Burden of diseases in Vietnam: current situation and future trends

Dialogue event: Hanoi, March 24th, 2015

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Hanoi School of Public Health
Outline

1. Vietnam at a glance

2. Health challenges in a changing context

3. Burden of diseases of Vietnam

4. Opportunities/ conclusions
• Studies the **health and well-being** impacts of development factors using integrative approaches of **Ecohealth/One Health**.

• Focus on the link between **health and agriculture. infectious and zoonotic diseases. chemical pollution. food safety and nutrition.** from lab to the field.

**Main research themes**

- Ecosystem Health / One Health
- Food Safety
- Health Impact Assessment
Vietnam at a glance

- Population: 90 mil (2014 estimate)
- Area: 331.210 km²
- Density: 272/km²
- GDP (nominal)
  - Total $188.000 billion (54th)
  - Per capita $2,000 (133rd)
- Economic growth: 6%
- Agricultural export: rice, coffee...
- 70% population agriculture based
Health challenges in a changing world

- Global health: emerging and reemerging infectious diseases: SARS, H5N1, AMR...
Vietnam Health challenges in a changing world

- Environmental pollution: air, water, soil
Vietnam Health challenges in a changing world

- Food safety
- Urbanization - mobility
- Life style
- Poverty...
Health system issues
Summary measures of population health

Measures that combine information on mortality and non-fatal health outcomes

Disability-Adjusted Life Year (DALY) =

Years of life lost due to premature mortality based on life expectancy:
   Years of Life Lost (YLL)

+ Years of 'healthy' life lost in new cases of disabling conditions:
   Years Lived with Disability (YLD)

DALY = YLL + YLD

Priority setting and resources allocation in settings with constraint resources
Global burden of diseases of Vietnam


Summary
Background Up-to-date evidence on levels and trends for age-sex-specific all-cause and cause-specific mortality is essential for the formation of global, regional, and national health policies. In the Global Burden of Disease Study 2013 (GBD 2013) we estimated yearly deaths for 188 countries between 1990, and 2013. We used the results to assess whether there is epidemiological convergence across countries.

IHME: Institute for Health Metric and Evaluation
Mortality data

Based on second mortality survey using Verbal Autopsy in Vietnam

- Carried out in 16 provinces
- WHO Verbal autopsy questionnaire in 9,293
- Physicians determining cause of death based on interview information
- Coding in ICD10

already discussion in this morning
## Data sources non-fatal diseases

<table>
<thead>
<tr>
<th>Data source</th>
<th>Diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital data</td>
<td>IHD, stroke</td>
</tr>
<tr>
<td>Disease notifications</td>
<td>TB, HIV/AIDS</td>
</tr>
<tr>
<td>Vietnam Multi center Injury surveys</td>
<td>Injuries</td>
</tr>
<tr>
<td>Cancer register</td>
<td>Cancers</td>
</tr>
<tr>
<td>National Health Survey</td>
<td>Diarrhoea, respiratory infections, hearing loss vision loss</td>
</tr>
<tr>
<td>Mental Health Survey</td>
<td>Mental disorders, dementia, epilepsy</td>
</tr>
<tr>
<td>Multi country survey</td>
<td>Osteoarthritis</td>
</tr>
<tr>
<td>National survey on COPD</td>
<td>COPD</td>
</tr>
<tr>
<td>National survey on Diabetes</td>
<td>Diabetes</td>
</tr>
</tbody>
</table>
Results

- The number of deaths in Viet Nam in 2008 was estimated at 541,228; 54% in males and 46% in females.
- Life expectancy at birth in 2008 was 69.7 years in men and 77.7 years in women.
- Death rate was 6.4 per 1,000.
Death

Vietnam, deaths
Both sexes, All ages, 2010

Non-communicable diseases 72%
Comm/mater/neonatal/nutrition 16%
Injuries 12%

Annual % change 2005 to 2010
Deaths/100,000

-3%
-2%
-1%
0%
1%
2%
3%
# Top ten causes of death by sex

<table>
<thead>
<tr>
<th>Rank</th>
<th>Disease category</th>
<th>Male</th>
<th>%</th>
<th>Disease category</th>
<th>Female</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stroke</td>
<td>53,217</td>
<td>18%</td>
<td>Stroke</td>
<td>56,771</td>
<td>23%</td>
</tr>
<tr>
<td>2</td>
<td>Liver cancer</td>
<td>19,915</td>
<td>7%</td>
<td>COPD</td>
<td>14,941</td>
<td>6%</td>
</tr>
<tr>
<td>3</td>
<td>Road traffic accidents</td>
<td>17,330</td>
<td>6%</td>
<td>Pneumonia</td>
<td>11,175</td>
<td>4%</td>
</tr>
<tr>
<td>4</td>
<td>Lung cancer</td>
<td>15,720</td>
<td>5%</td>
<td>Ischaemic heart disease</td>
<td>11,015</td>
<td>4%</td>
</tr>
<tr>
<td>5</td>
<td>COPD</td>
<td>14,355</td>
<td>5%</td>
<td>Diabetes</td>
<td>9,858</td>
<td>4%</td>
</tr>
<tr>
<td>6</td>
<td>Ischaemic heart disease</td>
<td>13,504</td>
<td>5%</td>
<td>Liver cancer</td>
<td>8,587</td>
<td>3%</td>
</tr>
<tr>
<td>7</td>
<td>Tuberculosis</td>
<td>11,450</td>
<td>4%</td>
<td>Lung cancers</td>
<td>7,869</td>
<td>3%</td>
</tr>
<tr>
<td>8</td>
<td>Pneumonia</td>
<td>9,470</td>
<td>3%</td>
<td>Tuberculosis</td>
<td>6,798</td>
<td>3%</td>
</tr>
<tr>
<td>9</td>
<td>HIV/AIDS</td>
<td>9,417</td>
<td>3%</td>
<td>Road traffic accidents</td>
<td>5,750</td>
<td>2%</td>
</tr>
<tr>
<td>10</td>
<td>Stomach cancer</td>
<td>8,469</td>
<td>3%</td>
<td>Stomach cancer</td>
<td>5,470</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>290,624</strong></td>
<td></td>
<td><strong>Total</strong></td>
<td><strong>250,605</strong></td>
<td></td>
</tr>
</tbody>
</table>
In 2008 the total burden of disease in Viet Nam amounted to 12.3 million DALYs

- Non-communicable diseases: 71%
- Injuries: 16%
- Infections, neonatal and maternal problems: 13%
NCDs – CDs – Injuries

Updated mortality and cause of death data through 2013 have been published and can be viewed in the Mortality, COD, and Life for the IHME newsletter to find out when we launch the new GBD Compare with the latest metrics.

Vietnam, DALYs
Both sexes, All ages, 2010

Non-communicable diseases

NCDs 66%

Injuries

CD, maternal, perinatal and nutritional conditions 20%
Updated mortality and cause of death data through 2013 have been published and can be viewed in the Mortality, COD, and Life for the IHME newsletter to find out when we launch the new GBD Compare with the latest metrics.
Top 10 causes of YLL by sex

<table>
<thead>
<tr>
<th>Rank</th>
<th>Disease category</th>
<th>Male</th>
<th>%</th>
<th>Disease category</th>
<th>Female</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stroke</td>
<td>579,115</td>
<td>14%</td>
<td>Stroke</td>
<td>453,357</td>
<td>17%</td>
</tr>
<tr>
<td>2</td>
<td>Road traffic accidents</td>
<td>381,728</td>
<td>9%</td>
<td>Road traffic accidents</td>
<td>121,629</td>
<td>4%</td>
</tr>
<tr>
<td>3</td>
<td>Liver cancer</td>
<td>300,877</td>
<td>7%</td>
<td>Pneumonia</td>
<td>118,805</td>
<td>4%</td>
</tr>
<tr>
<td>4</td>
<td>HIV/AIDS</td>
<td>238,430</td>
<td>6%</td>
<td>Liver cancer</td>
<td>117,215</td>
<td>4%</td>
</tr>
<tr>
<td>5</td>
<td>Lung cancer</td>
<td>201,595</td>
<td>5%</td>
<td>Ischaemic heart disease</td>
<td>110,197</td>
<td>4%</td>
</tr>
<tr>
<td>6</td>
<td>Pneumonia</td>
<td>157,546</td>
<td>4%</td>
<td>Diabetes mellitus</td>
<td>104,814</td>
<td>4%</td>
</tr>
<tr>
<td>7</td>
<td>Ischaemic heart disease</td>
<td>150,223</td>
<td>4%</td>
<td>Lung cancer</td>
<td>97,558</td>
<td>4%</td>
</tr>
<tr>
<td>8</td>
<td>Tuberculosis</td>
<td>140,286</td>
<td>3%</td>
<td>COPD</td>
<td>96,738</td>
<td>4%</td>
</tr>
<tr>
<td>9</td>
<td>COPD</td>
<td>118,716</td>
<td>3%</td>
<td>Tuberculosis</td>
<td>83,496</td>
<td>3%</td>
</tr>
<tr>
<td>10</td>
<td>Drownings</td>
<td>118,503</td>
<td>3%</td>
<td>Stomach cancer</td>
<td>71,878</td>
<td>3%</td>
</tr>
</tbody>
</table>
YLL by major disease categories in men, Vietnam

- Cardiovascular diseases: 24%
- Cancer: 21%
- Unintentional injuries: 17%
- Infectious diseases: 11%
- Digestive diseases: 6%
- Respiratory infections: 4%
- Respiratory diseases: 4%
- Intentional injuries: 2%
- Congenital anomalies: 2%
- Neuropsychiatric conditions: 2%
- Other: 6%
- Other: 4%
YLL by major disease categories in women, Vietnam

- Cardiovascular diseases: 31%
- Cancer: 22%
- Unintentional injuries: 7%
- Infectious diseases: 5%
- Respiratory diseases: 4%
- Respiratory infections: 4%
- Diabetes mellitus: 3%
- Digestive diseases: 3%
- Neuropsychiatric conditions: 2%
- Perinatal conditions: 10%
- Other: 9%
Risk factors

Vietnam, deaths
Both sexes, All ages, 2010

Dietary risks
High blood pressure
Smoking
Household air pollution
Ambient PM pollution
High fasting plasma glucose
Alcohol use
Physical inactivity
Occupational risks
Lead
High total cholesterol
High body-mass index
Low bone mineral density
Drug use
Childhood underweight
Suboptimal breastfeeding
Intimate partner violence
Radon
Sanitation
Iron deficiency
Zinc deficiency
Unimproved water
Ozone
Vitamin A deficiency
Childhood sexual abuse
Deaths per 100,000
Burden of disease attributable to 15 leading risk factors in 2010, expressed as a percentage of Vietnam DALYs
Opportunities – considerations

- Data quality
- Use BoD for decision making, health care resource allocation
- Equity aspect: rural vs. urban, NCDs vs. CD, rich vs. poor
Conclusion

• Health issue in Vietnam: many challenges

• Disease pattern in Vietnam: epidemiological transition context

• Major impact on poor and populations at risk

• Equity principles respected

• But evidence-based decisions and innovative measures to health are needed
Thank you!

Prof. Nguyen Thanh Huong, Ms. Nguyen Trang Nhung (HSPH)

Novartis foundation