5
4.3	Did the patient ever have to pay for medicines in the past?	0 1 2 3 4 5
4.4	Does the patient have correct understanding of how to take medicines?	0 1 2 3 4 5
4.5	Does the patient know his/her BP reading at this visit?	0 1 2 3 4 5
4.6	Does the patient know the target BP?	0 1 2 3 4 5
5	**Drug inventory system**	
5.1	Is there a functioning drug inventory system in place?	Y N NA
5.2	Was there a stock-out of core drugs in the past quarter?	Y N NA
5.3	If there was a stock-out this quarter, which drugs were not available?	Y N NA
5.4	Is there enough buffer stock of core drugs for the next quarter?	Y N NA
6	**Patient recording and reporting system**	
6.1	Is there a functioning recording and reporting system in place?	Y N NA
6.2	Are there sufficient patient cards for next three months?	Y N NA
6.3	Is the facility register for follow-up available?	Y N NA
6.4	Is there a place to arrange/store patient cards?	Y N NA
6.5	Are the cards organized by serial number or other system so easily retrievable	Y N NA
6.6	Was last quarter's report sent on time?	Y N NA
6.7	Does the clinic in charge know the percentage of patients with BP <140/90 at the facility?	Y N NA
6.8	Is last quarter's 6-month BP control rate reported accurately? (check register from last quarter)	Y N NA

PATIENT INTERVIEW REPORT CARD

Interview 5 patients and write yes or no for each question.
To calculate the total, simply tally the number of yeses in each row. Copy the total into the clinical audit tool.

N°	Items	Pt 1	Pt 2	Pt 3	Pt 4	Pt 5	Total
1	Did the patient receive all prescribed medicines at this visit?						
2	Did the patient ever have to pay for medicines in the past 6 months?						
3	Does the patient have correct understanding of how to take medicines?						
4	Did the patient know whether their BP was under control at the last visit?						
5	Does the patient know the target BP?						

SUMMARY OF SUPERVISION VISITS

Problem identified		Recommendations
1	Screening and BP measurement	
2	Treatment	
3	Counselling and follow-up	
4	Service delivery including costs to patient	
5	Drug inventory	
6	Recording and reporting	
7	Any other	

References

1. Noncommunicable diseases global monitoring framework. Indicator definitions and specifications. Geneva: World Health Organization. 2014. (www.who.int/nmh/ncd-tools/indicators/GMF_Indicator_Definitions_Version_NOV2014.pdf).
2. Esposito P, Dal Canton A. Clinical audit, a valuable tool to improve quality of care: general methodology and applications in nephrology. World Journal of Nephrology. 2014;3(4):249-255. (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4220358/).