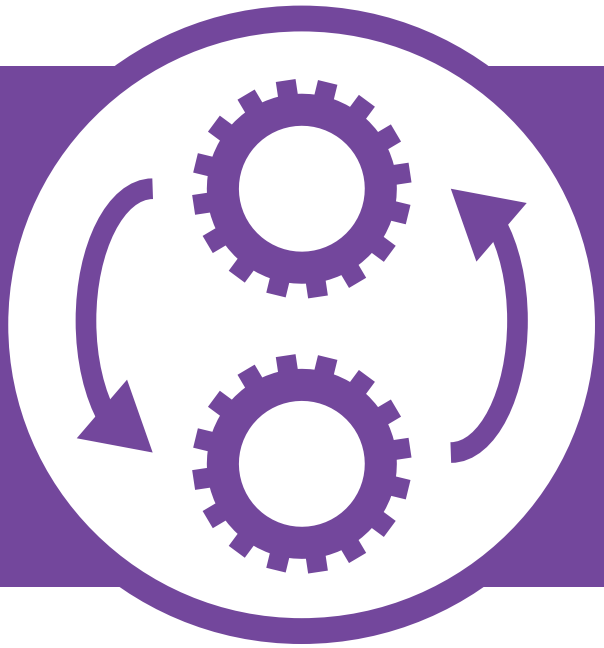
HEARTS

Technical package for cardiovascular disease management in primary health care



Implementation guide

World Health Organization

HEARTS

Technical package for cardiovascular disease management in primary health care

Implementation guide

World Health Organization

WHO/NMH/NVI/18.14

Suggested citation. HEARTS Technical package for cardiovascular disease management in primary health care: implementation guide. Geneva: World Health Organization; 2018 (WHO/NMH/NVI/18.14). Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

Sales, rights and licensing. To purchase WHO publications, see http://apps.who.int/bookorders. To submit requests for commercial use and queries on rights and licensing, see http://www.who.int/about/licensing.

Design and layout by Myriad Editions.

Printed in Switzerland.

Contents

Figures

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 (HEARTS) 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 region-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.	✓	✓	✓

Implementing HEARTS

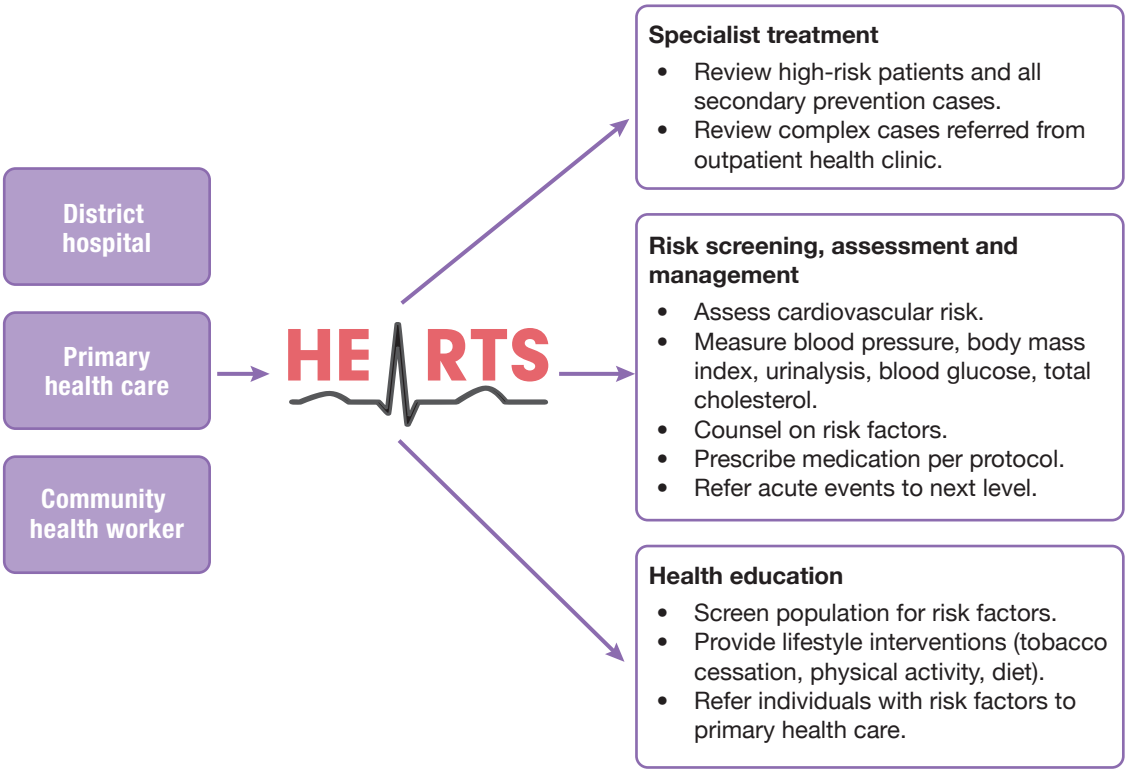
HEARTS provides a set of locally adaptable tools for strengthening the management of CVD in primary health care.

HEARTS is designed to enhance implementation of WHO PEN by providing:

- operational guidance on further integrating CVD management
- technical guidance on evaluating the impact of CVD care on patient outcomes.

For countries not using WHO PEN, CVD management can still be integrated into primary health care. The process of implementing HEARTS will vary, depending on country context, and may require a significant reorienting and strengthening of the health system. At some sites, existing CVD management services may be reoriented toward a risk-based approach, while other sites may adopt a public health approach, strengthening management of particular risk factors such as hypertension. Whether or not introducing CVD management into primary care is a new intervention, successful implementation will require engagement with national and local health planners, managers, service providers, and other stakeholders.

Figure 1: Integrating HEARTS into primary care for CVD management



This guide provides a step-by-step approach to implementing HEARTS, as informed by the successful approaches used in various low- and middle-income countries. Effective implementation techniques may vary by country, and the process should be adapted to meet local needs. A sample of pre-implementation adaptation from the Pan American Health Organization can be found in Annex 1.

Figure 2: Step-by-step approach to implementing HEARTS

Step 1: ENGAGE STAKEHOLDERS

- Meet with national policymakers
- Establish a technical working group

Step 2: SELECT DEMONSTRATION SITE

- Identify a demonstration site
- Conduct baseline assessments
- Compile a situational assessment report

Step 3: PLAN IMPLEMENTATION

- Convene a strategic planning workshop
- Lead a consensus workshop
- Develop an implementation plan
- Obtain Ministry of Health endorsement

Step 4: IMPLEMENT AND MONITOR

- Build capacity
- Deliver services, supervise, and monitor

Step 5: EVALUATE AND SCALE UP

- Evaluate
- Scale up

Step 1: Engage stakeholders

To successfully implement HEARTS, first establish buy-in from stakeholders. Engage key stakeholders through a meeting with national policymakers and through the creation of a technical working group.

(a) Meet with national policymakers

Implementing HEARTS in existing primary health care systems requires strong, high-level political commitment, leadership, and ownership by the Ministry of Health (MoH). MoH endorsement and involvement are essential to laying the necessary groundwork for successful implementation.

When meeting with policymakers, it is critical to raise awareness of the high burden and cost of CVDs, and to provide information about proven, feasible, cost-effective interventions that can reduce CVD burden in the country. Present the HEARTS technical package as a strategic approach to CVD management that allows for country-level customization and adaptation. The goal of the introductory meeting is for leaders to recognize the need to improve the quality of CVD care and treatment, and to commit to strengthening CVD management.

The following can be used as a reference for introductory meetings.

(i) Review the global targets to reduce CVD burden

In 2011, countries committed to taking action against NCDs in the Political Declaration of the High-Level Meeting of the General Assembly on the Prevention and Control of Noncommunicable Diseases. *(1)* Nine voluntary global NCD targets were defined, and their achievement will be assessed in 2025. Three of these targets relate directly to CVD management. CVD control efforts are also included in the Sustainable Development Goals (SDGs), for which countries will be assessed in 2030. It may be helpful to emphasize the important role that each country has in helping to meet these global targets. Table 1 outlines the different targets that HEARTS addresses.

Figure 3: Relevant global targets and indicators

Sustainable Development Goal targets *(2)*	**3.4** By 2030, reduce by one-third the premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being **3.4.1** Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease
NCD Global Action Plan targets *(3)*	A 25% relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases At least 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes An 80% availability in both public and private facilities of affordable basic technologies and essential medicines (including generics) required to treat major noncommunicable diseases
WHO progress monitoring indicators *(4)*	9 Member State has evidence-based national guidelines/protocols/standards for the management of major NCDs through a primary care approach, recognized/approved by government or competent authorities 10 Member State has provision of drug therapy (including glycaemic control) and counselling for persons at high risk in order to prevent heart attacks and strokes, with emphasis on the primary care level

(ii) Highlight statistics demonstrating the scale of CVD burden

Global and national data and statistics are important to provide background on the CVD burden in the global and local context. Use available local data to demonstrate relevance for policymakers. Possible data sources include:

- WHO Global status report on noncommunicable diseases 2014 *(5)*
- WHO's NCD country profiles and country capacity survey. *(6)*

(iii) Address the role of primary health care

Primary health care services can adapt operations to include management of CVD risk factors. Primary care services are more accessible than specialist care in most settings and are the most feasible, affordable, and equitable means of providing necessary care.

Conduct a rapid review of existing national and subnational CVD services to provide data to inform discussions with policymakers on primary health care adaptation. Potential information to cover in the rapid review includes:

- existing structure and political alignment
- coverage of a centralized or decentralized system
- existing patient pathways for CVD management
- staff responsibilities and scope of practice.

Additional guidance for conducting a rapid review is provided in Annex 2.

(iv) Discuss available resources and resource gaps

Support from policymakers will be essential in securing resources necessary for successful implementation and maintenance of HEARTS. Therefore, it is critical that policymakers understand the resources available within primary health care, as well as the potential resource gaps. Discuss resource availability relating to staff, laboratory tests, technologies and medicines with policymakers. Identify any legal concerns or restrictions.

HEARTS provides guidance on:

- enhancing staff efficiency and task-shifting (*Team-based care* module)
- identifying appropriate medicines and equipment (*Access to essential medicines and technology*)
- collecting data and implementing monitoring systems (*Systems for monitoring*).

(b) Establish a technical working group

A technical working group (TWG) can provide guidance throughout the planning, implementation, and evaluation of HEARTS. When forming a TWG, it can be helpful to identify and include local subject-matter experts and representatives from:

- national and subnational ministries of health
- academic institutions
- medical schools
- health institutes
- professional associations
- WHO and other international partners.

After a demonstration site has been selected (more details in Step 2), consider including:

- health facility management

- selected health facility staff, such as nurses, physicians, pharmacists, and other allied professionals.

Convening and coordinating the TWG will be critical to the success of the programme. For an effective TWG, it is important to establish clear roles and responsibilities for the participants. Roles will vary, depending on the expertise of the participants. If useful, establish sub-groups or committees to focus on particular aspects of implementation.

Step 2: Select demonstration site

After establishing buy-in from the MoH, the TWG, and other key stakeholders, identify a demonstration site for initial implementation, conduct baseline assessments, and compile a situational assessment report.

(a) Identify a demonstration site

Certain data will be required to make an informed selection and assist with planning. Implementation of HEARTS should be introduced into a demonstration district that ideally has:

- a population of approximately 100,000–200,000
- at least 8–10 functioning primary health care facilities
- sufficient primary health care staff to implement CVD management
- a referral facility accessible to primary health care patients (district or regional hospital)
- motivated district leadership
- a trained and motivated district-level primary health care or NCD officer who can serve as technical leader and advocate of the project.

(b) Conduct baseline assessments

Once a potential demonstration site is identified, collect baseline data and conduct necessary assessments to obtain the following:

- district population data
- brief description of district-level CVD services
- map of facilities within district
- facility-level questionnaire results (Annex 3)
- population survey results on hypertension awareness, treatment, and control (e.g., WHO STEPS).

(c) Compile a situational assessment report

Data from the previous steps can be compiled into a report to be shared with the TWG and other key stakeholders in advance of a strategic planning workshop. For the report, consider including:

- introductory meetings summary (Step 1a)
- rapid review results (Step 1a.iii)
- designated points of contact and technical working group members (Step 1b)
- selected demonstration site (Step 2a)
- key baseline data (Step 2b).

*A district is a defined geographic area with a specified catchment population, a number of primary health care facilities and at least one hospital to serve as a referral facility.

Step 3: Plan implementation

Planning the implementation of HEARTS at the selected demonstration site can be achieved through a staged approach, with input from key stakeholders integrated into the process. An initial strategic planning workshop can support the development of a service delivery model. Following that, a consensus workshop can generate agreement on standardized treatment protocols. Informed by these meetings, determine an implementation plan and arrange for its endorsement by the MoH.

(a) Convene a strategic planning workshop

After sharing the situational assessment report from Step 2c with the TWG and key stakeholders who contribute to the primary health care system, some of whom may have attended the introductory meetings in Step 1, convene a strategic planning workshop. The workshop can provide an opportunity for stakeholders to contribute their expertise. During the workshop, conduct a SWOT analysis and develop a preliminary service-delivery model.

(i) Conduct a SWOT analysis

A SWOT analysis is a strategic-planning technique that facilitates assessment of strengths, weaknesses, opportunities, and threats. Strengths and weakness are typically internal to an entity, whereas opportunities and threats are typically external. Understanding SWOT factors allows for more informed and effective programme planning. A SWOT analysis of the district-level health system can help identify necessary adjustments to the service-delivery model, assist in determining which HEARTS modules to implement, and guide implementation plans.

Figure 4: SWOT analysis template

Strengths	**Weaknesses**
1. 2. 3.	1. 2. 3.
Threats	**Opportunities**
1. 2. 3.	1. 2. 3.

Components to include under the SWOT:

- infrastructure
- personnel
- equipment
- service delivery
- medication
- monitoring
- supervision.

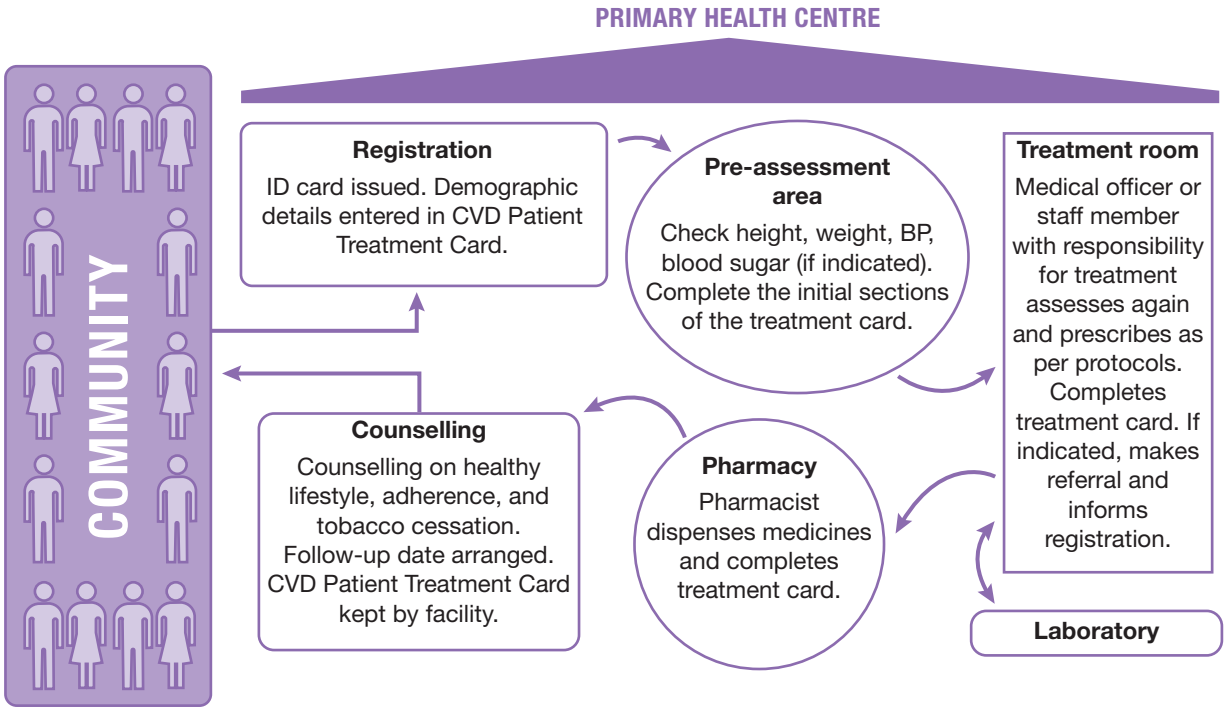
(ii) Develop a service-delivery model

Incorporating CVD management into primary care will require modification to the current service-delivery model and patient-flow pathway. When developing or adjusting the service-delivery model, consider all levels of care.

HEARTS provides guidance on:

- outlining clear roles for different health care workers (*Team-based care*)
- incorporating processes for ensuring access to core medicines and technologies (*Access to essential medicines and technology*)
- strengthening referral mechanisms to secondary and tertiary levels of care (*Evidence-based treatment protocols*)
- developing patient monitoring system (*Systems for monitoring*)
- preparing for future impact evaluations of patient outcomes (*Systems for monitoring*).

Figure 5: Example of a patient-flow pathway that supports HEARTS implementation



(b) Lead a consensus workshop

A workshop of local leaders, stakeholders, and national and international experts – including academic institutions and professional societies – can be critical to selecting and gaining consensus on standardized treatment protocols. The consensus workshop can also serve as an opportunity to present the proposed service-delivery model and invite additional feedback.

(i) Establish treatment protocols

Standardized treatment protocols are essential to improving adherence among health care facilities, producing clear data on patient outcomes, and comparing project sites. Formal endorsement of standard treatment protocols by academic societies, professional association, and key stakeholders can enhance protocol adoption and adherence.

HEARTS provides guidance on:

- selecting hypertension and diabetes management protocols (*Evidence-based treatment protocols*)
- implementing task-sharing that supports protocol adoption (*Team-based care*)
- identifying and tracking core indicators through measured impact (*Systems for monitoring*).

(c) Develop an implementation plan

An implementation plan can make broad programme goals achievable through identifying and organizing the specific steps that must be taken to accomplish the goals. The implementation plan can identify resources needed, outline measureable action steps, and provide accountability.

Informed by the situational assessment report, the strategic planning workshop and the consensus workshop, the TWG develops an implementation plan that includes:

- outlines of roles and responsibilities for all aspects of implementation
- timelines for internal review process and approval
- timelines for capacity building
- timelines for data analysis and feedback reports
- plans for monitoring and evaluation.

Implementation research can be incorporated into the plan to ensure the documentation of best practices. Further information on implementation research can be found in *A guide to implementation research in the prevention and control of noncommunicable diseases*. *(7)*

After the implementation plan has been drafted, ensure that key stakeholders have the opportunity to review and provide feedback. Stakeholders will be able to assist in identifying potential issues and improve the viability of the plan.

As part of the implementation planning process, develop a corresponding budget. The budget should estimate the cost of implementation activities.

HEARTS provides guidance on the added costs of implementing the HEARTS modules at the district level (*Costing Tool).*

(d) Obtain MoH endorsement

MoH support is critical for the success of the programme. The MoH should therefore endorse the implementation plan through a written agreement, and designate a point of contact. The MoH focal point coordinates with the implementing site(s) and the national level MoH NCD leadership to develop the work plan, track progress through regular reports, and communicate results.

Step 4: Implement and monitor

Once the implementation plan has been endorsed, arrange for training and capacity-building activities to be conducted prior to initiating delivery of new services. Monitoring and supervision should occur throughout the implementation process to troubleshoot any challenges and provide feedback on the effectiveness of the implementation.

(a) Build capacity

Comprehensive training for different health care teams should be provided. Training

can be provided through workshops or incorporated into regular classes or in-service training.

Trainings on local and global CVD burden, treatment protocols, service delivery, patient monitoring, reporting systems, assessment, and supervision should be provided, as appropriate, for:

- primary health care providers such as doctors, nurses, and other clinical staff
- health facility managers
- district supervisors.

Plan for additional training sessions throughout the implementation process. Additional training can both address difficulties that arise during implementation and maintain momentum.

Develop champions at different levels of the health care system (local, district, province levels); this can help mitigate the risk of intervention disruption due to turnover, and can improve continuity.

(b) Deliver services, supervise, and monitor

With staff trained, resources secured, and a plan in place, start the implementation of services in the demonstration site. During all stages of the implementation process, supervision and monitoring will be essential.

Supervision allows performance to be assessed and guidance provided so that staff are best-equipped to provide services effectively. Ensure that ongoing mentoring and capacity-building is provided, especially in the initial stages of implementation and service delivery.

Through monitoring, activities can be tracked to see if implementation is occurring as intended, or if adjustments are needed.

The Pan American Health Organization's Monitoring and Evaluation Framework for Hypertension Control Programs *(8)* provides a foundation for monitoring and evaluation that allows countries to select indicators based on their own resources and priorities. The framework is designed to be used at different intervention levels and includes five strongly recommended core indicators found in the *Systems for Monitoring* module, a PAHO-WHL recommended indicator, and optional indicators for consideration.

Monitoring activities should be built into the programme, and data should be reviewed regularly to identify unanticipated challenges, assess progress, and improve implementation.

Step 5: Evaluate and scale up

While monitoring ensures the programme is progressing as planned, evaluation uses monitoring data and other information to assess whether the programme is effectively and efficiently achieving its goals. Once the programme is able to successfully produce the intended results, scale-up can be planned.

(a) Evaluate

Programme evaluation is a systematic approach to collecting, analysing, and using data to examine the effectiveness and efficiency of the programme. Programme evaluations reveal why a programme may or may not be working, and can inform programme adjustments and improvements. Ensure that evaluation is ongoing and includes all programme stakeholders.

Programme evaluation frameworks can provide practical, nonprescriptive steps and standards to organize essential evaluation elements. Frameworks can provide guidance on:

- steps in evaluation practice
- standards for effective evaluation
- applying the framework as a communication and implementation roadmap
- integrating evaluation into the programme.

Programme evaluation resources include:

- PAHO Monitoring and Evaluation Framework for Hypertension Control Programs
- WHO Evaluation Practice Handbook *(9)*
- CDC Framework for Program Evaluation. *(10)*

Annual reporting on the programme's successes and challenges to stakeholders, including facility managers, relevant district personnel, and MoH contacts, can demonstrate programme impact, maintain momentum, and justify resource allocations.

(b) Scale up

After piloting the programme at the demonstration site and evaluating improvements in CVD risk management, the programme may be scaled up. A phased approach to scale-up is preferable as it allows for learning and adaptation. A cost estimate for country-level scale-up should be made to determine the necessary resources. To mitigate the risk of the project being adversely affected by elections or political and administrative changes, it is important to work with the MoH to:

- integrate the chosen model into the existing health care system to institutionalize the approach
- develop a strategic and operative plan for national expansion of the project
- develop and strengthen technical and managerial capacity to ensure sustainability.

Annex 1: Technical Note PAHO-HEARTS-1-2018

Prerequisites and preparation for the implementation phase

Background

HEARTS is an initiative spearheaded by the World Health Organization, involving various global actors including the U.S. Centers for Disease Control and Prevention (CDC), International Society of Hypertension, International Society of Nephrology, International Diabetes Federation, Resolve to Save Lives, World Heart Federation, and World Hypertension League. PAHO's Department of Non-communicable Diseases and Mental Health coordinates HEARTS in the Americas, which disseminates best practices for the prevention and management of cardiovascular diseases, aiming to have a positive impact on the attributable burden of these diseases and to move towards the achievement of the Sustainable Development Goals 2030.

HEARTS in the Americas is an initiative of the countries, led by the Ministries of Health, with the participation of local actors and with the technical cooperation of PAHO. The initiative seeks to smoothly and progressively integrate HEARTS into existing health-delivery services to promote the adoption of global best practices in the prevention and control of cardiovascular diseases (CVD) and improve the performance of the services through better control of high blood pressure and the promotion of secondary prevention, with emphasis on primary health care.

The Global Hearts Initiative promotes the adoption of the MPOWER technical package for tobacco control, SHAKE for the reduction of salt intake, REPLACE for transfat elimination, and HEARTS for the clinical management of conditions related to CVD. These packages guide the implementation of the initiative and catalyze the fulfilment of the goals and targets related to non-communicable diseases.

During the first phase, the initiative completed the proof of concept in Barbados, Colombia, Chile, and Cuba (founding countries) and verified in practice that the model of HEARTS works, that it is acceptable to patients, providers, and funders, and that it improves the coverage and control of hypertension. During the second phase, the priority is scale-up in the founding countries and expansion to other countries in the region.

Principles

This methodology applies both to new countries and to the founding countries.

- With the understanding that the country has the political will to improve the prevention and control of non-communicable diseases, stakeholders formalize through written official communication their interest in the HEARTS initiative and their commitment to PAHO to implement the initiative gradually (phased approach), according to its resources and the characteristics of the health system, and to provide a strategic design and operational plan with a realistic timeline.

- PAHO will provide technical cooperation to the country in capacity building and in the implementation of HEARTS.
- HEARTS should build on what already exists, using available resources, continuously improving performance and results, taking advantage of the leadership, technical capabilities, and successful projects/programs which are already in practice to optimize resources and establish the necessary synergies to make the initiative work. Thus, HEARTS is not a vertical, isolated project or parallel to the existing health care system. On the contrary, its sustainability depends on the institutionalization of the model in the everyday practice of implementers.

Preparation for the implementation phase (4 months)

1. Prepare a plan of action based on a situational analysis and establishment of management/coordination teams. The constitution of the national and local coordinating teams led by the Ministry of Health and with the participation of the main actors defined by the country/territory should be as follows:
    - Define the mandate, operation, and the members of the management teams through the recommended administrative procedures for each country.
    - Each member of the management/coordination teams must have clearly defined responsibilities. In order to ensure the highest level of capacity, it is recommended to assign a specialist according to competencies and skillset to each of the HEARTS modules.
    - The lifespan of the management/coordination team must be subject to the institutionalization of the model. To the extent that the model becomes institutionalized, the management/coordination team will be phased out.
    - The management/coordination teams must distinguish clearly between those in charge of implementation and those responsible for the evaluation/research, ensuring that those selected have the competencies and skillset required for each function.
2. New areas of implementation of HEARTS must be jurisdictions or territories: at a minimum, a municipality that has a defined administrative and sanitary structure. The formalization of the areas of implementation of HEARTS requires a letter of commitment from the local authorities responsible for the implementation, in the same way that it proceeded at the national level (local authority concurrence).

    In addition, the municipalities selected for implementation shall comply with the following requirements/attributes. Municipalities implementing HEARTS (demonstration sites) should have:
    - A population of at least 100,000 people (catchment area population) and a network of primary care level services/centers.
    - Basic information on the population served with the potential to build a clinical registry.
    - Epidemiological information on the prevalence and control of high blood pressure or at least a reasonable estimate to apply to this population.
    - A referral hospital of second/third level where the population presenting acute cardiovascular events are served, especially for cerebrovascular and coronary heart disease. The hospital should have the capacity to record these events.
    - Motivated and trained personnel, including a leader of recognized technical and managerial leadership.
    - The basic health structure to comply with the objectives and functions of

training and capacity-building activities.
    - A network of pharmacies with potential to participate in the project in the roles indicated in HEARTS (Team-based care module) and to have a registry of patients.
3. It is important to have at least one academic institution willing to participate in the project and undertake the tasks of monitoring and evaluation as well as research.
4. The members of management teams, both national and local, should familiarize themselves with the methodological documents of HEARTS available on WHO's website.
5. In tandem, the management/coordination teams should arrange an initial assessment/situational analysis based on the framework of monitoring and evaluation recommended by PAHO-WHL. This evaluation should benefit the management team as an exercise to test its operational capacity and to define the overall strategy, the goals and the operational plan of implementation in the short-, medium-, and long-term, as suggested by the evaluation framework. The strategy and the plan of implementation resulting from the evaluation exercise must be approved by the appropriate administrative authority.
6. The focal point of Non-communicable Diseases and Mental Health of the PAHO Office in the country will accompany the preparation phase and will coordinate the first field site visit of the technical advisors and experts from PAHO to formally assess and complete this preparation phase and to begin the implementation. The delivery of a report that reflects compliance with the steps outlined in this technical note is mandatory.

Annex 2: Rapid health system review template

Guidance for conducting a rapid review of the health system

GOVERNANCE AND LEADERSHIP	Is CVD risk management in primary health care included in the: • national/district health strategy • national NCD strategy • national operational plans • basic package of services? Is management of CVD/hypertension/diabetes included in national clinical guidelines for primary health care? Do national clinical guidelines for primary health care include evidence-based protocols for risk-based CVD management? Are there standardized systems/tools for mentoring and supervising primary health care staff? What is the frequency of district management meetings? Who attends?
HEALTH FINANCING	Is there a specific NCD budget within health financing? If yes, what is it? In those systems with health insurance, are CVD/NCD services and medicines included in benefit packages?
ACCESS TO ESSENTIAL MEDICINES AND TECHNOLOGIES (see *Access to essential medicines* module)	Are the nine minimum essential medicines (see section 4 of the Baseline Facility Assessment in Annex 3) for CVD risk management included in the National Essential Medicines List and the Minimum Primary Health Care Medicines List? Are the essential CVD and diabetes technologies included in minimum standards for primary health care facilities? Describe the national medicine-supply management system (selection, quantification, procurement, storage, distribution).

HEALTH WORKFORCE (see *Team-based care* module)	Are there dedicated management staff for CVD/NCD management at the national and district levels? Which staff have authority to prescribe and/or authorize medication refills? Have task-sharing approaches in primary health care been adopted or considered? Do in-service training packages exist for management of CVD, hypertension or diabetes in primary health care? Has any in-service training on NCD/CVD risk management occurred in last two years? If yes, who delivered it?
HEALTH INFORMATION SYSTEMS (see *Systems for monitoring* module)	Are there mechanisms for data feedback from national, to sub-national, to facility level? Are there dedicated staff to collect data at district level? Describe the district-level database for the routine health-management information system and other facility data. Are CVD/NCD management indicators included in a national minimum indicator set? Describe the type of individual patient record format used in public primary health care facilities.
ORGANIZATION OF SERVICE DELIVERY	Describe the facility levels within the public health system. Describe CVD risk-management (if applicable) services available at each level of care, including a healthy lifestyle counselling component. Are catchment populations defined for primary health care? What is the current service delivery model(s) in public primary health care facilities? For example, general outpatient services, where patients see any available provider; disease-specific clinics. Are there established national and/or district-level quality-improvement systems for primary health care?

Annex 3: Baseline facility assessment template

Facility information

Country: Date:

Name of person completing the questionnaire:

Job title:

Facility name:

Setting type: Rural ☐ Urban ☐

1 Human resources

1.1 Availability of human resources for managing major noncommunicable diseases (NCDs):

	Number present today	Number full-time	Number part-time
Specialist doctor			
Generalist/family doctor/physician			
Nurse			
Community health worker/health educator			
Pharmacist			
Laboratory technician			
Registration/data clerk			
Other (specify)			

1.2 Are doctors, nurses and/or other health workers trained in CVD management?

	Doctors	Nurses	Other health workers
Yes, regularly trained			
Yes, one-off training			
No, not trained in CVD management			

2 Equipment

2.1 Availability of basic equipment for managing CVD

Equipment	Number of functional devices available	Number of devices out of service/awaiting repair
a) Blood pressure measuring devices (BPMD)	Total:	Total:
Breakdown	Mercury BPMDs: Aneroid BPMDs: Automatic BPMDs:	Mercury BPMDs: Aneroid BPMDs: Automatic BPMDs:
b) Measuring tape/height board/stadiometer		
c) Weighing machines		
d) ECG machines		
e) Glucometer		
f) Stethoscope		

2.2 How often are blood pressure measuring devices calibrated and checked for accuracy?

Once a year or more ☐ Less than once a year ☐ Never ☐ Don't know ☐

2.3 How is equipment usually repaired and maintained?

Repaired at the facility ☐ Sent back to manufacturer for repair ☐

Sent back to "government store" for repair ☐

Other (specify)

2.4 What, if any, are the difficulties in repairing equipment?

3 Infrastructure/services

3.1 Can the following investigations be carried out?

(Tick "Yes" only if the investigation can be done on the day of the survey)

Investigation	Yes, at this facility	Yes, at referral, but not at this facility	No
Urine dipstick testing – protein/ glucose/sugar			
Blood sugar			
Urine ketone bodies			
Urine microalbuminuria			
HbA1c			
Serum cholesterol			
Serum creatinine			

3.2 Do you use national guidelines for the diagnosis and management of CVD and diabetes in this facility?

Type of guideline	Yes, seen	Yes, not seen	No
Cardiovascular disease			
Diabetes			

3.3 Are the following services available at this facility?

	Yes	No	Don't know	Who provides (doctor, nurse, counsellor, etc.)
a) Patient counselling and education on smoking, diet, alcohol consumption, physical activity				
b) Counselling and education of family members on smoking, diet, alcohol consumption, physical activity				
c) Cardiovascular risk assessment				
d) Patient counselling for self-management of diabetes				
e) Patient education for self-administration of insulin				

3.4 Are health education materials available at this facility for:

	Yes	No	Don't know
a) Smoking			
b) Diet			
c) Alcohol consumption			
d) Physical activity			
e) Hypertension			
f) Diabetes			

4 Medicines

4.1 Are medicines purchased directly by the facility for distribution to patients?

Yes ☐ No ☐

4.2 If "yes", is the purchase of medicines subsidized by the government?

Yes ☐ No ☐

4.3 Availability of medicines in the facility (tick only one box for each medicine):

Medication	Always available	Sometimes available	Never available	Stock-out in last 3 months
Aspirin				
ACE inhibitor (enalapril) or ARB				
Beta blocker (atenolol)				
Calcium channel blocker				
Thiazide				
Statin (lovastatin or simvastatin)				
Metformin				
Sulphonylurea (glibenclamide / gliclazide / glipizide)				
Insulin (injection)				
Statins				

5 Service utilization

5.1 Number of visits, patients, consultations

Utilization	Number	Based on register	Based on estimation
Total number of visits to the health facility for outpatient services last month			
Total number of visits to the health facility for outpatient services yesterday			
Average number of consultations per day			
Number of patients registered for hypertension			
Number of patients registered for diabetes			

6 Patient referral

6.1 Can you refer patients to another facility in the event of a CVD emergency?

Yes ☐ No ☐

If you answered "Yes", go to Question 6.2. If "No", go to Question 6.8.

6.2 How far from your facility is the nearest referral institution for a medical emergency (in minutes, hours, kilometres)?

Minutes ☐ Hours ☐ Kilometres ☐

6.3 Have you ever wanted to refer a patient with acute, severe symptoms or emergency related to heart disease, diabetes or asthma, but were unable to do so?

Yes ☐ No ☐

If yes, why?

6.4 Does your facility have an ambulance?

Yes ☐ No ☐

6.5 If the facility does not have an ambulance, can patient transfer by ambulance be arranged?

Yes ☐ No ☐ Don't know ☐

6.6 What means of transport is most frequently used to transfer emergency patients at your facility? (check only one)

Ambulance ☐ Public transport ☐ Commercial vehicle (e.g. taxi) ☐

Private vehicle ☐ Other (specify):

6.7 (a) Can you refer patients with CVD for a second opinion/specialist consultation?

Yes ☐ No ☐

If no, why not?

6.7 (b) If yes, the patients will usually be:

Referred back to you for follow-up ☐

Followed up at the upper-level (referral) facility ☐

6.7 (c) Can you refer patients with CVD to the nearest referral medical institution for additional tests?

Yes ☐ No ☐

If no, why not?

6.8 Approximately how long does it take to transfer a patient to the nearest referral medical institution?

Minutes ☐ Hours ☐ Days ☐

7 Record keeping/medical information system

General

7.1 Does the facility have the following?

Description	Yes, functional	Yes, awaiting repair	No
Computer			
Telephone			
Internet connection			

Patient records

7.2 How do patients access the facility?

Walk-in only ☐ By appointment only ☐

Combination of appointments and walk-ins ☐

7.3 Does the facility keep a record of patient visits?

Yes, records kept for all visits ☐

Yes, records kept for certain types of visit (specify):

No records kept ☐

If you answered "Yes", go to Question 7.4. If "No", skip to Question 7.5.

7.4 How are records kept?

a) Patient files ☐ Registry system ☐

Other (specify):

b) Paper records ☐ Electronic health records ☐

7.5 Are patient files retrieved and consulted each time they visit the facility?

Yes, patient files usually/always consulted ☐

Yes, patient files consulted, but only when necessary ☐

No, patient files not consulted ☐

Facility records

7.6 Does the facility have a stock card or log books for:

a) Medicine

Yes, but not used routinely ☐ Yes, used routinely and currently up to date ☐

No ☐

b) Consumables (e.g. syringes, bandages)

Yes, but not used routinely ☐ Yes, used routinely and currently up to date ☐

No ☐

8 Financing and administration

8.1 Do patients pay the facility for medicines?

Yes, full payment ☐

Yes, partial payment ☐ Proportion paid by patient: ___%

No, medicines are provided free ☐

8.2 If medicines are provided free or for partial payment, who subsidizes it (check all that apply)?

Central government ☐	Local government ☐	Private insurance ☐
Social assistance plans ☐	Other (specify):	Don't know ☐

8.3 Do patients pay the facility for consultations?

Yes, full payment ☐

Yes, partial payment ☐ Proportion paid by patient: ___%

No, consultations are provided free ☐

8.4 If consultations are provided free or for partial payment, who subsidizes it (check all that apply)?

Central government ☐	Local government ☐	Private insurance ☐
Social assistance plans ☐	Other (specify):	Don't know ☐

8.5 Do patients pay the facility for diagnostic tests?

Yes, full payment ☐

Yes, partial payment ☐ Proportion paid by patient: ___%

No, diagnostic tests are provided free ☐

8.6 If diagnostic tests are provided free or for partial payment, who subsidizes it (check all that apply)?

Central government ☐	Local government ☐	Private insurance ☐
Social assistance plans ☐	Other (specify):	Don't know ☐

9 Community links

9.1 Are there any community activities to support NCD services provided at primary health care facilities?

Yes ☐ No ☐ Don't know ☐

If "yes", specify: (e.g. vehicle for patient transfer is provided free by the community, patient support groups):

References

1 United Nations General Assembly resolution 66/2.

2 SDG 3: Ensure healthy lives and promote wellbeing for all at all ages (www.who.int/sdg/targets/en/).

3 Global Action Plan for the prevention and control of noncommunicable diseases. 2013–2020. Geneva: World Health Organization; 2013.

4 Noncommunicable diseases progress monitor 2015. Geneva: World Health Organization; 2015.

5 Global status report on noncommunicable diseases 2014. Geneva: World Health Organization; 2014.

6 Noncommunicable diseases country profiles 2014 (http://www.who.int/nmh/countries/en/).

7 *A guide to implementation research in the prevention and control of noncommunicable diseases*. Geneva: World Health Organization; 2016. Licence: CC BY-NC-SA 3.0 IGO. (http://www.who.int/ncds/governance/policies/NCD_MSA_plans/en/).

8 Monitoring and Evaluation Framework for Hypertension Control Programs. Washington, D.C.: Pan American Health Organization; 2018 (http://iris.paho.org/xmlui/handle/123456789/34877).

9 Evaluation Practice Handbook. Geneva: World Health Organization; 2013 (http://apps.who.int/iris/bitstream/handle/10665/96311/9789241548687_eng.pdf;jsessionid=0C96EE1EDE6C92E4E1C51D95E609088C?sequence=1).

10 Centers for Disease Control and Prevention. Program Performance and Evaluation Office (PPEO). A framework for program evaluation (https://www.cdc.gov/eval/framework/index.htm).