

**Press release  
Bonn and Copenhagen,  
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**New evidence from WHO:  
inadequate housing causes more than 100 000 annual deaths in Europe**

Inadequate housing accounts for over 100 000 deaths per year in the WHO European Region and causes or contributes to many preventable diseases and injuries, including respiratory, nervous system and cardiovascular diseases and cancer. This is the main conclusion of a report, *Environmental burden of disease associated with inadequate housing*, released today by WHO/Europe.

“Home should be a safe place. Yet for many it is not, especially for vulnerable people who spend most of their time at home such as young children, older people and people with disabilities,” said Zsuzsanna Jakab, WHO Regional Director for Europe, “Inadequate housing conditions represent a serious environmental health threat that is preventable. We hope that this new evidence will prompt governments and local authorities to review housing policies to protect the health of Europeans and reduce social inequities in long-term exposure to environmental risk.”

For the first time, this quantitative report addresses in one document many of the risk factors associated with housing – such as noise, damp, indoor air quality, cold and home safety – each chapter presenting statistical analysis based on sound data and scientific evidence. The lack of home safety measures such as smoke detectors is associated with 0.9 deaths per 100 000 population annually, equivalent to more than 7000 entirely preventable deaths each year across the Region. People die of cold at home: low indoor temperatures cause 12.8 deaths per 100 000 population per year; and exposure to radon causes 2–3 deaths per 100 000 population for selected countries. Exposure to second-hand smoke causes 7.3 deaths; and the

use of solid fuels as a household energy source without proper ventilation is associated with 16.7 deaths per 100 000 children and 1.1 deaths per 100 000 adults annually.

Poor housing is also strongly linked with diseases and ill health. In the whole WHO European Region, using solid fuels as a household energy source results in the loss of 577 annual disability-adjusted life-years (DALYs) per 100 000 children younger than five years, and housing-related exposure to lead causes an annual loss of 79 DALYs per 100 000 population. Data for 45 countries indicates that mould in homes results in the loss of 40 DALYs per 100 000 children each year. Further, exposure to noise from road traffic in Germany alone causes a loss of 31 DALYs per 100 000 population annually. Lack of smoke detectors causes an annual loss of 22 DALYs per 100 000 population in the whole European Region.

In most societies in the European Region, people spend about 90% of their time in built and artificial environments. Ensuring that the housing stock is as safe and healthy as possible will therefore provide great benefits to public health and society generally and contribute to primary prevention efforts to reduce noncommunicable diseases. However, the reality is that much of the housing stock in the European Union (EU) still had many health hazards in 2009, such as excessive noise exposure (22%), dampness (16%), overcrowding (18%), problems keeping the dwelling warm in winter (9%) and a lack of hygiene equipment such as an indoor flush toilet (3%) or a bath or shower (3%).<sup>i</sup> Comparable statistical data for the countries in the European Region outside the EU are not easily available, but evidence indicates that the housing situation is worse, especially among people with low income.

The new publication presents the results of an international study that was coordinated by WHO/Europe's European Centre for Environment and Health, in Bonn, Germany and implemented in collaboration with WHO headquarters and experts and institutions in Europe and elsewhere. The report reviews the evidence on exposure to housing-related hazards and associated health effects and provides guidance on how to quantify the health effects of inadequate housing for selected housing risk factors. The report estimates the environmental burden of disease caused by inadequate housing for 11 housing hazards. Better surveillance and data collection are needed in south-eastern Europe and central Asia, where a lack of exposure data inhibits good estimates.

The findings of the report will inform policy-makers at the local, national and global levels and those responsible for setting health-based housing standards and requirements. In addition,

the report is relevant for those involved in housing, health and allied fields, including those who design, build, renovate, maintain, finance and otherwise deal with and improve both new and existing housing. For researchers and other academics, this report encourages the collection of relevant data on these and other potential housing-related health risks, providing greater understanding of the health burden that can be attributed to inadequate housing.

The full report providing the evidence compiled for the individual assessments is available on the WHO/Europe web site

(<http://www.euro.who.int/en/what-we-publish/abstracts/environmental-burden-of-disease-associated-with-inadequate-housing.-summary/full-version>)

along with a summary report presenting the key findings and policy implications

(<http://www.euro.who.int/en/what-we-publish/abstracts/environmental-burden-of-disease-associated-with-inadequate-housing.-summary>)

## Notes

- The project was started in 2005, with the first meeting discussing the potential development of a quantitative assessment of the burden of disease of inadequate housing. The chapters were developed from 2007 to 2009. Further details can be obtained on the WHO/Europe web site (<http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/Housing-and-health/activities/risk-assessment-and-evidence>).
- Since the report only addressed selected housing risk factors and data were not always available for all countries, the true burden of disease associated with inadequate housing is probably substantially higher than estimated in the report.
- The assessments for individual housing hazards should not be added up to one total figure because the interactive effects of multiple housing problems cannot be reliably assessed, and the individual assessments cover different numbers of countries and different age groups.
- The data per 100 000 population is a mean across the covered countries in the WHO European Region. The exposure to risk factors and hence the disease burden vary greatly across countries. It is therefore not recommended to extrapolate results based on selected countries across the whole European Region.
- *Environmental burden of disease associated with inadequate housing* is an extension of the WHO headquarters series assessing the environmental burden of disease that has focused on the evidence available in the WHO European Region. Details

regarding methods and further assessments on the burden of disease caused by environmental hazards are available on the WHO headquarters web site ([http://www.who.int/quantifying\\_ehimpacts/en](http://www.who.int/quantifying_ehimpacts/en)).

- The WHO European Region covers more than 880 million people in 53 countries, stretching from the Arctic Ocean in the north to the Mediterranean Sea in the south and from the Atlantic Ocean in the west to the Pacific Ocean in the east (<http://www.euro.who.int/en/where-we-work>).
- WHO/Europe's European Centre for Environment and Health has offices in Bonn, Germany and Rome, Italy and focuses its work on providing evidence to support WHO Member States in policy-making on environment and health issues.

**For more information, visit the WHO/Europe web sites related to housing, noise and air quality (<http://www.euro.who.int/envhealth>).**

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<sup>i</sup>Source: European Union Statistics on Income and Living Conditions (SILC) [online database]. Brussels, Eurostat, 2011 ([http://epp.eurostat.ec.europa.eu/portal/page/portal/income\\_social\\_inclusion\\_living\\_conditions/introduction](http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/introduction), accessed 17 June 2011).