The epidemiological transition and non-communicable diseases.
Global life expectancy:

1950: 46

1990: 65

2015: 71.5
Years gained in life expectancy 1990-2012

Figure 1. Years gained in life expectancy 1990–2012, by sex and country income group

- Low-income countries: Male 9.0, Female 9.1
- Lower-middle-income countries: Male 6.1, Female 7.5
- Upper-middle-income countries: Male 6.0, Female 5.7
- High-income countries: Male 4.8, Female 3.7

WHO 2014
World population

Births and deaths (2012)

- 140.000.000 births
- 57.000.000 deaths:
  - 6.300.000 U5 mortality
  - 1.200.000 AIDS
  - 1.200.000 TBC
  - 600.000 malaria
Births and deaths (2012)

- 140,000,000 births
- 57,000,000 deaths:
  - 38,000,000 NCD (68%):
    - 17,500,000 CV Diseases
    - 8,200,000 cancer
    - 4,000,000 COPD
    - 1,500,000 diabetes

2015 WHO
The epidemiological transition

Stage 1: infectious diseases, malnutrition, child and maternal mortality

Stage 2: cardiovascular diseases > infections

Stage 3: civilization (lifestyle) diseases, cancers and injuries

Stage 4: degenerative diseases
Shift to chronic NCD

The shift towards noncommunicable diseases and accidents as causes of death*  

*Selected causes.

WHO Report 2008

actually nearly 80% of mortality from NCD in LMIC
Causes of death (by WB income groups)

Deaths by broad groups of cause across different income levels, 2011

Lancet 2013; 382:1898–955
The 10 leading causes of death in the world 2012

- Ischaemic heart disease: 7.4 million
- Stroke: 6.7 million
- COPD: 3.1 million
- Lower respiratory infections: 3.1 million
- Trachea bronchus, lung: 1.6 million
- HIV/AIDS: 1.5 million
- Diarrhoeal diseases: 1.5 million
- Diabetes mellitus: 1.5 million
- Road injury: 1.3 million
- Hypertensive diseases: 1.1 million

WHO 2015
Major global risk factors

- Hypertension 12.8%
- Tobacco 8.7%
- Diabetes 5.8%
- Physical inactivity 5.5%
- Overweight/obesity 4.8%
- Cholesterol 4.5%
- Unsafe sex 4.0%
- Alcohol 3.8%
- Malnutrition 3.8%
- Use of solid fuels 3.3%

WHO 2010
Prevalence of hypertension ≥25 years
(age-standardized)

% raised blood pressure (SBP 140+ and/or DBP 90+ or on meds),
ages 25+, age std

WHO 2010
Overweight and obesity prevalence over time

Developed c.
Developing c.
SSA

1980 1990 2000 2010
Overweight and obesity patterns (BMI≥25) in South Africa

Prevalence of overweight and obesity in 2013, by age

Prevalence of overweight and obesity, adults (20+)

Bar chart showing the prevalence of overweight and obesity by sex and age group.
Map 2.1 Prevalence* (%) of diabetes in adults (20-79 years), 2013

*comparative prevalence
Diabetes is a huge and growing problem... 

382 million people have diabetes 

By 2035, this number will rise to 592 million
Why this pandemic of NCD?

✓ decrease in child and maternal mortality
✓ decrease in aids incidence and mortality
✓ demographic transition

higher life expectancy
Population pyramid in 1965 & 2015

WORLD 1965
Population: 3,329,122,000

WORLD 2015
Population: 7,324,782,000

Link to this graph: http://populationpyramid.net/world/1965/

Link to this graph: http://populationpyramid.net/world/2015/
Why this pandemic of NCD?

Urbanisation:

- life style changes (food, alcohol, tobacco)
- advertising (lack of legislation)
- pollution, unhealthy houses
- stress
- lack of physical activity
NCD: a lack of preparedness to the problem

- lack of education/training of health professionals
- lack of awareness
- lack of availability of /access to low cost quality medicines and diagnostic tools
- population unused to long term treatments
- low resources