WHO Health Statistics :
Applied through the lens of the
Global Monitoring Framework for the
Prevention and Control of Noncommunicable Diseases

Dr E Tursan d'Espaignet
Prevention of Noncommunicable Diseases
World Health Organization

tursandespaignet@who.int
Millenium Development Goals

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Global partnership for development
WHO Health statistics and information systems

- **Information for** public health decision making, health sector reviews, planning and resource allocation and programme monitoring and evaluation.
- **To improve country** regional and global health information
- **Standards, tools and methods** for data collection, compilation, analysis, and dissemination and
- **Country measurement and evaluation**, collaborating with countries on data collection, analysis and approaches to address priority data gaps and strengthen country health information systems
- **WHO Global Health Observatory**, a repository to the wealth of WHO data and statistics, analysis and reports on key health themes.
Non-Communicable Diseases (NCDs): 36 million deaths (63% of global mortality)

- Communicable, maternal, perinatal and nutritional conditions: 28%
- NCDs < 60: 47%
- NCDs > 60: 16%
- Injuries: 9%

2008 estimates
What do we care about?

14 million people die every year from NCDs between 30 and 70
What do we care about?

86% of premature deaths from NCDs occur in developing countries.
Noncommunicable Diseases --
Building a global architecture to support national efforts

UN General Assembly
Commitments from Heads of State and Government

World Health Assembly
Commitments from Ministers of Health

Follow-up
Assignments given to WHO

Global roadmap
to realize the commitments from Heads of State and Government and Ministers of Health: Global Action Plan for the Prevention and Control of NCDs 2013-2020
Vision:
A world free of the avoidable burden of NCDs

Goal:
To reduce the preventable and avoidable burden of morbidity, mortality and disability due to NCDs by means of multisectoral collaboration and cooperation at national, regional and global levels

Global roadmap
to realize the commitments from Heads of State and Government and Ministers of Health:

Objective 1
To raise the priority accorded to the prevention and control of NCDs in global, regional and national agendas and internationally agreed development goals, through strengthened international cooperation and advocacy.

Objective 2
To strengthen national capacity, leadership, governance, multisectoral action and partnerships to accelerate country response for the prevention and control of NCDs.

Objective 3
To reduce modifiable risk factors for NCDs and underlying social determinants through creation of health-promoting environments.

Objective 4
To strengthen and orient health systems to address the prevention and control of non-communicable diseases and the underlying social determinants through people-centred primary health care and universal health coverage.

Objective 5
To promote and support national capacity for high-quality research and development for the prevention and control of NCDs.

Objective 6
To monitor the trends and determinants of NCDs and evaluate progress in their prevention and control.

It comprises a set of actions which, when performed collectively by Member States, international partners and the WHO Secretariat, will attain 9 voluntary global targets for NCDs by 2025.
Millenium Development Goals and NCDs

- **Poverty**: Household income is spent on health care for NCDs, medicines, tobacco and alcohol use.
- **Hunger**: Underweight children and overweight adults are often found in the same households.
- **Maternal health**: Malnutrition increases the risk of gestational diabetes and poor maternal health.
- **Child health**: Malnutrition in pregnancy is associated with a vulnerability to obesity, cardiovascular diseases and NCDs in life.
- **Education**: NCD-related costs displace household resources for education.
- **HIV/AIDS**: Increases the risk of cancers, and ARVs increase the risk of cardiovascular diseases.
- **Tuberculosis**: Tobacco and alcohol use, and diabetes are associated with TB deaths.
- **Essential drugs**: Cost-effective medicines to treat NCDs are available in low-cost generic forms, but remain inaccessible and unaffordable to most who need them.
Global Monitoring Framework
25 indicators

**Mortality & Morbidity**
- Unconditional probability of dying between ages 30 and 70 years from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases
- Cancer incidence by type of cancer

**Risk Factors**
- Harmful use of alcohol (3)
- Low fruit and vegetable intake
- Physical inactivity (2)
- Salt intake
- Saturated fat intake
- Tobacco use (2)
- Raised blood glucose/diabetes
- Raised blood pressure
- Overweight and obesity (2)
- Raised total cholesterol

**National Systems Response**
- Cervical cancer screening
- Drug therapy and counseling
- Essential NCD medicines & technologies
- Hepatitis B vaccine
- Human Papilloma Virus vaccine
- Marketing to children
- Access to palliative care
- Policies to limit saturated fats and virtually eliminate *trans* fats

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WHO Global NCD Action Plan 2013-2020

UNITE IN THE FIGHT AGAINST NCDs

World Health Organization
Global Monitoring Framework

9 targets for 2025

- Harmful use of alcohol: 10% reduction
- Physical inactivity: 10% reduction
- Salt/sodium intake: 30% reduction
- Tobacco use: 30% reduction
- Raised blood pressure: 25% reduction
- Diabetes/obesity: 0% increase
- Essential NCD medicines and technologies: 80% coverage
- Drug therapy and counseling: 50% coverage
- Premature mortality from NCDs: 25% reduction
Quality of cause-of-death statistics reported to WHO by region, 2009

<table>
<thead>
<tr>
<th>WHO region</th>
<th>No death-registration data</th>
<th>Low quality</th>
<th>Medium quality</th>
<th>High quality</th>
<th>Number of WHO Member States</th>
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<td>74</td>
<td>38</td>
<td>47</td>
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<td>193</td>
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</tbody>
</table>

“High quality” refers to data coded using ICD-9 or ICD-10 with coverage ≥90% and <10% deaths coded to ill-defined symptoms and signs. “Medium quality” refers to data with coverage of 70-90% with 10-20% of deaths coded to ill-defined symptoms and signs. “Low quality” refers to data with coverage <70% or with >20% of deaths coded to ill-defined symptoms and signs.

Source: WHO, World Health Statistics 2012
IN EMR, Only about 30% of all deaths are reported to WHO
### Availability of cause-of-death data

| Country/year                  | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
|------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Afghanistan                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Bahrain                      | 85 | 87 | 88 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Djibouti                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Egypt                        | 80 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 |    |    |    |    |
| Iran (Islamic Republic of)   | 80 | 81 | 82 | 83 | 84 | 85 | 87 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Iraq                         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Jordan                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Kuwait                       | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Lebanon                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Libyan Arab Jamahiriya       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Morocco                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Oman                         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Occupied Palestinian Territory|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Pakistan                     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Qatar                        |    | 95 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Saudi Arabia                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Somalia                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Sudan                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Syrian Arab Republic         | 80 | 81 | 84 | 85 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Tunisia                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| United Arab Emirates         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yemen                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
Tools and other aids to improve civil registration and vital statistics data: e.g. Verbal autopsy

Main objective – to describe the causes of death at the community or population level where civil registration and death certification systems are weak

- used to ascertain cause of a death based on an interview with next of kin or other caregivers.
- Ascribes cause(s) of death using a standardized questionnaire with any other available information to elicit information on signs, symptoms, medical history and circumstances preceding death.
- Rules and algorithms or computer programs, available to assist ascribing best cause of death possible to a limited set of ICD categories

Verbal autopsy standards:

The 2012 WHO verbal autopsy instrument
Release Candidate 1
Global Monitoring Framework

9 targets for 2025

- Harmful use of alcohol 10% reduction
- Salt/sodium intake 30% reduction
- Physical inactivity 10% reduction
- Tobacco use 30% reduction
- Essential NCD medicines and technologies 80% coverage
- Drug therapy and counseling 50% coverage
- Diabetes/obesity 0% increase
- Raised blood pressure 25% reduction
- Premature mortality from NCDs 25% reduction
# Examples of evidence based cost-effective interventions identified by WHO

<table>
<thead>
<tr>
<th>Category</th>
<th>Interventions</th>
</tr>
</thead>
</table>
| Tobacco use                                   | Tax increases  
Smoke-free indoor workplaces and public places  
Health information and warnings  
Bans on tobacco advertising, promotion and sponsorship |
| Harmful alcohol use                           | Tax increases  
Restricted access to retailed alcohol  
Bans on alcohol advertising |
| Unhealthy diet and physical inactivity        | Reduced salt intake in food  
Replacement of trans fat with polyunsaturated fat  
Public awareness through mass media on diet and physical activity |
| Cardiovascular disease (CVD) and diabetes     | Counselling and multi-drug therapy for people with a high risk of developing heart attacks and strokes (including those with established CVD)  
Treatment of heart attacks with aspirin |
| Cancer                                        | Hepatitis B immunization to prevent liver cancer (already scaled up)  
Screening and treatment of pre-cancerous lesions to prevent cervical cancer |
Monitoring exposures and determinants

- Mainstay of country NCD surveillance (survey data for action -- in collaboration with national statistical organisations or offices)
  - Behavioural risk factors (e.g. tobacco smoking)
  - Physiological and metabolic risk factors (e.g. hypertension)
  - Social determinants (e.g. poverty)
- Data collection: general interview plus health examination surveys, including biological and clinical data collection
Examples of NCD population based surveys:

- **Topic specific surveys**
  e.g. Global Tobacco Control Survey (GATS) or inclusion of standardised Tobacco Questions for Surveys from the GATS into other multi-purpose surveys covering health, social, economic or other issue

- **Multi-purpose surveys**
  e.g. WHO STEPS survey, Global TB survey, Demographic and Health Surveys or national surveys
WHO STEPS instrument Implementation Overview

Different levels of risk factor assessment:
- STEP 1 – questionnaire
- STEP 2 – physical measurements
- STEP 3 – blood samples

Three modules per STEP:
- Core
- Expanded
- Optional
Overview of WHO STEPS Questionnaire content

• 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

• Optional Modules
Overview of STEPS Questionnaire content

• Optional modules

  • Dietary salt
  • Tobacco policy

  • Injury and Violence
  • Mental Health (suicide)
  • Oral Health
  • Sexual Health
  • Health Care
Assistance with collecting data through surveys

- Sampling often done in collaboration with national statistical offices as best agency to draw valid samples from census frames and usually has up-to-date maps

- Standardised questionnaire with core and optional questions and ability to adapt for national needs

- Data collection support (less and less through paper based systems) but through electronic data collection systems

- Standard analytical methods

- Standard reporting systems
NCD Global Monitoring Framework: Indicator Definitions and Specifications

Draft for review
9/26/2013
A single point of entry to WHO's data and analyses on health priorities,
Provides comparative data on the health situation, trends and determinants to inform global and country decision making.
Users can download data sets in various formats, display selected indicators by country and region, and download the customized tables in Excel format.
Thank you for your attention