

WHO STEPwise approach to chronic disease risk factor surveillance (STEPS)

Promotion of Fruits and Vegetables for Health

African Regional Workshop for Anglophone Countries

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Health Risk Factors

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**World Health
Organization**

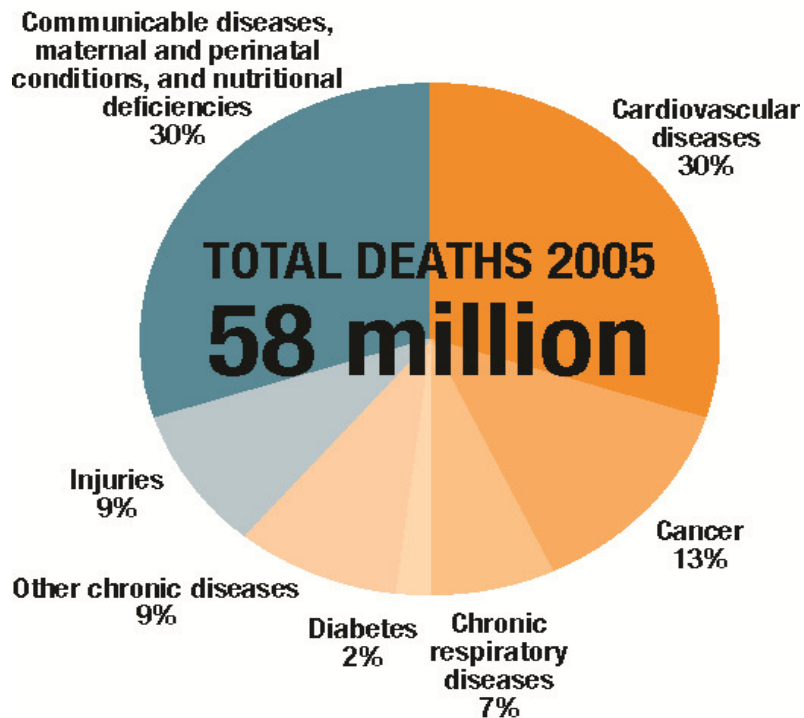
Overview

- Why chronic disease risk factor surveillance?
- What is STEPS?
- What approach does STEPS use?
- Country examples and selected results
- Which countries are involved?



Chronic Non-Communicable Diseases (NCDs)

Projected main causes of death, worldwide, all ages, 2005



Chronic Non-Communicable Diseases (NCDs)

Projected main causes of death, worldwide, all ages, 2005

Communicable diseases, maternal and perinatal conditions, and nutritional deficiencies
30%

Cardiovascular diseases
30%

TOTAL DEATHS 2005
58 million

Injuries
9%

Cancer
13%

Other chronic diseases
9%

Diabetes
2%

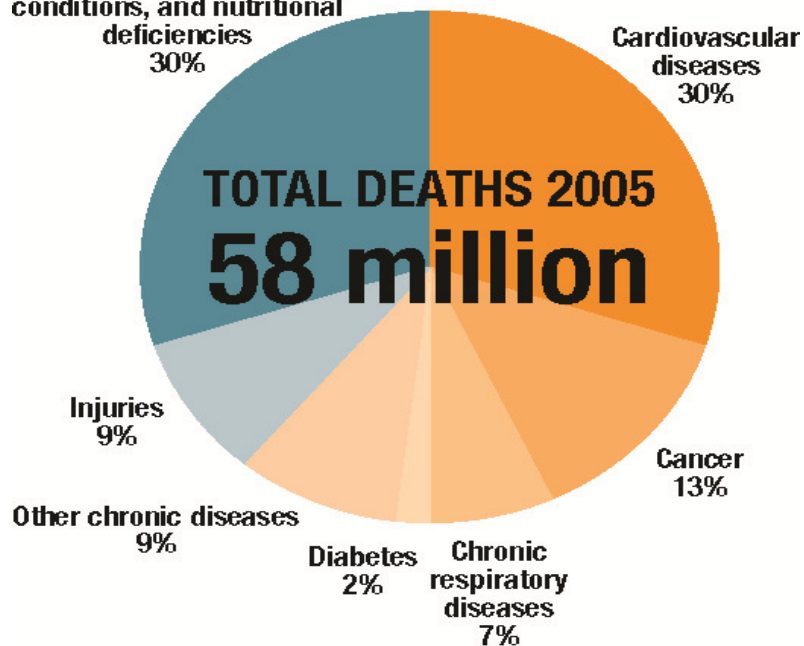
Chronic respiratory diseases
7%

35 000 000
people died
from chronic
diseases
in 2005

Chronic Non-Communicable Diseases (NCDs)

Projected main causes of death, worldwide, all ages, 2005

Communicable diseases, maternal and perinatal conditions, and nutritional deficiencies
30%



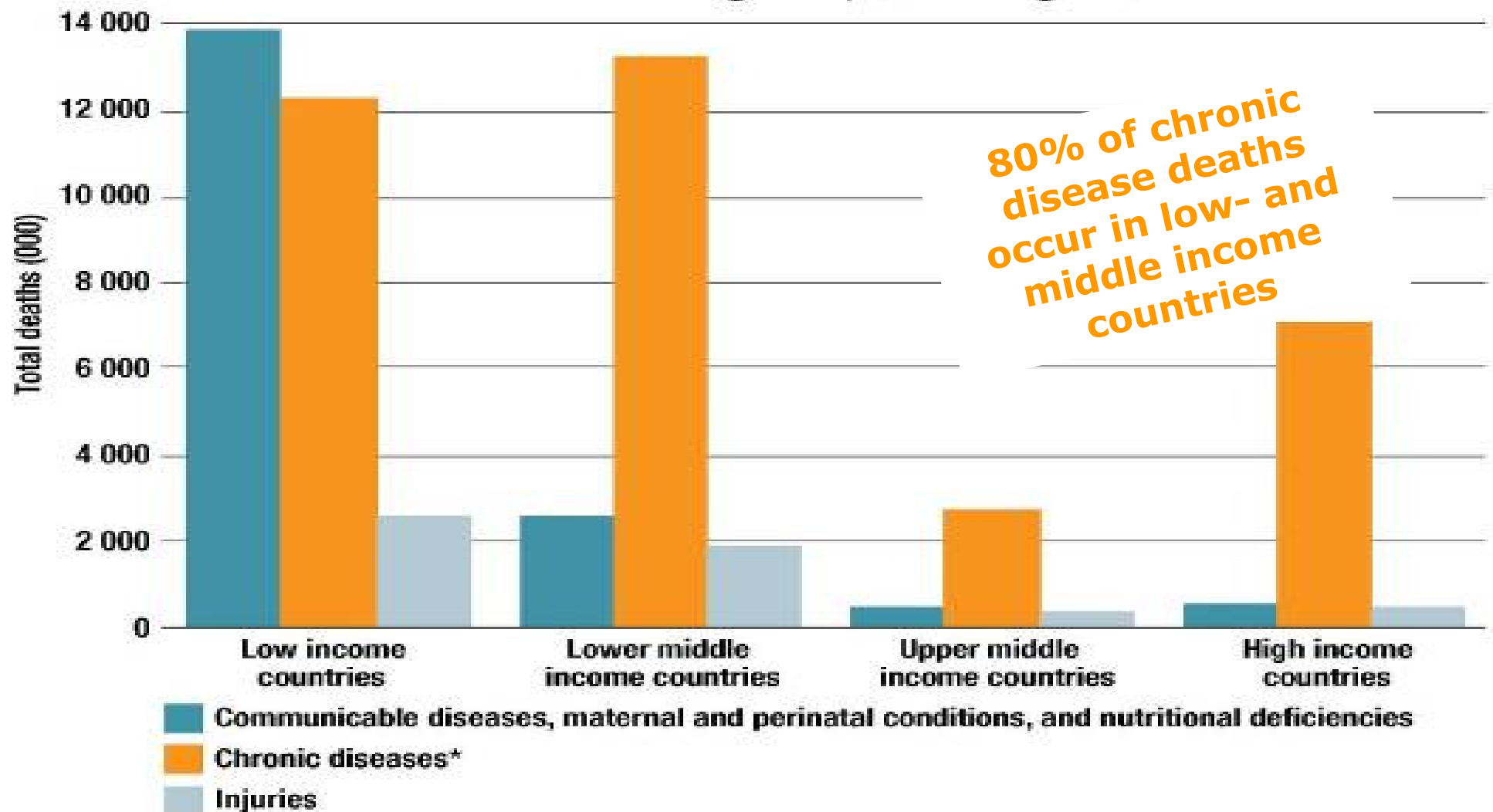
35 000 000
people died
from chronic
diseases
in 2005

60%

of all deaths are due to chronic diseases

Low and middle income countries are the most affected

Projected deaths by major cause and World Bank income group, all ages, 2005



The problem has serious impact!

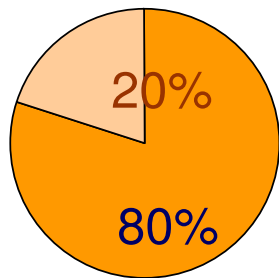
Chronic diseases

- Have major adverse effects on the **quality of life** of affected individuals;
- Cause **premature** deaths:
 - Half of chronic disease deaths occur at age <70 years
 - One quarter occurs at age <60 years.
- Create large adverse **economic effects** on families, communities and societies in general.

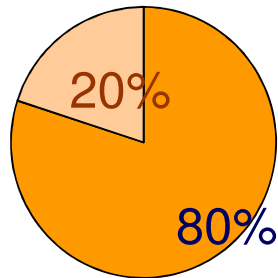


Prevention is possible

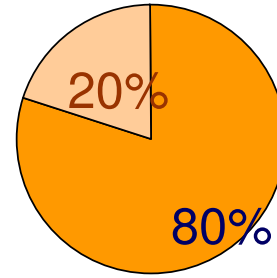
Largest part of main chronic diseases can be prevented if risk factors are eliminated



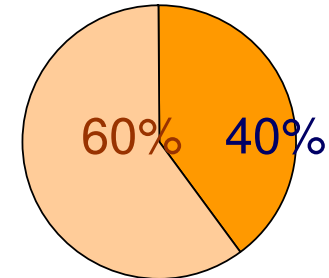
Heart disease



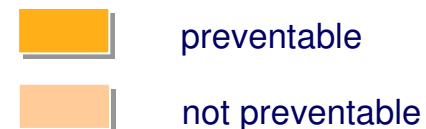
Stroke



Type 2 diabetes



Cancer



Risk Factors Common to Major Chronic Disease Conditions

Risk Factor	Condition			
	Cardiovascular diseases	Diabetes	Cancer	Respiratory Conditions
Smoking	√		√	√
Alcohol	√	√	√	
Low fruit & vegetable	√	√	√	√
Physical Inactivity	√	√	√	√
Obesity	√	√	√	
Raised blood pressure	√	√		
Raised blood glucose	√	√	√	
Abnormal blood lipids	√	√	√	



Why measure these risk factors?

- These risk factors have the greatest impact on chronic disease morbidity and mortality.
- Modification is possible through effective prevention.
- Measurement of risk factors proven to be valid.
- Measurements can be obtained using appropriate ethical standards.
- Once risk factor levels are known, this information can be used to set up NCD interventions and programmes.



What is STEPS?

- System for surveillance of these chronic disease risk factors
- Designed for implementation in low- and middle income countries



Objectives of STEPS

- Gather information on chronic disease risk factors to help plan programmes and interventions
- Collect standardized risk factor data to enable comparisons, but allow flexibility
- Provide an entry point for low- and middle income countries to get started on chronic disease surveillance
- Build capacity in countries
- Integrated approach at low cost



STEPS methods – The risk factors

- **Behavioural Risk Factors**

- Tobacco use
- Harmful alcohol consumption
- Unhealthy diet (low fruit and vegetable consumption)
- Physical inactivity

- **Biological Risk Factors**

- Overweight and obesity
- Raised blood pressure
- Raised blood glucose
- Abnormal blood lipids



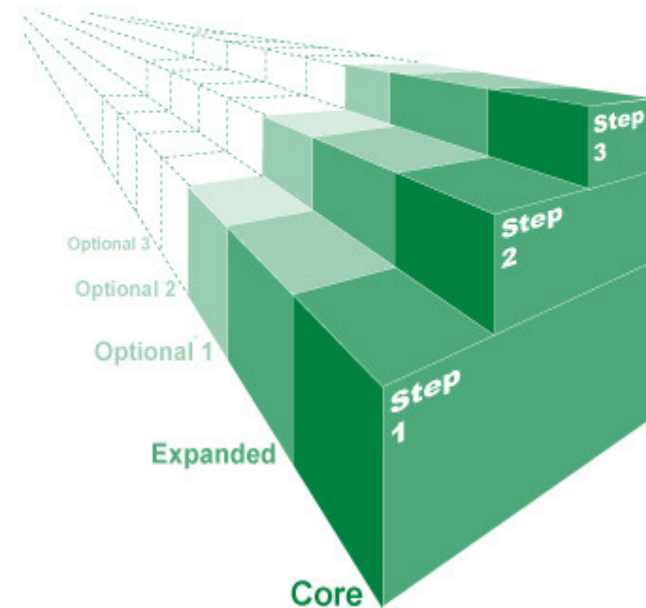
STEPS methods – The framework

Different levels of risk factor assessment:

- STEP 1 – questionnaire
- STEP 2 – physical measurements
- STEP 3 – blood samples

Three modules:

- Core
- Expanded
- Optional



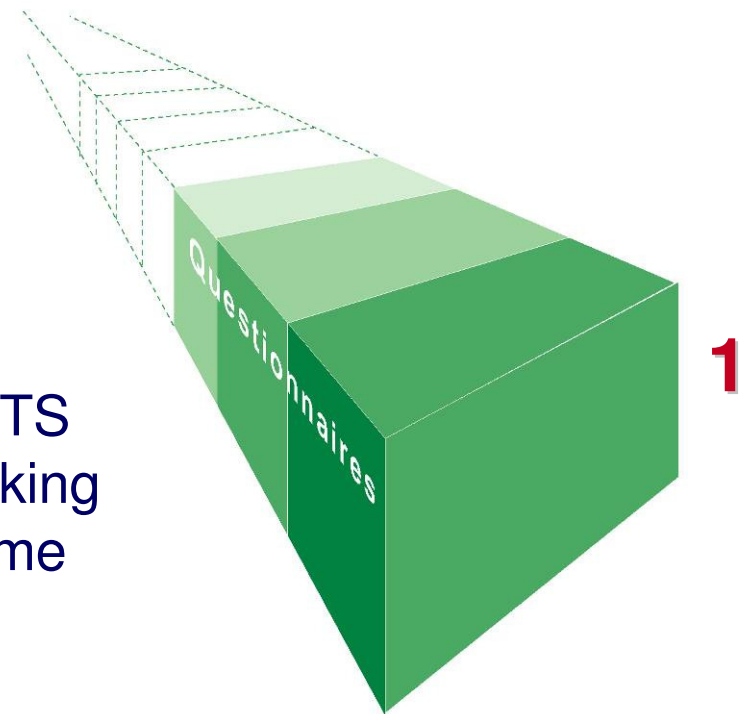
Step 1: Questionnaire

- **Core:**

- Socio-demographic info
- Tobacco use
- Alcohol consumption
- Fruit & vegetable consumption
- Physical inactivity
- History of high BP and diabetes

- **Expanded:**

- Past smoking, smokeless tobacco, ETS
- Drinking with meals, past 7 days drinking
- Oil consumption, meals outside a home
- Sedentary behaviour
- Treatment of high BP and diabetes



Step 1, *continued*

Diet questions

- Core diet questions:
 - Intake of fruit and vegetables in a typical week

- Expanded diet questions:
 - Oil or fat used for cooking
 - Meals outside the home



CORE: Diet

The next questions ask about the fruits and vegetables that you usually eat. I have a nutrition card here that shows you some examples of local fruits and vegetables. Each picture represents the size of a serving. As you answer these questions please think of a typical week in the last year.

Question		Response	Code
46	In a typical week, on how many days do you eat fruit ? (USE SHOWCARD)	Number of days <input type="text"/> Don't Know 77 <input type="text"/> <i>If Zero days,</i> <i>go to D3</i>	D1
47	How many servings of fruit do you eat on one of those days? (USE SHOWCARD)	Number of servings <input type="text"/> Don't Know 77 <input type="text"/>	D2
48	In a typical week, on how many days do you eat vegetables ? (USE SHOWCARD)	Number of days <input type="text"/> Don't Know 77 <input type="text"/> <i>If Zero days,</i> <i>go to D5</i>	D3
49	How many servings of vegetables do you eat on one of those days? (USE SHOWCARD)	Number of servings <input type="text"/> Don't know 77 <input type="text"/>	D4





EXPANDED: Diet

50	<p>What type of oil or fat is most often used for meal preparation in your household? <i>(USE SHOWCARD)</i> <i>(SELECT ONLY ONE)</i></p>	<p>Vegetable oil 1 Lard or suet 2 Butter or ghee 3 Margarine 4 Other 5 <i>If Other, go to D5 other</i> None in particular 6 None used 7 Don't know 77</p>	D5
		<p>Other _____</p>	D5other
51	<p>On average, how many meals per week do you eat that were not prepared at a home? By meal, I mean breakfast, lunch and dinner.</p>	<p>Number _____ Don't know 77 _____</p>	D6



Fruit and vegetable serving size Show Card, example

VEGETABLES are considered to be:	1 Serving =	Examples
Raw green leafy vegetables	1 cup	Spinach, salad, etc.
Other vegetables, cooked or chopped raw	½ cup	Tomatoes, carrots, pumpkin, corn, Chinese cabbage, fresh beans, onion, etc. 
Vegetable juice	½ cup	
FRUIT Is considered to be:	1 Serving =	Examples
Apple, banana, orange	1 medium size piece	
Chopped, cooked, canned fruit	½ cup	
Fruit juice	½ cup	Juice from fruit, not artificially flavoured

Serving size

One standard serving = 80 grams (translated into different units of cups depending on type of vegetable and standard cup measures available in the country).

Note: Tubers such as potatoes and cassava should not be included.

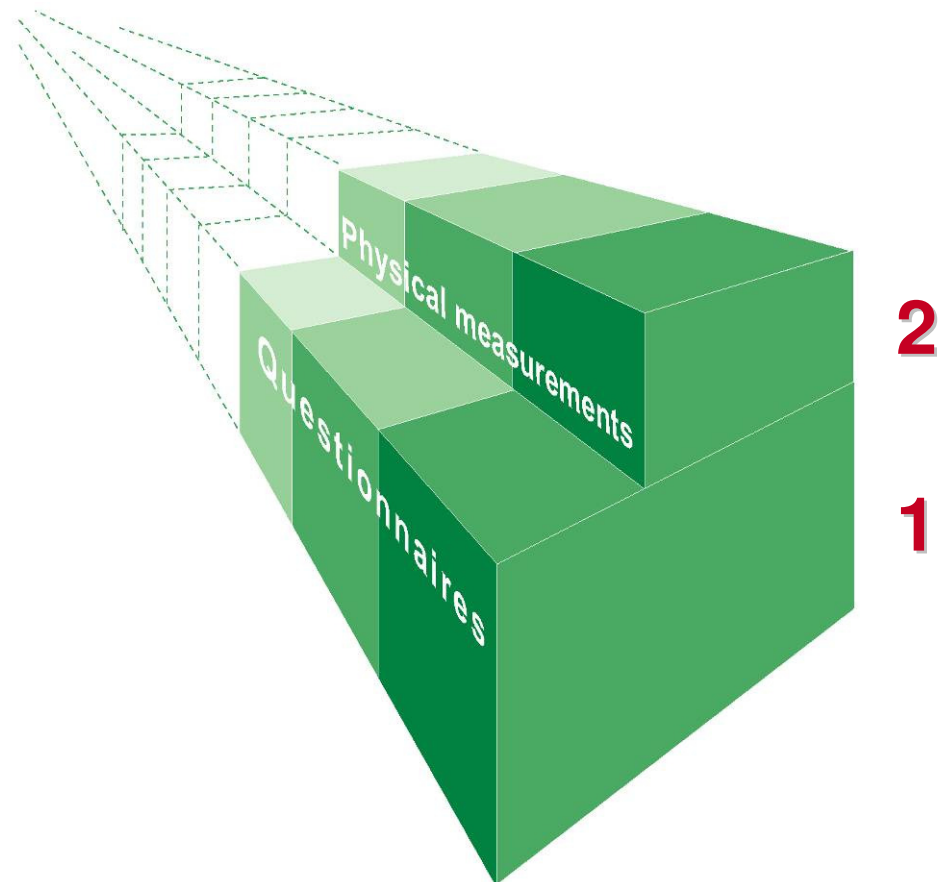
Step 2: Physical measurements

- **Core:**

- Blood pressure
- Height
- Weight
- Waist circumference

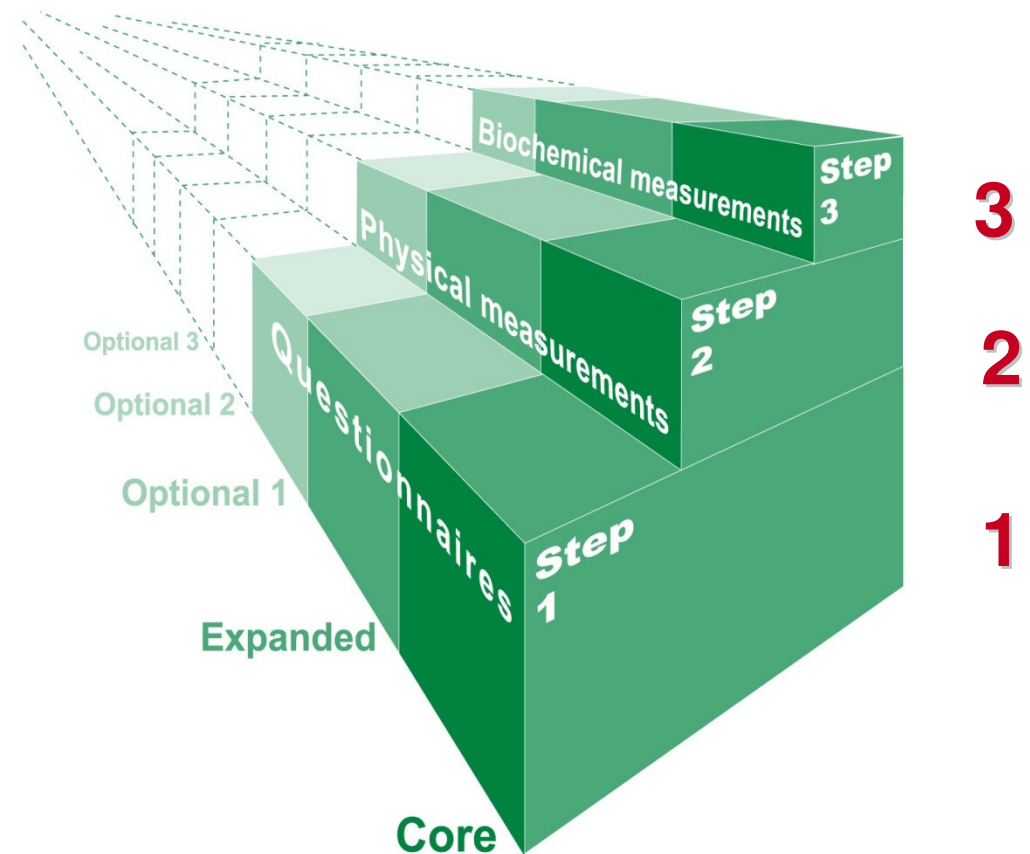
- **Expanded:**

- Hip circumference
- Heart rate



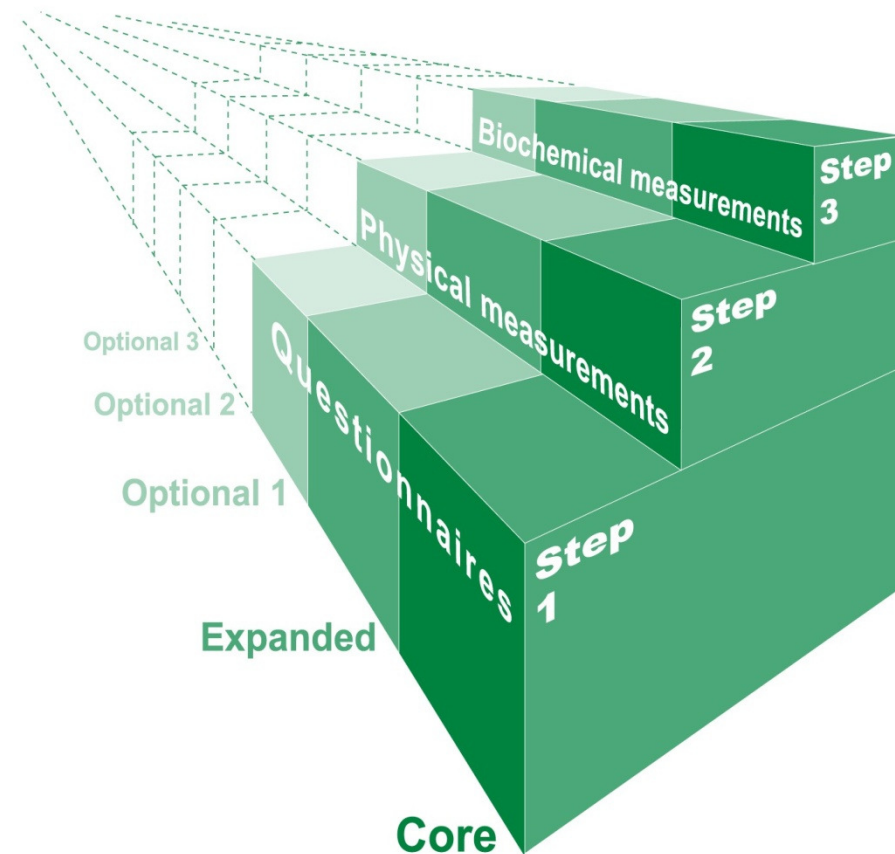
Step 3: Biochemical measurements

- **Core:**
 - Fasting blood sugar
 - Fasting total cholesterol
- **Expanded:**
 - Triglycerides
 - HDL cholesterol



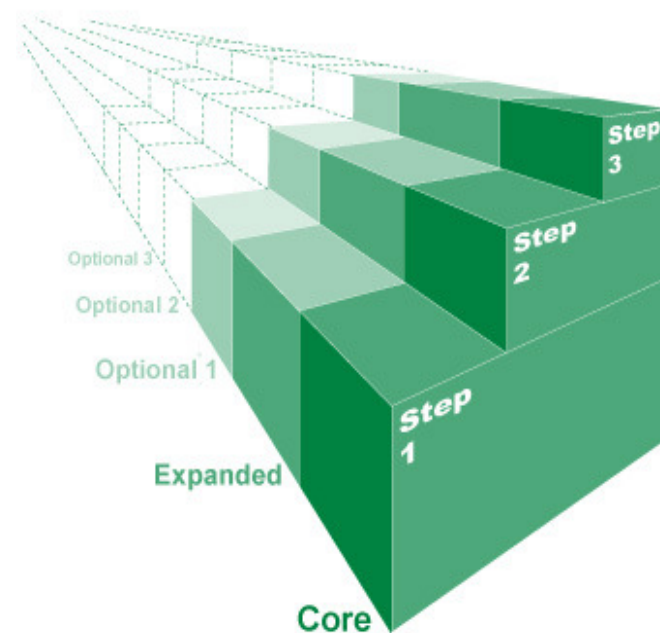
Optional modules

- Violence and injury
- Oral health
- Sexual behaviours



Why a STEPwise framework to surveillance?

- Standard methods and tools, but also
- Flexible for adaptation to cultural and local needs
- Simple
- Hierarchical
- Can add on to existing systems

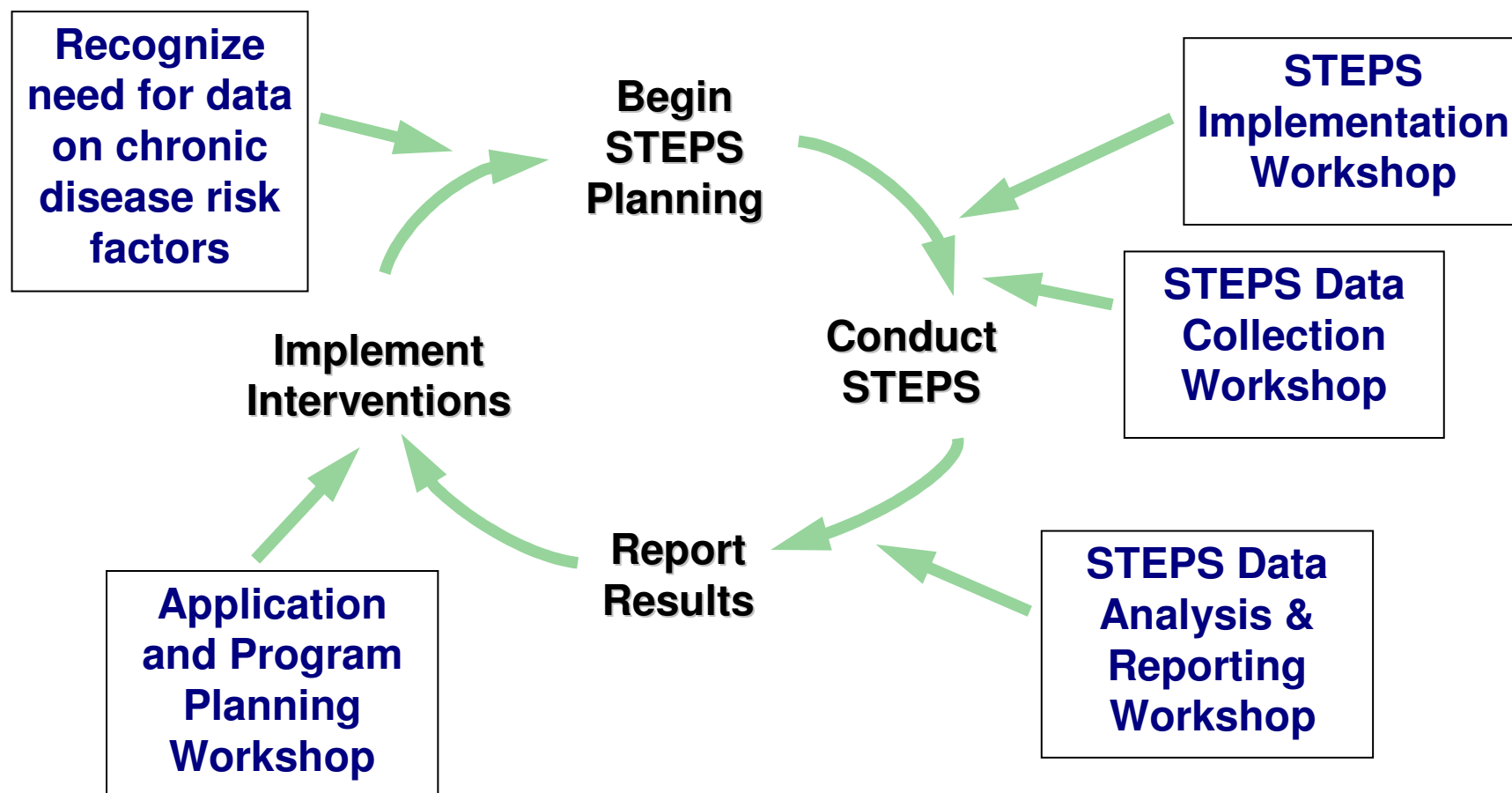


STEPS methods – recommendations

- Targets a scientific sample of adults aged 25 – 64
- Household surveys conducted using trained interviewers for STEP 1 (questionnaire) and STEP 2 (physical measures)
- Clinic based for STEP 3 (biochemical measures)
- Countries should at least do core questions STEP 1 and 2
- Repeat surveys every 3 - 5 years



STEPS methods – the Surveillance loop



STEPS methods – the workshops

- STEPS implementation workshop
Overview, proposal, preparation, roles, sampling, tools
- STEPS data collection workshop
Field work procedures
- STEPS data analysis and reporting workshop
EpiInfo training, data management, result interpretation, report writing
- Application and planning workshop
Intervention planning, policies



Status of STEPS Implementation

Region	# countries active (attended \geq 1 workshop) (123)	# countries finished data collection (83)	# countries with > 1 survey (19)
AFRO	46	33	3
AMRO	23	8	0
EMRO	18	14	5
EURO	1	0	0
SEARO	10	10	6
WPRO	25	22	5



Website and contact

STEPS website:

<http://www.who.int/chp/steps/en/>

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STEPS website

The screenshot shows the WHO STEPS website. At the top left is the WHO logo and the text 'World Health Organization'. To the right is a search bar with a 'Search' button and radio buttons for 'All WHO' and 'This site only'. A left-hand navigation menu includes links for Home, About WHO, Countries, Health topics, Publications, Data and statistics, Programmes and projects, Chronic diseases and health promotion (highlighted), About us, Action, Country information, Topics, Knowledge resources, and Media centre. The main content area is titled 'Chronic diseases and health promotion' and contains a breadcrumb trail: 'WHO > Programmes and projects > Chronic diseases and health promotion > STEPwise approach to surveillance (STEPS)'. Below this is the heading 'STEPwise approach to surveillance (STEPS)' followed by a paragraph: 'The WHO STEPwise approach to Surveillance (STEPS) is a simple, standardized method for collecting, analysing and disseminating data in WHO member countries.' This is followed by another paragraph: '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.' Below this is a third paragraph: 'There are currently two primary STEPS surveillance systems, the STEPwise approach to risk factor surveillance and the STEPwise approach to Stroke surveillance.' To the right of the main text are two columns of links. The first column is titled 'ADULT RISK FACTOR SURVEILLANCE' and lists: Introduction, STEPS Instrument, User Manual, Resources, Country Reports, GPAQ, and Updates. Below this is a 'CONTACT US' section with a link to 'WHO headquarters & country coordinators contact information'. The second column is titled 'STROKE SURVEILLANCE' and lists: Introduction. On the far right, there are three sections: 'RISK FACTOR SURVEILLANCE' with a green STEPS graphic and an 'Introduction' link; 'STROKE SURVEILLANCE' with a red STEPS graphic and an 'Introduction' link; and 'GLOBAL SCHOOL-BASED STUDENT HEALTH SURVEY' with a GSHS graphic and a 'More Information' link.

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STEPwise approach to surveillance (STEPS)

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.

There are currently two primary STEPS surveillance systems, the STEPwise approach to risk factor surveillance and the STEPwise approach to Stroke surveillance.

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- Introduction

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GLOBAL SCHOOL-BASED STUDENT HEALTH SURVEY

GSHS

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Surveillance and Population-based Prevention
Department of Chronic Diseases and Health Promotion



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