WHO STEPS for surveillance of major NCD risk factors

Peter Sousa Hoejskov
Technical Officer – Food Safety & NCD

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The NCD pathway

Metabolic risk factors

Behavioural risk factors
## Risk Factors Common to Major NCD Conditions

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Cardiovascular diseases</th>
<th>Diabetes</th>
<th>Cancer</th>
<th>Respiratory Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco use</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Harmful use of alcohol</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Low fruit &amp; vegetable</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Physical inactivity</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Obesity</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Raised blood pressure</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raised blood glucose</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abnormal blood lipids</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Why measure these risk factors?

- Greatest impact on NCD 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
- Information can be used to set up NCD policy interventions and programmes
What is STEPS?

- System for surveillance of these NCD risk factors
- Designed for implementation in low- and middle income countries
- Most countries in the Pacific have conducted at least one STEPS survey
Objectives of STEPS

- Gather information on NCD 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 relative 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
Different levels of risk factor assessment:

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

Three modules:

- Core
- Expanded
- Optional
Step 1: Questionnaire

- **Core:**
  - Socio-demographic info
  - Tobacco use, quit attempts, past use
  - Alcohol consumption
  - Fruit & vegetable consumption
  - Salt intake
  - Physical inactivity
  - History & treatment of raised BP, diabetes, raised cholesterol, CVD
  - Lifestyle advice
  - Cervical cancer screening
  - Salt intake

- **Expanded:**
  - Cessation, smokeless tobacco use, ETS
  - Alcohol use disorders
  - Oil consumption, meals outside a home
  - Sedentary behaviour
## Fruits and vegetables intake

**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.

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 In a typical week, on how many days do you eat fruit? (USE SHOWCARD)</td>
<td>Number of days</td>
<td>D1</td>
</tr>
<tr>
<td></td>
<td>Don’t Know 77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If Zero days, go to D3</td>
<td></td>
</tr>
<tr>
<td>51 How many servings of fruit do you eat on one of those days? (USE SHOWCARD)</td>
<td>Number of servings</td>
<td>D2</td>
</tr>
<tr>
<td></td>
<td>Don’t Know 77</td>
<td></td>
</tr>
<tr>
<td>52 In a typical week, on how many days do you eat vegetables? (USE SHOWCARD)</td>
<td>Number of days</td>
<td>D3</td>
</tr>
<tr>
<td></td>
<td>Don’t Know 77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If Zero days, go to D5</td>
<td></td>
</tr>
<tr>
<td>53 How many servings of vegetables do you eat on one of those days? (USE SHOWCARD)</td>
<td>Number of servings</td>
<td>D4</td>
</tr>
<tr>
<td></td>
<td>Don’t Know 77</td>
<td></td>
</tr>
</tbody>
</table>

**EXPANDED: Diet**

- What type of oil or fat is most often used for meal preparation in your household? (USE SHOWCARD) (SELECT ONLY ONE)
- On average, how many meals per week do you eat that were not prepared at home? By meal, I mean breakfast, lunch and dinner.

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>54 What type of oil or fat is most often used for meal preparation in your household? (USE SHOWCARD) (SELECT ONLY ONE)</td>
<td>Vegetable oil 1</td>
<td>D5</td>
</tr>
<tr>
<td></td>
<td>Lard or suet 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Butter or ghee 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Margarine 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other 5 If Other, go to D5 other</td>
<td></td>
</tr>
<tr>
<td></td>
<td>None in particular 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>None used 7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Don’t know 77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other 7 other 77</td>
<td></td>
</tr>
<tr>
<td>55 On average, how many meals per week do you eat that were not prepared at home? By meal, I mean breakfast, lunch and dinner.</td>
<td>Number</td>
<td>D8</td>
</tr>
<tr>
<td></td>
<td>Don’t know 77</td>
<td></td>
</tr>
</tbody>
</table>
Step 2: Physical measurements

- **Core:**
  - Blood pressure
  - Height
  - Weight
  - Waist circumference

- **Expanded:**
  - Hip circumference
  - Heart rate
Step 3: Biochemical measurements

- **Core:**
  - Urinary sodium and creatinine
  - Fasting blood sugar
  - Fasting total cholesterol

- **Expanded:**
  - Triglycerides
  - HDL cholesterol
Optional modules

- Mental health / suicide
- Oral health
- Sexual health
- Tobacco policy
- Violence and injury
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 18 – 69
- 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 5 years
Recognize need for data on NCD risk factors

Begin STEPS Planning

Implement Interventions

Conduct STEPS

Report Results

STEPS Implementation Workshop

STEPS Data Collection Workshop

STEPS Data Analysis & Reporting Workshop

World Health Organization
Western Pacific Region
Prevalence of diabetes

Diabetes prevalence of adult population (STEPS - year of survey in brackets)

- American Samoa (2007)
- Cook Is (2004)
- Fiji (2011)
- French Polynesia (2010)
- FSM - Yap (2009)
- FSM - Kosare (2009)
- FSM - Chukk (2006)
- FSM - Pohnpei (2008)
- Kiribati (2004-5)
- Marshall Is (2011)
- Niue (2011)
- Palau (2011)
- PNG (2008)
- Samoa (2013)
- Solomon Is (2006)
- Tokelau (2005)
- Tonga (2011)
- Vanuatu (2011)
- Wallis and Futuna (2009)
Prevalence of obesity

Obesity prevalence of adult population ≥ 30kg/m²

Pacific Island

American Samoa (2007)
Cook Is (2004)
Fiji (2011)
French Polynesia (2010)
FSM - Chuuk (2006)
FSM - Kosaræ (2008)
FSM - Pohnpei (2009)
FSM - Yap (2009)
Kiribati (2004-5)
Marshall Is (2011)
Nauru (2004)
Niue (2011)
Palau (2011)
PNG (2008)
Samoa (2013)
Solomon Is (2006)
Tokelau (2005)
Tonga (2011)
Vanuatu (2011)
Wallis & Futuna (2009)

Female
Male

World Health Organization
Western Pacific Region
Raised blood pressure

(SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP)

- American Samoa (2007)
- Cook Is (2004)
- Fiji (2011)
- French Polynesia (2010)
- FSM - Chuuk (2006)
- FSM - Kosarae (2008)
- FSM - Pohnpei (2009)
- FSM - Yap (2009)
- Kiribati (2004-5)
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- Wallis & Futuna (2009)
Chronic diseases and health promotion

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.

Adult Risk Factor Surveillance

- Introduction
- STEPS Instrument
- User Manual
- Resources
- Country Reports
- GFAAC
- Updates

Stroke Surveillance

- Introduction

RISK FACTOR SURVEILLANCE

STROKE SURVEILLANCE

GLOBAL SCHOOL-BASED STUDENT HEALTH SURVEY

GSHS