Surveillance tools for monitoring NCD targets

Dr. Renu Garg, MD, MPH
Regional Advisor Noncommunicable Diseases
Main source of data

1. **Mortality**: Civil registration and vital statistics (with Medical certification of cause of death)
2. **Risk factors**
   - Population-based adult risk factor surveys (eg: STEPS), GATS
   - Adolescent risk factor surveys (eg: GSHS), GYTS
3. **Health system response**: Service availability and readiness assessments (eg: SARA)
<table>
<thead>
<tr>
<th>Target</th>
<th>Vital Reg with COD</th>
<th>Adult RF survey</th>
<th>Adolescent RF surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>25% reduction in NCD mortality</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10% reduction in harmful use of alcohol</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>30% reduction in tobacco use</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>10% reduction in physical inactivity</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>30% reduction in population salt intake</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25% reduction in raised blood pressure</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Halt rise in diabetes/obesity</td>
<td></td>
<td>X</td>
<td>X (obesity)</td>
</tr>
<tr>
<td>50% coverage with drug therapy for CVD/diabetes</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
## Target and data sources

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Vital Reg with COD</th>
<th>Adult RF survey (STEPS)</th>
<th>Adolescent RF survey (GSHS)</th>
<th>SARA/health facility assessment survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability and affordability of essential NCD medicines and basic technologies in public and private facilities</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Household air pollution
- Reduce use of solid fuels as primary source of cooking

DHS, NFHS
Civil Registration System

- Incomplete
- Medical cause of death of poor quality
- Currently estimates are being made on small sample of reported deaths and are likely to be less reliable
Global cause of death data availability

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

© WHO 2003. All rights reserved
Invest in improving Civil registration system

• Strengthening vital registration would have benefits beyond NCDs – injuries, tuberculosis, MDG 4 & 5.
• Measuring NCD mortality will require a sound population based continuous death recording system with careful attention to cause of death ascertainment
  – Training of staff (pre service and in-service training)
• Adequate experience available in all countries in the region, but a matter of enforcement
• Multisectoral collaboration required
Population-based risk factor surveys

- Adults
  - Multi-risk factors WHO STEPS surveys
  - Single risk factor surveys – GATS

- Adolescents
  - Multi-risk factor survey-Global school health surveys
  - Single risk factor survey-GYTS
<table>
<thead>
<tr>
<th>Country</th>
<th>Latest STEPS Survey (Year)</th>
<th>Representativeness</th>
<th>Tobacco</th>
<th>Alcohol</th>
<th>Physical activity</th>
<th>Over weight</th>
<th>Blood pressure</th>
<th>Diabetes</th>
<th>Salt</th>
<th>Sample size</th>
<th>Previous rounds (Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>2010</td>
<td>National</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>9,275</td>
<td>2002</td>
</tr>
<tr>
<td>Bhutan</td>
<td>2014</td>
<td>National</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>2,484</td>
<td>2004</td>
</tr>
<tr>
<td>India*</td>
<td>2007-08</td>
<td>7 States</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>approx 5000 per state</td>
<td></td>
</tr>
<tr>
<td>Maldives</td>
<td>2011</td>
<td>Male Capital city</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>1,800</td>
<td>2004, 2009</td>
</tr>
<tr>
<td>Myanmar</td>
<td>2014</td>
<td>National</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>7,450</td>
<td>2003</td>
</tr>
<tr>
<td>Timor-Leste</td>
<td>2014</td>
<td>National</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>2760</td>
<td></td>
</tr>
</tbody>
</table>
Different levels of risk factor assessment:

- **STEP 1** – questionnaire (behaviors)
  - **Behavioural Risk Factors**
    - Tobacco use
    - Harmful alcohol consumption
    - Unhealthy diet (low fruit and vegetable consumption)
    - Physical inactivity

- **STEP 2** – physical measurements
  - Overweight and obesity
  - Raised blood pressure

- **STEP 3** – blood samples
  - Raised blood glucose
  - Abnormal blood lipids
Optional modules

- Oral health
- Salt intake
- Health Care utilization
- Injury and Violence
- Mental Health (suicide)
- Sexual Health
- Tobacco policy (Highly recommended)
STEPS Questionnaire update 3.0

- Tobacco module harmonized with TQS to report same indicators
- Tobacco policy optional module added to harmonize with TQS policy indicators
- Alcohol module revised – now captures unrecorded alcohol; alcohol related problems and heavy episodic drinking
- Question on cervical cancer screening added
- Raised cholesterol history added
- CVD history added
STEPS Methodology

- Targets a nationally representative sample of adults aged 18 – 69.
- STEP 1 (questionnaire) and STEP 2 (physical measures) are conducted in the household by trained interviewers.
- STEP 3 (biochemical measures) is typically clinic or health centre-based.
- Pocket PCs are used for data collection: "eSTEPS"
- Repeat survey should be done every 5 years
STEPS implementation

- Development of protocol (4-8 weeks)
- Preparation of survey-translation, procurement (4-8 weeks)
- Data collectors training (1 week)
- Data collection (2-4 months)
- Data analyses and reporting writing (2-3 months)
STEPS-Approximate cost

- Equipment
  - Weight and height scale, tape, BP instrument, cardiocheck analyser
  - For a team of 30 data collectors: USD 9000
  - PDA (on loan)
- Supplies
  - Glucose+cholesterol strips
  - Lancet, capillary tube
  USD 4.5 per strip
  For a sample of 5000=USD 22,500

(Excludes salt)
(excludes cost of data collectors, training etc)
Global School Based Student Health Survey (GSHS)

- System for surveillance of behavioural risk factors in school-aged children
- Establish trends in the prevalence of health behaviors and protective factors by country
- Self-administered questionnaire
- Targets grades with students aged 13 – 17 years
- Completed by students during one classroom period
- Anonymous and confidential
Global School Based Student Health Survey (GSHS)

- 10 Modules are available (each module with 5-7 questions):
  - Alcohol
  - Diet
  - Drugs
  - Hygiene
  - Mental health
  - Physical activity
  - Protective factors
  - Sexual behaviours
  - Tobacco use
  - Violence & injury
Service Availability and Readiness Assessment (SARA)

- A health facility assessment tool designed to assess and monitor service availability and readiness of the health sector and generate evidence to support planning and managing a health system.

- Designed as a systematic survey to generate a set of tracer indicators of service availability and readiness, including:
  - availability of key human and infrastructure resources;
  - availability of basic equipment, basic amenities, essential medicines, and diagnostic capacities; and
  - readiness of health facilities to provide basic health-care interventions relating to family planning, child health services, basic and comprehensive emergency obstetric care, HIV, TB, malaria, and non-communicable diseases.
Key messages

• Civil registration system and Medical cause of death reporting should be strengthened
• Conduct integrated risk factor surveys
  – Population based adult risk factor surveys every 3-5 years either as stand alone surveys or integrated with other population-based surveys
  – School-based student health surveys
• SARA or other health facility based surveys
Questions