Combatting noncommunicable diseases—global burden and best practices

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WHO Thailand
Outline

• Global burden
• Strategies for NCD prevention and control
• Global best practices—examples
• Priority goals for Thailand
NCDs—biggest killers

**Daily toll=100,000 people**

- **Non-communicable diseases**
  - 68% (n=38 million)
- **Communicable disease, maternal & perinatal conditions, nutritional deficiencies**
  - 23% (n=12.8 million)
- **Injuries**
  - 9% (5.1 million)

Lives lost to noncommunicable diseases > Lives lost to communicable disease + Maternal & perinatal conditions + Nutritional deficiencies + Injuries ... **Combined**

Number in parentheses indicates number of deaths in millions
WHO Global Health Estimates (GHE) 2014
Cancers
Heart disease
Stroke
Acute respiratory infections
Road traffic accidents
Perinatal
HIV/AIDS
TB
Malaria

Projected increase from 38 million deaths in 2012 to 52 million in 2030
NCDs kill people before their time

52% of all NCD deaths are premature among those aged less than 70 years who are still productive, often family bread winners.
Four major NCDs are the most common causes of premature mortality

- Cardiovascular diseases: 38%
- Cancer: 27%
- Diabetes mellitus: 4%
- Respiratory diseases: 8%
- Other NCDs: 23%

80% of premature deaths from cardiovascular disease and diabetes and 40% from cancer can be prevented.
Four shared behavioral risk factors:

<table>
<thead>
<tr>
<th></th>
<th>Tobacco use</th>
<th>Unhealthy diets</th>
<th>Physical inactivity</th>
<th>Harmful use of alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart disease and stroke</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Diabetes</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cancer</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Chronic lung disease</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

And four physiological risk factors:
- High blood pressure
- High cholesterol
- High blood sugar
- Overweight/obesity
Hypertension, tobacco and alcohol are the top three risk factors globally
NCD Vectors: Globalization, trade, aggressive marketing and industry tactics
Outline

• Global burden

• Strategies for NCD prevention and control
  – Population-wide (health promotion)
  – Individualised treatment (high risk strategy)

• Global best practices—examples

• Priority goals for Thailand
Distribution of people according to risk factor level

- People with low risk factor level: 5%
- People with average risk factor level: 70%
- People with clinically high risk factor level: 25%
Distribution of population by blood pressure level

Relative risk of heart disease

Systolic blood pressure (mmHg)

Risk of heart attack

People with high pressure
Population-wide strategy to reduce hypertension: Salt reduction

Has the potential to all population that eats food
Individualised strategy to control blood pressure: treatment and counselling

Relative risk of disease

Blood pressure (mmHg)

Risk of heart attack cut

Early detection and treatment of hypertensive patients
Population-wide strategy
- Targets entire population
- Less expensive
- Interventions outside MOH

Examples:
- Tobacco control
- Diet and physical activity
- Alcohol control

Individualised strategy
- Targets high-risk individuals
- More expensive
- Interventions largely in MOH

Examples:
- Hypertension control
- Some cancers
Reduction in deaths from heart disease attributed to individualised and population-wide interventions—Both are important

<table>
<thead>
<tr>
<th>Location</th>
<th>Individualised</th>
<th>Population-wide</th>
<th>Unexplained</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States, 1968-76 [14]</td>
<td>40%</td>
<td>54%</td>
<td>6%</td>
</tr>
<tr>
<td>New Zealand, 1974-81 [15]*</td>
<td>40%</td>
<td>60%</td>
<td></td>
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<tr>
<td>Holland, 1978-85 [17]</td>
<td>46%</td>
<td>44%</td>
<td>10%</td>
</tr>
<tr>
<td>United States, 1980-90 [13]</td>
<td>43%</td>
<td>50%</td>
<td>7%</td>
</tr>
<tr>
<td>IMPACT Scotland, 1975-94 [18]</td>
<td>35%</td>
<td>55%</td>
<td>10%</td>
</tr>
<tr>
<td>IMPACT New Zealand, 1982-93 [19]</td>
<td>35%</td>
<td>60%</td>
<td>5%</td>
</tr>
<tr>
<td>IMPACT United States, 1980-2000 (this study)</td>
<td>47%</td>
<td>44%</td>
<td>9%</td>
</tr>
<tr>
<td>Finland, 1972-92 [16]†</td>
<td>24%</td>
<td>76%</td>
<td></td>
</tr>
<tr>
<td>IMPACT Finland, 1982-97 [22]</td>
<td>23%</td>
<td>53%</td>
<td>24%</td>
</tr>
</tbody>
</table>

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Smoking prevalence halved in Australia, 1991-2013

Tobacco control policies
- Raise taxes on tobacco
- Protect people from tobacco smoke
- Warn about the dangers of tobacco
- Enforce bans on tobacco advertising

Smoking prevalence, declined from 24.3% in 1991 to 12.8% in 2013

Successful salt reduction in UK

Impact

- Salt intake reduced from 9.5 gm to 8.1 gm over 10 years
- Lives saved, billions of £ saved

Strategies

1. Research
2. Voluntary reformulation by food industry
3. Consumer awareness
4. Food labelling
5. Independent monitoring

Salt content in bread, UK
Saturated fat reduction, Finland

Strategies

• Multisectoral collaboration with agriculture sector
• Community engagement

1. Use of butter on bread, use of butter for cooking, use of vegetable oil for cooking.

2. Decrease in Serum cholesterol

- Male
- Female
Sugary drink taxes cut consumption

Mexico

10% tax = 6% reduction in consumption

Many other countries introduced taxes: France, South Africa, Hungary, USA, UK
Improved control of hypertension and reduced deaths from heart disease, USA, 1999-2013

Strategies
- Standard treatment protocol
- Patient counseling
- Follow up/ Monitoring

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9 NCD Targets—Thailand
Overall goal: Reduce premature mortality by 25% by 2025
NCD targets cannot be achieved without partnerships among multiple stakeholders
Top two interventions to achieve 25by25 goal

• Reduce tobacco use
• Reduce hypertension prevalence
Thailand can achieve the goal of reducing premature NCD mortality by 25% by 2025 (25by25)

Focus areas

• Tobacco
  – Strengthen tobacco control in provincial/rural areas
  – Tobacco taxes, particularly “roll your own”
  – Enforce 100% smoke-free policies

• Blood pressure control and glycemic control
  – Increase percent of hypertensives with controlled blood pressure from 30% to 70%

• Childhood obesity
  – Taxes on sugary drinks can reduce consumption and increase revenues for health promotion
  – Public awareness
Global Accountability Framework

2015 WHA68 (2016)
2020 WHA73 (2021)
2025 WHA78 (2026)

9 targets

2015 WHA68 (2016)
2020 WHA73 (2021)
2025 WHA78 (2026)

17 SDGs

World Health Organization

General Assembly of the United Nations
Key messages

• NCDs are the leading cause of death and disability globally

• A combination of “population-wide (health promotion)” and “individualised treatment” strategies needed

• Reducing tobacco use and controlling hypertension will contribute maximally to achieving the 25by25 goal

• Collaborative actions by all government sectors, civil society, and academia is absolutely critical
Glass Half Full or Half Empty?

Irrational optimism is a prerequisite for success
The woods are lovely, dark and deep,
But I have promises to keep,
And miles to go before I sleep.........,

Robert Frost