Elimination of Asbestos-Related Diseases
WHO activities

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Conclusion concerning Asbestos:

“Epidemiological evidence has increasingly shown an association of all forms of asbestos (chrysotile, crocidolite, amosite, tremolite, actinolite and anthophylite) with an increased risk of lung cancer and mesothelioma. Although the potency differences with respect to lung cancer or mesothelioma for fibres of various types and dimensions are debated, the fundamental conclusion is that all forms of asbestos are carcinogenic to humans (Group 1).

Sufficient evidence is now available to show that asbestos also causes cancer of the larynx and of the ovary.”

Asbestos is the most important occupational carcinogen

### Global burden of disease from occupational cancer, 2000

<table>
<thead>
<tr>
<th>Cancer type</th>
<th>Attributable deaths</th>
<th>Attributable DALYs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung cancer</td>
<td>191,000</td>
<td>1,315,000</td>
</tr>
<tr>
<td>Leukaemia</td>
<td>7,000</td>
<td>101,000</td>
</tr>
<tr>
<td>Mesothelioma</td>
<td>43,000</td>
<td>564,000</td>
</tr>
<tr>
<td>Total</td>
<td>241,000</td>
<td>1,980,000</td>
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### Global burden of asbestos-related cancer, 2000

<table>
<thead>
<tr>
<th>Cancer type</th>
<th>Attributable deaths</th>
<th>Attributable DALYs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung cancer</td>
<td>39,000</td>
<td>360,000</td>
</tr>
<tr>
<td>Mesothelioma</td>
<td>43,000</td>
<td>564,000</td>
</tr>
<tr>
<td>Total</td>
<td>82,000</td>
<td>925,000</td>
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</table>
Every year at least 107,000 people die from asbestos-related diseases

- Annual deaths attributable to asbestos
  - at least 107,000 from lung cancer, mesothelioma and asbestosis due to occupational exposure (2010 estimates)
  - Additionally at least several thousands deaths can be attributed to other asbestos-related cancers and to non-occupational exposure

- Asbestos is the single most important occupational carcinogen causing one third of all estimated deaths from occupational cancer
Economic costs of asbestos-related cancer exceed the economic value of international trade in asbestos

- Direct economic costs of asbestos-related cancer (medical, non-medical, loss of productivity) – $2.4 billion in 2008
  - Lung cancer (48,000 cases) = US$ 1.2 billion (1)
  - Mesothelioma (59,000 cases) (2) = at least same US$

- Economic value of international trade in asbestos in 2008 – US$ 802 million (3)

(1) own calculations based on EIU/LiveLong study and WHO estimates, 2009; (2) WHO estimates, 2010; (3) UN Comtrade, 2008
There are safer substitutes to chrysotile

- Fibre substitutes\(^1\), e.g.:
  - short fibre attapulgite
  - carbon fibres
  - non-respirable cellulose fibres
  - non-biopersistent synthetic vitreous fibres
  - natural wollastonite
  - xonotlite

- Non fiber substitutes
  - Carbonates
  - Perlite
  - PVC
  - Conventional building materials

\(^1\) WHO Workshop on Mechanisms of Fibre Carcinogenesis and Assessment of Chrysotile Asbestos Substitutes, 8-12 November 2005, Lyon
Summary of the conclusions from WHO assessments

1. All forms of asbestos, including chrysotile, are human carcinogens

2. No safe threshold level of exposure has been identified for carcinogenic effects of chrysotile

3. Safer substitutes exist for all uses of chrysotile

4. Exposure of workers and other users of asbestos containing products is extremely difficult to control

5. Asbestos abatement is very costly and hard be carried out in a completely safe way
10. WHO will work with Member States to strengthen the capacities of the ministries of health to provide leadership for activities related to workers’ health, to formulate and implement policies and action plans, and to stimulate intersectoral collaboration. Its activities will include global campaigns for elimination of asbestos-related diseases – bearing in mind a differentiated approach to regulating its various forms – in line with relevant international legal instruments and the latest evidence for effective interventions, as well as immunization of health-care workers against hepatitis B, and other actions addressing priority work-related health outcomes.
WHO recommendations for elimination of asbestos-related diseases

• Elimination of the exposure
  – Recognize that stopping the use of asbestos is the most effective preventive measure
  – Provide information about safer substitutes
  – Develop economic and technological mechanisms to stimulate substitution

• Asbestos abatement
  – Avoid exposure during asbestos removal
  – Develop regulatory and workplace control measures for asbestos abatement

• Medical surveillance
  – Improve early diagnosis, treatment, rehabilitation and compensation of asbestos-related diseases
  – establish registries of people with current and past exposures
Cancer Control
Knowledge into Action
WHO Guide for Effective Programmes

Prevention

http://www.who.int/cancer/modules/Prevention%20Module.pdf
## Stepwise approach to prevention of cancer

<table>
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<tr>
<th>CORE</th>
<th>EXPANDED</th>
<th>DESIRABLE</th>
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<tbody>
<tr>
<td>• <strong>Stop using all forms of asbestos</strong>&lt;br&gt;• Develop regulatory standards and enforce control of the use of known carcinogens in the workplace&lt;br&gt;• Avoid introducing known carcinogens into the workplace&lt;br&gt;• Include occupational cancer in the national list of occupational diseases&lt;br&gt;• Identify workers, workplaces, and worksites with exposure to carcinogens</td>
<td>• Assess occupational cancer risks&lt;br&gt;• Introduce integrated management of carcinogenic chemicals&lt;br&gt;• Train workers and managers in controlling occupational carcinogens&lt;br&gt;• Substitute carcinogens with less hazardous substances</td>
<td>• Develop programmes for cancer prevention and control in the workplace&lt;br&gt;• Organize registries of occupational exposures to carcinogens and exposed workers&lt;br&gt;• Conduct assessments for carcinogenic risk of industrial and agricultural chemicals&lt;br&gt;• Estimate the national occupational burden of disease from carcinogens</td>
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Non-communicable diseases

• "Notable examples of environmental causes of cancer are asbestos, benzene, indoor and outdoor air pollution and contaminants such as arsenic."

• "Protection against environmental or occupational risk factors for cancer includes very effective prevention strategies, as low-cost interventions are often available...Examples include:... bans on the use of asbestos to reduce mesothelioma and lung cancer..."

WHO portal on asbestos-related diseases
Parma Declaration on Environment and Health

1. We the Ministers and Representatives of Member States in the European Region of the World Health Organization (WHO) responsible for health and the environment,

iii. We will act on the identified risks of exposure to carcinogens, mutagens and reproductive toxicants, including radon, ultraviolet radiation, asbestos and endocrine disruptors, and urge other stakeholders to do the same. In particular, unless we have already done so, we will develop by 2015 national programmes for elimination of asbestos-related diseases in collaboration with WHO and ILO.
National programmes for elimination of asbestos-related diseases in Europe

- Regional survey was carried out (23 countries responded)
- 15 countries developing national programmes and national asbestos profiles
- Indicators for asbestos-related diseases in the ENHIS platform
- Awareness-raising campaign, networking and partnership development
- WHO collaborating centres
  - Tools for diagnosis and surveillance of asbestos-related disease
  - Tools for primary prevention
  - Collaborative process