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EUROPEAN CENTRE FOR ENVIRONMENT AND HEALTH

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ESTABLISHMENT OF ENVIRONMENT AND HEALTH INFORMATION SYSTEM SUPPORTING POLICY-MAKING IN EUROPE

ENHIS-2

Grant Agreement SPC 2004124
between The European Commission, DG Sanco
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INTERIM TECHNICAL IMPLEMENTATION REPORT

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Introduction

General objectives

The project aims at setting up and starting the operation of a comprehensive information and knowledge system (ENHIS) that will generate and analyse environmental health (EH) information to support relevant policies in Europe, focusing on those addressing children. The system will be based on a set of EH Indicators developed and updated by the project, will use health impact assessment methods and will contribute to the European Community Health Information System.
The ENHIS-2 project builds and further expands the activities and deliverables implemented in 2004-2005 by the first part of the ENHIS project. It is organized in eight tasks/work packages: six of them focus on methodological and technical aspects and are implemented under the responsibility of a project partner. WHO-ECEH Bonn is leading the other two WPs on project coordination and dissemination of the results.

Specific objectives are:

- To put into operation 'core' environmental health indicators developed and tested throughout a consensus-building process based on ECOEHIS, ENHIS and previous WHO-coordinated projects;
- To create an inventory of current policies and interventions relevant to the children's health and the environment and assess their information needs;
- To build software tools for data retrieval and query and web-portal enhancing the IT system infrastructure and streamlining data reporting;
- To develop and apply health impact assessment methods for selected aspects of indoor air pollution and noise.

Working Process and Methods

Consortium of twenty-two partner institutions from 18 MS (Austria, Bulgaria, Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Lithuania, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, together with the French Agency for environmental and occupational health and safety (AFSSET, France), WHO/Europe and the European Commission Joint Research Centre (EC JRC), is implementing the project (see Annex 1 for partner information and contact data).

ENHIS-2 project is organized in eight work packages (WP) - each under the responsibility of a project partner. WHO European Centre for Environment and Health, Bonn Office is coordinating the project, leading the dissemination of the results and is responsible for the update of the core set of environmental health indicators i.e. the WP 1, 2, and 4. The work packages are as follows:

1. Overall project coordination assuring good communication and collaboration among all partners;
2. Dissemination of the results, coordinating and facilitating publication of the results achieved by the work;
3. Determine information needs of environmental health policies;
4. Update the core set of environmental health indicators;
5. Develop and apply methods for generating information from existing national and international data bases, and surveys;

6. Support to the network of collaborating centres: maintain communication links and information exchange infrastructure;
7. Develop and test methods for health impact assessment (HIA) of indoor air quality and noise in partner countries;
8. Build progressively the system by implementing key technical infrastructure elements;

This report summarizes the main activities of the project implemented during the period from 1 November 2005 to 31 October 2006 of the project. It also contains an overview of all partners' involvement in the different working packages and gives the work programme planned for the 2nd year of the project implementation.

The report presents the results achieved in the 1st year of the ENHIS-2 implementation vis-à-vis the contract. The methodological guidelines, assessment reports, indicator fact-sheets and IT developments reflect work in progress and are enclosed as drafts documents as of 5 December 2006. The report also enlists the relevant publications by the ENHIS-2 partners.

Technical reports on the activities and the results as of the end of the reporting period are enclosed in separate sections.

Project Activities November 2005 – October 2006

Work Package 1 Project Coordination

Lead Partner: WHO European Centre for Environment and Health, Bonn Office

Activities

1. Overall planning and organization of the work

The scope of the ENHIS-2 work vis-à-vis the project objectives and deliverables were determined. Prioritization of activities in view of preparation of an assessment report using the ENHIS-2 developments for the Intergovernmental mid-term review meeting was agreed. Consecutively, the 1st year work plan was updated with concrete objectives and milestones and approved by all partners at the project coordination meeting (Bonn, 15-16 December 2005).

2. Coordination and maintaining communication for the project implementation

Coordination was implemented both on technical and administrative 'levels' under the responsibility of WHO. Coordination of the technical work included maintaining links among the work packages and regular exchange of information about the progress. Communication was maintained through emails, contacts as well as through the common project office - the ENHIS SharePoint. Two meetings related to work organization and progress evaluation were convened with WHO responsible for the organization of the scientific preparation and publication of the reports. Five WP meetings on specific technical issues related to ENHIS-2 implementation were held with WHO involvement in the scientific preparation and in reporting. Technical reports on those meetings are enclosed in a separate Section entitled 'Technical meeting reports'.

3. Reporting to EC DG Sanco and interaction with international organizations

ENHIS-2 progress has been regularly reported at the Working Party on Health-Environment meetings (http://ec.europa.eu/health/ph_information/implement/wp/environment/events_environment_en.htm). Meetings were held, with the organizational support of EC DG Sanco, with the EC DG Eurostat (Luxembourg, 16 February 2006) and EEA (Copenhagen, 5 May 2006) to reach early agreement between the data-holder agencies and the project (for relevant materials see the section of 'Technical meeting reports').

4. Meetings

4.1. First Coordination Meeting (Bonn, 15-16 December 2005) gathered all twenty-two ENHIS-2 partners and representatives of institutions having expressed willingness for involvement in the project as from the EC DG Sanco, EC DG JRC and EEA. The Meeting agreed on the activities and responsibilities for each of the work packages and partners, and synchronized the work among them. In particular, all the partners agreed to advance the entire implementation process so that the CEHAPE assessment report will be presented at the mid-term Intergovernmental mid-term review meeting (Vienna, 13-15 June 2007). The partners defined the input of the network of collaborating centers and also agreed on the organizational mechanisms to ensure fast and efficient involvement of the new partner institutions in the network.
The report is published
http://www.euro.who.int/EHindicators/Methodology/20060201_4

4.2. Two joint WP 2 and WP 8 technical meetings were held involving participants from RIVM and WHO in Bilthoven, Netherlands on 8 March 2006 and in Bonn, on 29 March 2006 respectively. The objectives were to prepare a joint WP2 and WP8 work plan for the development of ENHIS IT infrastructure specifying the tasks, responsibilities and timelines. WP 2 was focusing on the database and data retrieval and WP 8 – predominantly on the web-based platform
The minute notes are published on the SharePoint service and enclosed in the section 'Technical meeting reports'.

4.3. WP 7 technical meeting (Granada, 20-21 April 2006) gathered WP 7 partners to agree on the approach for the development of an integrated software tool for health impact assessment of air quality using routinely collected data.
The minute notes are published on the SharePoint service and enclosed in section 'Technical meeting reports'.

4.4. WP 3 technical meeting (Bonn, 29 May 2006) gathered ENHIS-2 WP3 partners, the EC DG JRC and WHO team implementing projects to review existing governance instruments (laws, standards and guidelines) in the different Member countries of WHO European Region. The objectives were to reach an agreement on a common approach and questionnaire for children's EH policy review across Europe.
The minute notes are published on the SharePoint service and enclosed in section 'Technical meeting reports'.

4.5. Joint WP 4, WP 5 and WP 6 technical meeting (Vienna, 26-27 June 2006) on updating the core set of children's environmental health indicators. The meeting gathered WP4, WP5 and WP6 partners, representatives of network collaborating centres and of institutions involved in ENHIS-2 on voluntary basis. The objectives were to evaluate the pilot testing and update the core set of feasible and policy-relevant environmental health indicators to address children and general population.
Summary of the minute notes are published on the SharePoint service and enclosed in the section 'Technical meeting reports'

4.6. ENHIS-2 mid-term review meeting (Granada, 09-10 October 2006) gathered all project partners, participating network centres and representatives of EC DG Sanco, EC DG JRC and EEA. The objectives were to evaluate the progress of the 1st year implementation as well as the status of the preparation of the products for the upcoming intergovernmental meeting and to plan the activities for the next period.
Summary report is published on http://www.euro.who.int/document/EHI/ENHIS-2_mtg_rpt_Oct_2006.pdf and is enclosed in the section 'Technical meeting reports'.

Outcomes:

- Work plan ensuring synchronization among the work packages and partners and timely delivery of the products approved by all partners;
- Seven meetings carried out and reports – published, in particular the coordination meeting and the mid-term review meeting as set in the contract;
- Mid-term activity report prepared in accordance with the reporting requirements and submitted to the EC DG Sanco.

Progress evaluation:

WP1 achieved the tasks set in the contract

Work Package 2 Dissemination of Results

Lead Partner: WHO European Centre for Environment and Health, Bonn Office
Partners involved: All project partners

Activities

1. Preparation of the outline of the CEHAPE assessment report. Consultation with the Member States and agreement on actions to increase country coverage of the indicators and to reduce priority data gaps by using of case studies of country surveillance systems to provide information which is relevant for policies. Preparation of guidelines for writing the report chapters

2. Specification of the tasks, responsibilities and time-table for a joint WP 2 and WP 8 work on the IT infrastructure development, with WP 2 taking the data retrieval and data warehouse, and WP 8 - the web-based platform. Definition of an indicator-centered system development approach and selection of Five Leading Indicators (FLI) to be used as the system design foundations

3. Adaptation of the EUPHIX data model to ENHIS requirements. In collaboration with WP 8, evaluation of the existing ENHIS web-sites and development of the requirements of the final ENHIS website which integrates the ENHIS database, Content Management System (CMS), search functionality and graphics utilities. Re-organization of the ENHIS project internal SharePoint website - in cooperation with WP6 - to facilitate collaborative exchange of data and documents

4. Preparation of report summarizing mid-term project results

Outcomes

- Outline of the CEHAPE indicator-based assessment report, consulted with Member States and with increased country coverage for the four child-specific policy indicators, and case studies of country surveys for blood lead in children and outbreaks of water-borne diseases. Guidelines for writing report – ready
- ENHIS database containing numerical data of the FLI; Types of metadata defined and necessary database extensions – drafted; ENHIS pre-release website – online (limited access to project members, layout to be finalized)
- Report summarizing mid-term results by work package WP 2 to WP 8 is enclosed in the section 'Results of the first year project implementation'

Progress evaluation:

WP2 achieved the tasks set in the contract; the shift of tasks on IT development between WP 2 and WP 8 does not by any means make deviation from the work programme and the deliverables set in the contract

Work Package 3 Determine information needs of policies

Lead Partner: Institute of Public Health (KTL), Kuopio, Finland
Partners involved: WHO, IMPIZS, KOZPONT, FCSAI, SZU, NSPH, VASC, APAT, IPHB, MOHBG
Collaborating partners: AFSSET, EC DG JRC

Activities

1. Technical meeting of WP 3 and WHO team implementing the project 'Legal instruments on children's health and the environment' decided on a common approach to streamlining policy review across Europe and formulated priorities and mechanisms for improving policy accountability concerning population's health;

2. Revision of the policy questionnaire and framing it in the context of the CEHAPE regional priority goals. Defining the process for gathering of information on policy needs within ENHIS-2 partners. Provision of technical guidance to policy experts and other stakeholders to support questionnaire application in the partner countries;

3. Extension of the EH policy information database built through ENHIS encompassing also current national regulatory instruments. Collating information on policies from other relevant projects (e.g. WHO housing and health legislation, WHO review on children's health and environment governance instruments, etc) in a structured way to support ENHIS-2 countries in answering the questionnaire. Updating the database using the answers received;

4. Preparation of annual assessment of the information needs: comparative assessment per thematic policy area, displaying the gaps and information needs;

5. Input on policy context and relevance to the indicator fact-sheets and to the web-based platform.

Outcomes

- Methodology for identification of information needs of EH policies integrating a policy questionnaire and extended up-to-date EH policy information database, developed and applied to 18 ENHIS-2 partner countries
- Annual assessment report of policy information needs with children relevan EH policies in the focus

Progress evaluation: according to the plan; the methodology and annual assessment of information needs will be finalized in the 2nd year of ENHIS-2 implementation

Work Package 4 Update core set of EH indicators

Lead partner: WHO European Centre for Environment and Health, Bonn Office
Partners involved: KTL, OEBIG, NAPH, SZU, VASC, APAT, IPHB, MOHBG, FCSAI, INVS, KOZPONT, IZVA, IMPIZS, TKS, DGDS, NSPH
Collaborating partners: EC DG JRC, UK HPA

Activities:

1. Rapid refinement of the children's EH indicators (developed by ENHIS) based on the feedback of ENHIS-2 partners;

2. In collaboration with WP 5, identification of primary data sources for the children's EH indicators, using a set of criteria and in particular ensuring greater country coverage and time completeness; development of approach for resolving priority data gaps through using case studies of volunteering country surey results;

3. Development of protocol for pilot testing of the indicators to cover indicator generation (incl. meta-data) from international databases and also preparation of supporting information (analysis, key message and visualization);

4. In collaboration with WP 6, conduct pilot testing of the indicators of selected children's EH indicators building teams and capacity in the network of collaborating centres; evaluation of the pilot study (Joint WP4, 5 and 6 technical meeting, Vienna, 26-27 June 2006) and selection of a 'core' set of EH indicators for general population and children;

5. Preparation of indicator fact-sheets according to the guidelines developed by WP 8 and with the involvement of the network of collaborating centres (WP 6) thus ensuring experience which can then serve national public health reporting

Outcomes

- Protocol for pilot testing of the indicators – developed and implemented, data (and meta-data) – retrieved and indicators – calculated,
- Core set of feasible and policy-relevant indicators measuring environmental health risks in general population and children – selected, coding system - agreed and methodology refinement needs - identified
- EH indicator draft fact-sheets prepared for 27 indicators and completed for – 12 ones

Progress evaluation: According to the work plan even expanding with the information-base of the CEHAPE assessment report being prepared; the methodology for the core set of indicators will be finalized in the 2nd year of ENHIS-2 implementation

Work Package 5 Methods for information generation

Lead partner: Institute of Public Health Bucharest (IPHB), Romania
Partners involved: WHO, IMPIZS, INVS, TKS, VASC, DGDS, MOHB, SZU, FCSAI

Activities

1. Update of the 'Hands-on guidance' for data retrieval prepared under ENHIS implementation based on the testing and feedback of the new partners; preparation of inventory of international data sources with country coverage of EU member and accession countries, EFTA and OECD, as well as of WHO/ European region members;

2. Defining organizational approaches for access and exchange of data available in the international databases and identification of the primary data source; in collaboration with WP4, development of the protocol for pilot testing of the indicators, and planning and guiding the actual data retrieval during the pilot study;

3. Development of a comprehensive hands-on guidance – a practical tool to support data and meta-data retrieval and generation of the core set of EH indicators addressing both general population and children;

Outcomes

- Inventory of international data sources and overview of data availability for the children's EH indicators for all the 52 Member States of WHO/European Region;

- Organizational approaches to data retrieval from international databases serving a basis for the development of the ENHIS database within WP2, WP8;
- Draft hands-on guidance – practical tool to support data retrieval and generation of the core set of EH indicators

Progress evaluation: According to the work plan: due to the decisions to advance the CEHAPE indicator-based report for June 2007 the first three deliverables as stated in the EC Grant Agreement for WP 5 were already achieved; the hands-on guidelines will be finalized in the 2nd year of ENHIS-2 implementation

Work Package 6 Support to the network of collaborating centres (NCC)

Lead partner: National Institute of Environmental Health (KOZPONT), Budapest
Partners involved: WHO, IMPIZS, INVS, FCSAI, TKS, IZVA, LOEGD, OEBIG, NAPH, SZU, NSPH, VASC, APAT, IPHB, DGDS, MONBG, ASPB
Collaborating partners: EC DG JRC, UK HPA

Activities:

1. Expansion of the network of collaborating centres to include all ENHIS-2 partners and establishment of communication and information exchange links; reorganization of the SharePoint communication and information exchange platform to serve ENHIS-2 project implementation and to increase its user-friendliness;

2. Provision of technical support to the new partners in gaining experience with the indicators and information methods developed in the previous projects, the use of the SharePoint and also strengthening partnership;

3. Synchronization of the network activities ensuring contribution to the ENHIS-2 methodology and technical developments within WP 3, WP4, WP 7, WP 8;

4. Coordination of information retrieval and data flows by the network in particular for the 4 children-specific policy indicators interacting with an extended network of more than 30 institutions; in collaboration with WP 4 - coordination of the pilot study of the children's EH indicators implemented in participating countries

5. Preparation of indicators based on case studies (e.g. blood lead in children) by collaborating centres; coordination and support the preparation of international fact-sheets for selected issues

Outcomes
- Operational communication and information exchange links with all the partners
- Pilot study of indicators implemented in participating countries according to WP4 developed protocol
- Several indicator fact-sheets including international assessments, key message prepared

Progress evaluation: According to the work plan and even expanded the network partners; preparation of international and national indicator-based reporting will be further advanced in the 2nd year of ENHIS-2 implementation

Work Package 7 Integrate Health Impact Assessment

Lead partner: Institute of Public Health Surveillance (InVS), France
Partners involved: WHO, FCSAI, LOEGD, SZU, NSPH, VASC, APAT, IPHB, MOHBG, ASPB, EASP

Activities:

1. Development of routine software for health impact assessment (HIA) of outdoor air pollution; cross-check of the availability & accessibility of the datasets needed for the routine tool in the international databases; preparation of on-line guidelines to support using the software and also methodological basics and limitations;

2. Development and testing feasibility of HIA of indoor air pollution and noise focusing on children. The following risk factors have been considered: mould/ dampness at home; environmental tobacco smoke/ passive smoking at home; solid fuel use for cooking and heating at home; noise from traffic; blood lead and also indoor air quality problems at school. Based on the feasibility, methodological guidelines are in preparation;

3. Preparation of key messages for the ENHIS web summarizing the evidence for health impacts of the abovementioned risk factors and enabling projections of these impacts depending on HIA feasibility

Outcomes

- Health Impact Assessment of Urban Air Pollution (HIAir) software V.0 (http://enhiscms.rivm.nl/prerelease/object_class/euwp_hiaairtool.html) including on-line guidelines on how to perform the assessment
- Draft methodological guidelines for HIA of the following indoor air quality indicators: mould/ dampness at home, ETS at home; for HIA of traffic-related noise in children – a case study is proposed
- Key messages for reporting on HIA for the ENHIS web

Progress evaluation: Overall according to the work plan; the methodological guidelines and reports on HIA will be finalised in the 2nd year of the ENHIS-2 implementation; it should be noted that for several risk factors for which HIA is feasible, reliable and comparable information on exposure by age-groups remains a challenge

Work Package 8 Information maintenance, analysis and reporting

Lead partner: National Institute for Public Health and the Environment (RIVM); Netherlands
Partners involved: WHO, KTL, KOZPONT, INVS, IZVA, OEBIG, SZU, VASC, IPHB, MOHB

Activities:

1. Development of key IT infrastructure elements in particular the EUPHIX (RIVM) Content Management System connected to the ENHIS database
    - Database: in collaboration with WP 2 adaptation of EUPHIX data procedures to ENHIS data sheets
    - Content Management System allowing editing by authorized editors and presenting data from the underlying database

- Website: redesigning (together with WP 2) the structure, navigation and functionalities; technical design of search functionality

2. Implementation
   - Database: filling initially with data for five test indicators (collaboration with WP2)
   - Web site functionalities: adaptation of CMS to ENHIS requirements and a specific software ASP.net for the search function allowing to access both the web content and the indicator data; interactive graphics tool adjusted from EUPHIX to be applicable for ENHIS
   - Web-site content (input from other WPs in particular, WP6, WP2, WP4, WP7): text for the 5 test indicators and summary texts on EH issues; editing of the fact-sheets, information about EH policies and EH in Europe, possibilities to export data to MS Excel spreadsheets;

3. Documentation and technical support: technical documentation – report about the website functional design and requirements for further development; installation guidelines; technical support for using the CMS, search tool and graphics tool;

4. Guidelines
   - Preparation of indicator fact-sheets and graphs and figures on the web
   - Input to the CEHAPE assessment report outline (with WP 2).

Outcomes

- Prototype web-site with search function and link to database ready (1st release September 2006, 2nd release – November 2006: adaptation based on ENHIS members comments) http://enhiscms.rivm.nl/prerelease/object_class/euwp_home_tab.html;
- Guidelines for preparation of indicator fact-sheets and graphs; technical documentation, and support for using the CMS, search tool, etc;
- Training the ENHIS-2 partners.

Progress evaluation: According to the plan: it should be noted that creating a web-site which links content management system and underlying database is a considerable advance partly due to the close synergy with EUPHIX project. Data retrieval procedure can never be fully atomised, therefore a flexible approach was applied to develop the data-entry module based on the EUPHIX software.

Distribution of the partners' involvement in ENHIS-2 Work Packages

The table below provides an overall assessment of the actual situation of the partners' involvement in each of the eight work packages vis-à-vis the originally planned. It can be seen that all partners are actively involved in the project implementation and contribute to the development and testing of the new methods for policy analysis, health-environment indicators, data retrieval, health impact assessment, as well as on the designing of the web.

In particular, without the active involvement of the network of collaborating centres in the pilot study of the children's EH indicators and also in the preparation of the fact-sheet, it wouldn't have been possible to efficiently advance the work on the System products e.g. the CEHAPE indicator-based assessment report and the web-based platform for information dissemination.

Partners' Involvement in the ENHIS-2 Work Packages (WPs)									
ENHI-2 Partner	**Country**	**WP1**	**WP2**	**WP3**	**WP4**	**WP5**	**WP6**	**WP7**	**WP8**
WHO		✓	✓		✓	×	×	×	✓
MOHBG	Bulgaria			×	×	×	✓		
RIVM	Netherlands			×					✓
ASPB	Spain						×	✓	✓
EASP	Spain					×		✓	
SZU	Czech Republic			×	✓	✓	×	✓	×
TKS	Estonia				×	×	✓		
APAT	Italy			×	×		✓	×	
NSPH	Greece			×	×		✓	×	
IMPIZS	Poland				×	✓	✓		
KTL	Finland			✓	✓	×	×	×	✓
VASC	Lithuania			✓	×	✓	✓	×	×
ÖBIG	Austria			✓	✓		×		×
IZVA	Slovenia			×	✓		✓	×	
FCSAI	Spain		×	✓	✓	×		✓	×
NAPH	Slovakia				✓		✓		
INVS	France			×	✓	×	×	✓	✓
KOSPONT	Hungary			✓	✓		✓	×	✓
LÖGD NRW	Germany			✓	×	×	✓	✓	×
IPHB	Romania			×	✓	✓	✓	×	✓
DGDS	Portugal				×	×	✓		
HPA	*UK*				*		*		
AFSSET	*France*			*					
EC DG JRC				*	*				

Legend:

The green shading indicates the lead partner for the work package

✓ indicates major involvement in a work package

× indicates minor in a work package

* indicates participation on a voluntary basis in a work package

Plan of activities for the 2nd period of project implementation

The work plan for the 2nd year of project implementation has been prepared at the mid-term review meeting (Granada, 9-10 October 2006) and agreed by all partners (see meeting report, Annex 4).

1. Current work:
   - 1.1. Revision and finalization of the indicator fact-sheets based on the reviews of different experts 30 December 2006;
   - 1.2. Expansion of database with international data sets for the core set of indicators
   - 1.3. Editing fact-sheets for their dissemination on the web

2. Preparation of the CEHAPE indicator-based assessment report and web-based information service:
   - 2.1. Drafting the report 18 January 2007
   - 2.2. Expansion of web-service 18 January 2007

   Editorial Meeting *Bonn, 25-26 January 2007*
   HIA satellite meeting
   Training of the network on using the CMS

3. Methodology for identification of policy information needs and annual assessment report – ready 18 January 2007
4. Contribution on HIA from selected indoor air and noise risk factors in children to indicator fact-sheets and CEHAPE assessment report 10 February 2007
5. Close to final Draft CEHAPE report and Version 3.0 of web service available to EEHC and other forums 15 February 2007
6. Final draft CEHAPE assessment report ready 15 March 2007

   ENHIS workshop on methodology *Week after 15 March 2007*

7. Methodological work
   - 7.1. Core set of environmental health indicator and methodology 30 April 2007
   - 7.2. Hands-on guidance for information generation 30 April 2007
   - 7.3. Qualitative HIA of drinking water pollution 30 April 2007
   - 7.4. Meta-database for core indicators, user manual, software documentation 30 April 2007

   Workshop on EH policy accountability *(Ispra, April-May 2007)*

8. ENHIS web-based information service and published report launch 1 June 2007
9. National indicator-based reporting: set of national indicator fact-sheets 1 June 2007
10. ENHIS-2 WP products:
    - 10.1. Report on HIA according to the reporting guidelines (ENHIS) 25 Aug 2007
    - 10.2. Assessment of new policy information needs 25 Aug 2007
    - 10.3. Extended set of EH indicators and methodology 1 Sept 2007
    - 10.4. Definition of children's EH information collected by surveys 1 Sept 2007
11. WP products completed in draft version 1 September 2007

    Final technical meeting *Week after 24 September 2007*

12. WP products finished 31 October 2007
13. Final project report submitted to EC 31 January 2008

Conclusions regarding the project status

The implementation in the 1st year of the project implementation is according to the contract and the work plan. In addition, some more ambitious tasks planned at the 1st coordination meeting (Bonn, 15-16 December 2005) and related to the products of the environmental health information system in Europe for the Intergovernmental mid-term review meeting in follow-up of the Budapest Conference have also been implemented. This requires active involvement of all partners and in particular the network of collaborating centres. From one side workload has been increased and deadlines – shorter. One the other side the early product-oriented approach has empowered the network with practical experience and has been an early 'reality' check for the methodological developments by the ENHIS-2 WPs. A few notes are worth mentioning.

Reaching early agreements between the ENHIS-2 project and European data-provider agencies (EC DG Eurostat and EEA) has facilitated the information generation activities. It would be useful if these meetings can be followed up in the 2nd year of the ENHIS-2 implementation to discuss concrete technical issues related to the meta-data and data quality control.

At the core of the ENHIS-2 is the network of collaborating centres – an important mechanism ensuring development and implementation of the ENHIS2 WP products. ENHIS-2 outcomes can only be effective, if the network members make them known and available for their countries. Indicator-based reporting and preparation of indicator fact-sheets is 'learning by doing' exercise. Through the preparation of indicator fact-sheets the network is gaining knowledge and expertise which can then be transferred to national public health services. This requires further expanding of the network and building national layers. Moreover it requires substantial capacity building in indicator-based reporting which is beyond the scope of ENHIS-2 but is a key for sustainability and mainstreaming of the environmental health information system both at European and WHO Region-wide scales.

With the health impact assessment methodology moving to environmental risk factors for children's such as indoor air quality and noise where the available knowledge is relatively limited it is a challenge identifying, from the routinely collected data, information, which comes closer to the true exposure yet comparable among spatial areas. For example, for drinking water pollution, a health impact analysis will be conducted allowing assessment of the situation and public health response.

Considerable advance of the ENHIS-2 in the 1st year of the project has been the development and implementation of key System infrastructure elements: web site with content management system and WP 8 connected to the ENHIS indicators database. The work has significantly benefited from the closest synergy with the EUPHIX developments. It should be noted that building and sustaining running information system would require a dedicated management and decision-making mechanism and a user platform to test functionalities, advise on future developments, a working group on system contents and on quality assurance. In the ENHIS-2 these tasks rely on the WPs such as WP 8, the network (WP6), the indicator (WP4), WHO. For a longer-term perspective a meeting should be convened among EC DG Sanco, WHO and RIVM to agree on future arrangements.

In conclusion the smooth implementation of the ENHIS-2 makes it possible all tasks and deliverables set in the contract to be accomplished and reported in the final stage of the project.

List of ENHIS-2 Partner-institutions and focal points

List of ENHIS-2 Partner Institutions

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RESULTS OF ENHIS-2 FIRST YEAR PROJECT IMPLEMENTATION

The results presented here represent the work in progress as at 5 December 2006

ENHIS-2

WORK PACKAGE 2 (WP2) RESULTS

Deliverables:

1. **Establish and maintain ENHIS web page (month 3)**
2. **Report summarizing mid-term project results (month 14)**
3. CEHAPE assessment report prepared for publication (month 24)
4. Final project report (month 24)

Summary of IT development

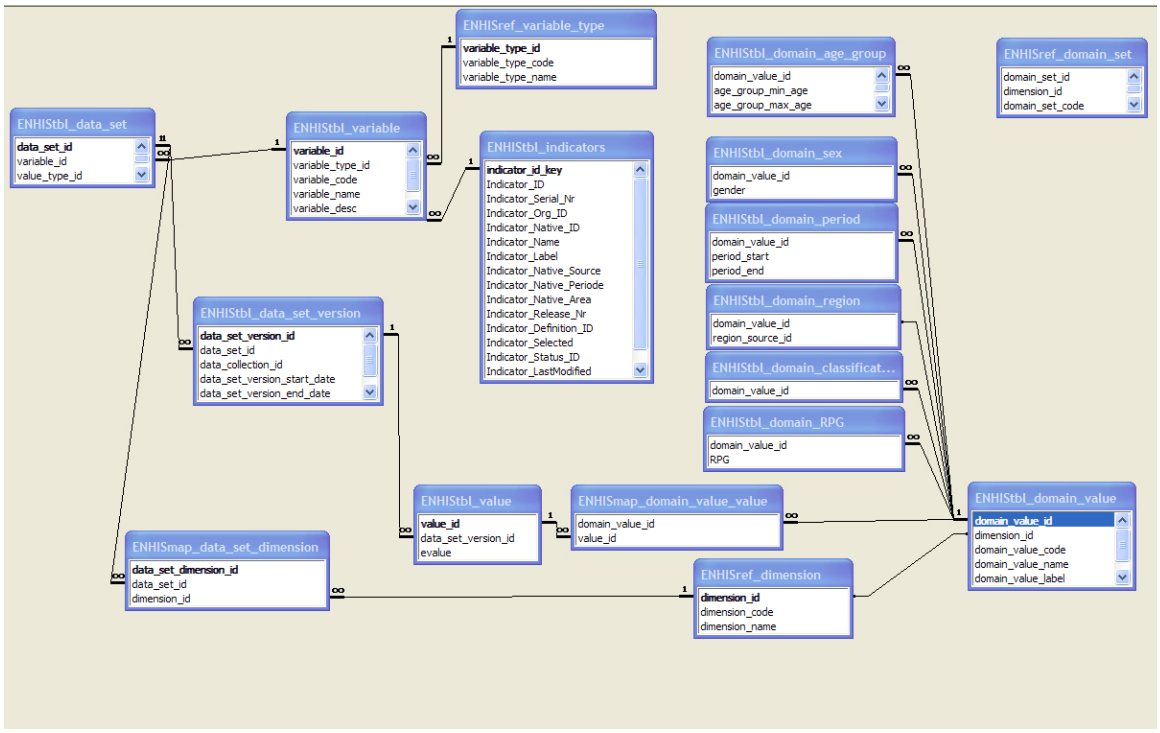
Summary of the specification of the tasks and responsitibilites

WP 2 is closely linked with WP 8, information processing, analysis and reporting, for the design and implementation of the public ENHIS website. Lead partner of WP 8 is the RIVM. ENHIS adapts web-technologies from the EUPHIX project (European Public Health Information, Knowledge & Data Management System), which is also developed by the RIVM.

Results: Summary of the adaptation of the EUPHIX data model to ENHIS requirements

- ENHIS data model defined
- Compatibility with the data model of EUPHIX - preserved
- Data model and data import tested using data for Five Test Indicators: wastewater treatment, childhood mortality from traffic accidents, policies to promote safe mobility and transport for children, children's exposure to air pollution PM10, incidence of childhood leukaemia.
- Data model- extended to incorporate metadata.
- EUPHIX data input procedures - adapted to ENHIS data input sheets.

The ENHIS data model:



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REGIONAL OFFICE FOR EUROPE

WELTGESUNDHEITSORGANISATION
REGIONALBÜRO FÜR EUROPA

ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÉGIONAL DE L'EUROPE

ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

EUROPEAN CENTRE FOR ENVIRONMENT AND HEALTH
BONN OFFICE

Children's Health and the Environment in Europe: Guidelines for the authors of the ENHIS-2 Report

I: Context & Purpose

The CEHAPE indicator-based assessment report is one of the major deliverables of the ENHIS-2 project. The main purpose of the report is to show the functionality of the environmental health information system. This will be done through a situation assessment that will provide up-to-date information on health and the environment, identify problems, propose solutions for them and measure the implementation of the CEHAPE declaration across Europe. Doing so will further demonstrate that EHIS has become operational. The report will be presented at the Intergovernmental mid-term review meeting to be held in Vienna, 13-15 June 2007.

The report should be policy relevant, pan-European, and based on environmental health indicators and other information methods developed through the ENHIS projects. As the most recent data available is from 2004, the report will give a baseline analysis of the situation on children's' health and the environment for each of the four CEHAPE Regional Priority Goals. This will serve to assess the progress of CEHAPE for the Ministerial Conference (2009).

The indicator fact sheets, which will also be published on the web, will form the basis of the report. Specifically, the fact sheets should be used to inform the story that the report will tell. Some of the text and graphs presented in the fact sheets should be used in order to facilitate the writing of the report. However, the report must not be a compendium of the fact sheets! It should tell a story, using the information presented in the fact sheets.

Reports can have significant influence on future actions. However, if a report is not easy to read, it will probably not be read at all. In order to have an impact on policy this indicator-based assessment report must be concise, well-written and must clearly state its key messages. All of the indicators included in this report relate to modifiable environmental factors that are important to children's health.

II: Guidelines

For each topic, the report should:

1. Clearly state the key message

   - What is/are the most important finding(s) of the environmental health assessment?
   - What is/are the main recommendation(s) you would like to make? i.e. What actions should be taken to improve the situation?
   - What is/are the main health benefit(s) of these actions?
2. Clearly define the public health issue(s)
   - How do the relevant environmental indicators relate to health?
   - What is the scale of the problem?
   - Is it a child specific or a population wide problem?
   - How urgently is action needed?
   - Is there adequate data to assess the problem / is greater monitoring necessary?
3. Assess the environmental health situation based on the relevant indicators
   - What are the environmental determinants of the problem?
   - Are these determinants worsening or improving over time?
   - Among which groups of people (e.g. girls, young children 0 -3 years of age, etc.) in which places (e.g. Eastern Europe, specific countries, those living in substandard housing, etc.) does the situation most need to be improved?
4. Recommend specific national actions that can improve the situation
   - Are there existing policies / action plans in places across the European Region? In specific countries?
   - If so, are they implemented / enforced? Which actions are most effective?
   - If not, can any action(s) be suggested? Are there specific groups of people or specific countries that should be targeted?
   - What is the potential health benefit from taking specific actions?
   - What mechanisms are there for monitoring the impacts of actions?
5. Focus on the health benefit of taking these specific, recommended actions

III: How to write a chapter

Structure: The report will follow the structure that has been proposed in the outline of the report. (See section V of this document). It will have 4 chapters, each of which will assess the situation for one CEHAPE regional priority goal. There is a common framework, described in the outline (Section V), across all four chapters.

Layout: The layout will be edited by a professional editor once the contents are finalized.

Length: Each chapter should be between 15 and 22 pages long.

References: All statements based on data that is not presented in the chapter should be referenced using endnotes. An effort should be made to limit references to a few key, high quality sources.

Suggested Steps

- Plan/Brainstorm
   - This report attempts to synthesize information on broad environmental health issues across the 52 countries in the WHO European region. No one is an expert on such a huge area! Take some time to familiarize yourself with the information.
   - Review the outline in section V of this document, which contains links to relevant sources of information.

  - Read through the relevant fact sheets, which can be found on Sharepoint under WP8/Webtexts and fact sheets/Finalized Fact Sheets –ENHIS 2 November 2006/RPG1. These must be used to write the report.
  - Decide which graphs are more adequate for the purposes of the section of concern. Some of the fact sheet graphs should be incorporated into the report.
  - Always acknowledge the source of information, graphs or other citation used in the report using endnotes. Please make a reference list at the end of the document.
  - Additional, relevant materials are available in the indicator folders on Sharepoint, under WP4/Shared Documents/ENHIS Indicators Piloting/RPG I indicators.
  - What other sources of information might be useful? (Case studies? Journal articles? Reports? Policy documents? …)
  - Use the notes and questions listed in Section II of this document to guide your planning.
- Create an annotated Table of Contents
  - Use the Sections II and V of this document to structure the report
- Get an overview of the information you need
  - What information do you need?
  - Where can you get it?
  - How long will it take for you to get it?
- Request any information you do not have
- Assess the information
  - Some assessment has been done in the indicator fact sheets.
  - Additional assessment, based on other sources of data may be necessary / helpful.
- Write a draft
  - Do not copy and past the indicator fact sheets! We must use the indicator fact sheets but the report must not be a compendium of them. Only relevant sections that match the flow of the report should be included.
- Discuss the draft
- Revise and finalize

IV: Process & Timeline

Timeline: Three planned milestones:

1. Editorial meeting (Bonn, 25-26 January 2007);
2. Meetings of the CEHAPE Task Force and the pre- intergovernmental meeting of the EEHC, which will be held the week of 21-28 February, and the meeting of the EHIS Working Group (date to be determined);
3. 19 Mach 2007 the final assessment report goes to professional editing and publication.

✓	**Task**	**Due Date (**to be determined**)**
	Fact Sheets Finalized	20 December
	Planning	…
	Draft 1 ready	15 January
	Editorial meeting Bonn	25 - 26 January
	Draft 2 ready	9 February
	Draft 3 (close to final) ready	19 February

	Final draft ready	12 March
	Final Assessment report ready	19 March, 2007

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Outline (see below**)**	**Writer (to be identified)**	**Reviewer**
1: Health issue		David Kay and RIVM experts
DRINKING WATER		David Kay and RIVM experts
2: EH assessments		
3: Policy actions		
(i)		
(ii) (iii) and (iv) (description)		
4: Conclusions		
RECREATIONAL WATER		David Kay and RIVM experts
2: EH assessment		
3: Policy actions		
(i)		
(ii) and (iii)		
(iv)		
4: Conclusions		

REPORT CHAPTER RPG II		
Outline (see below)	**Writer**	**Reviewer**
Traffic accidents and promoting human settlements enabling healthy and safe mobility	Sara Farchi	D. Ormandy F. Racioppi M. Carroquino
1. Health issue		
2: Key risk factors and EH assessments		
2.1. Case studies (safer routes to school, Piedibus)		
3: Policy actions		
4: Conclusions		
Other non intentional injuries and safe built environment		D. Ormandy J. Mazur VIP-WHO
1: Health issue		
2: EH assessment		
3: Policy actions		
4: Conclusions		

REPORT CHAPTER RPG III		
	Writer	**Reviewer**
Two story lines on health and outdoor and indoor quality presented as interlocked		Michal Krzyzanowski, Matti Jantunen, Eva Rehfuess, Greta Smedje
1. Health issue: 'Prevalence of asthma and allergies in children' and 'Post neo-natal mortality due to respiratory diseases'		
2: Key risk factors and EH assessments:		
2.1. Outdoor air pollution: trends and health impacts; PM10 and proximity to heavily traffic roads		
2.2. Indoor air quality: benchmarking and possibly case studies of HIA; 'Children living in homes using solid fuel', 'Children living homes with mould and dampness'; 'Children's exposure to environmental tobacco smoke (ETS)'		
3: Policy actions: description and potential health benefits; Policies to reduce ETS exposure and information on other actions from fact-sheets and WP3 policy analysis		
4: Conclusions		

REPORT CHAPTER RPG IV		
Outline (see below)	**Writer**	**Reviewer**
1: Health issue (leukaemia)		Pat Saunders
Safe food: crucial for child development		
2A: POPs EH assessments		N. Besbelli, P. Saunders, J. Proncsuk
2B: Children's exposure to chemical hazards: EH assessments		Gerry Moy, Nida Besbelli
3: Policy actions		
3.1		
3.2-3.5		
3.6		
4: Conclusions		
Lead: an issue of concern in Europe		Dorota Jarosinska, Rokho Kim
2: EH assessment		
2.1 EBD of lead		
2.2		
2.3		
3: Policy actions		
4: Conclusions		
Child labour in Europe		Rokho Kim
2: EH assessments		
3: Policies: ILO convention		
4: Conclusions		
Enjoying the sun safely		
1: Health issue: melanoma; EBD		Hajo Zeeb
2: EH assessment		
3. Policy actions		
(i) Policies to reduce children's UV exposure		
(ii) Country case examples – Montreal Protocol		
4: Conclusions		

V: Outline of the report; indicators to be used and references

INTRODUCTION

-Short summary current of PH and environmental determinants (e.g. table 1 of the EEA report on Environment and Health, 2005 at http://reports.eea.europa.eu/eea_report_2005_10/en)

- Situation analysis – strategic trends: referral to relevant Budapest commitments and EU policy
- Objective and key questions to be addressed in the report

CHAPTER 1. Assessment of the situation and progress CEHAPE RPG **I**

Regional Priority Goal I. We aim to prevent and significantly reduce the morbidity and mortality arising from gastrointestinal disorders and other health effects, by ensuring that adequate measures are taken to improve access to safe and affordable water and adequate sanitation for all children.

Budapest Conference Declaration

1. Health issue: indicators '*Outbreaks of water-borne diseases*' both for recreational and drinking water (based on national case studies). Use also recent environmental burden of disease estimates in children in Europe (e.g. Lancet, 2004 see also http://www.euro.who.int/document/mediacentre/fs0504e.pdf). If possible give examples that in some parts of the Region it is predominantly recreational water (e.g. Finland) while in other (towards the East) it is a mixture of drinking and recreational.
   Key messages: safe water environment as a key factor for children's health continues to be an important risk across the entire Region; data on magnitude and severity of the water-related ill health is scarce and burden in terms of DALYs is unknown; surveillance systems are largely non-harmonized, passive (based on notification) and lack sensitivity. Noted data quality and comparability are issues of concern.

Two story lines: (a) Drinking water; (b) Recreational water

(a) Drinking water and health assessments

2. EH assessments: trends and bench-marking

   Indicators to be used '*Population connected to public water supply*' (Eurostat DB) and '*Population with access to improved water sources*' (WHO/UNICEF JMP). Highlight the Millennium Development Goals (MDG indicator 30 at http://www.unicef.org/statistics/index_24304.html). For 'Public water supply' trends should be used to make the assessment of the situation; for 'Population with access to improved water sources' the emphasis should be on urban-rural differences as problems are in rural areas. Additionally you may wish to make a (kind of) population-weighting for some crude estimates of the magnitude of the problem.

   Check also: 'Water supply and sanitation in rural areas of EECCA countries' at http://www.oecd.org/dataoecd/42/27/35394474.pdf ;

   For health aspects of cost-benefit analysis in water supply and sanitation use http://www.oecd.org/dataoecd/36/5/35457670.pdf health

3. Policy actions

   Consider the following policy actions and interventions:

   (i) Surveillance of water-related diseases: currently non-harmonized and lacking sensitivity; give if possible a few examples of good practice (from the above case studies);

   (ii) Drinking water quality control: The EU Drinking Water Directive (98/83/EC) mention the changes in reporting requirements towards a more health-relevant reporting (Member States have to report the number of persons served with water of certain quality) and also about the water supply zones and their use in surveillance and reporting;

(iii) Water safety plans – a novel instrument to management of drinking water quality. Give some background information (check the water safety portal at http://www.who.int/wsportal/en/) and give some examples of implementations (possibly from UK)

(iv) The UNECE/WHO Protocol on Water and Health – the international cooperation mechanism at http://www.euro.who.int/watsan/waterprotocol/20030523_1 and http://www.euro.who.int/watsan/WaterProtocol/20030709_1. Point out the developments in two areas the one on tools for review and assessment of the progress under the Protocol i.e. the indicators and the other – on surveillance of water-borne diseases

4. Conclusions on the overall progress
It should be noted that simply providing access to improved water and sanitation does not imply the use of the services nor the much expected health benefit. The promotion of fundamental behaviour changes is a key to integrating the appropriate use of services into daily routine and needs to start in childhood. The simple fact of washing hands at critical times (after using the toilet or before handling and eating food) can reduce diarrhoeal episodes by 33%.

(b) Recreational water and health assessments

2. EH assessments: trends and bench-marking.

Indicators to be used: '*Wastewater treatment*' (Eurostat DB) and '*Population with access to improved sanitation*' (WHO/UNICEF JMP) and '*Recreational water compliance/ quality*'. Highlight the Millennium Development Goals (MDG indicator 31 at http://www.unicef.org/statistics/index_24304.html). For 'Wastewater treatment' trends should be used to make the assessment of the situation; for 'Population with access to improved sanitation' the emphasis should be on urban-rural differences as problems are in rural areas. For the 'Bathing water quality' consult also the EEA CSI 022 at http://themes.eea.europa.eu/Specific_media/water/indicators.

Make an (theoretical) estimate of potential health effects related to bathing water quality (based on studies e.g. US EPA EHP, 2006, UK, etc). For EU countries consider linking the bathing water quality and waste water treatment indicators; for other countries give a qualitative 'judgement' based on sanitation coverage.

3. Policy actions:

i. Surveillance of water-related diseases: currently non-harmonized and lacking sensitivity; give if possible a few examples of good practice (e.g. Finland);

ii. Bathing water directive - the principal health protection instrument in Europe for identified bathing waters; consult http://europa.eu.int/water/water-bathing/report/eu.html refer to the section on bathing water at http://ec.europa.eu/environment/water/pdf/wise_dec_2005.pdf for the revision of the directive

iii. Bathing water management – a short background i.e. WHO safe recreational water environments guidelines and the case studies

iv. The UNECE/WHO Protocol on Water and Health – the international cooperation mechanism at http://www.euro.who.int/watsan/waterprotocol/20030523_1.

4. Conclusions on the overall progress. Note also the lack of breakdowns allowing making children's health-relevant assessments.

Note: Consider pooling together p.3 and p. 4 for drinking and recreational water also in the context of the water basin management and Water Framework Directive

	Indicators to be used
1.	Waste water treatment and access to improved sanitation
2.	Recreational water quality
3.	Population with public water supply and access to improved water sources
4.	Outbreaks of water-borne diseases (case studies)
5.	Management of bathing waters (case studies)
6.	Water safety plans (case studies)

CHAPTER 2. Assessment of the situation and progress for CEHAPE RPG II

Regional Priority Goal II. We aim to prevent and substantially reduce health consequences from accidents and injuries and pursue a decrease in morbidity from lack of adequate physical activity, by promoting safe, secure and supportive human settlements for all children.

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Two story lines

- **Traffic accidents and promoting human settlements enabling healthy and safe mobility**

  1. Health issue: indicators '*road traffic accident mortality*'; trends by group of countries (e.g. CIS, EECCA, EU-15, EU-10, EU-25); 'proportion of overweight/obese children', also BoD estimates (http://www.who.int look for Euro estimates)

  2. Key risk factors and safety measures for a healthy mobility (to be based on data from selected countries for which data exist); physical activity and also walking and cycling – a key factor for reducing obesity.

     Indicators to be used: '*Prevalence of physical activity in children*'; from the extended set (optional) some ENHIS-2 countries may be asked to provide the indicator 'time spent on the road to go to school by mode of transport'

     Assessments (trends and benchmarking): risk factors such as drink driving and speed limits and their adverse health consequences

     Assessments of positive changes in the urban environment associated with increased physical activity: information collected from the urban audit survey on the presence of green areas and similar;

     Case studies and success stories:
     a. Safer routes to school
     b. Walking buses (UK and www.piedibus.it - Italy)

  3. Policy actions: related to transport safety and to ensuring security and enhancing physical activity

     Indicators '*Policies to reduce traffic accidents injuries*' and '*Policies on alcohol control*' (WHO Alcohol control database) '*Policies to reduce child obesity*';

Country benchmarking (for obesity policies check also http://www.euro.who.int/HEN/Syntheses/obesity/20060713_10 and WHO nutrition policy database at http://data.euro.who.int/nutrition/); existence of follow-up mechanisms and quantitative health-related objectives;

Positive impact of the built environment: the German example and also the Austrian healthy management of mobility

4. Conclusion on the overall progress

- **Other non-intentional injuries and safe built environment**

1. Health issue: indicators '*Non traffic unintentional injury mortality*' (it will be calculated on the basis of the number of death for external causes, excluding road traffic accidents per 100,000 inhabitants), also some estimates of the BoD of injuries in Europe (from http://www.who.int) and HBSC 2001/ 2002 results for injuries.

   Trends by group of countries (e.g. CIS, EECCA, EU-15, EU-10, EU-25)

2. Assessments: injuries and safety (to be based on data from selected countries with surveillance systems).

   Key causes of injuries (burns, scalds) and determinants: children's age groups place of occurrence (home, schools, etc), socio-economic status or urban/ rural breakdown.

   The newly launched EU Injury database (https://webgate.cec.eu.int/idb; https://webgate.ec.europa.eu/idbpa/) contains data for Austria, Denmark, France, Netherlands, Portugal, Sweden, UK (breakdowns by age, sex, type of injury, body part injured, place of injury, activity, product, etc.)

   Assessment can be made for fewer countries with good though different injury surveillance systems, esp. children's injuries (Hungary, UK, Italy – Lazio, Lithuania, possibly Russia).

   Information can be collected from the 'European Quality of Life Survey 2003' of the European Foundation for the improvement of living and working conditions.

3. Policy actions: indicator '*Policies to reduce other unintentional injuries*'; country benchmarking; examples of success stories. These can include the Cyprus example, examples of fire safety policies, and community-based prevention programs, which are multidisciplinary models (see below).

   Emphasize that injuries are preventable and give estimates of potential lives saved (check WHO 'Injuries and Violence in Europe: Why they matter and what can be done', WHO/Europe, 2006 at http://www.euro.who.int/document/E88037.pdf for success stories and Annexes for statistics).

   Hartling L, Brison RJ, Crumley ET, Klassen TP, Pickett W. A systematic review of interventions to prevent childhood farm injuries. Pediatrics. 2004 Oct; 114(4):e483-96. Review.

   Spinks A, Turner C, McClure R, Nixon J. Community based prevention programs targeting all injuries for children. Inj Prev. 2004 Jun; 10(3):180-5.

   Nixon J, Spinks A, Turner C, McClure R. Community based programs to prevent poisoning in children 0-15 years. Inj Prev. 2004 Feb; 10(1):43-6. Review).

4. Conclusion on the overall progress

	Indicators to be used
1.	Children's mortality from traffic accidents
2.	Children's mortality from external causes excluding traffic
3.	Physically active children
4.	Children's overweight and obesity
5.	Policies to promote safe mobility and transport in children
6.	Policies to reduce childhood injuries
7.	Policies to reduce and prevent childhood obesity
8.	Non-traffic injuries in children

CHAPTER 3. Assessment of the situation and progress for CEHAPE RPG III

Regional Priority Goal III. We aim to prevent and reduce respiratory disease due to outdoor and indoor air pollution, thereby contributing to a reduction in the frequency of asthmatic attacks, in order to ensure that children can live in an environment with clean air.

Budapest Declaration

1. Health issue: indicators '*Prevalence of asthma and allergies in children*' and '*Post neo-natal infant mortality due to respiratory diseases*'.
2. EH assessments: trends and benchmarking.

   Indicators to be used '*Children's exposure to outdoor air pollutants*' and associated health impacts and potentials for health benefits (ENHIS WP5); '*Children living in proximity of heavily traffic roads'* (possibly case studies from Netherlands, UK); '*Proportion of children living in homes using solid fuel*' (also MDG indicator - possibly country benchmarking); '*Children living in homes with dampness problems*' (HIA results can possibly be included); '*Children exposed to tobacco smoke'* (scarce data; possibly some HIA and health benefits' results can be added, ENHIS-2 results).
3. Policy actions: indicator '*Policies to reduce environmental tobacco smoke exposure*'; country benchmarking; existence of follow-up mechanisms and quantitative health-related objectives; possibilities to couple policies with exposures; success stories from banning tobacco smoke in public places and reducing smoking at home
4. Conclusions on overall progress and room for improvement

	Indicators to be used
1.	Prevalence of asthma and allergies in children
2.	Infant mortality from respiratory diseases
3.	Children's exposure to outdoor air PM10
4.	Children's homes with mould and dampness
5.	Children exposed to environmental tobacco smoke
6.	Proportion of children living in homes using solid fuel
7.	Policies to reduce environmental tobacco smoke exposure
8.	Children living in proximity of heavily trafficked roads (case studies)

CHAPTER 4. Assessment of the situation and progress for CEHAPE RPG IV

Regional Priority Goal IV. We commit ourselves to reducing the risk of disease and disability arising from exposure to hazardous chemicals (such as heavy metals), physical agents (e.g. excessive noise) and biological agents and to hazardous working environments during pregnancy, childhood and adolescence.

Budapest Declaration

Despite that RPG IV addresses completely different risk factors and conditions such as chemicals, noise and UV radiation, and unsafe workplaces during pregnancy, childhood and adolescence the chapter should be developed from the perspective of environmental public health hazards. The main question is about the health effects (in particular children's health) of the hazards rather than about quantification of these. The leading issue should be 'healthy and safe children's environment – free of chemicals/ hazardous substances'.

1. Health issue: indicators '*Childhood leukaemia*'. Comment on modern risks in particular unsafe use of chemicals, environmental degradation as well as on emerging risks related to persistent organic pollutants, endocrine disruptors, radiation, etc. Highlight that despite the gaps in scientific evidence about health effects of these risks, we observe an emerging patterns in leukaemia and other relevant diseases as well as an increased release/ accumulation of the hazardous substances in the environment (check also the UNEP data portal http://geodata.grid.unep.ch/extras/datasetlist.php for e.g. pesticide use, etc). Bring possible estimates of the burden of disease estimates in children in Europe (e.g. for lead - Lancet, 2004 see also http://www.euro.who.int/document/mediacentre/fs0504e.pdf). Bring additional information for UK from the COMARE's 11th Report 'The distribution of childhood leukaemia and other childhood cancer in Great Britain 1969 – 1993' (http://www.comare.org.uk/comare_docs.htm). The report (a thorough examination of a large database constructed from the National Registry of Childhood Tumours) shows that childhood leukaemia and other types of childhood cancer are not evenly distributed in the population and a clustering for childhood cancer at all levels of population distribution throughout the country.

The following story lines:

- **Safe food: crucial for childhood development**

2. EH assessments:
   Indicators to be used '*POPs in breast milk*' and '*Children's exposure to chemical hazards in food*'

   2.1 POPs in breast milk:

   (i) Based on the WHO survey protocol and use the case studies collated; comment on possible trends and potential health effects (according to the state-of-the-art scientific knowledge). Point out the need for regular harmonized surveys and the WHO one (now 4th round underway) and highlight good practice examples (e.g. Finland, Sweden, UK check H. Kiviranta's thesis http://www.ktl.fi/attachments/suomi/julkaisut/julkaisusarja_a/2005/2005a14.pdf).

   (ii) Possible parallels with US CDC Third report (July, 2005) the most extensive assessment of the exposure of the U.S. population to chemicals in our environment (at http://www.cdc.gov/exposurereport/)

   (iii) Industry emissions/ sources: from the EU EPER (http://eper.ec.europa.eu/eper/default.asp), the EMEP (MSC-East POPs HM

database http://www.msceast.org), the WHO CHE Atlas (http://www.who.int/ceh/publications/en/poster15new.pdf) and H. Kiviranta's thesis http://www.ktl.fi/attachments/suomi/julkaisut/julkaisusarja_a/2005/2005a14.pdf)

(iv) check http://www.chem.unep.ch/pops/alts02.html for differentPOPs characteristics and assessments.

2.2 Children's exposure to chemical hazards in food

(i) Based on WHO approach through total diet studies, promoted for many years as they provide the most realistic picture of exposure to chemicals in food. Information and time trends on dietary exposure to most common priority contaminants from countries that have been conducting total diet studies (Belgium, Czech Republic, Finland, France, Germany, Hungary, Lithuania, Netherlands, Poland, Slovakia, Spain, UK) should be available from WHO Food safety programme (F. Gore, G. Moy). Check http://www.who.int/foodsafety/chem/TDS_recipe_2005_en.pdf for illustration of the approach and example of dietary exposure to lead for Japan, UK, USA

(ii) Possible parallels with US CDC Third report (July, 2005) the most extensive assessment of the exposure of the U.S. population to chemicals in our environment (at http://www.cdc.gov/exposurereport/)

(iii) Highlight examples of good practice of regularly conducted studies to monitor/ control contaminants

(iv) Emphasize that food-borne diseases are largely preventable

3. Policy description
   - 3.1 POPs: The Stockholm Convention on POPs (check http://www.pops.int/); highlight that currently an agreement is under way to include human milk as one of the core matrices to be monitored and that UNEP is supporting expansion of the survey to include all of the current 142 ratifying countries. Mention also the EU concerted effort on human bio-monitoring
   - 3.2 EU EPER and UNECE PRTR at http://ec.europa.eu/environment/ippc/eper/index.htm
   - 3.3 EU Seveso II Directive (96/82/EC) at http://mahbsrv.jrc.it/Framework-Seveso2-LEG-EN.html .In 2003 the EU amended the Seveso II. The amendments expanded the scope of the Seveso II Directive to include a larger number of potentially dangerous activities and sites, i.e. processing activities in mining, pyrotechnic and explosive manufacturing sites, and sites for the storage of ammonium nitrate and similar fertilizers. EU member countries are to implement the newly amended Seveso II by mid-2005.
   - 3.4 Mention the REACH – a new EU regulatory framework on chemicals with the aim to improve the protection of the human health and the environment through a better and earlier identification of the properties of the chemical substances (http://www.eu.nl/environment/chemicals/reach/reach_intro.htm)
   - 3.5 WHO global strategy on safe food at http://www.who.int/foodsafety/en/
   - 3.6 Can a rough estimate of the health benefits be given? References??

4. Conclusions: on the overall progress based on the abovementioned.
   - 4.1 POPs: also emphasize the importance of breastfeeding
   - 4.2 Chemical contaminants in food

- **Lead: an issue of concern in Europe**

2. EH assessments:
   Indicators to be used '*Blood lead level in children*' based on case studies Bulgaria, Czech Republic, France, FYROM, Poland, Romania, Sweden, also Israel (EHP, June 2006).
   2.1 Give the Region-wide distribution (from http://www.who.int/ceh/publications/14lead.pdf), then move to the case studies. Comment on trends, when possible by area/ countries. If possible make some projection using the WHO environmental burden of disease assessment from lead (EBoD Series, No2 at http://www.who.int/quantifying_ehimpacts/publications/en/leadebd2.pdf).
   2.2 Possible parallels with US CDC Third report (July, 2005) the most extensive assessment of the exposure of the U.S. population to chemicals in our environment (at http://www.cdc.gov/exposurereport/)
   2.3 Highlight examples of good practice in monitoring blood lead (e.g. Czech EH monitoring system, 2004 report at http://www.szu.cz/chzp/rep04/html_an/ka05_08.htm).

3. Policies for phasing out lead: comment on the unleaded gasoline (e.g. from http://www.who.int/ceh/publications/en/17leadout.pdf) and that leaded gasoline is still sold in some countries towards the east of the Region (e.g. Azerbaijan). Give idea about potential health benefits (from the above poster and WHO EBoD series No 2).

4. Conclusions about the overall progress and information/ monitoring needs

- **Child labour in Europe**

2. EH Assessments
   Indicator to be used: '*Work injuries among employees under 18 years of age*' Eurostat 'Standardised incidence of rate of accidents at work by age, economic activity, severity (rate per 100,000 workers)'; EU-15 and Norway, EU_NO average, years 2000-03, age groups 0-17, 18-24 yr. Data available only for injuries (4 days absence or more).
   Possible time-trends and benchmarking (EU_NO average); mention the problems with data reliability because of the denominator. Data on working population for these age categories is rather unstable, people change working status within the year (working, studying, etc.).

3. Policy: ILO Convention 182 to combat worst forms of child labour has been ratified by all but six WHO/EURO MS. Relevant-EU policies on health and safety at work? Reporting is becoming mandatory as of 2006.

4. Conclusions

- **Enjoying the sun safely**

1. Health issue: indicator '*Incidence of melanoma under 50 years of age*'; which countries have higher incidence; time-trends (if available). Burden of disease to Global

Solar UV radiation estimates available (; http://www.who.int/uv/health/solaruvradfull_180706.pdf)

2. EH assessment
   Give risks of UV radiation (http://www.who.int/mediacentre/factsheets/fs305/en/index.html), UV index (mean UV radiation level 2003, the map from http://www.who.int/ceh/publications/en/19uvradiation.pdf) also for downloadable graphics check http://www.who.int/uv/intersunprogramme/activities/uv_index/en/index2.html.
   Emphasize the risks for children http://www.who.int/ceh/publications/en/19uvradiation.pdf)

3. Policy description: Indicator: '*Policies and actions to lower children's UV exposure*' see also http://www.who.int/features/qa/40/en/ and the WHO practical guide on global solar UV index at http://www.who.int/uv/publications/en/GlobalUVI.pdf.
   Comment on gaps in existing regulations, and possible examples of good practice (from the indicator/ country data).
   3.1. The page http://www.who.int/uv/intersunprogramme/activities/uv_index/en/index4.html contains a number of links to national institutions which report the solar UV index (e.g. Czech Republic, Greece etc.)
   3.2. Give other case examples of UV forecast and warnings e.g. the Norwegian Institute of Air Research NILU (http://www.nilu.no/index.cfm?lan_id=3)
   3.3. Montreal protocol (1987) to phase out ozone-depleting substances has proved that the world can work together to solve global environmental problems

4. Conclusions

	Indicators to be used
1.	Incidence of melanoma under 50 years of age
2.	Incidence of childhood leukaemia
3.	Work injuries in employees under 18 years of age
4.	Children's exposure to chemical hazards in food
5.	POPs in human breast milk
6.	Blood lead level in children (case studies)
7.	Policies to lower children's UV exposure

ENHIS-2

WORK PACKAGE 3 (WP3) RESULTS

Deliverables:

1. **Methodology for identification of information needs for policies (month 9)**
2. **Annual assessment of new information needs - Part 1 (month 10)**
3. Guidelines for generating information for policy support (month 20)
4. Annual assessment of new information needs - Part 2 (month 22)

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

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ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

EUROPEAN CENTRE FOR ENVIRONMENT AND HEALTH

BONN OFFICE

ENHIS-2
WP3 Methodology for indentification of information needs of EH policies

Methodology report
EH policy questionnaire
EH policy information database
Comparative policy assessment frame
Policy case evaluation questionnaire

List of Figures

1. Introduction to policy assessment methodology

To enhance the policy-relevance of the Environment and Health (EH) Information System, WP3 systematically reviews and evaluates the information needs of national environmental health policies in Europe. The WP3 objective is to determine the contents and format of information needed to monitor and evaluate policy effectiveness in hazardous exposure reduction and associated health benefits generation.

National environmental health policies in 18 ENHIS-2 partner countries are assessed according to the criteria of an accountable environmental health policy. A policy must (i) have defined objectives for improvement of environment quality and public health and/or reduction of individual risks. The policy must (ii) be founded on a science based construct of the chain

of events from source to exposure (exposure model) to health impact (dose/response or toxicological model), which allows the impacts of alternative source control actions on health outcomes to be predicted and compared. And finally, policy implementation must (iii) incorporate a follow up programme, which is geared to monitor the changes in environmental contamination, exposure and health effects due to implementation of the policy, which allows validation of the applied source – exposure – effects model and verification of the progress towards meeting the policy objectives, and which also guides modification of the policy as necessitated by the feedback from the monitoring programme.

To identify national policies on exposure to environmental hazards, its determinants and health effects as well as to assess the policy accountability - methodological tools have been developed: a renewed EH policy questionnaire, EH policy information database in Microsoft Excel © format, a comparative policy assessment frame and a policy case evaluation questionnaire. The development of methodology involved the following steps.

1. A technical meeting was convened at WHO ECEH Bonn on 29 May 2006 to agree on a common approach and questionnaire for children's EH policy review across Europe, carried out by ENHIS-2 WP3 and another WHO coordinated project co-funded by Health Canada. During this meeting the scope and policy aspects of WP3 as well as the methods and tools were discussed in detail. Reflections and ideas were formulated about priorities and mechanisms to improve policy accountability concerning population health across Europe. The meeting minutes are uploaded on the common project web platform Sharepoint[1] and available on request.
2. An EH policy questionnaire was developed in ENHIS WP1[2]. The renewed policy questionnaire in ENHIS-2 is framed in the context of the CEHAPE regional priority goals (RPG) so as to provide a comprehensive structure and clear link to the general project rationale. The scope of the questionnaire is based on a selected set of ECOEHIS[3] and ENHIS indicators that provided the underlying rationale for defining the topics of inquiry. The questionnaire topics are organized according to policy description, rationale, accountability and information needs to make possible a comprehensive assessment of national EH policies. The wordings in this quite challenging questionnaire were improved in order to lead to the most comprehensive and unambiguous answers possible.
3. The questionnaire and country answers are uploaded on the common project web platform Sharepoint and available on request. Suggestions from our German partner (LOEGD) and the Health Canada project coordinator in WHO plus the lessons learned from the questionnaire implementation process are incorporated in the final version of the policy questionnaire (please find in following chapter 2).
4. ENHIS-2 partners (interviewers) were instructed about the questionnaire implementation procedure in their countries. Technical guidance was provided by email and phone together with a general introductory letter to the policy experts and officials (interviewees) (see chapter 3). A direct and personal approach of interviewees resulted in more complete and comprehensive outcomes than was achieved in the first questionnaire implementation in ENHIS.
5. The EH policy information database was developed in ENHIS WP1. This tool provides detailed information on national EH policies and the policy making process in the 18 partner countries. The EH policy information database has been updated and supplemented with the more detailed and complete policy information resulting from the questionnaire responses collected between May and September 2006 and inclusion of

[1] Online communication tool and common project office

[2] In the ENHIS project (Implementing Environment and Health Information System) our work was organised in work package 1.

[3] ECOEHIS focused on the Development of Environment and Health Indicators for European Union Countries.

results from similar projects (WHO project on Housing and Health Legislation co-funded by French MoH, see http://www.euro.who.int/Housing/Publications and Children´s Health and Environment: Review of Legislation a.k.a. Health Canada Project), information extracted from the EEHC website (EH Progress by country http://www.euro.who.int/eehc/ctryinfo/ctryinfo) and WHO databases for ETS (WHO Tobacco Control Database - Smoke free areas and public transport policies http://data.euro.who.int/tobacco/) and traffic (WHO Alcohol Control Database - Drink Driving policies http://data.euro.who.int/alcohol/). (Partly) completed questionnaires were received from 17 out of the 18 partner countries. The database requires continuous updating and should be professionalized in the near future regarding structure, readability and accessibility. The current structure of the database is presented in chapter 4.

6. The central part of the policy assessment report includes the comparative assessment section in which the results per EH topic are evaluated by means of evaluation questions, comparing the questionnaire responses and other findings for each of the EH topics between the partner countries. The questions are structured according to policy description, rationale and accountability. The gaps and information needs in policy making are explicated per topic as well, from which general remarks are derived in the succeeding section. (see chapter 5)
7. The comparative EH policy assessment provides a starting point for the selection of policy case studies out of the collected national EH policies. For each of the cases, WP3 will thoroughly study the policy making process, emphasising the description of health-related policy objectives, the underlying rationale and policy effectiveness in health terms. Four cases will be selected, one for each CEHAPE RPG. A case refers to a single national legislative policy (e.g. regulation or law). The selected national policy documents will first be explored by means of text analysis. The policy case evaluation questionnaire will serve as a frame for in-depth evaluation of the policy; it is presented in chapter 6. Content guidelines for the case study procedure are being developed and will include guidance on selection and identification of the appropriate authorities (and persons concerned) involved at different levels with initiation, formulation, implementation and follow-up of the selected policy documents. The guidance will also include 'hard talk' interview instructions with national and regional policy experts about accountability issues in the policy implementation and follow-up process of the selected policy documents.

1.1. Use of methodology in future policy assessment applications

The development of the EH policy assessment methodology started in the ENHIS project in 2004 and will be finalised in the ENHIS-2 project in 2007; see numbered bullet 7 in the previous section. WHO ECEH Bonn Office has initiated and co-ordinated an effort of developing a policy assessment methodology in ENHIS and ENHIS-2. The actual development was principally carried out by the Finnish ENHIS and ENHIS-2 partner (KTL) with the help of a number of partners in the work package. It would be wise to promote this methodology for application in future potential EH policy assessment studies and projects in Europe. To have policy assessors retrieve EH policy information and assess the policy accountability in depth by using the methodology as described in this report, would result in one comprehensive, complete and thorough European-wide EH policy accountability assessment. Besides, it would be a needless and time consuming effort to re-invent the wheel of how to carry out EH policy assessment; this methodology report provides and describes a basic policy assessment methodology approach and accompanying tools, which can be adjusted to achieve specific study or project objectives. Moreover, scattered efforts to assess, improve and strengthen the EH policy accountability would not serve but rather confuse the European and national EH policy experts – they will benefit from a common policy assessment methodology.

At present, the WHO coordinated Health Canada project is implementing and using the ENHIS-2 WP3 policy assessment methodology and approach, somewhat adjusted to their project objectives, in order to identify the EH policy situation in the pan-European region. Their experience should be added to ours and result in an improved policy assessment methodology. For this purpose, WP3 proposes to have the methodology published in publicly accessible websites as well as in specific policy expert networks. A user's experience interface should be created and accordingly managed to improve the policy assessment methodology. KTL is willing to host this interface, but would depend for its success on public linkages in WHO websites (e.g. ENHIS-2 website) and WHO publication and promotion of the methodology. In the second ENHIS-2 project year, WP3 will elaborate the organisation of the EH policy assessment methodology promotion activities.

2. EH policy questionnaire

WP3 proposes the following questionnaire structure (see figure 1) to identify and collect EH policy information at a pan-European scale. Pan- European national policy information for the core EH topics will provide a balanced and comprehensive picture of the policy actions for the main environmental health risks across the WHO European Region.
A division of the EH topics in a core and extended set is expected to result in a most efficient and complete information collection for European EH priority issues and additional national EH topics. In the ENHIS-2 exercise we did not distinguish between a core and extended set, and retrieved policy information for all topics. Most partners were not able to retrieve policy information for the complete set of topics due to problems in finding the appropriate contacts at the responsible ministries, their lack of co-operation related to time restraints and / or difficulties in answering the descriptive questions.

Figure 1 EH policy questionnaire outline

Core set of Environment and Health Policy Topics

RPG I

Topic: Water

Subtopic: Drinking water supplies
Subtopic: Bathing waters

RPG II

Topic: Housing

Subtopic: Hygienic conditions in dwellings
Subtopic: Extreme cold
Subtopic: Housing safety and accidents

RPG III

Topic: Air Quality

Subtopic: Particulate matter in outdoor air
Subtopic: Environmental Tobacco Smoke (ETS)

RPG IV

Topic: Chemical Hazards

Subtopic: Chemical hazards in food

Extended set of Environment and Health Policy Topics

RPG II

Topic: Traffic

Subtopic: Transport accidents

Topic: Housing

Subtopic: Home violence, crime and vandalism in residential areas

RPG III

Topic: Air Quality

Subtopic: Ozone in outdoor air

The questions are similar for each topic and organised in general and specific questions. The EH policy questionnaire was drafted in April and May 2006 and implemented in ENHIS-2 countries from May until November 2006. In Figure 2, a renewed questionnaire is proposed, drafted in October 2006, on the basis of improved versions of the EH policy questionnaire, which were drafted in the WHO coordinated Health Canada project and by the German ENHIS-2 partner (Lögd NRW).

Figure 2 displays the questionnaire section on water and its subtopic on drinking water supplies. The general question 1 is asking for national policies in place to implement European legislation. This question is only added for the topics water, air quality and noise, since national policies in these topics are subject to a clear European policy framework. The general questions ask for the contents and organisational structure of the national policies and likewise for their implementation and follow-up measures. The specific questions ask for more information about the information needs for policymaking in the subtopic. The questionnaire should be completed by referring to and supplementing already collected policy information, which is added in the annex and based on the information in the EH policy database.

Figure 2 EH policy questionnaire - Example drinking water supplies

Subtopic: Drinking water supplies

Right in the end of this topic, please find the previously collected environmental health information from your country, as stated in our database. Feel free to use or refer to this material in completing your contribution. You may also want to consult the database containing the answers from many other European countries, as explained in the instruction on page 1.

General question 1: Council Directive 98/83/EC

a) Describe the principal national policy[4] - law, regulation, guideline - related to drinking water supplies in place to implement Council Directive 98/83/EC.

Please provide the following information.

- Exact title of the policy;
- Brief description of the policy mission (max. 25 words);
- Text of the policy, either by web link or attachment (may also be in its original language);
- Date when the policy was adopted;
- Date of the enforcement of the policy;
- Responsible authorities at national, provincial/regional and municipal/local policy level.

b) Does the policy have quantitative exposure reduction or health promotion objectives?

YES ☐ NO ☐

If YES, please describe.

►

c) Does the policy explicitly consider children and their health?

YES ☐ NO ☐

If YES, describe and if possible give reference to the passage in the policy text

►

d) Describe the policy measures - abatement programme, action plan - in place to enforce the principal national policy.

Please provide the following information for each of the policy measures.

- Exact title of the policy measure;
- Brief description of the measure´ objectives;
- Text of the policy measure, either by web link or attachment (may also be in its original language);
- Stakeholders groups - administration, industry, public - involved with its implementation;
- If 1c) is answered yes, describe how the policy measure explicitly considers children and their health.

e) Is there a follow-up programme to monitor or evaluate the actual exposure reduction or health improvement achieved by the implemented policy?

YES ☐ NO ☐

If YES, please provide the following information.

- Exact title of the programme;
- Brief description of the programme´ objective;
- Text of the programme, either by web link or attachment (may also be in its original language);
- Stakeholders groups - administration, industry, public - involved with its implementation;
- If 1c) is answered yes, describe how the policy measure explicitly considers children and their health.

General question 2: Policies in addition to Council Directive 98/83/EC

[4] For the purpose of this questionnaire, a policy refers to a written document endorsed by the government and/or parliament, which includes a set of statements and decisions defining goals, principles, priorities, main directions, obligations and responsibilities for attaining the goals.

a) Are there national/federal policies - law, regulation, guideline, water safety plan[5] - related to drinking water supplies in place in addition to Council Directive 98/83/EC?

YES ☐ NO ☐

If YES, please provide the following information for each of the policies

- Exact title of the policy;
- Brief description of the policy mission (max. 25 words);
- Source – exposure – health rationale of the national/federal policy;
- Text of the policy, either by web link or attachment (may also be in its original language)
- Date when the policy was adopted;
- Date of the enforcement of the policy;
- Responsible authorities at national, provincial/regional and municipal/local policy level.

b) Does the policy have quantitative exposure reduction or health promotion objectives?

YES ☐ NO ☐

If YES, please describe.

►

c) Does the policy explicitly consider children and their health?

YES ☐ NO ☐

If YES, describe and if possible give reference to the passage in the policy text

►

d) Describe the measures - abatement programme, action plan - in place to enforce the national policy.

Please provide the following information for each of the policy measures.

- Exact title of the policy measure;
- Brief description of the measure´ objectives;
- Text of the policy measure, either by web link or attachment (may also be in its original language);
- Stakeholders groups - administration, industry, public - involved with its implementation.
- If 2c) is answered yes, describe how the policy measure explicitly considers children and their health.

e) Is there a follow-up programme to monitor or evaluate the actual exposure reduction or health improvement achieved by the implemented policy?

YES ☐ NO ☐

If YES, please provide the following information.

- Exact title of the programme;
- Brief description of the programme´ objective;
- Text of the programme, either by web link or attachment (may also be in its original language);
- Stakeholders groups - administration, industry, public - involved with its implementation.
- If 2c) is answered yes, describe how the policy measure explicitly considers children and their health.

Specific question 1: Level of compliance

Is there a formal obligation to record and report the level of compliance for regulated drinking water supplies with mandatory standards?

YES ☐ NO ☐

If YES, please describe.

►

Specific question 2: Information input

[5] Please check http://www.who.int/wsportal for practical guidance and case studies about the development of water safety plans.

Please indicate your need, either as "Essential", "Desirable" or "Not necessary", for (improved) input regarding the following types of EH information in the drinking water policy-making process:

Type of EH information	Essential	Desirable	Not necessary
Explanation of exposure – health linkage[6]	☐	☐	☐
Application of monitoring methods	☐	☐	☐
Identification of actions for policy improvement	☐	☐	☐
Other: _____	☐	☐	☐

Specific question 3: Information gaps

Are there information gaps in the policy process on drinking water? If yes, please mark in what policy phase (formulation, implementation, accountability[7]) and, if possible, specify your information needs and ideas for improvement.

☐ Policy formulation

►

☐ Policy implementation

►

☐ Policy accountability

►

Annex: Environmental Health policy information available from (COUNTRY) [see EH policy database]

2.1. Interviewers guidance

One person from each ENHIS-2 partner country was asked to contribute to the EH policy information questionnaire implementation in his or her respective country. A guidance letter was prepared on how to start and implement the questionnaire. The interviewer (ENHIS-2 partner) was asked to check the already available EH country policy information from ENHIS and additional sources on completeness and consistency and to decide accordingly what questions needed further elaboration. It was advised to first contact a sufficient number of colleagues to cover each of the topics of the inquiry. In succession, outside contact with appropriate policy experts was necessary for obtaining more detailed answers, in particular to the specific questions. The interviewers were instructed to contact the respondents preferably face-to-face or directly by phone, which is most likely to result in a co-operative and complete response. This direct approach also allowed for a personalised clarification of the questions by the interviewer, and likewise for the answers by the interviewees. The questionnaire is divided in seven EH topics and subsequent subtopics, which were distributed to a number of interviewees who covered one or more of the topics of inquiry, along with the questionnaire instruction, indicator methodology sheets and the EH policy information database. Answers could be provided in domestic language and were subsequently checked and translated by the interviewer.

[6] Research results and sources regarding the relationship between exposure and health information

[7] Policy accountability refers to actions undertaken by a responsible authority to enforce policy objectives and implementation.

3. EH policy information database

The database is currently outlined in Microsoft Excel © format. 16 working sheets display the country responses for the seven EH policy topics and their subtopics. The first working sheet includes contact information of the national EH focal points. The database structure is based on the questionnaire outline, as used in the ENHIS-2 exercise (and thus different from figure 2) according to policy description, policy rationale and policy accountability for the general questions and split up in three columns for the specific questions (see figure 3 and 4). The ENHIS country response to the general questions was inserted for the ENHIS partner countries and accordingly updated with the ENHIS-2 response. The additional information columns display policy information retrieved from relevant sources (see figure 5). In rows, the 18 ENHIS-2 partner countries are alphabetically listed. Six countries have provided answers to all EH topics – Czech Republic, Germany, Hungary, Portugal, Slovak Republic, and Slovenia. Especially for policy accountability – related questions and the specific questions the completeness of the responses is lacking.

Figure 3 Database structure for general questions

Policy description: National/federal policies to implement Council Directive (no). Year of implementation.	**Policy description:** Authority in charge of policy development and enforcement.	**Policy description:** Focus on children	**Policy description:** National/federal policies in addition to Council Directive (no). Year of implementation.	**Policy description:** Authority in charge of policy development and enforcement.	**Policy description:** Focus on children	**Policy rationale:** Rationale of the national/ federal policies in place in addition to Council Directive (no).	**Policy accountability:** Specific source - exposure – health scenario to monitor / prevent / reduce. Focus on children	**Policy accountability:** Quantitative exposure reduction and/or health promotion objectives. Focus on children	**Policy accountability:** Follow up programme to monitor the actual exposure reduction and/or health improvement achieved by the implemented policy. Focus on children

Figure 4 Database structure for specific questions

Compliance to EC Directive: Formal obligation to record and report the level of compliance with mandatory standards	**EH information**: Type of EH topics and information as essential or desirable input	**Gaps in policymaking**: Information gaps in the policy process

Figure 5 Additional sources of policy information

WHO project on Housing and HealthLegislation co-funded by French MoH http://www.euro.who.int/Housing/Publications	Children´s Health and Environment: Review of Legislation a.k.a. **Health Canada Project**	**EH Progress by country** http://www.euro.who.int/eehc/ctryinfo/ctryinfo	**WHO Alcohol Control Database - Drink Driving policies** http://data.euro.who.int/alcohol/	**WHO Tobacco Control Database - Smoke free areas and public transport policies** http://data.euro.who.int/tobacco/

4. Comparative policy assessment frame

An EH policy assessment report has been drafted to display the outcomes of the WP3 EH policy questionnaire implementation. The questionnaire responses have been analysed and compared between the ENHIS-2 partner countries according to evaluation questions, see figure 6. The policy assessment sections were written by the WP3 ENHIS-2 partners. By answering the questions, similarities and differences between the national policies for a specific EH topic are described and clarified.
The evaluation questions have been partly derived from the Health Canada´s Health Policy Research Program (HPRP) project report. [1]

Figure 6 Comparative policy assessment frame

Reporting countries

List the countries that responded to the ENHIS-2 questionnaire

Key message

Include brief statements about the level of harmonization (strong EU directives or mostly national approaches) and the level of accountability in population health terms.

Policy description

1. What are the types of policies?
   - Laws (statutes), regulations, guidelines, action programmes, abatement measures.
   - Describe differences in legal status, scope, enforcement, etc.
2. What are the stated goals or purposes of the policies?
3. What is the specific focus of the policies?
4. Population groups targeted by the policies?
   - Are children explicitly considered?

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?
7. Are there provisions for follow-up or policy review?

Gaps and needs in the (topic)-related policymaking process

List the reported gaps and information needs in the policy formulation, policy implementation and policy accountability phase.

5. EH policy case evaluation

The policy case evaluation questionnaire aims to guide the policy text analysis; the first step in the case study procedure (see figure 7). WP3 ENHIS-2 partners are responsible for completing this questionnaire. The background evaluation questions ask for the position and significance of the EH topic in the national policy context. The subsequent policy evaluation section asks the respondent to thoroughly examine the selected national policy document and to answer the detailed questions. The policy evaluation questions have been based on the EH policy questionnaire as presented in figure 2, but include additional focused questions, for example about co-ordination between stakeholders. Education and awareness activities with respect to the EH topic are evaluated so as to get an insight into public involvement and professional strengthening efforts. As a result from the previous evaluation sections, the policy gaps and needs for improvement can be evaluated and formulated by the respondent. This section provides the point of departure for the formulation of interview questions – a following step in de case study procedure.

Figure 7 Policy case evaluation questionnaire

Subtopic: Environmental Tobacco Smoke (ETS)

Background evaluation

- How far is prevention or reduction of ETS exposure seen as a priority in your country?
- Does your country face any particular challenges in relation to tobacco smoke and health?
- Overall, would you say that progress has been made since 2004, on reducing the number of children exposed to tobacco smoke?
- Is the precautionary approach applied in ETS policy considerations?

Policy evaluation

a) Describe the principal national policy[8] related to ETS - law, regulation, guideline - in place to implement European policies, such as Council Recommendation 2003/54/EC, WHO Framework Convention on Tobacco Control

Please provide the following information.

- Exact title of the policy;
- Brief (historical) description of the underlying European and national policy frame;
- Brief description of the policy mission;
- Application domain of the policy e.g. occupational, residential, public indoor spaces;
- Explanation of policy focus on ETS;
- Source – exposure – health rationale of the policy;
- Text of the policy, either by web link or attachment (may also be in its original language);
- Date when the policy was adopted;
- Responsible authorities at national, provincial/regional and municipal/local policy level;

b) Does the policy have quantitative exposure reduction or health promotion objectives?

YES ☐ NO ☐

If YES, please describe.

►

c) Does the policy explicitly consider children and their health?

YES ☐ NO ☐

[8] A policy refers to a written document endorsed by the government and/or parliament, which includes a set of statements and decisions defining goals, principles, priorities, main directions, obligations and responsibilities for attaining the goals.

If YES, describe and if possible give reference to the passage in the policy text

►

d) Describe the policy measures - abatement programme, action plan - in place to enforce the principal national policy.

Please provide the following information for each of the policy measures.

- Exact title of the policy measure;
- Brief description of the measure´ objectives;
- If 1c) is answered yes, describe how the policy measure aims to reduce ETS exposure among children;
- Text of the policy measure, either by web link or attachment (may also be in its original language);
- To what extent are local authorities, NGOs, research and academic bodies, the media, private industry, and other sectors actively involved with its implementation;
- Explanation of coordination system between different stakeholders;
- Description of reporting requirements to responsible authorities.

e) Is there a follow-up programme to monitor or evaluate the actual exposure reduction or health improvement achieved by the implemented policy?

YES ☐ NO ☐

If YES, please provide the following information.

- Exact title of the programme;
- Brief description of the programme´ objective;
- If 1c) is answered yes, describe how the follow-up programme measures ETS exposure reduction among children.
- What tools are used for policy evaluation, e.g. exposure indicators, cost-benefit analysis;
- Text of the programme, either by web link or attachment (may also be in its original language);
- To what extent are local authorities, NGOs, research and academic bodies, the media, private industry, and other sectors actively involved with its implementation;
- Explanation of coordination system between different stakeholders;
- Description of reporting requirements to responsible authorities.

Education and awareness

- Do you have any figures (or estimates) on how many children are affected by ETS exposure in your country?
- Do you have any education or awareness programmes among the public, parents, schools, communities or included in professional training related to ETS exposure prevention or reduction?
- Are there any relevant national websites, publications or research that you would like to mention?

Identification of policy gaps and needs for improvement[9]

- Do you personally think the national policy well enough covers the issue of ETS exposure?
- Do you recognise gaps in the policy document?
- Which challenges and constraints do you identify on this policy issue (such as level of political support, public awareness, policy and institutional framework, finance, technical capacity, adequacy of monitoring systems, etc.)?

Reference

1. *Spady, D.W., Governance Instruments and Child Health: Informing Canadian Policy, Health Canada´s Health Policy Research Program (HPRP), Editor. 2006, University of Alberta: Alberta.*

[9] The evaluation on gaps and needs provides the basis for the formulation of interview questions to national and regional policy experts

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EUROPEAN CENTRE FOR ENVIRONMENT AND HEALTH

BONN OFFICE

ENHIS-2
WP3 Annual assessment report of policy information needs with a focus on child-relevant EH policies

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Environmental Health Policies in 18 countries of Europe

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Executive summary

To be written

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Introduction

Environmental health policies are implemented to bring along safer environment, improve public health and reduce risks to individuals. These benefits should be weighed against their undesired costs and restrictions which affect individuals, businesses and entire societies. Ideally the policies should be strengthened, modified or cancelled according to how well or poorly they meet their environmental health objectives. The term accountability should become a prominent integrated part in environmental health policymaking.

This report provides national policy makers, policy executives, professionals and other interested parties with a review of national legislative policy incentives and monitoring / follow-up programmes in environmental health. In particular, this report discusses national policy developments in support of the Children's Health and Environment Action Plan (CEHAPE). By means of a cross-country analysis of national environmental health policies and discussion about information gaps and needs in national environmental health policymaking, it is expected to raise awareness and motivation for the development of accountable policies and actions.

Background and rationale

This first chapter briefly describes the European and national environmental health policy context. The environmental health policy domain as such was recognised by European and national environment and health policy officials at the first environment and health ministerial conference in 1989, Frankfurt – Germany. This conference resulted in release of the Environmental Health Process in Europe (EHPE). In the light of EHPE several processes have been started at European and national level. The first section discusses the European environmental health policy context; its main achievements, actors and discourses. The trans-national character of environmental health affects national environmental health policymaking, which is explained in section two.

European policy context

The Environment and Health Process for Europe (EHPE) with its ministerial conferences and their resulting policy programmes comprise the backbone of the European environmental health policy context. EHPE was released at the First Ministerial Conference on Environment and Health in 1989, Frankfurt – Germany. This process is aimed at interlinking the environment and health sectors by strengthening their collaboration at international and national level, focusing on health aspects of environmental problems. At the Second Ministerial Conference on Environment and Health in 1994, Helsinki – Finland the integration discourse was set forth. This discourse acknowledges the linkage between environment and health and recognises the importance to institutionally strengthen the environmental health policy sector and improve co-operation between the environment and health sector at European and national level. The ministerial declaration and the Environmental Health Action Plan for Europe (EHAPE) put these ideas together into an environmental health vision and priority actions. EHAPE provides the frame for the development of National Environmental Health Action Plans (NEHAP). The Third Ministerial Conference on Environment and Health in 1999, London – UK agreed on further implementation of NEHAPs into LEHAPs (Local Environmental Health Action Plans). [1]

At the Aarhus Conference on the 'Environment for Europe' process on 25 June 1998, the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters was adopted. The Aarhus Convention links environmental rights and human rights. It acknowledges that we owe an obligation to future generations. It establishes that sustainable development can be achieved only through the involvement of all stakeholders. It links government accountability and environmental protection. It focuses on interactions between the public and public authorities in a democratic context. [2]

In June 2003 the Directorate-Generals Environment, Research and Health launched the European Environment and Health Strategy. This Strategy builds upon the Commission's Sixth Environment Action Programme "Environment 2010: Our Future, Our Choice", which highlights the interrelation of environment and health and emphasises children as a particular group of attention. The strategy defines the need to scale up efforts to protect, in line with the objective of sustainable development, human health and in particular the most vulnerable groups in society. This approach is called 'SCALE', an acronym for Science, Children, Awareness, Legislation and Evaluation. The focus is on child

disease areas that are linked to environmental factors. The discourse "environment, health and children" is elaborated into the European Environment and Health Action Plan 2004 – 2010. The Action Plan was presented at the Fourth Ministerial Conference on Environment and Health in June 2004, Budapest - Hungary. The plan identifies 13 actions with a focus on (i) improving the information chain by developing integrated environment and health information, (ii) filling the knowledge gap by strengthening research on environment and health and identifying emerging issues and (iii) reviewing and adjusting risk reduction policy and improving communication. The Environment and Health Action Plan 2004-2010 proposes an information system on Environment and Health (http://ec.europa.eu/environment/health/index_en.htm). Along with this Action Plan a separate action plan was developed for children's environment and health: CEHAPE. The plan highlights the need to consider children as a particular group of attention during the development of environmental health policies, as they have a high vulnerability to environmental pollutants. It focuses on four regional priority goals for Europe: safe water and adequate sanitation, injury protection and adequate physical activity, clean outdoor and indoor air; and reduction of chemicals in the environment. CEHAPE must be translated into national actions plans (CEHAPs) before 2007. [1]

The scope of this report includes seven environmental health (EH) topics that are related to the CEHAPE regional priority goals and are defined as priority issues.

1. Water – drinking water supplies and bathing water
2. Traffic – transport accidents
3. Housing – Hygienic conditions in dwellings; Home violence, crime and vandalism in residential areas; Extreme cold and heat; Housing safety and accidents
4. Air Quality – Particulate matter, ozone, nitrogen dioxide and sulphur dioxide in outdoor air; Environmental tobacco smoke (ETS)
5. Noise – Indoor and outdoor noise levels and sources
6. Radiation – Skin cancer and UV radiation; Indoor radon
7. Chemical hazards – Chemical hazards in food

International actors, such as the European Commission and the World Health Organization (WHO) issue policies - the former mainly in terms of directives, action plans or frameworks and the latter essentially in terms of conventions, guidelines or protocols - with the purpose of committing European member and candidate countries[10] to environment and health protection.

EH policies are established at European level for water, traffic, housing, air quality, noise and chemical hazards (see table 1). Different types of policies can be recognised. The term policy in the context of environmental health should be interpreted according to the following policy aspects.

- The policy focus: Directly or indirectly (via environmental measures) addressing health consequences due to environmental exposure.
- The policy strength: The potency of binding proper authorities, e.g. European member and candidate countries to policy enforcement, e.g. national policy development.
- The policy structure: European and national policy frameworks are formulated in i.e. laws (statutes), regulations and guidelines. These frameworks are implemented in plans of action - identifying different policy alternatives according to their cost-benefit profiles, abatement programs or monitoring strategies.

The European policies listed below cover a selection of the principal EH policies for the prioritised EH topics in ENHIS-2.

Table 1 Environmental Health Policies in Europe

EH domain	*Policy title*	*Scope*
Water	Council Directive 98/83/EC on the	The objective of the Drinking Water Directive is to protect the health of the consumers in the European Union and to make sure the water is wholesome

[10] There are 16 member countries and two candidate countries - Bulgaria and Romania – participating in the ENHIS-2 project.

	quality of drinking water	and clean (free of unacceptable taste, odour, colour) and that it has a pleasant appearance. It sets standards for the most common substances (so-called parameters) that can be found in drinking water; a total of 48 microbiological and chemical parameters must be monitored and tested regularly .(http://ec.europa.eu/environment/water/water-drink/index_en.html)
	Council Directive 2006/7/CE and 76/160/EEC concerning the quality of bathing water	The 1976 Bathing Water Directive has set binding microbiological standards in the receiving waters where bathing is traditionally practiced by large numbers of bathers. The new directive has three main aims: to tighten but simplify the health standards for bathing water; to improve the management of bathing sites and the provision of public information about them; and to streamline water quality monitoring programmes. (http://ec.europa.eu/water/water-bathing/index_en.html)
	UNECE Protocol on Water and Health (1999)	The main aim of the Protocol is to protect human health and well being by better water management, including the protection of water ecosystems, and by preventing, controlling and reducing water-related diseases. The Protocol is the first international agreement of its kind adopted specifically to attain an adequate supply of safe drinking water and adequate sanitation for everyone, and effectively protect water used as a source of drinking water. (http://www.unece.org/env/water/text/text_protocol.htm)
Traffic	European Road Safety Action Programme (EC communication - White Paper on European transport policy)	This programme sets out, with the requisite level of detail, specific measures and reaffirms the overall of halving the number of road accident victims by 2010. The programme aims to encourage road users to improve their behaviour, to make vehicle safer, and to improve road infrastructure. (http://ec.europa.eu/transport/road/roadsafety/rsap/index_en.htm)
Housing	United Nations Housing Rights Programme	The substantive focus of the programme is grounded in the Habitat Agenda, in particular paragraph 61, which states that *"Within the overall context of an enabling approach, Governments should take appropriate action in order to promote, protect and ensure the full and progressive realization of the right to adequate housing"*. (http://www.unhabitat.org/)
	Proposal for a Council Recommendation on the Prevention of Injury and the Promotion of Safety	A first step to combine the efforts of the Commission with those of the Member States for actions for a safer Europe, in order to reduce the costs that the health system has to undergo because of injuries. Member States are recommended to (i) develop a national injury surveillance and reporting system, which monitors the evolution of injury risks and the effects of prevention measures over time; (ii) set up national plans for preventing accidents and injuries initiating interdepartmental co-operation; (iii) ensure that injury prevention of safety promotion is introduced in a systematic way in vocational training of health care professionals. The Commission is recommended to: (i) support a Community-wide injury surveillance exchange based on injury data provided by the Member States; (ii) establish a Community-wide mechanism for the exchange of information on good practices and disseminate this information to relevant stakeholders; (iii) provide Member States with the necessary evidence for inclusion of injury prevention knowledge into the vocational training of health professionals; (iv) support the development of good practice and policy actions in relation to the seven priority areas. (http://ec.europa.eu/health/ph_determinants/environment/IPP/ipp_en.htm)
Air	Air Quality Framework Directive 96/62/EC Ozone Daughter Directive 2002/3/EC	The Framework Directive covers the revision of previously existing legislation and the introduction of new air quality standards for previously unregulated air pollutants, setting the timetable for the development of daughter directives on a range of pollutants. The list of atmospheric pollutants to be considered includes sulphur dioxide, nitrogen dioxide, particulate matter, lead and ozone – pollutants governed by already existing ambient air quality objectives- and benzene, carbon monoxide, poly-aromatic hydrocarbons, cadmium, A series of Daughter Directives has been introduced to control levels of certain pollutants and to monitor their concentrations in the air. (http://ec.europa.eu/environment/air/ambient.htm)
	Clean Air for Europe (CAFE)	Clean Air for Europe (CAFE) was launched in March 2001 with a Communication (COM(2001)245)). CAFE is a programme of technical analysis and policy development that underpinned the development of the Thematic Strategy on Air Pollution under the Sixth Environmental Action Programme. The aim of CAFE was to develop a long-term, strategic and integrated policy advice to protect against significant negative effects of air pollution on human health and the environment. A new phase of CAFE –the implementation of the Thematic Strategy on Air Pollution– started in September 2005. (http://ec.europa.eu/environment/air/cafe/index.htm)
	Council Recommendation	A non-binding policy statement from the Council to the member states of the EU, covering issues that are not regulated at EU level, including retailing, vending machines, passive smoking, indirect advertising and disclosure of

	2003/54/EC for prevention of smoking and improvement of tobacco control	marketing budgets. (http://www.ash.org.uk/html/factsheets/html/fact20.html)
	WHO Framework Convention on Tobacco Control	Under the auspices of the World Health Organization, the FCTC is the first-ever global health treaty. It provides a framework for countries to enact comprehensive tobacco control legislation. The EU and member states ratified the FCTC in November 2004 and the treaty entered into force in February 2005. Its objective is to "protect present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke. (http://www.ash.org.uk/html/factsheets/html/fact20.html)
Noise	Council Directive 2002/49/EC on the assessment and management of environmental noise	Its main aim is to provide a common basis for tackling the noise problem across the EU along four principles: Monitoring the environmental problem; Informing and consulting the public; Addressing local noise issues; Developing a long-term EU strategy. (http://ec.europa.eu/environment/noise/home.htm)
Chemicals	EU legislation on the chemical safety of foodstuffs	Legislation is divided into the five areas: 1) Legislation on food additives is based on the principle that only additives that are explicitly authorised may be used, often in limited quantities in specific foodstuffs. 2) The existing legislation on flavourings sets limits on the presence of undesirable compounds, while for the chemically defined flavouring substances a vast safety evaluation programme is ongoing. 3) The legislation on contaminants is based on scientific advice and the principle that contaminant levels shall be kept as low as can be reasonably achieved following good working practices. Maximum levels have been set for certain contaminants (e.g. mycotoxins, dioxins, heavy metals, nitrates, chloropropanols) in order to protect public health. 4) Legislation on residues of veterinary medicinal products used in food producing animals and on residues of plant protection products (pesticides). If necessary, maximum residue limits (MRLs) are established and in some cases the use of substances is prohibited. 5) The legislation on food contact materials provides that these materials shall not transfer their components into food in quantities that could endanger human health or change the composition, the taste or the texture of food. (http://ec.europa.eu/food/food/chemicalsafety/index_en.htm) Particularly relevant is Regulation (EC) 178/2002, which describes the general principles and requirements of food law. It establishes the European Food Safety Authority and describes procedures for ensuring food safety. (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002R0178:EN:HTML) Regulation EC 466/2001 establishes specific maximum levels for certain contaminants of interest in foodstuffs (http://ec.europa.eu/food/fs/sfp/fcr/fcr02_en.pdf) Regulation EC 315/93 lays down Community procedures for contaminants in food, such as for instance the illegality to place on the market any food contaminated to such an extent that a risk for consumer's health may be observed. (http://faolex.fao.org/docs/texts/eur18694.doc)

From European to national policy level

The influence of the European Union in shaping national policies has strongly increased. Approximately 80% of the environmental legislation is directly or indirectly influenced by Brussels. The multi-level governance system in environmental health policymaking has developed and is still developing into a policy making system managed by central European authorities and its national counterparts in the Member States, while implementation and follow-up are in the hands of a variety of mainly nationally focused executive bodies. The multi-governance system is characterised by a process of trans-nationalisation, which resulted in an increased influence of international actors, such as the European Commission and WHO. They set the policy discourse and formulate the policy frame according to which national environmental health policies should be developed. At present, the national EH policy context is largely shaped by the European environmentally-oriented directives that only indirectly relate to health aspects and therefore generally lack specified health objectives. WHO Europe and its Environment and Health Regional Offices in Rome and Bonn play an important role in promoting the ratification of international EH conventions in its region, whereas they also put effort in guiding countries to fulfil international and European policy implementation and reporting obligations. In the second place, public and private actors are increasingly involved in European and national environmental health policy making, as was stimulated by the Aarhus Convention (see previous section). These actors make use of their strategic position to influence the EH policy process and

achieve a most favourable cost-benefit balance. At present, consultation of a variety of different stakeholder interests is thus being considered as standard practice in EH policymaking. [1]

National policy development involves several steps in succession to policy initiation: enactment, implementation, enforcement and follow-up. Enactment is a formal and narrow term which means "the moment when a legally-binding policy becomes official law". Implementation is understood as "the process of ensuring that a policy is publicised and actuated within communities it affects, including those whose health the policy is to protect and those whose behaviour must change in some way". Enforcement entails the policy incentives and tools that are needed to accomplish the policy objectives [3]. Policy follow-up is done with support of monitoring and surveillance systems to ensure that the environmental exposure and public health outcomes meet the policy objectives in terms of environment and / or health accountability. In general, monitoring includes all the actions of conducting a planned sequence of measurements or observations of control parameters to assess whether actual parameters comply with the standards. If monitoring shows that an operational or critical limit has been exceeded then there is the potential for an unsafe or unhealthy situation. Monitoring should be performed according to a statistically valid sampling plan that gives a concrete representation of the actual exposure trend and at the same time, captures the peak exposures.
The procedure of enactment, implementation, enforcement and follow-up is differently organised between and within countries according to methodological and organisational procedures specified to a certain EH policy issue.

Transposition policies and reporting obligations

In the areas of water, air, noise and chemical hazards in food, national environmental health policies are tied to overarching EC environmentally-oriented Directives. The transposition policies are often simply the national-level formalisations of what the directives require and are practically identical to the directive. EU members are welcome to go beyond the requirements to implement additional or more stringent measures. Interpretation, implementation and follow-up of the directives follow a harmonised procedure. The member states are obliged to report on five levels [4].

Table 2 Reporting obligations to the EC Directives

Legal transposition	Details on how Member States' national laws should be designed to enact EU legislation
Practical compliance	Data on exceedances of environmental standards, limit values, national derogations, interval of reporting, start of reporting etc.
Environmental data	Data on environmental pressures and state of the environment
Descriptions of policy measures	Plans, programmes, instruments put in place by Member States to comply with EU legislation
Policy effects and effectiveness	The effects of these measures and the extent to which they achieve their objectives.

National authorities have difficulties with the broad definition of the reporting obligations. Rather often, policy implementation measures are in place, but are not recognised to relate to an EC Directive reporting obligation. Methods and tools for reporting should be developed and specified to the EC Directives' objectives. This activity might fall under the responsibility of the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL), which is charged with monitoring and enforcing the implementation of EU Directives in EU member states. IMPEL writes annual reports detailing what has been done by member states, what failings IMPEL has noticed, and what actions have been taken to overcome them [3].

Other international policies and commitment obligations

International and WHO conventions or policy agenda's require adoption and ratification before they are legally binding. After ratification, general obligations for countries in respect of the implementation of the treaty as well as provisions requiring concrete measures at country level come into force. The

extent of freedom for countries to decide on the construction of their national policy measures differs according to the guiding principles provided by the international policy.

Water

In development of drinking water policies, the focus is on ensuring drinking water quality. The 1999 UNECE Protocol on Water and Health was adopted at the Third Ministerial Conference on Environment and Health and entered into force in August 2005, becoming legally binding for the ratifying countries. So far, it has been signed (adopted) by 36 countries and ratified by 20. [5] It is the first international agreement of its kind adopted specifically to attain an adequate supply of safe drinking water and adequate sanitation for everyone, and effectively protect water used as a source of drinking water. For this purpose, its Parties are required to establish national and local targets for the quality of drinking water and the quality of discharges, as well as for the performance of water supply and waste-water treatment. They are also required to reduce outbreaks and the incidence of water-related diseases. [6] In the same context, WHO has formulated in 2004 Guidelines for drinking-water quality, in which the concept of Water Safety Plans (WSP) is introduced. These plans encompass a comprehensive risk assessment and risk management that includes all steps in water supply from source to consumer. At present, there is no one European country, which has legal instruments to require implementation of WSP. National legislation is being prepared in three EU MS, introducing similar concepts and in one case introducing WSP on informal basis. Most countries just wait for revision of the Drinking Water Directive to introduce the WSP concept. [7]

Traffic

Increasing evidence of significant negative health impacts due to transport-related activities results in recognition of the need to effectively address transport-related issues at national and international levels. It has also been increasingly understood that moving towards sustainable and 'healthy' transport necessitates integrated action of the sectors concerned – traffic, environment, health, and economics. The Transport, Health and Environment Pan-European Programme (THE PEP), adopted in July 2002, addresses this issue. Partnerships between Governments, local authorities, business community, NGOs and other interested stakeholders are encouraged for the implementation of the programme. [8]

Traffic policy programmes recognise children as pedestrians and young cyclists as well as young drivers and the elderly as vulnerable population groups. In the context of the European transport policy for 2010, the European Road Safety Action Programme was formulated. The Commission takes the initiative to go beyond subsidiarity and to boost political action, make it coherent and stimulate the emergence of projects; all stakeholders (transport companies, vehicle and parts manufacturers, insurance companies and infrastructure operators, local and regional authorities) should give a formal undertaking that they will cooperate and try, collectively and individually, to obtain maximum effectiveness by subscribing to a European Road Safety Charter. Apart from complying with universal principles, each signatory would undertake to implement specific actions. The commitments given will be publicised and compliance with them monitored.[9]

Housing

Housing conditions are addressed in international context. In January 2006, the EU's Stability Pact for South Eastern Europe implemented a co-operation agreement with UN Habitat to improve social housing and urban development across the region.[10] Initiatives, action programs and declarations within the United Nations Human Settlements Programme are aimed at reaching the UN Millennium Goals. It articulates the commitment of member States to improve the lives of at least 100 million slum dwellers by the year 2020 (Target 11, Millennium Development Goal No. 7). [11]

Housing safety and accidents are addressed at European scale by the recent (released 23 June 2006) Communication on Actions for a Safer Europe and the proposed Council Recommendation on the Prevention of Injury and the Promotion of Safety. It describes the burden on injuries in the EU and recommends Member States to develop national injury surveillance and reporting systems as well as national actions plans for preventing accidents and injuries, initiating interdepartmental co-operation. It acknowledges injuries as a key public health issue, in which children and adolescents are one of the seven priorities. In particular, campaigns on child safety should tackle severe injury hazards for preschool children at home (falls, scalds, suffocation, poisoning, drowning), playground safety and safety of child products, the usage of car restrain systems and bicycle helmets amongst older children. [12, 13]

Residential indoor (air) quality is not covered by either European or national policies. A declaration recognising the indoor environmental risk factors of private dwellings, schools and other public buildings may provide impetus.

Air Quality - ETS

Two key policies related to ETS exposure in Europe are the WHO Framework Convention on Tobacco Control and the Council Recommendation for prevention of smoking and improvement of tobacco control. The Framework Convention was ratified on 30 June 2005. It requires that each Party develops, implements, reviews and periodically updates comprehensive, multisectorial national tobacco control strategies, plans and programmes. The country has the freedom to formulate and implement selected policy measures for this purpose. In order to assist countries in doing so, WHO has provided detailed information on how to develop and implement national health regulations for tobacco control. [14, 15]

Radiation

Policy actions to create international commitments would be fruitful in the area of radiation (includes UV radiation and indoor radon). Excessive UV radiation exposure is critical to health, especially children's health. The WHO INTERSUN programme as well as national information campaigns may increase family and community awareness of the adverse health effects of excessive exposure, but no widespread legally binding policies to protect children from UV radiation are known. The INTERSUN programme recommendations, such as sun bed protection programs in schools and existence of a national specific website dedicated to UV exposure and skin cancer prevention, can serve as a framework for a European action plan to reduce excessive UV exposure. [16]

The European Commission has adopted a recommendation on the protection of the public against indoor exposure (90/143/Euratom). This recommendation defines a reference level of 400 $Bq.m^{-3}$ for existing buildings and 200 $Bq.m^{-3}$ for new buildings. Above this level, remedial action should be taken. [17] The WHO International Radon Project (IRP) is focused on reducing health impacts of radon exposure. One of the key elements is to develop evidence-based public health guidance for Member States to formulate policy and advocacy strategy including the establishment of radon action levels. In 2005 WHO has formed a network of key partner agencies from about 40 Member States, who work towards achievement of the IRP objectives. [18]

Chemicals in Food

In order to ensure adequate standards of food safety and quality, the Food and Agricultural Organization (FAO) and the WHO have developed the Codex Alimentarius, an international reference for health authorities, food control officials, etc. It was developed in 1963 and adopted in the 1985 United Nations guidelines on consumer protection policies that recommend food safety standards for national governments. [19] Within the WHO European Region, the WHO food safety programme helps countries develop and strengthen their food safety programmes, which includes harmonizing legislation with Codex Alimentarius guidelines and European Union policies (see table 1). [20]

Gaps in the environmental health policy framework

The existing EC Directives for water, air and noise focus on environmental protection and do not regard children as a particular vulnerable group that is in need of environmental protection. Health objectives are not specifically stated, yet health impacts are given consideration in background or rationale sections. The more recent international commitments have done well to highlight the health importance of environmental factors and most of the commitments described in the previous section as well specifically address children's health, such as the Framework Convention on Tobacco Control and the Road Safety Action Programme. The UV awareness programmes, chemicals in food legislation and housing safety action programmes go beyond just recognition of children as vulnerable groups and target them with children-focused preventive objectives.

Continuing in this line and based on the CEHAPE RPG framework, children's environmental health should be made a top priority in environmental health policy development; existing international mandates should be prioritised according to this criterion. But first of all, the issue of children's vulnerability would need much more clarification and focus in terms of the agents of exposure, age and gender of the child including the unborn. Vulnerability has to be defined and specified for the different EH policy issues as the exposure and health impacts mechanisms vary considerably.

By its nature, (children's) environmental health demands co-operation among various sectors, across governmental ministries, international organizations and various sectors of society. National policymakers should link children's environmental health issues to other current issues such as poverty, malnutrition, economic growth and infectious disease and incorporate them into domestic action plans. [21] The UN Millennium Goals are for example used as a framework for developing hygienic housing programmes.

Environmental health policy development and policy practice should be harmonised among the member states. For traffic, housing and radiation this process of harmonisation should start with the formulation of a European policy framework. Indoor environmental exposures such as radon or ETS in dwellings largely contribute to a detrimental health status, but are not yet regulated by any policy.
The other environmental health areas lack harmonisation in the transposition and implementation process. The increasing number of international commitments asks for an apparent need of country assistance to pass new or amend existing legislation in order to implement the commitments made. In here, WHO can play a major role. There is also a need to bolster international statements with deadlines and quantifiable objectives. [21] In policy follow-up there are still considerable differences among Member States, for example with regard to sampling procedures (e.g. selection of sampling points, frequency etc.) and the selection of proper authorities [22].

In all environmental health areas, policy accountability in population health terms is weak or missing. The majority of environmental health policies do not specify health targets; therefore follow-up programmes, which at least are consistently in place for EC Directives, only measure environmental quality improvements.

WP3 Objectives and deliverables

In succession to the previous section that presents an overview of the EH policy framework for the selected EH topics in the ENHIS-2 work package (WP) 3, it would be a logical step to proceed with a description of the national policy development and policy transposition process. In order to retrieve actual and direct information about these processes, WP3 carried out a policy identification and review study from May until November 2006. This WP3 exercise was aimed to identify and review the contents and format of national EH policies, as well as to evaluate policy implementation and follow-up in hazardous exposure reduction and associated health benefits generation. The policy assessment section describes the results from this study, from which conclusions are drawn about the information needs in national environmental health policy making. For this purpose, the first WP3 deliverable (D-3.1) encompasses a methodology to identify and review current environmental health policies (further discussed in "Development of Methodology"). This report entails deliverable 3.2: a first assessment of the EH policy situation in the 18 project countries. A second policy assessment report will be published in the next project period, approximately December 2007, which will contain small-scale assessments of EH policy accountability in terms of health gains (D-3.4). The policy assessment will provide answers to several universal policy questions.

- What are the success formulas for successful transposition of European (international) legislation into national policies?
- What conditions determine the optimal implementation of a policy programme? What typical problems play a role in the enforcement process?
- What tactics would make it possible to successfully follow-up the enforcement of environmental health regulation?
- What procedures stimulate the successful integration of policy levels (European to national to regional to local)? [23]

This comparative policy assessment report includes a criteria-based scientific analysis of several national EH policy topics, which together with the small-scale assessment studies will result in (i) recommendations for national policy experts and officials about accountable EH policy development and (ii) a guidance document on how to realise good policy practices (D-3.3).

Overall, WP3 aims to enhance the policy-relevance of the Environment and Health Information System[11]. On the longer term, ENHIS-2 has to maintain an interactive and up-to-date database of European and national environmental health policies for the use of European and national EH policy experts. One comprehensive EH policy database can facilitate the development of harmonised environmental health policies across Europe and increase their accountability in population health terms. Effective policy information formats and contents will be defined to best support selected CEHAPE policies as well as the actions defined in the European Environment and Health Strategy. Differences between national EH policies will and should remain, but they should be based on different conditions and needs, rather than on the lack of information to assess their effectiveness.

As part of the overall WP3 objective, this comparative policy assessment report aims to:

- improve knowledge and understanding of the existing environmental health policies across Europe – their format, objectives, rationale and accountability[12];
- identify gaps and consequent information needs in the policy process, e.g. a specification of the weak level of policy accountability in population health terms;
- stimulate the harmonisation of national environment and health policies through sharing and comparing their formulations, experiences, successes and failures.

Development of methodology

An accountable environmental health policy must (i) have defined objectives for improvement of environmental and public health quality and/or reduction of individual risks. The policy must (ii) be founded on a science based construct of the chain of events from source to exposure (exposure model) to health impact (dose/response or toxicological model), which allows the impacts of alternative source control actions on health outcomes to be predicted and compared. And finally, policy implementation must (iii) incorporate a follow up programme, which is geared to monitor the changes in environmental contamination, exposure and health effects due to implementation of the policy, which allows validation of the applied source – exposure – effects model and verification of the progress towards meeting the policy objectives, and which also guides modification of the policy as necessitated by the feedback from the monitoring programme.

To identify and review how current national EH policies cope with and include the three characteristics of an accountable EH policy, we first needed to develop methodological tools to retrieve national policy information on exposure to environmental hazards, its determinants and health effects as well as information for policy evaluation. The methodological tools encompass a renewed policy questionnaire, EH policy information database in Microsoft Excel © format and a comparative policy assessment. The development of methodology involved the following steps.

1. A technical meeting was convened at WHO ECEH Bonn on 29 May 2006 to agree on a common approach and questionnaire for children's EH policy review across Europe, carried out by ENHIS-2 WP3 and another WHO coordinated project co-funded by Health Canada. During this meeting the scope and policy aspects of WP3 as well as the methods and tools were discussed in detail. Reflections and ideas were formulated about priorities and mechanisms to improve policy accountability concerning population health across Europe. The meeting minutes are uploaded on the common project web platform Sharepoint[13] and available on request.
2. An EH policy questionnaire was developed in ENHIS WP1[14]. The renewed policy questionnaire in ENHIS-2 is framed in the context of the CEHAPE regional priority goals (RPG) so as to provide a comprehensive structure and clear link to the general project rationale. The scope of the questionnaire was based on a selected set of ECOEHIS[15] and

[11] ENHIS-2 aims to start the operation of the comprehensive information and knowledge system (EHIS) that will help to identify and prioritize environmental health problems that are widespread in the WHO Europe region, make it possible to monitor the effects of actions that are taken, ensure timely access to information, contribute to building advocacy, communication and education strategies, use standardized methodologies for data collection, processing and dissemination allowing inter-country comparisons and time trend analysis.

[12] Policy accountability refers to actions undertaken by a responsible authority to enforce policy objectives.

[13] Online communication tool and common project office

[14] In the ENHIS project (Implementing Environment and Health Information System) our work was organised in work package 1.

[15] ECOEHIS focused on the Development of Environment and Health Indicators for European Union Countries.

ENHIS indicators that provided the underlying rationale for defining the topics of inquiry. The questionnaire topics were organized according to policy description, rationale, accountability and information needs to make possible a comprehensive assessment of national EH policies. The wordings in this quite challenging questionnaire were improved in order to lead to the most comprehensive and unambiguous answers possible.

3. The questionnaire and country answers are uploaded on the common project web platform Sharepoint and available on request. Suggestions from our German partner (Lögd NRW) and the Health Canada project coordinator in WHO plus the lessons learned from the questionnaire implementation process are considered in drafting the final version of the policy questionnaire. See WP3 methodology report for detailed information about the questionnaire.
4. ENHIS-2 partners (interviewers) were instructed about the questionnaire implementation procedure in their countries. Technical guidance was provided by email and phone together with a general introductory letter to the policy experts and officials (interviewees). A direct and personal approach of interviewees resulted in more complete and comprehensive outcomes than was achieved in the first questionnaire implementation in ENHIS. See Appendix 1 for the list of interviewed experts.
5. The EH policy information database was developed in ENHIS WP1. This tool provides detailed information on national EH policies and the policy making process in the 18 partner countries. The EH policy information database has been updated and supplemented with the more detailed and complete policy information resulting from the questionnaire responses collected between May and November 2006 and inclusion of results from similar projects (WHO project on Housing and Health Legislation co-funded by French MoH, see http://www.euro.who.int/Housing/Publications and Children´s Health and Environment: Review of Legislation a.k.a. Health Canada Project), information extracted from the EEHC website (EH Progress by country http://www.euro.who.int/eehc/ctryinfo/ctryinfo) and WHO databases for ETS (WHO Tobacco Control Database - Smoke free areas and public transport policies http://data.euro.who.int/tobacco/) and traffic (WHO Alcohol Control Database - Drink Driving policies http://data.euro.who.int/alcohol/). (Partly) completed questionnaires were received from 17 out of the 18 partner countries. The database requires continuous updating and should be professionalized in the near future regarding structure, readability and accessibility. See WP3 methodology report for more information about the database structure and outline.
6. The central part of this policy assessment report includes the comparative assessment section in which first the key results of the WP3 exercise are described. Subsequently, the results per topic are evaluated by means of evaluation questions, comparing the questionnaire responses and other findings for each of the EH topics between the partner countries. The questions are structured according to policy description, rationale and accountability. The gaps and information needs in policy making are explicated per topic as well, from which general remarks are derived in the succeeding section.

Comparative Policy Assessment

This comparative policy assessment chapter includes the EH policy country responses collected between May and November 2006. It will be supplemented during the second project year with the late responses, which are largely due to the extensive amount of work involved with the questionnaire implementation – in particular related to crucial efforts in convincing interviewees about the importance of completing the questionnaire, eventually for the second time (in succession to the previous ENHIS questionnaire). In this context, a French ENHIS-2 partner wrote the following evaluation remark: “A way for resolving this problem was to transfer their first response to the new questionnaire and send it with an explanation to why we need a more precise answer and to subsequently phone them to fulfil it. This way of working was quite motivating the ministerial officials, though very time consuming.” And for most ENHIS-2 partners, time to focus on the WP3 questionnaire implementation was running short.
The questionnaire implementation was most difficult and in some cases will remain unsuccessful for the topics that are beyond the traditional or national definition of environmental health, such as the housing topic of crime and vandalism in residential areas or the topic of chemical substances in food. It was difficult to define the appropriate expert (institute) in the first place, whereas the bureaucratic organization of national policy systems causes additional communication difficulties. An Austrian example clearly exemplifies another main communication difficulty. The bathing water policy issue is covered by three different ministerial departments; therefore each of them is only able to give a partial answer to the questionnaire. In addition, the Austrian ENHIS-2 partner mentions that: “being not part of

a ministry, it is very difficult to get people, who not feel responsible, to answer the complete questionnaire." The lack of responsibility and abundance of disinterest on the interviewees' side can largely be taken, when there is clear and concrete information about the additional value of ENHIS-2 in their daily work.

Table 3 displays the response rate per topic, per country. The country name is abbreviated in accordance with the two letter ISO (International Organization for Standardization) country codes. It is marked "X" when a questionnaire response has been collected in ENHIS-2 or is still valid from the previous ENHIS project. In general however, country responses are not complete – in particular responses are lacking for policy accountability questions, as well as for questions about policy information needs. In many cases it is unclear if this is related to the non-existence of implementation and follow-up programmes, policy gaps and needs or if the non-response results from a lack of knowledge and lack of time and interest to find out and answer these intricate questions.

In the subsequent sections, the comparative WP3 EH policy assessment is presented per topic. The EH policy assessment is mainly based on descriptive results from the policy identification and review study, of which the findings have been collected in the EH policy information database. Additional quantified EH policy findings are displayed in WP4 policy indicator fact sheets. Quantified findings that clearly link to WP3 EH policy topics are integrated in the respective sections.
At the beginning of each section, the reported countries are listed. The comparative assessment of the EH policy process in ENHIS-2 partner countries is based on evaluation questions and organised according to policy description, policy rationale and policy accountability. The policy assessment encompasses a comparison of the policy differences and similarities in the 18 ENHIS-2 partner countries. Several country-specific examples provide clarification. Each section starts with the key message and concludes with a paragraph on policy gaps and information needs.

Table 3 Response rate per topic, per country

	AT	BG	CZ	DE[16]	EE	ES	FI	FR	GR	HU	IT	LT	NL	PL	PT	RO	SI	SK
RPGI-1.1	X		X	X		X	X	X	X	X		X	X	X	X	X	X	X
RPGI-1.2			X	X		X	X		X	X		X	X	X	X	X	X	X
RPGII-2.1	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X
RPGII-3.1	X	X	X	X		X	X	X	X	X			X		X	X	X	X
RPGII-3.2		X	X	X		X		X	X	X			X		X	X	X	X
RPGII-3.3		X	X	X		X	X		X	X			X		X		X	X
RPGII-3.4	X	X	X	X		X	X		X	X	X		X	X	X	X	X	X
RPGIII-4.1	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X
RPGIII-4.2	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X
RPGIII-4.3	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X
RPGIII-4.4	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X
RPGIII-4.5	X	X	X	X		X	X		X	X			X	X	X	X	X	X
RPGIV-5.1	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X	X
RPGIV-6.1	X		X	X		X	X	X	X	X		X	X		X	X	X	X
RPGIV-6.2	X		X	X		X	X	X	X	X			X	X	X	X	X	X
RPGIV-7.1	X	X	X	X			X	X		X				X	X		X	X

[16] In Germany the EH policy questionnaire was completed by regional policy experts in Nordrhein-Westfalen (NRW). Consequently, the responses mainly concern NRW policies.

Legend
RPGI – 1.1 Drinking water supplies
RPGI – 1.2 Bathing waters
RPG!I – 2.1 Traffic accidents
RPGII – 3.1 Hygienic conditions in dwellings
RPGII – 3.2 Home violence, crime and vandalism in residential areas
RPGII – 3.3 Extreme cold and heat
RPGII – 3.4 Housing safety and accidents
RPGIII – 4.1 Particulate matter in outdoor air
RPGIII – 4.2 Ozone in outdoor air
RPGIII – 4.3 Nitrogen dioxide in outdoor air
RPGIII – 4.4 Sulphur dioxide in outdoor air
RPGIII – 4.5 Environmental tobacco smoke (ETS)
RPGIV – 5.1 Indoor and outdoor noise levels and sources
RPGIV – 6.1 Skin cancer and UV radiation
RPGIV – 6.2 Indoor radon
RPGIV – 7.1 Chemical hazards in food

Water

Drinking water supplies

Reporting countries

The comparative assessment was made on base of questionnaire results from Austria, Czech Republic, Finland, Greece, Hungary, Poland, Slovakia, Slovenia and the Netherlands. To be included: DE, LT, PT, ES, FR, RO

Key message

The countries have a well-elaborated national legislation based on the Council Directive 98/83/EC. This legislative ensures that drinking water meets the quality requirements set by the Directive. The national legislation is the actual fulfilment of obligations for EU members. Some countries set stricter quality requirements regarding either the number of monitored indicators or the limit values, setting thus more challenging aims. Beside this, also special policies exist that are focused on improvement of selected water-supply segments, such as replacement of lead piping, or solutions for local problems.

Policy description

1. What are the types of policies?
   - Laws (statutes), regulations, guidelines, action programmes, abatement measures.

National drinking water policies mainly concern *acts (health protection acts or focused water quality/supply acts) and related decrees (regulations)* that include quality standards for drinking water, rules for quality monitoring, need of remedial measures in case of non-compliance and occurring health risks, regulations regarding safety of materials in contact with drinking water, and requirements on bottled drinking water.

All reporting countries have transposed the Council Directive 98/83/EC on the quality of water intended for human consumption in the national legislation. Some countries reported monitoring of other parameters/indicators in addition to the ones set in the Directive.

In some countries, there is a clear policy desire to comprehend the whole water management from the river basins management, over sources protection to the pipes check and control. In Austria, the Drinking Water Ordinance involves requirement for checking the whole supply system including the surroundings of the source. In the Czech Republic the Conception of Water Management after the Accession to the European Union (2004 – 2010) was adopted. In The Netherlands, new legislation and regulations will be proposed to Parliament before the end of the year 2006, dealing with water safety plans (from source to tap) and emergency supplies.

Furthermore, action plans and abatement programmes are in place to implement the legislative requirements. For instance in Hungary, a National Drinking Water Amendment Programme has been elaborated. The environmental health or public health policies include the requirements for ensuring

the sufficient amount of safe water for the inhabitants as part of NEHAP (Czech Republic, Slovakia) or in the national version of Health 21 (Czech Republic). Some countries support checking the quality of pipes from unsuitable materials (lead) in form of subvention systems (Netherlands, Czech Republic).

The Protocol on Water and Health was signed by most of the reporting countries, the aim of which is to protect human health and well-being by better water management, including the protection of water ecosystems, and by preventing, controlling and reducing water-related diseases.

- Describe differences in legal status, scope, enforcement, etc.

The legislation is already in force. Generally, the requirements are set by ministries (predominantly health department, but e.g. in Netherlands by Ministry of Housing, Spatial planning and the Environment). In some countries the drinking water quality is a part of food security legislation (Austria). Enforcement of the requirements is the responsibility of regional/ provincial/ municipal authorities working in public health; Austria has assigned governmental authorities while Poland State has a sanitary inspection.

2. What are the stated goals or purposes of the policies?

National drinking water quality policies aim at protecting human health from the adverse effects of any contamination of water intended for human consumption by ensuring the compliance with the requirements, from the point of view of chemicals and microbiological contamination. Accented is prevention of waterborne diseases. Monitoring of DW quality, reporting and information to public is an integral part.

3. What is the specific focus of the policies?

Action plans and abatement programmes have been developed to maintain the DW quality standards or to improve the current status. The measures focus on ensuring the quality of drinking water by surface as well as ground water protection against contamination and ensuring proper hygienic quality of materials that are in contact with drinking water, including household plumbing materials. Specific focuses are given to particular problems in the reporting countries (Austria - monitoring of nitrates in groundwater; Austria, Hungary- prevention of methemoglobinemia; Finland – chlorophenols; The Netherlands, Czech Republic – lead piping).

4. Population groups targeted by the policies?

The policies are applied to the total population.

- Are children explicitly considered?

Children are not explicitly considered, but the limit values set are believed to be safe also for the vulnerable population. The children's health related issue is the prevention of methemoglobinaemia, which is handled in most of reporting countries. In Slovakia, one of the partial goals of NEHAP is aimed to improve accession to safe and affordable water and appropriate hygiene for all children. Special bottled water suitable for preparation of infant nutrition is produced and marketed in several countries, e.g. in the Czech Republic and Slovakia. There are separate strict legal requirements for this kind of bottled water.

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

The health burden and risks from contaminated drinking water by monitored contaminants are known. The current list of contaminants cannot be considered as a final and exhaustive range causing health risks from drinking water. In the Council Directive it is therefore postulated that "at least every five years, the Commission shall review Annex I in the light of scientific and technical progress and shall make proposals for amendments, where necessary" (Article 11).

Action plans and abatement programmes discuss national or regional issues asking for specific measures, e.g. a national limit for chlorophenols (parametric value 10 ug/l) has been established in Finland; a national limit for beryllium (parametric value 2 micrograms/l) has been established in the Czech Republic.

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?

No quantitative exposure reduction objectives have been formulated in reporting countries; DW quality is to be in compliance with standards. Some countries report measures for nitrates exposure reduction of children and pregnant women by concentration monitoring and methemoglobinaemia surveillance. Also monitoring of microbial contamination and water-born diseases surveillance reported e.g. in Austria, Czech Republic or Hungary, can be considered as follow-up programmes for health improvement.

7. Are there provisions for follow-up or policy review?

In the Council Directive is therefore postulated that "additional monitoring is carried out on a case-by-case basis of substances and micro-organisms for which no parametric value has been set, if there is reason to suspect that they may be present in amounts or numbers which constitute a potential danger to human health" (Article 7). Policy review takes place as stated in question 5.

Gaps and needs in the drinking water policymaking process

Policy formulation - The water policy area is a conservative area in EU regulation. Research gaps and needs however point to necessary improvements. There exists no regulation for funghi in water systems, though sometimes measurements are carried out based on colour / smell. The initiative has been taken to adjust the EU regulation taking into account the whole water system process by means of water safety plans

A policy would be needed that links qualitative data, quantitative exposure of population and public health determinants in drinking water.

Policy implementation: Sampling is done either by water suppliers, municipalities, health authorities, or authorized laboratories responsible for the analysis. Implementation (example: Water Safety Plans) requires close co-operation between health authorities and water suppliers. It strongly depends on the existing national structures and relationships between parties how this co-operation will work. Therefore, the difficulty has to be recognised to find a general procedure. [22]

Policy accountability: The intention of sampling and monitoring should be the validation of compliance / non-compliance with EU guidelines or standards. With regard to water contamination a framework with four levels has been proposed that goes beyond the sole compliance / non-compliance testing. It refines and facilitates information to the public about the quality of water from the point of view of public health protection. [24]

Linkages to other policy areas:

Bathing waters

Reporting countries

The comparative assessment was made on the base of questionnaire results from Czech Republic, Finland, Greece, Hungary, Poland, Romania, Slovakia, Slovenia, Spain and The Netherlands. To be included: DE, LT, PT

Key message

The countries have national legislation in place to implement Council Directive 76/160/EC. This legislation aims to ensure the quality of bathing waters, as it is defined in the directive, thus meeting EU member obligations. The risk from contact with polluted bathing water is not well established with exception of blue green algae. Consequently some countries monitor other parameters in addition to those in the Council Directive and impose stricter parametric values. Notably, some countries have also extended areas monitored to include smaller areas of coastline that are not covered in the directive.

Policy description

1. What are the types of policies?

- Laws (statutes), regulations, guidelines, action programmes, abatement measures.

National policies on bathing waters mainly concern acts and related decrees, including the regulation of the quality of bathing waters, the designation of bathing sites, the frequency of monitoring and in some cases the classification of bathing waters (Czech Republic, Spain) and the issue of blue flags for high quality beaches in Greece.

All reporting countries have transposed the Council Directive 76/160/EC on the quality of bathing waters in the national legislation. Some countries, reported monitoring of other parameters/indicators in addition to the ones set in the Directive, such as cyanobacteria (Finland and Portugal) and Legionella and chemical parameters (the Netherlands). It must be noted that there is a new directive in force, 2006/7/EC, on the quality of bathing waters. This directive is substantially more restrictive than the previous one and requires bathing water quality assessment in terms of stricter microbiological standards, a classification system of bathing waters in 4 classes, the establishment of bathing water profiles, management measures in exceptional circumstances, the assessment of risks from cyanobacteria, information to the public and reporting to the EC. Although this directive has not yet been transposed in the national legislation in any country, some counties like Portugal, Finland and Spain have already adopted measures toward its implementation.

Furthermore, action plans and abatement programmes are in place to implement the legislative requirements, particularly in coastal countries like Finland, Portugal, Greece and Spain. In these countries an intensive sampling program is in place during the summer months. In Finland and Greece national action plans define actions and measures to be taken when standards are exceeded in order to prevent harmful health effects (including warning, guidance, bathing prohibition etc.). These can involve identification of the reasons for the deterioration of water quality, reducing and eliminating pollution and even as in the case of Greece imposing fines and life imprisonment to those responsible for polluting the bathing waters and causing harm to public health.

- Describe differences in legal status, scope, enforcement, etc.

The legislation is already in force. Generally, the requirements are set by Ministries, the Ministry of Health in some countries (Finland, Hungary, Poland, Spain), and the Ministry of the Environment in collaboration with the Ministry of Health in others (Czech Republic, Greece, Portugal, Slovakia).

Enforcement of the requirements is executed by regional/provincial/municipal authorities, such as the water Institute in Portugal, the national Public health and medical Officer's service in Hungary, the sanitary inspection body in Poland and Greece.

2. What are the stated goals or purposes of the policies?

National policies on bathing waters aim at protecting the bather's health from the adverse effects of contamination from chemical and microbiological agents by regulating the quality of bathing water. Although Directive 76/160/EC does not cover water intended for therapeutic purposes and water used in swimming pools, in some countries the same policies apply also to this type of bathing waters (Czech Republic, Slovakia, The Netherlands). Great emphasis is given to monitoring, reporting of information to the public and reporting to EC. It is interesting to note here the connection of these policies to the Water Framework Directive 2000/3/EC which calls for management plants for the protection of inland and coastal waters.

3. What is the specific focus of the policies?

Action plans and abatement programs have been developed with the purpose to identify risk factors that may impair human health, identify the causes of impairment of water quality and to reduce or eliminate pollution. Specific focus is given by some countries to the monitoring of other parameters such as cyanobacteria population, as included in the new directive, and to chemical parameters.

4. Population groups targeted by the policies?

The policies are applied to the total population.

- Are children explicitly considered?

Only in the Czech Republic, the classification system of bathing waters specifically considers sensitive population groups such as children. Although children are generally not explicitly mentioned in the policies, but they are implicitly assumed to be the main target for protection.

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

The health burden and risks from contact with polluted bathing waters is not well established and for this reason some countries apply additional measures to safeguard bather's health. For example in Finland stricter parametric values for faecal coliforms are established than those stated in the Directive and blue-green algae are also monitored, with the aim to prevent digestive infections and blue algae induced irritation symptoms and poisonings. Moreover in Finland and in Greece monitoring is extended to many beaches, which are too small to be included in the council directive

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?

No quantitative exposure reduction objectives have been formulated in reporting countries and no methods are in place for the assessment of health improvements. Bathing water is to be in compliance with standards. Finland reports that exposure reduction of cyanobacteria is necessary but this is not quantitatively set. In the Czech Republic occurrences of water borne diseases are monitored and a surveillance system is in place in Finland. Health Institutes in Slovenia collect data on water borne diseases. It is not mentioned that these are related to specific methods for exposure reduction or health improvement.

7. Are there provisions for follow-up or policy review?

In the policy itself there are provisions for follow up in that monitoring commences two weeks before the start of each bathing season and continues throughout with extra sampling carried out wherever necessary. Regular reports also have to be submitted to the Commission on bathing water characteristics. There is no provision for policy review.

Gaps and needs in the bathing water policymaking process

Policy formulation: There is a need for a policy that specifically relates qualitative data to quantitative exposure of the population. Many gaps in the policy are addressed in the new directive 2006/7/EC such as the need to create bathing water profiles, emergency plans for exceptional circumstances and an increased provision for public information.

Policy implementation: The policy states that competent authorities will carry out sampling operations, however these authorities are not specified in each reporting country and a general procedure may not be in place. Epidemiological studies are not developed.

Policy accountability: There is a need to relate comparative data with abatement measures taken. There are difficulties in monitoring or evaluating the actual exposure of the population to bathing water hazards and to improve their health by reducing these hazards/risks. Policies are limited with respect to compliance/non-compliance with the EU standards. New directive 2006/7/EC includes the classification of bathing water on four levels (poor, sufficient, good, excellent), the management of bathing water and provision of information to the public on bathing water quality during the bathing season.

Linkages to other policy areas:

Traffic

Include quantified policy findings from the WP4 factsheet "Policies to promote safe children's mobility"

Reporting countries

The comparative assessment was made on the base of questionnaire results from Austria, Bulgaria, Czech Republic, Finland, France, Germany, Greece, Hungary, Italy, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, The Netherlands.

Key message

In succession to the establishment of the EC Road Transport Action Programme (2003), which states the aim of halving the number of road traffic fatalities by 2010, the majority of the reported countries have established a road safety action plan in accordance.

Policy description

1. What are the types of policies?
   - Laws (statutes), regulations, guidelines, action programmes, abatement measures.
   - Describe differences in legal status, scope, enforcement, etc.

National policies mainly concern Road Safety programmes or plans, traffic laws, strategies, acts and resolutions.

2. What are the stated goals or purposes of the policies?

Most of the reported national policies aim to comply with the EC goal of halving the number of fatalities by 2010.

3. What is the specific focus of the policies?

The main areas of interest of the policies are related to vehicle safety and road safety. Norms focus on safety device usage, speed limits and blood alcohol concentration (BAC) limits. Several national policy programmes relate to education, media campaigns and other safety promotion measures.

4. Population groups targeted by the policies?
   - Are children explicitly considered?

Children are explicitly considered in some national transport policies; they are mentioned in relation to education and in relation to the mode of transport on vehicles.

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

Policies on road safety have a strong direct relation to health consequences. Road safety can be achieved through application of basic rules regarding safety devices, speed limits, traffic limitations in residential/school areas, BAC limits. The crucial point is compliance to these policies.

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?

A majority of the reported countries wishes to reach the EC target; a 50%-reduction of traffic fatalities by 2010. Greece has not established a target, while Germany reports the intention to reach the EC target only by 2015. Health improvements are measured in terms of traffic-related injury and death rates.

7. Are there provisions for follow-up or policy review?

Germany, Greece, Hungary and Poland report no evaluation tools to monitor eventual health benefits. The other countries cited annual reports, usually prepared by the police administrations, in which national statistics are reported. Austria cited a mid-term review in 2005.

Gaps and needs in the traffic-related policymaking process

Policy formulation: The task force on road safety of the working party on accidents and injuries states the actions needed for the public health sector to improve road traffic safety. First of all there is a need

for DG Sanco to facilitate standardized actions and programmes at national level, by e.g. information clearing on good practices available, encompassing systematic reviews of different intervention strategies [25].

Policy implementation:

Policy accountability:

Linkages to other policy areas:

Housing

Water drainage and waste disposal amenities in dwellings

Reporting countries

The comparative assessment was made on the base of questionnaire results from Austria, Czech Republic, Finland, France, Greece, Portugal, Romania, Slovakia, Slovenia and Spain.
To be included: BU, DE, HU, NL

Key message

The reporting countries have well-elaborated national requirements for water drainage and waste disposal amenities. Usually they are explicitly stated in building and spatial planning regulations and the process of new building construction includes (regular) inspections at different phases of construction to ensure the compliance with building regulations. Existing buildings requiring substantial improvements are subject for special housing programmes. Policies on hygiene conditions in dwellings are strongly related to the overall wastewater treatment policies, as well as to Council Directive 91/271/EEC on urban waste water treatment, and drinking water supply policies in countries which have to fulfil those requirements.

Policy description

1. What are the types of policies?
   - Laws (statutes), regulations, guidelines, action programmes, abatement measures.

Policies on hygienic housing conditions (water drainage and waste disposal amenities) are mainly formulated in acts (mainly acts on construction, land use, built/urban environment and spatial planning or direct water/water supply acts as well as public health acts), by-law acts and related governmental decisions and ministerial decrees such as building codes, technical requirements, regulations and instructions on buildings in general and on residential buildings, regulations on sanitation conditions in dwellings and public institutions (as child –day care centres, for example), housing and health action programmes.

Comprehensive building codes (Finland, Greece,
Policies on waste treatment are following either requirements of the European Directive 91/271/CEE of 21 May 1991 concerning urban waste water treatment (France) either

Besides, action programmes and plans are in place to implement national requirements (Portugal, Romania, Slovakia). Portugal reported existence of housing improvement programmes such as re-housing (to solve poverty problems) and rehabilitation (improve maintenance and hygiene conditions) programmes. Furthermore, Portugal, being the first country in Europe, has initiated development of the Local Housing and Health Action Plans, aiming at all municipalities to develop their own plans following a national guideline document. Slovakia has revised its NEHAP aiming at decreasing prevalence of diseases and mortality of the children due to digestion diseases and other health effects related to inadequate water quality.

Some countries have specific concerns related to non-collective sanitation (Czech Republic, France, Greece, Slovakia), development of infrastructure in rural areas (Romania) and hygiene of living conditions of immigrants and ethnic minorities (Greece, Portugal).

Requirements, surveillance and control of safe water and basic sanitation in child care institutions as subject for regulation are mentioned by Hungary, Romania, Slovakia and Slovenia.

- Describe differences in legal status, scope, enforcement, etc.

The legislation is already in place. Usually, requirements are formulated by national authorities, although for example in Austria at provincial level. Ministries of Environment or related to spatial planning and housing are responsible for formulation of requirements for buildings and construction. The Ministry of Health plays a role in providing services of health prevention, health promotion and protection in sanitation of the dwellings. Enforcement of the requirements is responsibility of regional/provincial/municipal authorities. It is ensured by checking the building process through building licences and final building approval in majority of reporting countries. France has the water police (Polices des Eaux) working with the local authorities and responsible for knowing the performance of the wastewater treatment plants. In France control of con-collective wastewater treatment has been transferred to communes. A public service for non-collective sanitation (Service public d'assainissement non collectif-SPANC) has to be set up covering control of installations and, as an option, their maintenance.

2. What are the stated goals or purposes of the policies?

Housing policies related to water drainage and waste water amenities in dwellings are aimed at creating a favourable and healthy living environment and ensuring sustainability in the developmental process. Buildings have to be connected to a sewage system. This is fulfilled via building regulations in most of the countries, regulations related to drinking water supply or/and wastewater treatment and public health regulations setting basic requirements for health and safety in dwellings.

3. What is the specific focus of the policies?

Action programmes and plans have been developed to improve existing housing conditions and to meet national requirements. Measures focus on re-housing (to solve poverty problems) and rehabilitation (improve maintenance and hygiene conditions). The focus of housing improvement programmes has expanded from elimination of degraded houses and reconstruction of old buildings where low income people are living to the immigrants and ethnic minorities (Portugal). In Romania actions for improving hygiene amenities are focused in rural areas.

4. Population groups targeted by the policies?

The policies apply to the total population.

- Are children explicitly considered?

Children are not explicitly considered. However, the family dimension and the number of dependents (including children) is a factor to be taken into consideration (Portugal). Special health regulations exist for sanitary conditions in child-day care centres and schools (Hungary, Slovakia, Slovenia).

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

Hygiene conditions have significant influence on population health. Pressure of neglected sewage systems may cause damage to human health due to microbiological and chemical contamination of surface and ground water. A growing population requires more efficient health and safety considerations and well organised sanitation systems.

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?

No quantitative exposure reduction and/or health promotion objectives have been formulated in reporting countries. Hygiene and health requirements set for housing conditions in relevant legislation has to be ensured. In some countries (Portugal) housing programmes are aimed at reducing the degraded houses and promoting the re-housing of people who live in extremely poor conditions, namely the immigrants and ethnic minorities. Certain social care measures may also contribute to the improvement of sanitary and hygiene conditions, especially for elderly and ill.

7. Are there provisions for follow-up or policy review?

A majority of the reporting countries has not indicated any provisions for follow up or policy review. The process of new building construction includes regular inspections at different phases of construction

(Finland, Spain) and has to guarantee the compliance with building requirements. In Finland planning or instruction mistakes has to be reported to the building inspectors or municipal health administration.
In France the special water police acting on local level is responsible for gathering information on performance of the wastewater treatment plants. National data on hygienic conditions in dwellings usually are available from national census (Slovenia).
Sometimes provisions for follow up are related to the national programmes', such as revised NEHAP (Slovakia, NEHAP III), implementation considering prevention and significant reduction in prevalence of diseases and mortality of children due to digestion diseases. As far as children are concerned, the focus is on sanitary-hygienic conditions in schools and child day care centres (Slovenia).

Gaps and needs in the housing-related policymaking process

Policy formulation: The reporting countries pointed out still lacking information on THE relationship between resident's health and housing conditions, though some recent initiatives and projects, such as the "Housing and Health" project in Portugal helps in filling this gap. There are no policies which require monitoring of health conditions in dwellings. Legislation shall be formulated to ensure that all buildings where children spend time have access to safe water and basic sanitation infrastructure. Water pricing policies should be carefully considered in order to improve access to sufficient quality of safe water.

Policy implementation: Implementation of the building regulations should be better organized, since they are too often not completely fulfilled. More responsible inspections during the building process by either the municipal building authority or the building firm are necessary.
Though there are good data on the population connected to collective systems, covered by wastewater treatment plants (necessity to assess conformity with the European directives), there is a data gap on the number of people who are served by the private treatment systems.
Some countries identified the need to provide education to caretakers, school administrators and teachers and children on importance of good quality of drinking water and sanitation for health.

Policy accountability: Evaluations are carried out to assess the work costs necessary to meet the requirements of the EC directive on wastewater treatment, but methods for evaluation of the gains in terms of health are missing. The possibility to evaluate the environmental gains, for example in terms of concentrations of nitrate in the environment, exists. Responsibilities of different institutions/sectors in terms of accountability have to be clearly defined.

Linkages to other policy areas:

Home violence, crime and vandalism in residential areas

To be written

Reporting countries

Key message

Includes brief statements about the level of harmonization (strong EU directives – mostly national approaches) and the level of accountability in population health terms.

Policy description

1. What are the types of policies?
   - Laws (statutes), regulations, guidelines, action programmes, abatement measures.
   - Describe differences in legal status, scope, enforcement, etc.
2. What are the stated goals or purposes of the policies?
3. What is the specific focus of the policies?
4. Population groups targeted by the policies?

   - Are children explicitly considered?

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?
7. Are there provisions for follow-up or policy review?

Gaps and needs in the housing-related policymaking process

Linkages to other policy areas:

Extreme cold and heat

To be written

Reporting countries

Key message

Includes brief statements about the level of harmonization (strong EU directives – mostly national approaches) and the level of accountability in population health terms.

Policy description

8. What are the types of policies?
   - Laws (statutes), regulations, guidelines, action programmes, abatement measures.
   - Describe differences in legal status, scope, enforcement, etc.
9. What are the stated goals or purposes of the policies?
10. What is the specific focus of the policies?
11. Population groups targeted by the policies?

    - Are children explicitly considered?

Policy rationale

12. Why is it believed that the mandated actions will bring the awaited benefits?

Policy accountability

13. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?
14. Are there provisions for follow-up or policy review?

Gaps and needs in the housing-related policymaking process

Linkages to other policy areas:

Housing safety and accidents

To be written

Include quantified policy findings from the WP4 factsheet "Policies to reduce child injury"

Reporting countries

Key message

Includes brief statements about the level of harmonization (strong EU directives – mostly national approaches) and the level of accountability in population health terms.

Policy description

15. What are the types of policies?
    - Laws (statutes), regulations, guidelines, action programmes, abatement measures.
    - Describe differences in legal status, scope, enforcement, etc.
16. What are the stated goals or purposes of the policies?
17. What is the specific focus of the policies?
18. Population groups targeted by the policies?

    - Are children explicitly considered?

Policy rationale

19. Why is it believed that the mandated actions will bring the awaited benefits?

Policy accountability

20. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?
21. Are there provisions for follow-up or policy review?

Gaps and needs in the housing-related policymaking process

Policy formulation: Significant differences in accident and injury rates between Member States and within their population, as stored in the Injury Database (IDB) show that there is great potential for reducing the burden of injuries in the Community and neighbouring countries. There is a clear need for focus as regards the organisation of resources and the development of a sustainable approach for injury prevention for the future. [13]

Linkages to other policy areas:

Outdoor air pollutants

Reporting countries

The comparative assessment is based on questionnaire results from Bulgaria, Czech Republic, Finland, Hungary, Italy, Poland, Slovakia, Slovenia, Spain, The Netherlands.
To be included: AU, DE, FR, GR, PT, RO

Key message

The level of harmonization in outdoor air pollutant policy development and policy practice across the project partner countries is considerable. The Air Quality Framework Directive (AQFD) 96/62/EC on ambient air quality assessment and management sets the quality standards for PM, NO2, SO2 and O3 (updated with Directive 2002/3/EC), as well as common methods and criteria for assessment and management of the pollutant levels. National outdoor air pollutant policies are accountable for obtaining reliable and comparable air quality data and for achieving the AQFD requirements. The policies do not specifically aim to achieve exposure reduction or health benefits.

Policy description

1. What are the types of policies?
    - Laws (statutes), regulations, guidelines, action programmes, abatement measures.

There is a clear distinction between transposition policies and (municipal) by-laws that act as complementary tools for achieving environmental health goals. National outdoor air pollution policies are mainly *regulations*, defining quality standards for the outdoor level of air pollutants. The regulations are stated in the national legislative (governmental or ministerial *laws*, *statutes*, *decrees* and *acts*), which, in all reporting countries have been harmonized with the AQFD on ambient air quality assessment and management and with Directive 2002/3/EC including the target value and long-term objectives as well as threshold values for ozone exposure. Several countries report transposition

policies to related Directives, e.g. 99/30/EC including limit values[17] for sulphur dioxide, nitrogen dioxide and oxides, fine particulate matter and lead in ambient air. In Austria (reported in ENHIS) and Finland additional *guidelines* for PM10 are defined, the latter setting the 24-h concentration at 70µg/m3 with 1 day/month of exceedance allowed instead of the EU value of 50µg/m3 with 35 days/year of exceedance.

Furthermore, *action plans* and *abatement programmes* define the tasks of responsible authorities working at regional and local policy level with the aim to achieve the regulatory objectives. For example in Italy there are Ecological Sundays, where private vehicles are not allowed into certain parts of the cities and in The Netherlands rerouting measures are aimed at improving local traffic flow. *Guidelines* for the development of these programmes are reported in Bulgaria.

- Describe differences in legal status, scope, enforcement, etc.

Air pollution policies hold a *clear legal basis*. In general the Air Quality Framework Directive 96/62/EC, and for several countries (reported in BU, CZ, SL, NL, (and in ENHIS: FR and RO) air quality or environmental (health) strategies or documents define the guiding principles to policy development. The *scope* of these national strategies and documents differ in time frame, specificity of actions, and focus. Quoted from the Bulgarian response, but applicable to all: "The state policy of protection of the ambient air quality is *enforced* by ministries of environment. The Municipalities and the Regional inspections on environment and waters carry out the control and the management of the activities, connected with securing the purity of the air on their territory."

2. What are the stated goals or purposes of the policies?

In concrete and simple terms, national air pollution policies *aim* at emission and exposure reduction in outdoor air pollutant levels of prior health relevance in order to improve ambient air quality and (according to the Air Quality Framework Directive) to avoid, prevent or reduce harmful effects on human health and the environment as a whole.

3. What is the specific focus of the policies?

Action plans and abatement programmes have been developed to achieve the national air quality standards. The measures mainly *focus* on reduction of emissions and improvement of the monitoring systems. To a lesser extent health impact assessments are reported as being part of the policy strategy.

4. Population groups targeted by the policies?

Outdoor air policies apply to the general population, the Directive's limit values do not specifically consider vulnerable groups.

- Are children explicitly considered?

In health impact studies respiratory effects resulting from outdoor air pollutants are assessed, taking children into account as the major susceptible group.

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

The transposition policies are designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole, as stated in the Air Quality Framework Directive. Policy and scientific research are linked. As stated in the Directive: "The Commission shall be responsible, taking account of the most recent scientific-research data in the epidemiological and environmental fields concerned and of the most recent advances in metrology, for re-examining the elements on which the limit values and alert thresholds referred to in paragraph 1 are based" (EURlex)

Action plans and abatement programmes are based on national or regional problems asking for specific measures e.g. the resuspended dust episodes in Finnish spring with frequent exceedances of the EU 24-h average limit value concentration for PM10.

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?

[17] 'limit value` shall mean a level fixed on the basis of scientific knowledge, with the aim of avoiding, preventing or reducing harmful effects on human health and/or the environment as a whole, to be attained within a given period and not to be exceeded once attained (EURlex)

No specific exposure reduction objectives have been formulated; air quality standards (the Directive's limit values) are to be achieved.

The second objective stated in the Air Quality Framework Directive is to "assess the ambient air quality in Member States on the basis of common methods and criteria" Therefore are prescribed "(a) the location of the sampling points, the minimum number of sampling points, the reference measurement and sampling techniques and (b) the use of other techniques for assessing ambient air quality, particularly modeling" (EURlex). All reporting countries have *standardized monitoring systems in place* to measure and record the air pollution levels. Monitoring authorities yearly report the levels to a centralised executive body (reported in Bulgaria, Poland, Slovakia) that is responsible for compliance reporting in accordance with the directive. In addition, Bulgaria estimates by means of indicators the number of settlements that exceed the standards and the number of population living in those areas.

7. Are there provisions for follow-up or policy review?

When the Directive's limit values are exceeded, the national government is obliged to develop and implement an Air Quality Improvement plan (reported in SL,IT,HU,ES). Necessary actions and measures to gradually reduce regional and local levels of air pollutants are outlined in action plans and abatement programmes.

Gaps and needs in the outdoor air policymaking process

Policy formulation, for PM: The main gaps in policy formulation are of scientific nature concerning the source-specific chemical compositions for particulate matter to determine the most and least harmful constituents (reported in ES, FI). Separate regulation of mass concentrations of fine particles ($PM_{2.5}$; annual and 24-h) and coarse thoracic particles ($PM_{10-2.5}$; 24-h) would help in separation of impacts between local and distant sources. This would create a better basis for local action plans and target setting (reported in FI, SL).

Policy implementation related to the AQFD transposition is slow due to the article 4.4 in the Framework Directive "To take into account the actual levels of a given pollutant when setting limit values and the time needed to implement measures for improving the ambient air quality, the Council may also set a temporary margin of tolerance for the limit value." (EUR lex) On 26 September 2006 the European Parliament voted for the new air quality directive and approved of a six year postponement for fulfillment of the new PM2.5 standard of 20 µg/m3 but also weakening of the existing standard to allow for more exceedance days.

Policy accountability: Policies do not consider the source-exposure-health chain; the link between outdoor air monitoring and exposures is lacking and thus the health improvement aspect that is explicitly mentioned as main purpose in the EU Air Quality Framework Directive is not accounted for. Another problem encountered at national level, as mentioned in Italy, is the lack of control for the efficacy of policy measures taken at regional and local level to reduce air pollution.

Linkages to other policy areas

In the air pollution policy making process there is a need for EH information from the traffic and housing areas. Suggestions for improvement actions are generally welcome, i.e. Finland suggests publication of outdoor air quality data in the internet (on-line) with information about responsible sources to increase the awareness of the population about the influence of their own lifestyle and behaviour on local air quality. The need for actual scientific findings and further research in the domain of air quality is recognized as well (see above). Validation of monitoring methods is well enough established by the Framework Directive.

ETS

Include quantified policy findings from the WP4 factsheet "Policies to reduce children's passive smoking"

Reporting countries

The comparative assessment is based on the questionnaire results received from Austria, Bulgaria, Czech Republic, Finland, Germany, Greece, Hungary, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and The Netherlands.

Key message

The level of harmonization in the ETS control policy throughout the questioned states is considerable with already existing transposition of the basic EU Directives and Recommendations into the national legislations.
The WHO Framework Convention on Tobacco Control has been ratified by most of the reporting states, and those still without ratification are making the final steps towards doing so.

Policy description

1. What are the types of policies?
   - Laws (statutes), regulations, guidelines, action programmes, abatement measures.

In most of the participating countries the restriction policies are introduced through laws and regulations. The most common form used, incl. concerning ETS exposure are laws, dealing with one or more aspects of smoking control. Usually these laws address individual issues, such as tobacco sales banning to minors, establishment of special smoking areas, tobacco advertising restrictions, and smoking ban at public places especially where youth presence is expected, etc. Attempts are made also for inclusion of voluntary restrictions and agreements.

As quoted from the Polish response: “in addition to governmental legislative activities and action plans, non-governmental organizations and health professionals contribute to the realization of national anti-tobacco policies by conducting preventive programs and making efforts to combat tobacco consumption.”

From the analysis results it becomes clear that all countries are taking stronger smoking control measures after the Council Recommendation of 2 December 2002 on the prevention of smoking and on Initiatives to improve tobacco control (2003/54/EC); many countries enact new laws or amend their legislation to ensure stronger smoking control and lowered ETS exposure. Most of the country partners have enforced laws, implementing also the essence of EU Directive 2003/33/EC on “the approximation of the laws, regulations and administrative provisions of the Member States relating to the advertising and sponsorship of tobacco products” and Directive 2001/37/EC “on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco products”.

   - Describe differences in legal status, scope, enforcement, etc.

Generally, most of the countries have enforced laws that prohibit smoking in a wide variety of public indoor spaces. Some of the states have developed smoking control policy that is based also on voluntary means of smoking control (for example Germany and partially Austria rely on voluntary restrictions on smoking at public places serving food with later gradual introduction of legislative restrictions).

2. What are the stated goals or purposes of the policies?
   - Provision of tobacco smoke-free air for the non-smokers;
   - Decrease of all occurrences for ETS exposure;
   - Encouragement for reduced tobacco smoke exposure, especially for more vulnerable population groups – young people; pregnant women, where tobacco smoke can aggravate other medical problems.
   - Creation of legislation restricting the ETS exposure not only on paper, but with possibilities for real “enforcement” and implementation in life.
   - Giving status of non-smoking as the tolerated social norm.
   - Movement towards smoke-free society.

3. What is the specific focus of the policies?

Gradually to increase the legislative restrictions and to lower and later cease the possibilities for ETS impact on public health, yet avoiding restriction on individual freedom.

4. Population groups targeted by the policies?

Generally, the ETS policies apply to the whole population. In all countries the policy lies on the principle that non-smokers (both adults and children) are protected from ETS in all public indoor environments. Certain social groups should receive particular attention to stimulate a change of lifestyle and smoking behaviour.

- Are children explicitly considered?

Children are not exclusively considered, but a priority group. The legislative actions towards smoking ban have stressed special attention to some child specific environments like nurseries, kindergartens, schools and children playing areas.
Considered are also some quantitative exposure objectives connected to ETS. For example Czech Republic focuses especially on children, setting specific target the proportion of non-smokers to be at least 80% in over 15-year-olds and close to 100% in under-15-year-olds.

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

In recent years the role of legislation in lowering the use of tobacco has been increasingly recognised, and probably in the years onwards it will remain the strongest weapon. Anti smoking initiatives on voluntary basis without compelling legislative and restrictive measures usually are destined to fail. And on the opposite, there are clear examples that single, but global interventions aiming towards later regulatory amendments can bring immediate effect on lowering tobacco consumption. Such an example is the adopted in 2003 WHO Global Framework Convention on Tobacco Control (FCTC), which when enacted laid and is expected to further lay down the legal foundations for efficient tobacco smoking control in countries worldwide.

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?

Within monitoring systems and regular national surveys some of the states have applied methods for evaluation and comparison of the prevalence of smokers for identified periods of time, thus indirectly trying to measure ETS exposure.

7. Are there provisions for follow-up or policy review?

Council Recommendation 2003/54/EC says the Member states should “continue developing strategies and measures to reduce the prevalence of smoking, such as strengthening overall health education, particularly in schools, and general programmes to discourage the initial use of tobacco products and to overcome tobacco addiction”. A lot is expected from introduction of regular national reporting of ETS exposure rates in future, with following evaluation of policies effectiveness.

Gaps and needs in the ETS policymaking process

Policy formulation: Since there are no regulations concerning ETS exposure in private residential environments, there is a growing demand for formulation of EU regulations/guidelines on indoor air quality, including limitation of ETS presence in private residences.
There is a lack of detailed information concerning ETS exposure of the youth, and even in the general population.

Policy implementation: Combining policies about different environmental health topics is necessary in order to deal with the environmental health situation in indoor private areas. Non-government organizations are important enforcement institutes, since they try to reach the public in a direct and health promotional way (Finland). Introduction of well targeted specific studies would be necessary to evaluate the policy effectiveness.

Policy accountability: Because of the expected only slow and gradual changes in tobacco consumption, stronger capacity building appears appropriate, involving development of human, financial and structural resources with long-term sustainability to support tobacco control.
Since there are no reporting obligations it is essential that policies are introduced to monitor the accountability of passed legislation (Greece).

Linkages to other policy areas:

Noise

Reporting countries

Bulgaria, Czech Republic, Finland, France, Hungary, Poland, Romania, Slovakia, Slovenia, Spain and The Netherlands. To be included: AU, DE, GR, LT, PT

Key message

Countries of the European Union have the obligation to transpose the EU Directive 2002/49/EC. Several of the participating countries have already done so, such as Czech Republic, Finland, France, Hungary, and Slovakia and others have well elaborated legislation analogous to the Noise Directive.

Policy description

1. What are the types of policies?
   - Laws (statutes), regulations, guidelines, action programmes, abatement measures.

The Noise Directive is generally transposed into national legislation in the form of Laws, Decrees or Acts. These include requirements for the elaboration of strategic noise maps and assessment of environmental noise. In addition, activities such as transport, construction and buildings are regulated and monitoring around such activities is specifically required. Legislation also includes permissible noise levels, measurement methods and methods for health effects assessment in some cases (Bulgaria). Several countries report to have policies that go beyond the requirements of the Directive. For example, France reports to include in their policy the neighbourhood noise, music noise etc., and Finland will elaborate noise maps for all towns including more than 100.000 inhabitants. In addition, several countries list policies for specific sectors, such as the requirement of self monitoring and submission of information from industrial sources of noise or for transport and construction sectors to complement the overall policy scheme of protection from noise. Several countries also list overarching policies such as NEHAPs (Bulgaria, 2005-2010) and the National Environment Strategy and Plan for Action (2005-2014 Bulgaria), National Environmental Action Plan of the Czech Republic, the Environmental Protection Act of Finland and Poland's National Health Plan include goals on the protection of citizens from the harmful effects of noise.

   - Describe differences in legal status, scope, enforcement, etc.

The authorities in charge of policy development and enforcement at national level are the Ministries and at local level the regional or local governments, municipalities or inspectorates. A number of Ministries, in addition to the Ministries of Environment and or Health may be involved in the process. For example, Ministries of Transport may be responsible for the development and implementation of the Strategic Noise Maps around airports or roads, Ministries of Public Works or regional development may be in charge for the development and implementation of SMN around main roads and railways. In agglomerations, the responsibility for noise monitoring and assessment may fall on the Municipalities.

2. What are the stated goals or purposes of the policies?

National policies on the assessment and management of environmental noise aim at protecting human health from the adverse effects of noise exposure ensuring the compliance with the standard noise levels established to protect the population from the harmful effects of noise.

3. What is the specific focus of the policies?

National policies on the assessment and management of environmental noise aim at protecting human health from the adverse effects of noise exposure ensuring the compliance with the standard noise levels established to protect the population from the harmful effects of noise.

4. Population groups targeted by the policies?

The policies are applied to the total population.

- Are children explicitly considered?

Children are not explicitly considered in the Directive, however, the Directive and the national laws and regulations deriving from it address child specific environments such as homes schools and hospitals. In countries where the Directive is transposed, educational institutions are included in the reports of strategic noise maps that will be submitted to the EU in 2007. Noise maps will have to include the number of persons exposed to noise pollution in those areas. As a result of the noise maps, noise abatement plans have to be developed and implemented to prevent noise exposure around the areas mentioned.

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

Noise is one of the environmental pressures closest to the population and a serious environmental problem in Europe. About 450 million Europeans (65%) are exposed to noise levels above 55db, and 113 millions (17%) are exposed to levels above 65 dBA, the limit above which there are known health effects. About 20% of Europeans report to be annoyed by environmental noise, especially related to transport.

Rationale stated by countries was both to ensure the necessary conditions for implementation of the Directive's requirements and to prevent the harmful effects of Noise on health. Other policies are also listed as a rationale. The Czech Republic supervises compliance with permitted noise levels in discos and music clubs. For Spain, the health protection from noise is also rooted in article 43 and 48 of the Spanish constitution. With respect to the harmful effects of noise on health the rationale is that exposure to noise level above a certain limit has adverse effects on health and a significant impact on quality of life. In general, there is scientific evidence that noise exposure affects: 1) hearing loss, 2) stress, 3) cardiovascular effects 4) psycho-social effects, 4) sleep disturbances 5) school performance, 6) annoyance and 7) immunological effects. Annoyance is one of the effects considered to be more important and has been extensively studied, allowing the elaboration of dose-response curves.

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?

In general, there are no methods reported for measuring exposure reduction and or health improvement but in the Noise Directive in is stated that harmful effects are may be assessed by means of does-effect relations referred to in Annex III. Common assessment methods for the determination of Lden and Lnight shall be established by the Commission in accordance with the procedure laid down in Article 13(2) through a revision of Annex II of the Directive. Until these methods are adopted, Member States may use assessment methods adapted in accordance with Annex II and based upon the methods laid down in their own legislation. In such case, they must demonstrate that those methods give equivalent results to the results obtained with the methods set out in paragraph 2.2 of annex II. The directive requires the elaboration of noise abatement plans to reduce noise exposures when necessary. The noise reductions from these abatement plans ought to be evaluated.

7. Are there provisions for follow-up or policy review?

No later than 18 July 2009, the Commission shall submit to the European Parliament and the Council a report on the implementation of the Noise Directive. This report will assess the need for further Community actions on environmental noise, and if appropriate, propose implementing strategies on aspects such as:

- Long-term and medium term goals for the reduction of the number of persons harmfully affected by environmental noise, taking particularly into account the different climates and different cultures.
- Additional measures for a reduction of the environmental noise emitted by specific sources,
- The preservation of quiet areas

The report shall include a review of the acoustic environment quality in the community based on the data referred to in Article 10 and shall take into account of scientific and technical progress and any other relevant information.

Gaps and needs in the noise policymaking process

Policy formulation: Noise is a relatively novel area in policy legislation, therefore some areas of the legislation such as the development of health impact methods of noise still need to be developed. Research gaps and needs point to the need to provide evidence of cause-effect relationship of certain effects such as immune effects and hormonal effects (on stress hormones) and to develop dose-response relations for those effects.

Policy implementation: In all those countries were the Directive has been transposed, noise maps will be developed provided to the Commission. The responsibility for monitoring and developing noise maps falls on the shoulder of different authorities in the countries involved, depending in some cases on the activities that take place in the area (transport, construction, industrial etc). It is difficult to find a common scheme of responsibilities. It strongly depends on the existing national structures and competences and relationships between these national structures.

Policy accountability: In Finland´s new noise regulation, noise exposure reduction needs and targets are specified, and monitoring programmes are expected to verify compliance. Noise exposures are still defined and measured as average and peak noise levels outdoor in residential (and other) areas. Noise exposure measurements should however measure true indoor exposure to personal noise sources during concentration or rest periods.

Linkages to other policy areas:

Radiation

UV Radiation

Include quantified policy findings from the WP4 factsheet "Policies to lower children's UV exposure"

Reporting countries

The comparative assessment was made on the base of questionnaire results from Czech Republic, Finland, France, Hungary, Portugal, Slovakia, Slovenia, Spain and The Netherlands. To be included: AU, DE, GR, LT, RO

Key message

The majority of the reporting countries have no well-elaborated national legislation and policy to reduce exposure to UV radiation and its consequences on health. Regulation concerns only the use of sun beds; a ban of use for teenagers and sometimes pregnant women. There seems not to be any national strategy for awareness raising campaigns about UV exposure, their effects, and ways of prevention. Initiative and responsibilities of such campaigns are spread among various institutes and NGOs with only for a few countries the participation of Ministries of Health. Some countries establish working groups aiming at a better interaction between experts and different stakeholders (representatives of governments, of schools, kindergartens….). The objective is to improve policies for prevention of excessive exposure to the main source of UV (the natural one) in the main population at risk, the young children.

Policy description

1. What are the types of policies?
   - Laws (statutes), regulations, guidelines, action programs, abatement measures.

The Montreal Protocol on Substances that Deplete the Ozone Layer, adopted on 16 September 1987, provides the frame for national legislation on UV exposure prevention.
There is no declared national global action plan concerning UV exposure in countries. Only Finland reports a "semi-national" action plan in preparation by expert institutes.
UV exposure reduction policies mainly concern information campaigns to increase awareness on exposure to UV during childhood (France, Finland, Greece, Italy, Romania, Spain, Slovenia, Slovakia,

The Netherlands). They are targeted on children and their parents (Finland, France, Slovenia, Spain, The Netherlands).

Some countries relate also the use of UV index with recommendations presented in the meteorological bulletins (France, Portugal, Spain). UV index presentation and use are under the responsibility of the meteorological institutes.

The only regulation concerns sun bed usage (France, Portugal, Spain) that have to be declared (France), regularly controlled (France), or which use is forbidden for teenagers (France, Spain Portugal) and/or pregnant women (Spain). The Ministries of health and organisms of control of commercial laws and Consumption are in charge of its application and enforcement.
Two countries report population screening campaigns of melanoma (Czech Republic, France). Slovakia regulates UV exposure at work.

- Describe differences in legal status, scope, enforcement, etc.

Regulation concerns only sun bed usage. The targeted populations are clearly teenagers.
Awareness and information campaigns result from various initiatives of NGOs (Finland, France, Slovenia), and/or expert institutes (Finland, France, The Netherlands) and sometimes only with direct collaboration of the Ministry of Health (Spain, Portugal, Slovenia). The expert institutes are always at least Cancer research or monitoring institutes (France, Finland, The Netherlands) also involved in screening melanoma. Only Finland cites the Institute for radiation protection and nuclear safety as a promoter of information campaigns.

2. What are the stated goals or purposes of the policy?

For national policies concerning sun beds, accent is put on regulation of their usage, with control of the information given to the clients. There is a ban of its use for teenagers in at least three countries (France, Spain and Portugal). This stresses the zero exposure guideline for minors.

Information campaigns aim at arising awareness and knowledge for children and parents about exposure to UV, its health risks and protection ways and behaviors.

Melanoma screening aims at reducing the consequences of melanoma and to heighten public awareness of cutaneous cancers. Children are clearly a targeted group. Nevertheless no ENHIS-2 partner country stresses quantitative targets concerning melanoma screening.

3. What is the specific focus of the policies?

Some countries have specific focuses of increasing the number of melanoma detected and precociously treated. Most of the policies against UV exposure in France, Spain and Portugal concern the use of exposure to sun beds.

4. To whom does the policy apply?

The policies are applied essentially to children and their parents in awareness raising campaigns and to teenagers for control of sun bed usage. Melanoma screening applies to the total population.

- Are children explicitly considered?

Children are specifically considered for awareness and knowledge campaigns

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

There is clear evidence of a relation between exposure to UV and a number of health effects, such as the increased incidence of malignant melanomas, baso or spino-cellular skin cancers and cataract. Both excessive exposure (burns) during early years and overall life-time exposure are important factors.
The trends in UV exposure are currently showing an increase in exposure, tanning being a popular and frequent activity.
Studies have shown that demand for artificial tanning salons has increased in recent years and that at around 30% of the users are teenagers and young adults. Furthermore, aside from aesthetic concerns, there is a common misjudgement that previous exposure to artificial UV light acts as a protection for solar UV during the summer and can be beneficial to health. This, coupled with WHO INTERSUN recommendations has led to the development and adoption of legislation to regulate this risk activity.
For France, there is a target of sun bed use reduction as well as reduction of any excess in artificial UV exposures. For teenagers this is a question of zero exposure to artificial UV produced by sun beds.

There is also an attempt to raise public awareness of exposure's risk to ultraviolet issues (for example: it is mandatory to warn high-risk persons – melano-compromised, people having large number of naevi or sunburn, having medication…).

For the information tools and campaigns, spreading knowledge about the problem is the first step towards exposure reduction.
For the UV web site, UV index, information campaigns the targets are to rise awareness on UV effects and necessity to reduce exposure to UV, councils on how to do it.

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?

This information is only explicitly stressed for cancer screening which impact could be monitored by statistics of cancer registries. There are declarations of continuous monitoring of UV index (Austria, France,)

7. Are there provisions for follow-up or policy review?

Effects: Most frequently quoted is the existence of cancer registries based on regional monitoring for national assessment (France, Spain, Romania) or national registries (Austria, Finland, The Netherlands, Czech Republic).

Exposure: Some countries specified the regular monitoring of UV index (Austria, France). Very few countries have regular risk perception and knowledge measurement campaigns. Hungary, which declared no policy implementation, realised two inquiries to assess the level of knowledge and perception of UV in teenagers using sun beds and young children.

Gaps and needs in the UV policymaking process

Policy formulation: The countries responding to this question are prone for a national policy starting from the viewpoint of cancer reduction and prevention. The countries approve the control of sun bed use but regret that exposure to natural sources which is the main contribution to exposure is not enough taken into policies. They ask for specific actions in schools and kindergartens to target on the population that is most at risk: young children, and their parents.

Policy implementation: Finland established a working group of experts assigned by the Ministry of Social Affairs and Health to orientate and council the making of a global policy with involvement of different relevant stake holders (such as representatives of schools or kindergartens).

Policy accountability: Only France started to regularly assess the level of knowledge and risk perception of the population concerning exposure to UV, their effects and the ways for reduction and prevention, as well as the impact of their rising awareness (campaign of the National Cancer I*nstitute – INCA)*. Such assessment should be regularly done in the European countries and paced with policies and campaigns.

Linkages to other policy areas:

Indoor Radon

To be written

Reporting countries

Key message

Includes brief statements about the level of harmonization (strong EU directives – mostly national approaches)and the level of accountability in population health terms.

Policy description

1. What are the types of policies?

- Laws (statutes), regulations, guidelines, action programmes, abatement measures.
- Describe differences in legal status, scope, enforcement, etc.

2. What are the stated goals or purposes of the policies?
3. What is the specific focus of the policies?
4. Population groups targeted by the policies?

- Are children explicitly considered?

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?
7. Are there provisions for follow-up or policy review?

Gaps and needs in the indoor radon policymaking process

Linkages to other policy areas:

Chemical Hazards in Food

Reporting countries:

The comparative assessment is based on questionnaire results from Bulgaria, Czech Republic, Finland, France, Hungary, Poland, Slovakia, Slovenia.
To be included: AU, DE, PT

Key message

Unfortunately, information related to chemical hazards in food are not enough complete to allow the formulation of global considerations in this field.

Policy description

1. What are the types of policies?
   - Laws (statutes), regulations, guidelines, action programmes, abatement measures.

The principles of food law are mainly present in European Regulations.
Ministerial decrees on food safety have been formulated in Poland, also Bulgaria reports three laws: Food Law, Law on Plant Protection and Law on protection against the adverse effect of chemical substances and preparations as well as ordinances for their implementation.
National legislation in the reporting countries is mainly outlined into action plans and strategies to ensure controls and to assess food contaminants exposure, such as the Bulgarian "Food and Nutrition" National Action Plan 2005-2010 or the "Strategy to Assure Food Safety in the Czech Republic", the programme "Health for All in the 21st century" and the National Environmental Health Action Plan and Food Industry Strategy of the Czech Republic. Both in Finland and in France, national plans for chemicals in food are focused on pesticide residues.

- Describe differences in legal status, scope, enforcement, etc.

The EC regulation 178/2002 provides the basis for all food laws and action programmes.
In Bulgaria and Finland national plans are in place to assess the exposure to food contaminants. The "Food and Nutrition National Action Plan 2005-2010" in Bulgaria intends to institute a national system for monitoring and control of contaminants in foods, heavy metals, pesticides, nitrates, veterinary-medical preparations and radioactive contaminants.

2. What are the stated goals or purposes of the policies?

Policies aim to reduce the exposure of people to chemicals in food, to decrease health risks related to unaware ingestion of dangerous substances. Restricting the amount of contaminants in food through

official controls is the purpose of most legislation. The aim of policymakers is to harmonize national legislation with EU legislation.

3. What is the specific focus of the policies?

Policies are focused on food control and monitoring of chemicals in food (heavy metals, pesticides and veterinary residues, nitrates, additives), to decrease health risks for the population. Monitoring data are useful to realize an exposure assessment of chemical contaminants in food and to verify the performance of the policies, but often the policies are focused to verify the compliance with maximum levels of contaminants allowed in food.

4. What are the population groups targeted by the policies?

General exposure assessments include the whole population and target risk groups like children if needed. Also mothers are sometimes considered as a target group with regard to chemical residues in milk. In Hungary, particular attention is paid to education of nurses, preparation of baby food and specific dietary guidelines are in place for mothers. In Bulgaria, the national system for monitoring and control of contaminants in foods, provided for "Food and Nutrition" National Action Plan, is focused on risk assessment of the dietary intake of priority population groups: children, population in ecologically threatened regions.

- Are children explicitly considered?

European legislation holds specific provisions for babies and young children.
All countries agree in principle with relevance of controls and determination of maximum levels of chemicals in food intended for children consumption and most of the Countries (BG, FR, HU, PL, SK) have specific policies. In Bulgaria, specific ordinances concerning baby foods and foods for children are in place: "it has been declared that in baby foods no heavy metals and biological contamination over the accepted levels should be contained; the maximum levels of pesticide residues in those foods have been determined". Also food additives have been listed, allowed to be put into foods for infants and young children. In France, legal provisions are made for specific food intended for baby consumption, especially for genotoxic or neurotrophic substances. In Finland, children (up to 6 years) are explicitly considered as a target group as well and stricter guidelines are in place. Finland has stricter limits for pesticides for benzoic acid and nitrates in baby food. In Poland and in Slovakia there are special limits for food intended for children nutrition, especially for children under 12 months.
In Hungary, children are the main target of EH project. Children are not explicitly considered in policies of Czech Republic.

Policy rationale

5. Why is it believed that the mandated actions will bring the awaited benefits?

Policies on food safety are in place to avoid the supply of food products unhealthy for consumers as they contain contaminants over maximum allowance levels. The detection of maximum levels of contaminants in food is based on scientific and toxicological studies. To be effective, research on contaminants in food must operate in regard of the environmental context. In Bulgaria, i.e., studies on pollution of soils with heavy metals are used to formulate policies on soil utilisation. In Czech Republic, monitoring of contaminants in food is performed in frame of the total diet study.
However, all the Countries agreed on the importance of harmonisation with EU legislation.

Policy accountability

6. Is there any mentioning of methods for measuring exposure reduction and/or health improvement?

In Finland and in France, two agencies operating in food safety are created: EVIRA (Finnish Food Safety Authority) and AFSSA (French agency for health safety of foods). Those agencies are involved in monitoring of chemicals in food, to ensure healthy foods, and are responsible of the implementation of total diet study for the exposure assessment.
If the monitoring is persistent and regular, it is possible to verify changes in exposure.
In Czech Republic, Ministry of Health is responsible of monitoring of exposure to contaminants in the frame of the Total diet study, while the Ministry of Agriculture is responsible for the monitoring of

contaminants in foodstuffs. In Bulgaria, monitoring of chemical hazards in food – nitrates, micotoxines, pesticide residues, heavy metals - has been planned by the Ministry of Health every year and performed by Regional Inspectorates for Protection and Control of Public Health.

7. Are there provisions for follow-up or policy review?

Follow-up programmes are in place in Hungary and data suggest that concentrations of some types of chemicals in food have decreased. In France and Finland, follow-up is done with the support of the agencies operating in food safety (AFSSA and EVIRA). In Bulgaria a follow-up programme is not defined yet.

Gaps and needs in the chemical hazards policymaking process

Policy formulation: The main gap in the process of policy formulation is the lack and the uncertainty of data on chemical reduction in food (reported in HU, SK). France points out a data gap in policy formulation for children or individuals eating mainly local foods (home-grown foods, foods from a very specific geographic area).

Policy implementation: In Hungary is reported a need for collaboration with media to disseminate information and education. Bulgaria wishes more national exchange about problems occurring during policy implementation.

Policy accountability: A harmonization of assessment methods in different countries is desirable (FI). Hungary suggests avoiding parallel working and blank spots.

Linkages to other policy areas: The policy making process related to chemicals in food is in need of EH information from water and air pollution. Some countries also consider information about traffic essential, while housing does not seem to be interesting.

Discussion and Conclusion

To be included: Home violence, Extreme cold and heat, Housing safety and accidents, Indoor radon

This chapter includes concluding statements about the national EH policy situation, in particular about the level of harmonization in each of the EH topics. Furthermore, it summarizes the gaps and information needs as regarded in the comparative policy assessment section.

In the second year of ENHIS-2, WP3 should carry out more focused and thorough policy assessments in order to achieve its objective to produce a practical tool for policy authorities that allows for comparison and streamlining of EH policies between the European countries. It should provide information on the contents and format of information needed to monitor and evaluate policy effectiveness in hazardous exposure reduction and associated health benefits generation.

Current EH policy situation

In succession to the first round of policy information collection in ENHIS, ENHIS-2 adds more consistent and complete information about the national EH policy process. Furthermore, the study extended its scope to 18 European countries and seven environmental health topics, several of which include subtopics.

Most EH topics are covered by well-elaborated national legislative policies: drinking water, bathing water, hygienic housing conditions, outdoor air, environmental tobacco smoke, noise, chemical hazards in food. The level of policy harmonization among the 18 ENHIS-2 countries ranges from high to low. Highly harmonized are national EH policies that are based on coherent EU legislative policy frameworks, as is the case for water or outdoor air. Less inter-country policy harmonization is recognised in EH topics, such as traffic or ETS, for which national policy development is lacking a coherent EU or international legislative framework. Improved and consistent guidance, e.g. from WHO, in transposition of international policy frameworks might provide impetus towards increased harmonization. A low level of policy harmonization applies to the national regulated EH topics, such as

hygienic housing or UV radiation. These topics are currently dealt with in national strategies and action plans that nevertheless encompass a more or less similar focus or strategy in different countries.

With regard to policy implementation and accountability a limited amount of policy information has been collected. It can be concluded that there is a lack of guidance on implementation and follow-up of transposition policies and a severe lack of insight into implementation measures and follow-up programmes for less or non-harmonized EH policy topics. The following section will further discuss this issue.

In addition, we can conclude that most EH policies only partly cover the topic from source via exposure assessment to related health effects. Quantitative exposure reduction objectives or health targets are seldom defined, although the importance of health aspects, in most cases is specifically mentioned in the policy objectives and policy rationale. Policy implementation measures and monitoring programmes targeting exposure reduction and health improvement would make it possible to evaluate EH policies in terms of effectiveness in population health terms.

EH policy information needs

Concerning the formulation of EH policies there are two clear general policy gaps to stress. First of all, except for chemical hazards in food, none of the topics covers specific policy actions for children. In certain areas, such as noise and environmental tobacco smoke, children are being recognised as a particular vulnerable group. This observation is of high importance, but without translation into explicit policy measures does not result in effective protection. Especially in indoor environments, children's exposure to hazardous environmental agents can rise to high levels and result in adverse health effects.

In the second place, there is a weak policy linkage between different EH topics. A particular EH policy operates in its own area without considering the way it is influenced by and affects other environmental health policies. As stated in the Third Intergovernmental Preparatory Meeting report (2003) the interaction of environmental health with other issues should be improved to let policymakers see that investments in environmental health are complementary to solving other world and domestic problems.[21]

EH policies should address and cover the range of harmful health effects resulting from exposure to the regulated environmental substance. In the noise and food safety policy areas, experts reported a need for more research about the exposure – health linkage and a consequent development of methodology to determine the exposure and health impacts. The lack of health risk considerations in the policy accountability phase has been reported for most EH topics. It seems to point out the importance of creating health-focused policies; Policy experts have to start EH policy development from the health point of view.

Policy transposition and implementation of EU directives and other forms of international legislation at national policy level ask for overarching guidance and supportive activities. Regulatory changes are often required, which result in revised task allocations or structural revisions, in particular at executive level, e.g. the re-organization of an existing administrative structure. It is of high importance to have competent regional and local authorities to carry out and implement essential monitoring and follow-up measures.

Continuation in ENHIS-2

Time period: November 2006 until June 2007

In the first year of ENHIS-2 we developed a methodology for the identification of information needs (deliverable 3.1) and drafted a first policy assessment report which includes conclusions about the information gaps and needs in national environment and health policymaking (deliverable 3.2). These deliverables will be further improved and finalised during the second project year on the basis of new insights and developments in WP3.

- The WP3 methodology – In November 2006, the EH policy questionnaire, database and assessment frame (D-3.1) has been outlined in a methodology report.

- The comparative assessment section is to be completed for some of the EH topics. Revision work will continue in the first part of the second project year; delayed questionnaire responses will be integrated into the assessment. The report contents, in particular the conclusion and discussion has to be reviewed by WP3 partners.
- A report to the mid-term intergovernmental meeting (June 2007) will be prepared in co-operation with the WHO project on children's EH policy review across Europe (co-funded by Health Canada). This report will highlight key messages about the current state of national EH policies and identify information gaps and needs in national EH policy making.

The comparative EH policy assessment report provides a starting point for the selection of case studies from the collected national EH policies. For each of the cases, we will thoroughly study the policy making process, emphasising the description of the health-related policy objectives, the underlying rationale and the policy effectiveness in health terms. As a result WP3 will be able to formulate recommendations about accountable EH policy development and produce a guidance document on how to realize good policy practices. We plan to finish the case studies by April 2007. This work requires the following methodological steps.

1. Selection of case studies: Four cases will be selected, one for each CEHAPE RPG. A case refers to a single national legislative policy (e.g. regulation or law). Selection criteria for the policy document include: complete and consistent policy description in the EH policy questionnaire response, clear reference to or suggestions for a particular policy document, policy implementation and follow-up programmes in process, child-specific policy targets.
   Proposed case studies: ETS for Spain and Bulgaria, Traffic for Italy or Finland,
   Drinking water quality for Lithuania, Indoor radon for Italy or Finland
2. Policy text analysis: The selected national policy documents will be explored by means of text analysis. The renewed policy evaluation questionnaire will serve as a frame for in-depth evaluation of the policy. Policy goals and means will be interlinked in a mind map. Evaluation of the policy-health linkage in implementation and follow-up programme descriptions.
3. Actor analysis: The proper authorities (and persons concerned) involved at different levels with initiation, formulation, implementation and follow-up of the selected policy documents will be identified.
4. 'Hard talk' interviews with national (and regional) policy experts, focussing on the accountability issues in the policy implementation and follow-up process of the selected policy documents.
5. Case study workshop in collaboration with JRC in May 2007. This workshop will involve 60-70 policy experts from governmental and administrative level. The findings of the case studies will be discussed in working groups and result in drafting sessions of D-3.3: recommendations about accountable EH policy development and a guidance document on how to realise good policy practices.

Outcomes

- ENHIS-2 WP3 deliverables
- Two reports to the mid-term intergovernmental meeting
- Workshop proceedings

The deliverables for the second project year include:
As described in the contract

- Deliverable 3.3 Guidelines for generating information for policy support (month 20)
- Deliverable 3.4 Annual assessment of new information needs – Part 2 (month 22)

Interpretation

- Deliverable 3.3 (i) Recommendations for national policy experts and officials about accountable EH policy development and (ii) a guidance document on how to realize good policy practices (month 24).
- Deliverable 3.4 The second part of the policy assessment report includes an updated version of the comparative EH policy assessment in the 18 ENHIS-2 partner countries and the case study findings (month 22).

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Appendix 1 List of interviewed experts

To be written

ENHIS-2

WORK PACKAGE 4 (WP4) RESULTS

Deliverables:

1. **Protocol for pilot testing of selected CEH indicators (month 3)**
2. **Summary evaluation of the tested indicators based on pilot study (month 10)**
3. **Definition of core set of indicators and their methodology (month 14)**
4. Definition of extended set of indicators and their methodology (month 22)

Table of Contents:

Overview of the core set of feasible and policy-relevant indicators: data sources and availability by country & RPG as of December 5, 2006

1. CEHAPE RPG I indicators

Title	Data Source
1. Waste water coverage and access to improved sanitation	a. EUROSTAT
	b. WHO/UNICEF Joint Monitoring Programme
2. Recreational water quality	a. European Environmental Agency
3. Drinking water quality	Local application only
4. Population with public water supply & access to improved water sources	a. EUROSTAT
	b. WHO/UNICEF Joint Monitoring Programme
5. Outbreaks of water-borne diseases	a. Case Studies
6. Management of bathing waters	a. Case Studies
7. Water safety plans	a. Case Studies

Data availability for the RPG I indicators in the WHO European Region

RPG I indicators *(see*	1		2	4		5	6	7
Data Source	a	b	a	a	b	Case Studies	Case Studies	Case Studies
Number of countries with data	30	31	25	22	43	8		
Albania	-	+	-	-	+	-		
Andorra	-	+	-	-	+	-		
Armenia	-	+	-	-	+	-		
A (Austria)	+	+	+	+	+	-		
Azerbaijan	-	+	-	-	+	-		
Belarus	-	-	-	-	+	-		
B (Belgium)	+	-	+	+	-	-		
Bosnia & Herzegovina	-	+	-	-	+	-		
BG (Bulgaria)	+	+	-	+	+	-		
CR (Croatia)	-	-	-	-	-	+		
CY (Cyprus)	+	-	+	+	-	-		
CZ (Czechia)						-		
	+	-	+	+	-			

RPG I indicators *(see*	1		2	4		5	6	7
Data Source	a	b	a	a	b	Case Studies	Case Studies	Case Studies
Number of countries with data	30	31	25	22	43	8		
D (Germany)	+	-	+	+	+	-		
DK (Denmark)	+	-	+	+	+	-		
E (Spain)	+	-	+	-	+	-		
EE (Estonia)	+	+	+	+	+	+		
EL (Greece)	+	-	+	-	+	+		
F (France)	+	-	+	+	+	-		
FIN (Finland)	+	+	+	-	+	+		
Gerogia	-	+	-	-	+	-		
HU (Hungary)	+	+	+	+	+	+		
IS (Iceland)	+	-	-	+	+	-		
Israel	-	+	-	-	+	-		
I (Italy)	+	-	+	+	+	+		
IRL (Ireland)	+	-	+	+	+	-		
Kazakhstan	-	+	-	-	+	-		
Kyrgyzstan	-	+	-	-	+	-		
L (Luxembourg)	+	-	+	-	+	-		
LT (Lithuania)	+	-	+	+	-	-		
LV (Latvia)	+	+	+	-	-	-		
LI (Liechtenstein)	-	-	-	+	-	-		
MT (Malta)	+	+	+	-	+	-		
Monaco	-	+	-	-	+	-		
NL (Netherlands)	+	+	+	+	+	-		
NO (Norway)	+	-	-	+	+	-		
P (Portugal)	+	-	+	+	+	-		
PL (Poland)	+	+	+	+	+	-		
RO (Romania)	-	+	-	+	+	-		
Rep. of Moldova	-	+	-	-	+	-		
Russian Federation	-	+	-	-	+	-		
San Marino	-	-	-	-	-	-		
Serbia & Montenegro	-	+	-	-	+	-		

RPG I indicators *(see*	1		2	4		5	6	7
Data Source	a	b	a	a	b	Case Studies	Case Studies	Case Studies
Number of countries with data	30	31	25	22	43	8		
S (Sweden)	+	+	+	+	+	-		
SI (Slovenia)	+	-	+	+	-	-		
SK (Slovakia)	+	+	+	+	+	+		
Switzerland	+	+	-	-	+	-		
Tajikistan	-	+	-	-	+	-		
TFYR Macedonia	-	-	-	-	-	-		
TR (Turkey)	+	+	-	-	+	-		
Turkmenistan	-	+	-	-	+	-		
Ukraine	-	+	-	-	+	-		
UK (United Kingdom)	+	-	+	-	+	+		
Uzbekistan	-	+	-	-	+	-		

2. CEHAPE RPG II indicators

Title	Data Source
1. Childhood mortality from traffic accidents	a. UNECE
2. Children mortality from external causes excluding traffic	a. WHO Mortality Database
3. Physically active children	a. WHO Health Behaviour School Children Survey
4. Children's overweight and obesity	a. WHO Health Behaviour School Children Survey
5. Policies to promote safe children's mobility	a. Member States
6. Policies to reduce child injuries	a. Member States
7. Policies to reduce children's obesity	a. Member States
8. Non-traffic injuries	a. EU Injury DB + case studies

Data availability for the RPG II indicators in the WHO European Region

RPG II indicators *(see*	1	2	3	4	5	6	7	8
Data Source	a	a	a	a	a	a	a	
Number of countries with data	43	48	35	35	26	23	26	7
Albania	-	+	-	-	+	+	+	-
Andorra	-	-	-	-	-	-	-	-
Armenia	+	+	-	-	+	-	+	-
A (Austria)	+	+	+	+	+	+	+	+
Azerbaijan	+	+	-	-	-	-	-	-
Belarus	+	+	-	-	-	-	-	-
B (Belgium)	+	+	+	+	+	+	+	-
Bosnia & Herzegovina	-	+	-	-	-	-	-	-
BG (Bulgaria)	+	+	+	+	+	+	+	-
CR (Croatia)	+	+	+	+	+	+	+	-
CY (Cyprus)	+	-	-	-	-	-	-	-
CZ (Czechia)	+	+	+	+	+	+	+	-
D (Germany)	+	+	+	+	-	-	-	-
DK (Denmark)	+	+	+	+	-	-	-	+
E (Spain)	+	+	+	+	+	+	+	-
EE (Estonia)	+	+	+	+	+	+	+	-
EL (Greece)	+	+	+	+	+	+	+	-
F (France)	+	+	+	+	+	+	+	+
FIN (Finland)	+	+	+	+	+	+	+	-
Georgia	+	+	-	-	+	-	-	-
HU (Hungary)	+	+	+	+	+	+	+	-
IS (Iceland)	+	+	+	+	-	-	-	-
Israel	+	+	+	+	-	-	-	-
I (Italy)	-	+	+	+	+	+	+	-
IRL (Ireland)	+	+	+	+	-	-	-	-
Kazakhstan	+	+	-	-	-	-	-	-
Kyrgyzstan	+	+	-	-	-	-	-	-
L (Luxembourg)	+	+	+	+	-	-	-	-
LT (Lithuania)	+	+	+	+	+	+	+	-

RPG II indicators *(see*	1	2	3	4	5	6	7	8
Data Source	a	a	a	a	a	a	a	
Number of countries with data	43	48	35	35	26	23	26	7
LV (Latvia)	+	+	+	+	-	-	-	-
LI (Liechtenstein)	-	-	-	-	-	-	-	-
MT (Malta)	+	+	+	+	+	+	+	-
Monaco	-	+	-	-	-	-	-	-
NL (Netherlands)	+	+	+	+	+	+	+	+
NO (Norway)	+	+	+	+	-	-	-	-
P (Portugal)	+	+	+	+	+	+	+	+
PL (Poland)	+	+	+	+	+	+	+	-
RO (Romania)	+	+	+	+	+	+	+	-
Rep. of Moldova	+	+	-	-	-	-	-	-
Russian Federation	+	+	+	+	-	-	-	-
San Marino	-	+	-	-	-	-	-	-
Serbia & Montenegro	-	-	-	-	-	-	-	-
S (Sweden)	+	+	+	+	+	+	+	+
SI (Slovenia)	+	+	+	+	+	+	+	-
SK (Slovakia)	+	+	+	+	+	+	+	-
Switzerland	+	+	+	+	-	-	-	-
Tajikistan	-	+	-	-	-	-	-	-
TFYR Macedonia	+	+	+	+	-	-	+	-
TR (Turkey)	+	-	+	+	-	-	-	-
Turkmenistan	+	+	-	-	-	-	-	-
Ukraine	+	+	+	+	-	-	-	-
UK (United Kingdom)	+	+	+	+	+	+	+	+
Uzbekistan	-	+	-	-	+	+	+	-

3. CEHAPE RPG III indicators

Title	Data Source
1. Prevalence of asthma, allergies in children	a. ISAAC
2. Infant mortality from respiratory diseases	a. WHO Mortality Database
3. Children's exposure to outdoor air PM_{10}	a. EEA AirBase
4. Children's homes with mould and dampness	a. EUROSTAT
5. Children exposed to environmental tobacco smoke	
a) Children's exposed to second hand smoking	a. US CDC GYTS
b) Prevalence of daily smoking in children	b. HBSC
6. Proportion of children living in homes using solid fuel	a. World Health Survey
7. Policies to reduce children's passive smoking	a. WHO Tobacco Control Database
8. Children in proximity of heavily trafficked roads	a. Case Studies

Data availability for the RPG III indicators in the WHO EURO Region

RPG III indicators *(see*	1	2	3	4	5		6	7	8
Data Source	a	a	a	a	a	b	a	a	Case Study
Number of countries with data	21	37	32	13	21	35	51	49	2
Albania	+	+	-	-	+	-	+	+	-
Andorra	-	-	-	-	-	-	+	+	-
Armenia	-	-	-	-	-	-	+	+	-
A (Austria)	+	+	+	+	-	+	+	+	-
Azerbaijan	-	-	-	-	-	-	+	+	-
Belarus	-	-	-	-	+	-	+	+	-
B (Belgium)	+	+	+	+	-	+	+	+	-
Bosnia & Herzegovina	-	-	+	-	+	-	+	+	-
BG (Bulgaria)	-	+	+	-	+	+	+	+	-
CR (Croatia)	-	+	-	-	+	+	+	+	-
CY (Cyprus)	-	-	+	-	-	-	+	+	-
CZ (Czechia)	-	+	+	-	+	+	+	+	-

RPG III indicators *(see*	1	2	3	4	5		6	7	8
Data Source	a	a	a	a	a	b	a	a	Case Study
Number of countries with data	21	37	32	13	21	35	51	49	2
D (Germany)	-	+	+	-	-	+	+	+	+
DK (Denmark)	+	+	+	+	-	+	+	+	-
E (Spain)	+	+	+	+	-	+	+	+	-
EE (Estonia)	+	+	+	-	+	+	+	+	-
EL (Greece)	+	+	+	+	-	+	+	+	-
F (France)	+	+	+	+	-	+	+	+	-
FIN (Finland)	+	+	+	+	-	+	+	+	-
Georgia	+	-	-	-	+	-	+	+	-
HU (Hungary)	-	+	+	-	+	+	+	+	-
IS (Iceland)	-	+	+	-	-	+	+	+	-
Israel	-	+	-	-	-	+	+	+	-
I (Italy)	+	+	+	+	-	+	+	+	-
IRL (Ireland)	+	+	+	+	-	+	+	+	-
Kazakhstan	-	-	-	-	+	-	+	+	-
Kyrgyzstan	-	+	-	-	+	-	+	+	-
L (Luxembourg)	-	+	-	-	-	+	+	+	-
LT (Lithuania)	+	+	+	-	+	+	+	+	-
LV (Latvia)	+	+	+	-	+	+	+	+	-
LI (Liechtenstein)	-	-	-	-	-	-	+	-	-
MT (Malta)	-	+	+	-	-	+	+	+	-
Monaco	-	+	-	-	-	-	+	-	-
NL (Netherlands)	-	+	+	+	-	+	+	+	+
NO (Norway)	-	+	+	-	-	+	+	+	-
P (Portugal)	+	+	+	+	-	+	+	+	-
PL (Poland)	+	+	+	-	+	+	+	+	-
RO (Romania)	+	+	+	-	-	+	+	+	-
Rep. of Moldova	-	+	-	-	+	-	+	+	-
Russian Federation	+	-	-	-	+	+	+	+	-
San Marino	-	+	-	-	-	-	+	-	-
Serbia & Montenegro	-	-	+	-	-	-	+	+	-

RPG III indicators *(see*	1	2	3	4	5		6	7	8
Data Source	a	a	a	a	a	b	a	a	Case Study
Number of countries with data	21	37	32	13	21	35	51	49	2
S (Sweden)	+	+	+	+	-	+	+	+	-
SI (Slovenia)	-	+	+	-	+	+	+	+	-
SK (Slovakia)	-	+	+	-	+	+	+	+	-
Switzerland	-	+	+	-	-	+	+	+	-
Tajikistan	-	-	-	-	-	-	-	+	-
TFYR Macedonia	-	+	+	-	+	+	+	+	-
TR (Turkey)	-	-	-	-	+	+	+	+	-
Turkmenistan	-	-	-	-	-	-	+	+	-
Ukraine	-	-	-	-	+	+	+	+	-
UK (United Kingdom)	+	+	+	+	-	+	+	+	-
Uzbekistan	+	-	-	-	-	-	+	+	-

4. CEHAPE RPG IV indicators

Title	**Data Source**
1. Incidence of melanoma	a. IARC
2. Incidence of childhood leukaemia	a. IARC
3. Work injuries in employees under 18 yrs	a. EUROSTAT
4. Children exposed to harmful noise at school	a. For the future
5. Children's exposure to chemical hazards in food	a. WHO SIGHT TDS DB
6. POPs in human breast milk	a. WHO SIGHT DB
7. Blood lead level in children	a. Case Studies
8. Policy actions to lower children's UV exposure	a. Member States
9. Ratification of conventions related to CEHAPE	a. Conventions' web-sites
10. Radon levels in dwellings	a. Surveys (The European Forum on Radon Mapping)

Availability of data for the RPG IV indicators in the WHO EURO Region

RPG III indicators *(see*	1	2	3	5	6	7	8	9	10
Data Source	a	a	a	a	a	Case studies	a	a	a
Number of countries with data	17	18	16	6	10	8	27		11
Albania	-	-	-	-	-	-	+		-
Andorra	-	-	-	-	-	-	-		-
Armenia	-	-	-	-	-	-	-		-
A (Austria)	-	-	+	-	-	-	+		+
Azerbaijan	-	-	-	-	-	-	-		-
Belarus	-	+N	-	-	-	-	+		-
B (Belgium)	-	-	+	+	-	-	+		-
Bosnia&Herzegovina	-	-	-	-	-	-	-		-
BG (Bulgaria)	-	-	-	-	-	+	+		-
CR (Croatia)	-	-	-	-	+	-	+		-
CY (Cyprus)	-	-	-	-	-	-	-		-
CZ (Czechia)	+N	-	-	+	+	+	+		+
D (Germany)	+	+N	+	-	+	+	-		+
DK (Denmark)	+N	+N	+	+	-	-	-		-
E (Spain)	+	+N	+	-	-	-	+		-
EE (Estonia)	+N	+N	-	-	-	-	+		+
EL (Greece)	-	-	+	-	-	-	+		-
F (France)	+	+	+	-	-	+	+		+
FIN (Finland)	+N	+N	+	-	+	-	+		+
Georgia	-	-	-	-	-	-	+		-
HU (Hungary)	-	+N	-	-	+	+	+		+
IS (Iceland)	+N	+N	-	-	-	-	-		-
Israel	-	-	-	-	-	+	-		-
I (Italy)	+	+	+	-	-	-	+		-
IRL (Ireland)	-	+N	+	+	-	-	-		-
Kazakhstan	-	-	-	-	-	-	-		-
Kyrgyzstan	-	-	-	-	-	-	-		-
L (Luxembourg)	-	-	+	-	-	-	-		-

RPG III indicators *(see*	1	2	3	5	6	7	8	9	10
Data Source	a	a	a	a	a	Case studies	a	a	a
Number of countries with data	17	18	16	6	10	8	27		11
LT (Lithuania)	-	-	-	-	-	-	+		-
LV (Latvia)	-	-	-	-	-	-	-		-
LI (Liechtenstein)	-	-	-	-	-	-	-		-
MT (Malta)	-	-	-	-	-	-	+		-
Monaco	-	-	-	-	-	-	-		-
NL (Netherlands)	+C	+N	+	-	+	-	+		+
NO (Norway)	+N	+N	+	-	+	-	-		-
P (Portugal)	-	-	+	-	-	-	+		-
PL (Poland)	+C	-	-	+	-	+	+		+
RO (Romania)	-	-	-	-	-	+	+		+
Rep.of Moldova	-	-	-	-	-	-	-		-
Russian Federation	-	-	-	-	-	+	-		-
San Marino	-	-	-	-	-	-	-		-
Serbia&Montenegro	-	-	-	-	-	-	-		-
S (Sweden)	+N	-	+	-	+	+	+		-
SI (Slovenia)	+N	+N	-	-	-	-	+		-
SK (Slovakia)	+N	+N	-	-	+	-	+		-
Switzerland	+	+	-	-	-	-	-		-
Tajikistan	-	-	-	-	-	-	-		-
TFYR Macedonia	-	-	-	-	-	+	+		-
TR (Turkey)	-	+C	-	-	-	-	-		-
Turkmenistan	-	-	-	-	-	-	-		-
Ukraine	-	-	-	-	+	-	-		-
UK (United Kingdom)	+	+N	+	+	-	-	-		+
Uzbekistan	-	-	-	-	-	-	+		-

Note: Countries in 'bold' are ENHIS-2 project partners

Protocol for pilot testing of children's EH indicators: CEHAPE RPG I

Indicator Name	Available		Remarks	Action	Responsibilities
	Yes/ No	International data source			
RPG I 1. Wastewater treatment	1. Yes	1a. EUROSTAT 1b. WHO/ UNICEF JMP	1a. provides data on total population connected to urban wastewater treatment 1.b Population w. access to improved sanitation (1990, 2002), urban & rural http://www.wssinfo.org/en/sanquery.html	1. Action 'C'	1. Alexandra Katsiri
2. Recreational water compliance	2. Yes	2.a. EEA data service 2.b. EU Bathing Water Quality Report for 2005	2.http://dataservice.eea.eu.int/dataservice/metadetails.asp?id=683	2. Action 'A'	2. Juri Ruut
3. Drinking water compliance	3. No	3.	3. Any data source specified in the Methodology sheet. (EU Report for 2001/ 02 will be available early 06)	3. Action 'B'	3. Proposal: to drop & recommend for local application only
4. Access to safe drinking water	4. Yes	4.a. EUROSTAT 4.b. WHO/ UNICEF JMP	4.a. provides data on total population connected to the public water supply 4 b. population w. access to improved water sources (1990, 2002), urban & rural http://www.wssinfo.org/en/watquery.html	4. Action 'C'	4. Anca Tudor Doina Lupulescu
==========	====	==== **CASE STUDIES** =====	==========**CASE STUDIES** ======	========	=========
5. Management of bathing waters	5. No	5. Exist in the countries non harmonised data collection	5. EHIS WG (27-28 April) agreed: ENHIS-2 countries - BUL, CZE, EST. Also RUS, Serbia, **Other countries that can provide data?**	5. Action 'B'	5. Juri Ruut Alexandra Katsiri
6. Water safety plans	6. No	6. Water safety plans portal http://www.who.int/wsportal/en/	6. UK seems to have: Pat Saunders will provide	6. Action 'B'	6. Alexandra Katsiri & Pat Saunders
7. Outbreaks of water-borne diseases	7. No	7. Exist in the countries non-harmonised data collection Proposed in the extended set	7. EHIS WG (27-28 April) agreed: RUS, FYROM, Serbia, CRO, **ENHIS-2 countries:** FIN has good surveillance system for recreational water **Which ENHIS-2 countries can provide data??**	7. Action 'B'	7. Martin Kapasny Alexandra Katsiri

LEGEND:

- **Action 'A':** Data available in international databases and has to be retrieved together with some meta-data items. **Step-by-step approach:**

  1) Open the WP5 Hands-on and RPG hands-on (under WP 5 Shared docs-> ENHIS-2 working documents-> two files Hands-on_April06.doc and RPG_Hands-on.doc) and identify the data sets which best fit our purpose vis-à-vis the methodology sheets (ENHIS Final Technical Report Annex I) and your own expertise. Along with this you will be able to identify country coverage i.e. ALL countries for which have data in the database. With respect to the time coverage, take the most recent (common across countries) 5-7 years (if the database allows it).

  2) Prepare spreadsheets for the data sets identified in 1) and also for the total population and for all age groups (if relevant) and any other related differentiation (e.g. coastal water, freshwater); ideally one workbook per indicator. Please be consistent with country names and codes (consult other indicator spreadsheets);

  3) Retrieve (copy/ download/ export) the data on the spreadsheet. Please save your spreadsheet on Sharepoint -> WP4 Click on Shared Documents -> ENHIS Indicators piloting -> RPG I -> Folder with the Indicator Name. Please be consistent with naming the different versions of your files;

  4) Calculate the indicator if needed: Please note we are retrieving many indicators from the database 'as is', hence no calculation. To decide on this please check carefully the datasets (step 1) and the methodology sheets;

  5) Propose a meta-data spreadsheet. It should include:
  - the exact name (and code if available) of the datasets as specified in the originating DB,
  - the reporting obligation i.e. the 'legal' framework (e.g. Directive, international conventions etc), which determines the data collection & reporting for this indicator;
  - the 'units of measurement';
  - the frequency (yearly) of updating the indicator;
  - data transformation/ calculation: none in case we are using the indicator one-to-one.
  Please decide consult and extract items from the Eurostat meta-data section too.

  6) Fill-in (copy/ paste) the meta-data spreadsheet.

  7) Make sure that everything you have done to retrieve the data and calculate the indicator is well documented so that the number in each cell can be easily traced/ checked how it was obtained.

  8) Propose visualization and analysis:
  8.1. A graph/ chart: consider also possible groupings and e.g. EU-15 average, EU-10 average, EU-25, etc. Consult WHO HFA database for groupings.
  8.2. Analysis i.e. a summary assessment of the results for this indicator. Prepare a short text describing are things improving/ deteriorating, in which parts of Europe, etc.
  8.3. Key message: describe the most important for the indicator in one sentence.

- **Action 'B':** Difficult indicator: 'case' studies to be found (preferably national). **Tasks:**

1) Identify data sources/ 'case studies'
2) Prepare appropriate documentation/ template:
   (a) Criteria for selecting the case studies: an ongoing (more or less regular ☺which will also continue in the future) collection of data relevant for the whole population in a country. This is a very important criterion for deciding on proposing a case study;
   (b) A few items describing the case study incl. method of data collection etc. For example, for outbreaks it can be:
   - is this an ongoing surveillance (that is already going on for a while and will be running in the future);
   - does it cover the entire country population and applying the same method throughout the whole country;
   - is this an active (identifying the causal agent) or passive surveillance (i.e. notification);
   - is it possible to differentiate between drinking and recreational water, and food;
   - is it a laboratory test of the water to prove that outbreak is water-borne;
   - which kind of water-borne diseases are covered/ detected/notified: e.g. shigellosis …
   (c) Spreadsheets for data sets (if possible by time and place),

3) Countries, which have volunteered to provide case studies, do so using the template.
4) Use the WP4 -> ENHIS Indicator piloting -> RPG I -> Folder with the indicator name to save your work.
5) Propose analysis of the data gathered from the different case studies as well as some visualization of the results. Prepare also a short text to summarize what these results show.

- **Action 'C':** Two different 'complementary' approaches proposed and both have to be considered. Tasks:

1) For the option with Eurostat DB take action 'A'. For the completely different approach (e.g. to the access to safe drinking water and to improved sanitation) complete the following steps:
2) Open the WHO UNICEF JMP data query web (above web-links). Under 'select countries' select all the 52 Member States of the WHO European Region. Under 'Select parameters' select total population, urban and rural and the relevant (water/ sanitation) parameters, under 'Select years' select 1990 and 2002. Submit the query.
3) Prepare spreadsheets according to the query result; ideally one workbook per indicator. Please be consistent with country names and codes (consult other indicator spreadsheets);
4) Retrieve (copy) the data on the spreadsheet. Please save your spreadsheet on Sharepoint -> WP4 Click on Shared Documents -> ENHIS Indicators piloting -> RPG I -> Folder with the Indicator Name. Please be consistent with naming the different versions of your files;
5) Create a spreadsheet based on the available in the DB meta-data i.e. description of the survey, data collection method, etc; see Action 'A' meta-data section
6) Fill-in (copy/paste) the meta-data spreadsheet (see also Action 'A')
7) Propose visualization and analysis of the data showing urban/ rural differences or between different country groups (see also Action 'A' point 8) or % change between 1990 (taking it as baseline) and 2002 – both for urban and rural. Prepare also a short text to summarize the results of the analysis.

- Red: carefully read the comments

PRIORITIES:

Action 'A' and 'C': **High or First**

Action 'B': The **template** for the case studies should be ready **by 25 June.**

Partners should **provide the case study data** (if they indicated) **by 1 September**.

Protocol for pilot testing of children's EH indicators: CEHAPE RPG II

Indicator Name	Available		Remarks	Action	Responsibilities
	Y/N	International data source			
RPG II 1. Childhood mortality from traffic accidents	1. Yes	1.a UNECE Stats report	1. Use UNECE 2005 report in pdf at http://www.unece.org/trans/main/wp6/pdfdocs/$RAS%202005.pdf to retrieve data Different age groups and breakdowns in the databases -> UNECE the most appropriate	1. Action 'A'	1. Maria Carroquino Maja Muszynska Alejandro Ramirez
2. Policies to promote safe mobility and transport for children	2.	2	2. Data collection needed for new partners	2. Action 'D'	2.
3. Children mortality from external causes, excluding traffic	3. Yes	3.a WHO MDB 3.b EUROSTAT	3.a Use WHO MDB & download data files at http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english	3. Action 'A'	3. Aurelia Cordeanu Aura Marcu
4. Policies to reduce child injury	4.	4.	4. Data collection needed for new partners	4. Action 'D'	4.
5. Percentage of physically active children	5. Yes	5. HBSC study	5. Access to the data from the 2001/02 survey only: data spreadsheet available	5. Action 'A'	5. Maja Muszynska Beata Dabkowska Maria Carroquino
6. Prevalence of childhood overweight and obesity	6. Yes	6.a HBSC study	6. Access to the data from the 2001/02 survey only: data spreadsheet available	6. Action 'A'	6. Maria Carroquino Beata Dabkowska Maja Muszynska
7. Policies to reduce childhood obesity	7.	7.	7. Data collection needed for new partners	7. Action 'D'	
==========	====	=== **CASE STUDIES** =====	======== **CASE STUDIES** ==========	==========	==========
Non-traffic injuries in children & general population: national surveillance		Exist in the countries non-harmonised data collection	EHIS WG (27-28 April) agreed: RUS, FYROM, Serbia, CRO, UK **ENHIS-2 countries:** Hungary, Lithuania, Romania	Action 'B'	Maria Benyi Ingrida Zurlyte Sara Farchi Nathalie Roebbel (UK – D. Ormandy?)

LEGEND:

- **Action 'A':** Data available in international databases and has to be retrieved together with some meta-data items. **Step-by-step approach:**

  1) Open the WP5 Hands-on and RPG hands-on (under WP 5 Shared docs-> ENHIS-2 working documents-> two files Hands-on_April06.doc and RPG_Hands-on.doc) and identify the data sets which best fit our purpose vis-à-vis the methodology sheets (ENHIS Final Technical Report Annex I) and your own expertise. Along with this you will be able to identify country coverage i.e. ALL countries for which have data in the database. With respect to the time coverage, take the most recent (common across countries) 5-7 years (if the database allows it).

  1.1. For 'Childhood mortality from road traffic accidents' download the UNECE transport statistics report (http://www.unece.org/trans/main/wp6/pdfdocs/$RAS%202005.pdf), go to page 60

  1.2 For 'Childhood mortality from external causes, non-related to traffic' WHO Mortality Database http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english -> Click on Table 1 'Number of Registered Deaths' (3rd bullet); Then under the heading "Country and year selection for Table 1 (Registered deaths), select a country and year (start with the most recent e.g. 2002) and click on the button "Go". Scroll-down the screen and find the necessary data for:

  - Accidental poisoning ICD-10 X40-X49; ICD-9 E48,
  - Accidental falls ICD-10 W00-W19, ICD-9; ICD-9 E50
  - Accidents caused by fire and flames ICD-10 X00-X09; ICD-9 E51
  - Accidental drowning and submersion ICD-10 W65-W74; ICD-9 E52
    Please consider both numbers and rates

  1.3. For 'Obesity' and 'Physical activity' use the spreadsheets for HBSC 2001/ 02 for obesity and physical activity available & uploaded on the Sharepoint -> WP 4 -> ENHIS Indicator piloting -> RPG II ->

  2) Prepare spreadsheets for the data sets identified in 1) and also for the total population and for all age groups and any other related differentiation for traffic accidents e.g. pedestrians, drivers, etc, for non-traffic e.g. males, females; ideally it should be one workbook per indicator. Please be consistent with country names and codes (consult other indicator spreadsheets);

  3) Retrieve (copy/ download/ export) the data on the spreadsheet. Please save your spreadsheet on Sharepoint -> WP4 Click on Shared Documents -> ENHIS Indicators piloting -> RPG II -> Folder with the Indicator Name. Please be consistent with naming the different versions of your files;

  4) Calculate the indicator if needed: Please note we are retrieving many indicators from the database 'as is', hence no calculation. To decide on this please check carefully the datasets (step 1) and the methodology sheets;

  5) Propose a meta-data spreadsheet. It should include:
  - the exact name (and code if available) of the datasets as specified in the originating DB,
  - the reporting obligation i.e. the 'legal' framework (e.g. international conventions, etc), which determines the data collection & reporting for this indicator;

- the 'units of measurement';
- the frequency of updating the indicator: e.g. yearly;
- data transformation/ calculation: none in case we are using the indicator one-to-one
- ICD version used and if different countries use/ report according to different ICD versions.

Please decide consult and extract items from the meta-data sections (WHO Mortality Database 'Key to these tables'; 'ICD codes used' for UNECE – Table notes, HBSC Protocol) too.

6) Fill-in (copy/ paste) the meta-data spreadsheet. Meta-data sheet should be a part of the indicator spreadsheet and saved in the same folder with the indicator (see point 3)

7) Make sure that everything you have done to retrieve the data and calculate the indicator is well documented so that the number in each cell can be easily traced/ checked how it was obtained.

8) Propose visualization and analysis:

8.1. A graph/ chart: consider also possible groupings and e.g. EU-15 average, EU-10 average, EU-25, etc. Consult WHO HFA database for groupings.

8.2. Analysis i.e. a summary assessment of the results for this indicator. Prepare a short text describing are things improving/ deteriorating, in which parts of Europe, etc.

8.3. Key message: describe the most important for the indicator in one sentence.

- **Action 'B':** Difficult indicator: 'case' studies to be found (preferably national). **Tasks:**

6) Identify data sources/ 'case studies'
7) Prepare appropriate documentation/ template:

(a) Criteria for selecting the case studies: an ongoing (more or less regular ☺which will also continue in the future) collection of data relevant for the whole population in a country. This is a very important criterion for deciding on proposing a case study;

(b) A few items describing the case study incl. method of data collection etc. For example, it can be:

- is this an ongoing surveillance (that is already going on for a while and will be running in the future);
- does it cover the entire country population and applying the same method throughout the whole country;
- is this an active or passive surveillance (i.e. notification);
- is it possible to identify where and why the injury (accident) happened (e.g. kitchen);
- possible distribution by age, gender, socio-economic status, etc;
- which kind of injuries are surveyed/ detected/notified: e.g. burns, chocks, etc. …

(c) Spreadsheets for data sets (if possible by time and place),

8) Countries, which have volunteered to provide case studies, do so using the template.
9) Propose analysis of the data gathered from different surveys and case studies as well as some visualization of the results. Prepare also a short text to summarize what these results show

- **Action 'D':** Data collection in progress on Sharepoint under WP 6.

- Red: carefully read the comments

PRIORITIES:

Action 'A':	**High or First** Deadline: **30 June 2006**
Action 'B': be ready **by 25 June.**	The **template** for the case studies should
	Partners should **provide the case study data** (if they indicated) **by 1 September**.

Protocol for pilot testing of children's EH indicators: CEHAPE RPG III

Indicator Name	Available		Remarks	Action	Responsibilities
	Y/N	International data source			
RPG III 1. Policies to reduce children's exposure to tobacco smoke	1. Yes	1. WHO tobacco control database	1.	1. Action 'A'	1. Tibor Malnasi
2. Prevalence of allergies and asthma in children	2. Yes	2. ISAAC study (6-7, 13-14 age groups)	2.http://isaac.auckland.ac.nz/PhaseOne/Data/DataFrame.php	2. Action 'E'	2. Gerhard Fueloep Vladimira Puklova
3. Infant mortality due to respiratory diseases	3. Yes	3.a WHO MDB	3.	3. Action 'A'	3. Georgi Uzunov Aura Marcu
4. Children's exposure to air pollutants in outdoor air	4. Yes	4. EEA Airbase	4. Annual average PM10 from urban background stations http://air-climate.eionet.europa.eu/databases/airbase	4. Action 'A'	4. Emilia Niciu Ernesto Vocaturo Peter Otorepec
5. Children living in homes with dampness problems	5. Yes	5. EUROSTAT	5. Check RPG Hands-on guidance	5. Action 'A'	5. Alexandra Cucu Doina Lupulescu Andra Neamtu
6. Children exposed to environmental tobacco smoke (ETS)	6. Yes	6.a GYTS study 6.b ISAAC study 6.c HBSC 2001/ 02	6.http://www.cdc.gov/tobacco/global/GYTS.htm http://www.euro.who.int/document/e82923_part_3.pdf Review of studies (2003) available (Dafina)	6. Action 'E'	6. Ingrida Zurlyte Vladimira Puklova
7. Children exposed to heating and cooking fuel combustion	7. Yes	7. World Health Survey	7. http://unstats.un.org/unsd/mi/mi_goals.asp	7. Action 'A'	7. Georgi Uzunov Ingrida Zurlyte WHO (Dafina)
== **CASE STUDUES** ==	======	=== **CASE STUDIES** ====	======= **CASE STUDIES** ==========	==========	==========
8. Children living in proximity of heavily trafficked roads	8. No	8.	8. EHIS WG (27-28 April) agreed: UK	8. Action 'B'	8. Andreas Skouloudis (JRC), UK, NL – Brigit??

LEGEND:

- **Action 'A':** Data available in international databases and has to be retrieved together with some meta-data items. **Step-by-step approach:**

  1) Open the WP5 Hands-on and RPG hands-on (under WP 5 Shared docs-> ENHIS-2 working documents-> two files Hands-on_April06.doc and RPG_Hands-on.doc) and identify the data sets which best fit our purpose vis-à-vis the methodology sheets (ENHIS Final Technical Report Annex I) and your own expertise. Along with this you will be able to identify country coverage i.e. ALL countries for which have data in the database. With respect to the time coverage, take the most recent (common across countries) 5-7 years (if the database allows it).

  1.1. For 'Prevalence of asthma and allergies in children' download the data from http://isaac.auckland.ac.nz/PhaseOne/Data/DataFrame.php

  1.2 For 'Infant mortality from respiratory diseases' WHO Mortality Database http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english -> Click on Table 1 'Number of Registered Deaths' (3rd bullet); Then under the heading "Country and year selection for Table 2 (Registered deaths), select a country and year (start with the most recent e.g. 2002) and click on the button "Go". Scroll-down the screen and find the necessary data for:

  Diseases of the respiratory system (J00-J98)

  For the 'Live births' go to Table 1 select the same country and year and download the data

  Please consider both numbers and rates

  1.3. For 'Children exposed to heating and cooking combustion fuels' download the data from 'MDG Air Pollution; Percentage of population using solid fuels' at http://unstats.un.org/unsd/mi/mi_series_results.asp?rowId=712 Check also the additional data uploaded on the Sharepoint.

  2) Prepare spreadsheets for the data sets identified in 1) and also for the total population and for all age groups and any other related differentiation (e.g. gender); ideally one workbook per indicator. Please be consistent with country names and codes (consult other indicator spreadsheets);

  3) Retrieve (copy/ download/ export) the data on the spreadsheet. Please save your spreadsheet on Sharepoint -> WP4 Click on Shared Documents -> ENHIS Indicators piloting -> RPG III -> Folder with the Indicator Name;

  4) Calculate the indicator if needed: Please note we are retrieving many indicators from the database 'as is', hence no calculation. To decide on this please check carefully the datasets (step 1) and the methodology sheets;

  5) Propose a meta-data spreadsheet. It should include:
  - the exact name (and code if available) of the datasets as specified in the originating DB,
  - the reporting obligation i.e. the 'legal' framework (e.g. international conventions, etc), which determines the data collection & reporting for this indicator;
  - the 'units of measurement';
  - the frequency of updating the indicator: e.g. yearly;
  - data transformation/ calculation: none in case we are using the indicator one-to-one

- ICD version used and if different countries use/ report according to different ICD versions.
Please decide consult and extract items from the meta-data sections (WHO Mortality Database 'Key to these tables'; 'ICD codes used'; ISAAC study protocol, MDG Indicators Database) too.

6) Fill-in (copy/ paste) the meta-data spreadsheet. Meta-data sheet should be a part of the indicator spreadsheet and saved in the same folder with the indicator (see point 3);

7) Make sure that everything you have done to retrieve the data and calculate the indicator is well documented so that the number in each cell can be easily traced/ checked how it was obtained.

8) Propose visualization and analysis:
8.1. A graph/ chart: consider also possible groupings and e.g. EU-15 average, EU-10 average, EU-25, etc. Consult WHO HFA database for groupings.
8.2. Analysis i.e. a summary assessment of the results for this indicator. Prepare a short text describing are things improving/ deteriorating, in which parts of Europe, etc.
8.3. Key message: describe the most important for the indicator in one sentence.

- **Action 'B':** Difficult indicator: 'case' studies to be found (preferably national). **Tasks:**

10) Identify data sources/ 'case studies'
11) Prepare appropriate documentation:
(a) Instructions/ criteria for selecting the case studies, defining the study area etc: e.g. for the indicator 'Children living in proximity of highly trafficked roads' a GIS layer of the major roads and communities with highlighted areas which should be considered for generating the indicator;
(b) Instructions how to collect data and to calculate the indicator
(c) Spreadsheets for data sets (if possible by time and place),

12) Countries, which have volunteered to provide case studies, do so using the template.
13) Use the WP4 -> ENHIS Indicator piloting -> RPG III -> Folder with the indicator name to save your work.
14) Propose analysis of the data gathered from the different case studies as well as some visualization of the results. Prepare also a short text to summarize what these results show.

- **Action 'E':** Data available from surveys often different surveys should be carefully integrated in one indicator. **Tasks:**

1) Identify the surveys or studies and decide on the data and meta-data sets needed; consider the study type and consult the methodology sheets. Consider also how different surveys and studies can be combined together in a reasonable way (check also the WHO review (2003) uploaded on the Sharepoint -> WP 4 -> ENHIS Indicators Piloting -> RPG III indicators -> Children exposure to ETS ->)
2) Prepare spreadsheets for data sets needed, considering the relevant breakdowns (e.g. age groups, gender, etc). Be consistent with country names and codes (consult also other indicator spreadsheets).

3) Prepare meta-data spreadsheets: this again depends on the indicator and studies available; clearly state differences between the different surveys. Include a part suggesting how these results should be interpreted (so that people are not tempted to compare potatoes and oranges!!)
4) Retrieve the data from the available studies and countries.
5) Use the WP4 -> ENHIS Indicator piloting -> RPG III -> Folder with the indicator name to save your work.
6) Propose method of analysis and visualization. Prepare a short text summarizing the results of the analysis and a key message to describe the indicator (phenomenon) in one sentence.

- Red: carefully read the comments

PRIORITIES:

Action 'A', 'E': **High or First**

Deadline: **30 June 2006**

Action 'B': The **template** for the case studies should be ready **by 25 June.**

Partners should **provide the case study data** (if they indicated) **by 1 September**.

Protocol for pilot testingy of children's EH indicators: CEHAPE RPG IV

Indicator Name	Available		Remarks	Action	Responsibilities
	Y/N	International data source			
RPG IV 8. Actions to lower children's UV exposure	1. No	1. Action indicator: no international data source	1. Data collection needed for new partners	1. Action 'D'	1.
9. Incidence of melanoma under 50 years old	2. Yes	2. CI5 - IARC http://www-dep.iarc.fr/	2. Data coverage not homogenous: country, regional and local data is found in this data source.	2. Action 'A'	2. Philippe Pirard
10. Incidence of childhood leukaemia	3. Yes	3.CI5 - IARC http://www-dep.iarc.fr/	3. Data coverage not homogenous: country, regional and local data is found in this data source. Possible use of national data to complement: EHIS WG (27-28 April) agreed: Sweden and Romania	3. Action 'A'	3. Philippe Pirard Fional Gore - help with IARC Adriana Galan - for national data
11. Work injuries among employees under 18 years of age	4. Yes	4. EUROSTAT portal http://europa.eu.int/comm/eurostat/	4. Provides data on number of accidents at work by economic activity severity and age. For EU-15 plus Norway.	4. Action 'A'	4. Milada Estokova Martin Kapasny
12. Ratifications of Conventions related to CEHAPE	5. No	5. Action indicator: web pages of the conventions	5. Leda Nemer (CHE programme) is including most of them in the CEHAPE Table of Actions	5.	5. Eva and Leda
13. Percentage of children exposed to harmful noise at school	6. No	6.	6. Implementation of Directive to produce noise maps will come up in 2008	6.	6. Waiting list
14. Children's exposure to chemical hazards in food	7. ??	7. WHO SIGHT (GEMS/Food)	7. Include data on contaminants in individual foods/ food groups & on contaminants in total diet.	7. Action 'E'	7. Fiona Gore to help
==**CASE STUDIES** ===	======	=== **CASE STUDIES** =====	======== **CASE STUDIES** ==========	==========	==========
15. Blood lead levels in children	8. No	8. Exist in the countries non harmonised data collection	8. EHIS WG & ENHIS: Bulgaria, Czech Rep, France, FYROM, Poland, Romania and Sweden.	8. Action 'B'	8. Emilia Niciu Peter Rudnai
16. POPs in human breast milk	9. No	9. Exist in some countries: difficulties because of QA/ QC	9. EHIS WG (27-28 April) agreed: Belgium and, Sweden. ENHIS-2 Finland, Spain also NL, UK.	9. Action 'B'	9. Antonio Tavares

LEGEND:

- **Action 'A':** Data available in international databases and has to be retrieved together with some meta-data items. **Step-by-step approach:**

  1) Open the WP5 Hands-on and RPG hands-on (under WP 5 Shared docs-> ENHIS-2 working documents-> two files Hands-on_April06.doc and RPG_Hands-on.doc) and identify the data sets which best fit our purpose vis-à-vis the methodology sheets (ENHIS Final Technical Report Annex I) and your own expertise. Along with this you will be able to identify country coverage i.e. ALL countries for which have data in the database. With respect to the time coverage, take the most recent (common across countries) 5-7 years (if the database allows it).

  1.1. For 'Incidence of melanoma under 50 years of age' CI5 – IARC http://www-dep.iarc.fr/ ->click on CI5 I-VIII (detailed) in the blue horizontal menu on the top of the window an click on the **By cancer** under "Summary rates" in the vertical menu under the section Tables. Then choose melanoma of skin, choose in the year or time period (for multiple selection use the 'Ctrl' key). In the section 'From-'to choose 0 to 49. Age periods of 5 years can be also selected if needed for calculation. Male and female have to be selected independently.

  1.2 For 'Childhood leukaemia': after a thorough check of the data available in the IARC DB consider complementing by some national data (from registries)

  1.3. For 'Work Injuries among employees under 18 years of age" Eurostat portal. http://europa.eu.int/comm/eurostat/ -> Click in **Population and social conditions**, choose **Data** on the orange horizontal menu above, click on folder **Health**, then **Health and safety at work** and click on folder **Accidents at work**. Choose the second item Number of accidents at work by economic activity, severity and age.
  In the appeared table select **Time** – requested year from 1995 – 2003, **Geo** – requested country from EU15, **Nace** – Total- all Nace branches, **Age** – Less than 18 years. Click on **Next**, in the table **Step 2 –** Set rows click on **Next**. In the table **Select Download** click on Data format **For Internet browsers** and on options **Codes and Labels** and **Download.**

  2) Prepare spreadsheets for the data sets identified in 1) and also for the total population and for all age groups and any other related data differentiation. Please be consistent with country names and codes (consult other indicator spreadsheets if needed).

  3) Retrieve (copy/ download/ export) the data on the spreadsheet. Please save your spreadsheet in SharePoint->WP4->Shared Documents->ENHIS Indicator Piloting->RPGIV->Folder with the indicator name.

  4) Calculate the indicator if needed. Please check carefully the datasets (step 1) and the methodology sheets to decide if any calculation is needed.

  5) Propose a meta-data spreadsheet. It should include:
  - the exact name (and code if available) of the datasets as specified in the originating DB,
  - the reporting obligation i.e. the 'legal' framework (e.g. international conventions, etc), which determines the data collection & reporting for this indicator;
  - the 'units of measurement';
  - the frequency of updating the indicator: e.g. yearly;
  - data transformation/ calculation: none in case we are using the indicator one-to-one

- ICD version used and if different countries use/ report according to different ICD versions.

6) Fill-in (copy/ paste) the meta-data spreadsheet.

7) Make sure that everything you have done to retrieve the data and calculate the indicator is well documented so that the number in each cell can be easily traced/ checked how it was obtained.

- **Action 'B':** Difficult indicator: 'case' studies to be found (preferably national). **Tasks:**

15) Identify data sources/ 'case studies'
16) Prepare appropriate documentation/ template:
(a) Criteria for selecting the case studies: an ongoing (more or less regular ☺which will also continue in the future) collection of data relevant for the whole population in a country. This is a very important criterion for deciding on proposing a case study;
(b) A few items describing the case study incl. method of data collection etc. For example, it can be:
- is this an ongoing surveillance (that is already going on for a while and will be running in the future);
- does it cover the entire country population and applying the same method throughout the whole country;
- study design according to commonly accepted study protocol i.e. WHO protocol for POPs in human breast milk;
- QA/ QC of the analysis – esp. for POPs in breast milk;
- is it possible to identify where and why the case happened i.e. source/cause of the lead for the blood lead level in children;
- possible distribution by age, gender, socio-economic status, etc;
(c) Spreadsheets for data sets (if possible by time and place),
17) Countries, which have volunteered to provide case studies, do so using the template.
18) Use the WP4->ENHIS Indicator Piloting->RPGIV->Folder with the indicator name to save your work
19) Propose visualization and analysis of the data gathered from different case studies; prepare a short text summarizing the results and a key message describing the indicator in one sentence

- **Action 'D':** Data collection in progress on Sharepoint.

- **Action 'E':** Data available from surveys often different country approaches. **Tasks:**

7) Check the WHO SIGHT (alternative can be the EFSA database). Before moving to an exposure indicator as specified in the methodology sheet consider the following questions/ possible database queries:
   - geographical patterns of chemical contamination: is particular food contaminant (or food contaminant x food stuff) high in particular countries/ parts of the European region;
   - foodstuffs/ food products that are the most contaminated and their relevance for children.
8) Prepare spreadsheets for data sets needed, considering the relevant breakdowns. Be consistent with country names and codes (consult also other indicator spreadsheets).
9) Prepare meta-data spreadsheets: this again depends on the indicator and studies available; clearly state the data quality problems. Include a part suggesting how these

results should be interpreted (so that people are not tempted to compare potatoes and oranges!!)

10) Retrieve the relevant data; use the WP4 -> ENHIS Indicator piloting -> RPG III -> Folder with the indicator name to save your work.
11) Propose method of visualization and prepare a short text summarizing the results and a key message to describe the indicator (phenomenon) in one sentence.

- Red: carefully read the comments

PRIORITIES:

Action 'A' and 'D': **High or First**

Deadline: **30 June 2006**

Action 'B': The **template** for the case studies should be ready **by 25 June.**

Partners should **provide the case study data** (if they indicated) **by 1 September**.

Overview of the core set of feasible and policy-relevant indicators: Coding system; fact sheet status; methodology refinement needs

Indicator Title	Indicator Code	Fact Sheet Status 5.12.2006	ECHI relevance	Remarks
CEHAPE RPG I				
Waste water treatment coverage and access to improved sanitation	RPG1_WatSan_P1	☺		
Recreational water quality	RPG1_WatSan_S1	😐		
Access to safe drinking water	RPG1_WatSan_Ex 1	☺		Methodology must be refined: child specific data is unavailable
Outbreaks of water-borne diseases	RPG1_WatSan_E1	😐		
CEHAPE RPG II				
Children's traffic-related mortality	RPG2_Traf_E1	☺	ECHI indicator name, 'Injuries: road traffic' ECHI presents a combined measure of traffic-related injury, which includes both death and disability, in the general population. Datasource: European Commission CARE database ENHIS presents, child-specific mortality. It also presents data on the contribution to mortality of different types of traffic use (pedestrian & bicyclists, motorcyclists, car	

Indicator Title	Indicator Code	Fact Sheet Status 5.12.2006	ECHI relevance	Remarks
			occupants). Datasource: UNECE 2005 Road Traffic Accidents Report	
Children's mortality from non-traffic-related unintentional injuries	RPG2_Hous_E1	😐		
Prevalence of non-traffic-related unintentional injuries among children	RPG2_Hous_E2	😐		Methodology sheet must be created
Percentage of physically active children	RPG2_Hous_Ex1	😐		Methodology should be refined: the definition of physically active should be changed from 1 hour three days a week to 1 hour five days a week
Prevalence of overweight and obesity among children	RPG2_Hous_Ex2	😐		
Policies to promote safe mobility among children	RPG2_Traf_A1	☺		
Policies to reduce non-traffic-related unintentional injuries among children	RPG2_Hous_A1	☺		
Policies to reduce and prevent children's obesity	RPG2_Hous_A2	☹		
CEHAPE RPG III				
Prevalence of asthma and allergies among children	RPG3_Air_E1	😐		Methodology should be refined: the data used covers 6-7 year-olds and 13-14 year-olds only

Indicator Title	Indicator Code	Fact Sheet Status 5.12.2006	ECHI relevance	Remarks
Infant mortality from respiratory diseases	RPG3_Air_E2	☺		
Proportion of children living in homes using solid fuels	RPG3_Hous_Ex4	😐		Methodology should be refined: data are presented for children as a whole and not in five year age groups
Children's exposure to outdoor air PM10	RPG3_Air_Ex1	☹	ECHI indicator name, 'PM10 (particulate matter) exposure' ECHI reports, 'the population weighted annual mean concentration of particulate matter at urban background stations in agglomerations.' Datasource: Eurostat ENHIS measures the child (< 20 years-old) population-weighted annual mean PM10 concentration.	
Children's homes with mould and dampness	RPG3_Hous_Ex3	😐		Methodology must be refined: child specific data is unavailable
Children's exposure to environmental tobacco smoke	RPG3_Air_Ex2	😐		Methodology should be refined: data are presented for children aged 0-14 years for ETS exposure and 10-19 years for active smokers and not in five year age groups

Indicator Title	Indicator Code	Fact Sheet Status 5.12.2006	ECHI relevance	Remarks
Policies to reduce children's passive smoking	RPG3_Air_A1	😐		
Children's proximity to heavily trafficked roads	RPG3_Air_Ex3	😐		
CEHAPE RPG IV				
Incidence of melanoma	RPG4_ UVrd _E1	☺		Methodology should be refined: incidence among children and adults up to age 55 (not 45 - 50); data are not presented in 5 year age groups but for the population as a whole
Policy actions to lower children's UV exposure	RPG4_ UVrd _A1	☺		
Incidence of childhood leukaemia	RPG4_Rad_E1	☺		
Work injuries in employees under 18 years of age	RPG4_Work_E1	😐		
Children's exposure to chemical hazards in food	RPG4_Food_Ex1	😐		Methodology should be refined: rather than using the computation of dietary exposure in the existing methodology sheet, mean levels were taken from total diet studies included in the GEMS/Food database
POPs in human breast milk	RPG4_Food_Ex2	☺		

Indicator Title	Indicator Code	Fact Sheet Status 5.12.2006	ECHI relevance	Remarks
Blood lead level in children	RPG4_Chem_Ex1	☺		Methodology should be refined: geometric & arithmetic mean levels are presented; percentage of children with increased BLLs was not and should be dropped from the methodology sheet
Radon levels in dwellings	RPG4_Rad_Ex1	☺		Methodology should be refined: the name of this indicator should be changed to, 'radon level in dwellings,' (currently it is '…in schools')

☺ Finalized

😐 Draft completed and under review

☹ Draft pending

Examples of Finalized Indicator Fact Sheets

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

WELTGESUNDHEITSORGANISATION
REGIONALBÜRO FÜR EUROPA

ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÉGIONAL DE L'EUROPE

ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

EUROPEAN CENTRE FOR ENVIRONMENT AND HEALTH
BONN OFFICE

Name: Children's Mortality from road traffic injuries **RPG2_Traf_E1**

This indicator presents children's mortality from road traffic injuries (RTI) by age groups and category of road use It includes immediate and delayed deaths (within 30 days).

Idea:

Road traffic injuries are the leading cause of death for children and young between 5 and 29 years old. Up to 6,500 deaths per year are reported among children aged 0-14 years in the WHO European region. This situation is preventable with adequate measures, efforts and involvement of different institutions. This indicator should reflect the impact of efforts and actions aimed at reducing the health consequences of traffic accidents. The indicator can be analysed in relation to indicators of policy actions to reduce traffic mortality and injuries, thus serving to measure the effectiveness of such policies.

Key message:

RTI mortality in the WHO European region represent a major public health problem. Ten percent of the worldwide estimated 1.2 million deaths from RTIs in 2002 occurred in the European Region. Children under 15 years represent 5% of the total deaths from RTIs and those aged 15-29 account for 33%. Due to their behavioural, physical, and psychological characteristics, children and adolescents are more likely to run into traffic accidents, and they are more vulnerable to their effects. There are differences in mortality rates between countries however RTI children mortality rates are unacceptably high, indicating the urgent need for safe transport policies and preventing strategies.

Figure 1. Children mortality rates from traffic accidents in the ENHIS 2 participating countries. Year 2003. Source: UNECE database.
NOTE: average EU-25 is comprehensive of all the European Union Member State**s.**

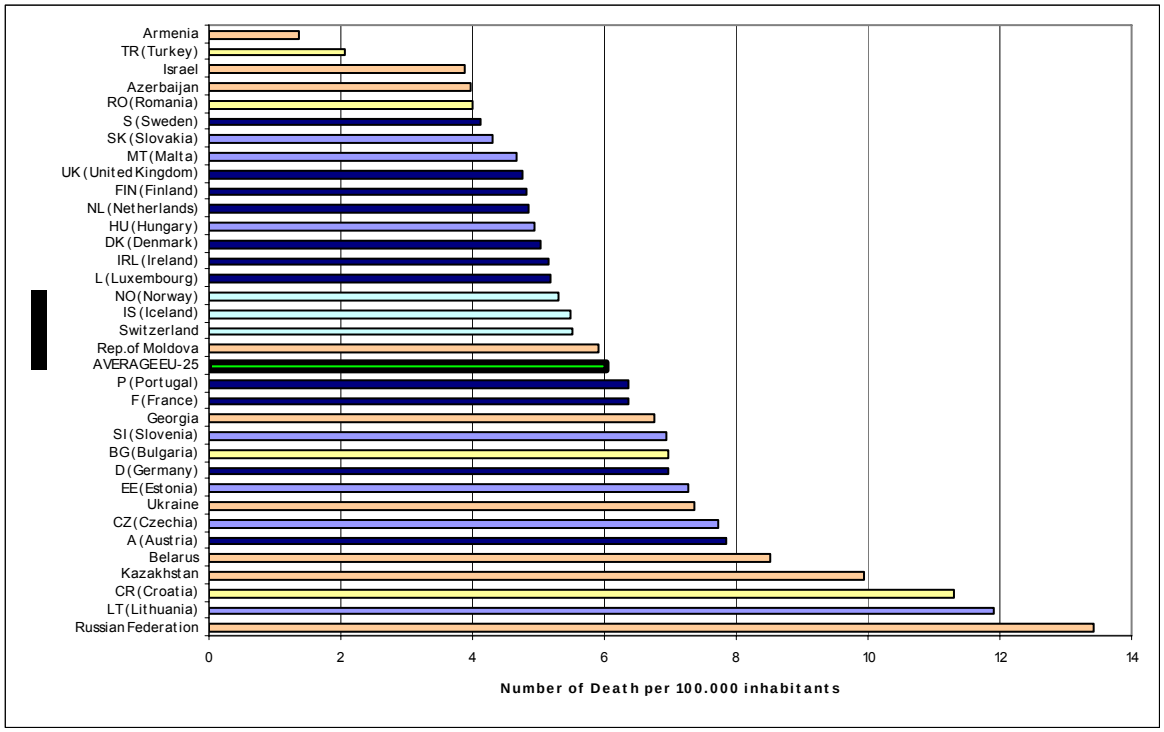
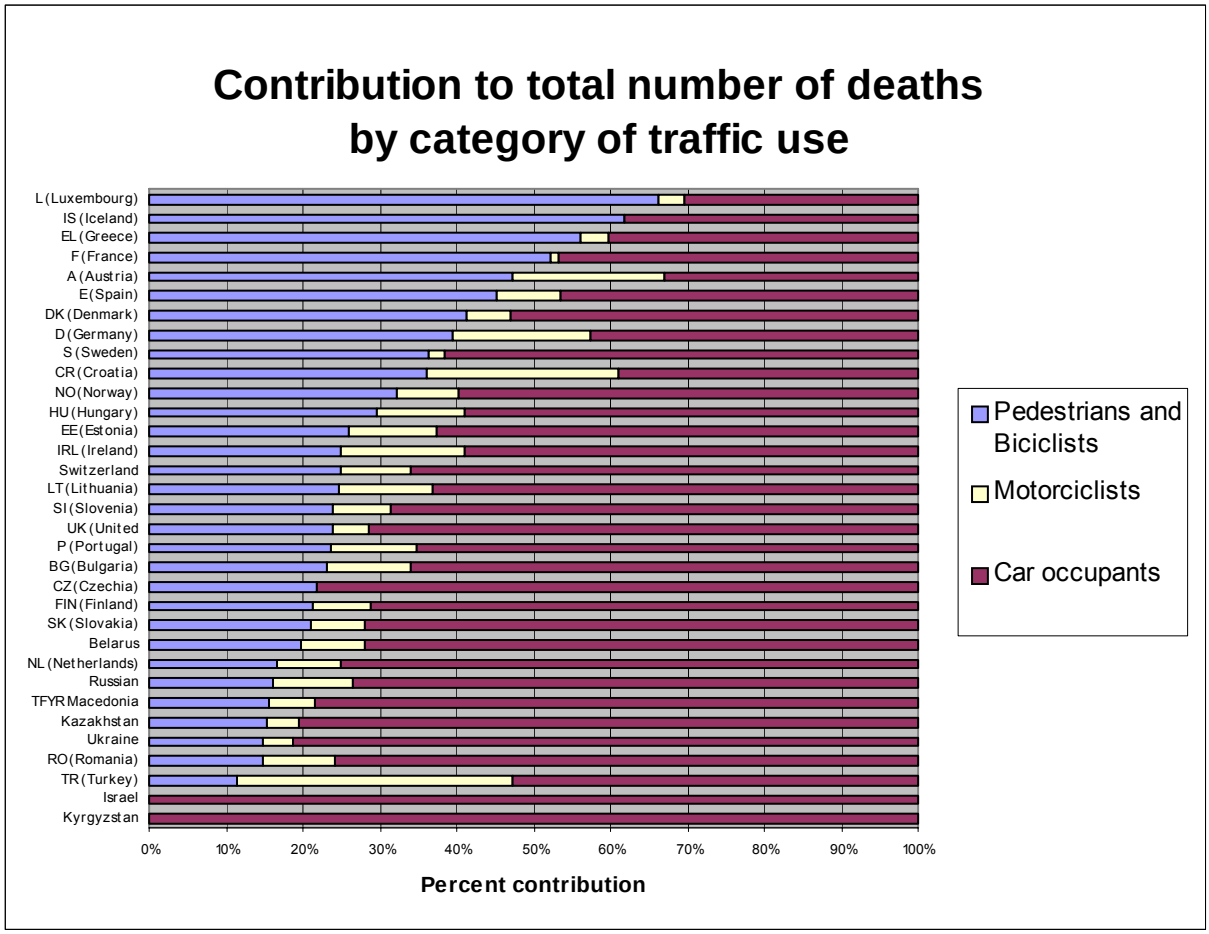


Figure 2. Total number of deaths by category of traffic use. 2003. Source: UNECE database.



Health and environment context

Road traffic injuries are the leading cause of death for children aged 5-14 an young people aged 15-29 years. About 6,500 children aged 5-14 and 37,000 young die each year in the countries of the WHO European Region. Children under 15 years represent 5% of the total deaths from road traffic injuries and those aged 15-29 account for 33%.

Children's ability to cope with traffic is limited until 10 years of age. They are more at risk in conditions of heavy or fast traffic, limited visibility, or where driver's attention is focused elsewhere rather than at pedestrian or cyclists. Younger people are more likely to be engaged in risk taking behaviour, as they are easily distracted and interested in new focuses.

Children are also more vulnerable to the effects of traffic accidents. The head to body ratio in children makes them more vulnerable to head injuries. Road traffic injuries cause post-traumatic stress disorder in up to 33% of the children. This is related more to the child's perception of the crash as life threatening rather than to the type of crash, the nature, or severity of the injury. Mostly, the psychological needs of injured children remain unrecognised, and few receive professional help.

In the European Region, mortality from road traffic injuries varies greatly between countries with the lowest and highest rates. Countries from East and South of the European Region report the highest mortality rates. In some cases the very low rates reported by some countries in south-eastern Europe and central Asia are more likely to reflect inadequate data quality than high levels of safety.

This indicator is relatively easy to interpret in that the link between the cause and health effect is explicit. The reduction in rates measured by this indicator could be due to reduction in total traffic volume, greater segregation of pedestrian from road traffic injury, modification of road design, traffic management, vehicle safety, environmental conditions and finally reduction of risky behaviours.

Despite the differences between countries, deaths from road traffic injury have steadily declined during the last years[2]. After a sharp increase in the eastern half of the Region in the early 1990s, related to the sudden growth in motorized transport, the decline in mortality in the mid-1990s seems to have been associated with a reduction of transport activities for both goods and passengers, rather than the implementation of comprehensive road safety policies. In the western half of the Region, although road traffic-related mortality has continued to decline, progress seems to have slowed in the past few years- The apparent difficulty in further reducing the number of deaths indicates the need for new transport policies and implementation of new preventive strategies.

Policy relevance and context

Strong political commitment and leadership are required for the adoption of a comprehensive approach to road safety. This requires a multi-sectorial approach that addresses all mail components related to road safety, ie., road users, vehicles and road infrastructures. Effective interventions for the reduction of road traffic accidents exist and include: 1) primary care based counseling to prevent childhood risk, 2) traffic calming schemes, 3) interventions to improve public lightening; 4) modification of the legislation against drink-driving, and 5) efforts to increase helmet use and promotion of the use of children´s care seats and seatbelts.

The Declaration by all 52 Ministers of WHO European Region at the IV Ministerial Conference on Environment and Health (Budapest 2001) adopted the Children's Environment and Health

Action Plan for Europe (CEHAPE). Ministers reaffirmed their commitment to attaining the Regional Priority goals referred to in the CEHAPE and committed to ensuring that the comprehensive policies described are effectively implemented on a national basis.

Regional Priority Goal II of the CEHAPE states that Ministers aim to prevent and substantially reduce health consequences from accidents and injuries and pursue a decrease in morbidity from lack of adequate physical activity, by promoting safe, secure and supportive human settlements for all children. This will be achieved as stated RPG II b) by "advocating the strengthened implementation of road safety measures, including adequate speed limits as well as education for drivers and children, and enforcement of the corresponding legislation (in particular the recommendations of the WHO work and European reports on road traffic injury prevention)".

In 2004, the United Nations General Assembly discussed road safety and passed a resolution on improving global road safety. The resolution gave a mandate to the World Health Organization to coordinate road safety efforts across the United Nations system. WHO in the 57th World Health Assembly recommended Member States to:

1. Integrate traffic injuries prevention into public health programmes;
2. Assess the real burden of road traffic injuries;
3. Implement national strategy on road traffic injury prevention;
4. Designate a single National Focal Point for road traffic in-jury prevention, and facilitate multisectoral collaboration between different ministries;
5. Raise awareness about risk factors in particular the effects of alcohol abuse;
6. Take specific measures to prevent and control mortality and morbidity due to road traffic crashes, and to evaluate the impact of such measures;
7. Enforce existing traffic laws and regulations, and to work with schools, employers and other organizations to pro-mote road-safety education to drivers and pedestrians;
8. Legislate and strictly enforce wearing of helmets by motor-cyclists, and to make mandatory both provision of seat belts by automobile manufacturers and wearing of seat belts by drivers;

Finally, the WHO Health for All policy in Europe set international targets for reducing road deaths and injuries by at least 30 % by 2020.

At the EU level, the Transport White Paper was adopted on September 12 2001. The White Paper described a picture of the situation with regard to transport and, set out an ambitious action programme which comprised several measures between the 2001 and 2010. In order to improve transport safety EU set out the goal of reducing road fatalities by 50% by 2010. This goal had to be reached principally through a harmonisation of penalties and the implementation of new technologies for the improvement of road safety.

Several EU policies in place aim at preventing and monitoring road traffic accidents. The European Road Safety Action Programme (COM(2003)311 final); aims to achieve the objective of halving the number of road crash victims in the European Union by 2010. Several EU Directives have been enacted in order to put in place the conditions necessary to achieve this goal. For example, the Directive on seat belt and child restraint use (**Directive 2003/20/EC**) which extends the scope of application of the **Directive 91/671/EEC** requires the use of seat belts where provided by all motor vehicles. The new legislation will ensure that children in cars and light vans shall be restrained by a child restraint system that conforms to the latest UN-ECE standard (Regulation 44.03) (its adaptation or equivalent).

Different countries, especially in Northern Europe, have applied active multidisciplinary interventions aimed at the reduction of road traffic accidents and consequent fatalities. In 1997 Sweden adopted the "zero deaths and zero serious injuries in road accident" action. It introduced safety criteria into the public contracts for vehicles and transport services, improvements to the road network and other effective actions. In Belgium a campaign called "Bob" against drink-driving was adopted. It encourages groups to select one person who does not drink alcohol and thus is able to drive the others home. Another positive intervention was set up in England, the "urban safety project", carried out in five towns. It included several measures to redistribute traffic and to reduce speed. The long-term assessment revealed that child pedestrians and cyclists particularly benefit. Both Sweden and the UK have the lowest mortality rates of children and younger than 20 years old in the EU 15 in 2003.

If all the Member States were to achieve the same results as the United Kingdom and Sweden, for example, the numbers killed would be cut by 20.000 a year. In 1998 the ratio between the number of persons killed in road accidents in Sweden and Portugal, two countries with comparable population figures, was 1 to 4.5. The ratio between the United Kingdom and France was 1 to 2.5. There is also a huge scope for improvement in the countries applying for accession, whose vehicle fleets are on average older than those of the EU Member States and are not fitted with the latest technology (airbags etc).

Description of the graph

Figure 2 illustrates mortality rates of children younger than 20 years old in each of the WHO Region countries that reported to the UNECE in 2003. Mortality rates are higher in the eastern than in the western part of the region, being the CEECA and candidate countries those with the highest mortality rates.

A closer look at mortality rates in individual countries shows that high mortality rates occur in some countries of the EU15 and EU10 countries, such as Austria and Lithuania.

Figure 3 illustrates the proportion of fatalities of each traffic user category. The most vulnerable users, bicyclists and pedestrians, have been grouped into one category. The graph shows a great variability in the vulnerability of these users across Europe.

Assessment

On average, mortality rates are higher in the eastern than in the western part of the region, being the CEECA and candidate countries those with the highest mortality rates. However, high mortality rates occur in all three groups of European countries. Although on average, mortality rates are higher in the EU10 than in the EU 15, some countries in the EU15 such as Austria, have higher mortality rates than the average in the EU 10. An analogous situation occurs when comparing EU10 countries with the CEECA and candidate countries. Although on average CEECA countries have the highest mortality rates, some countries such as Lithuania, have considerably higher mortality rates than the average for CEECA.

In the CEECA and in the EU 10 group of countries, considerable variability exists between countries in each group. This may be due to differences in implementation of traffic policies but also possibly to socio-economic differences that influence access to private cars. Variability of mortality rates amongst EU countries is not so marked, although a considerable difference can be observed between the highest mortality rates (Austria, Germany, France and Portugal) and the

lowest (Sweden and the UK). Those with the highest mortality rates (Austria, Germany, France and Portugal) also have higher rates than the average for the EU15.

In the EU10 and acceding countries mortality rates range between 4 and 12 deaths per 100.000 population, and in the CEECA countries between nearly 4 to almost 14 deaths per 100.000 population.

It should be highlighted that in the group of low rate countries there could be some countries which could suffer of poor quality of data and high underreporting level.

Figure 3 shows the contribution to the total number of deaths by category of traffic use and illustrates the contribution of pedestrians and bicyclists (most vulnerable traffic users) to the total number of deaths. It should be noted that high percentages of pedestrian fatalities correspond to the countries which are not yet candidate to be part of the EU (Azerbaijan, Turkmenistan and other). High percentage of two wheel user fatalities is present in Greece.

Children mortality rates in the European Region are unacceptably high. The variability in rates and patterns between different countries suggests that a decrease in mortality rates is possible when addressing appropriate preventive measures.

Suggestions for further monitoring

This indicators need to be improved in terms of quality, timeless and comparability. Some countries collect it by using police reports, some other vital statistics. Underestimation of the number of fatalities has been reported in various studies (Giorgi Rossi et. Al.,2005). Injury surveillances need to be set up in order to monitor this relevant public health problem.

Metadata

Data source: Data on RTA death come from UNECE 2005 Road Traffic Accidents Report, available at the site http://www.unece.org/trans/main/wp6/transstatpub.html#accidents.
The statistics are compiled by the secretariat of the United Nations Economic Commission for Europe on the basis of replies to questionnaires submitted by member countries and from official national and international sources.

Description of the data: The 2005 edition of Statistics of Road Traffic Accidents in Europe and North America provides basic data on road traffic accidents and casualties in European countries, Canada, Israel and the United States of America. The scope of the statistics comprises road traffic accidents involving personal injury only, excluding accidents with material damage. Data relate to accidents by nature of accidents and surroundings, accidents while under the influence of alcohol, and the number of persons killed or injured by category of road user and age group.

Methodology of indicator computation and underlying definitions:
The indicator represents the number of children who died as a result of a traffic accident per 100.000 population. It is calculated as:
Numerator: children deaths stratified by: age, sex and mode of road user (pedestrians, cyclists, car passengers)
Denominator: total children population by sex and age group (0-5 years old, 6-9 years old, 10-14 years old, 15-17 years old, 18-19 years old).

Definitions:
Death from traffic accident: Any person who was killed outright or who died within 30 days as a result of the accident

Accidents included are those:
a) Which occurred or originated on a way or street open to public traffic;
b) Which resulted in one or more persons being killed or injured (see below) and
c) In which at least one moving vehicle was involved.
These accidents therefore include collisions between vehicles, between vehicles and pedestrians, and between vehicles and animals or fixed obstacles. Single vehicle accidents, in which one vehicle alone (and no other road user) was involved, are included.

Temporal Coverage: 2002-2003

Geographical coverage: International. As of January 1995, the Economic Commission for Europe had the following 55 member countries: Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgystan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, San Marino, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The Former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom, United States of America and Uzbekistan.

Periodicity of data sampling: annual.

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Versión

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WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

WELTGESUNDHEITSORGANISATION
REGIONALBÜRO FÜR EUROPA

ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÉGIONAL DE L'EUROPE

ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

EUROPEAN CENTRE FOR ENVIRONMENT AND HEALTH
BONN OFFICE

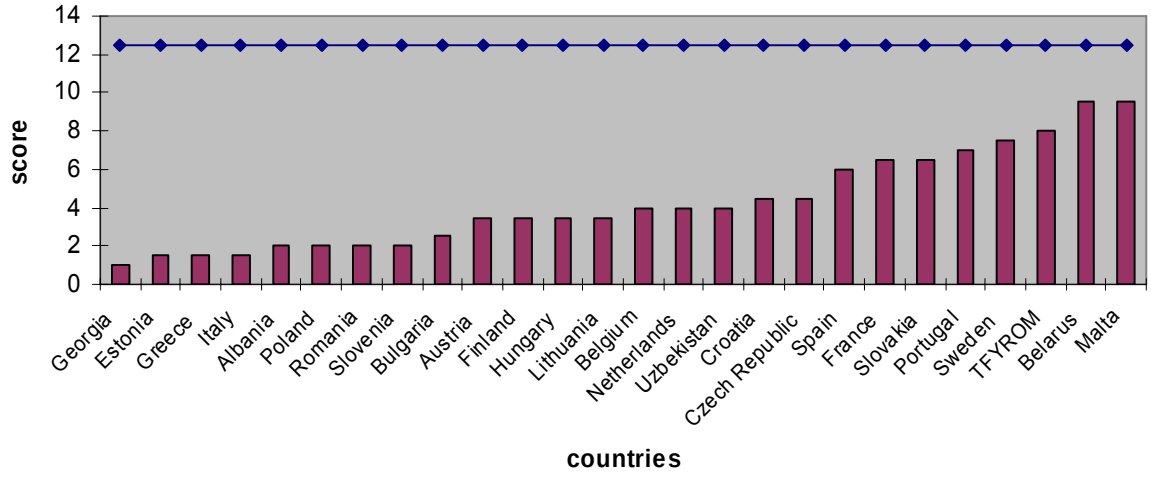
Name: Actions to reduce children's excessive exposure to UV **RPG4_ UVrd _A1**

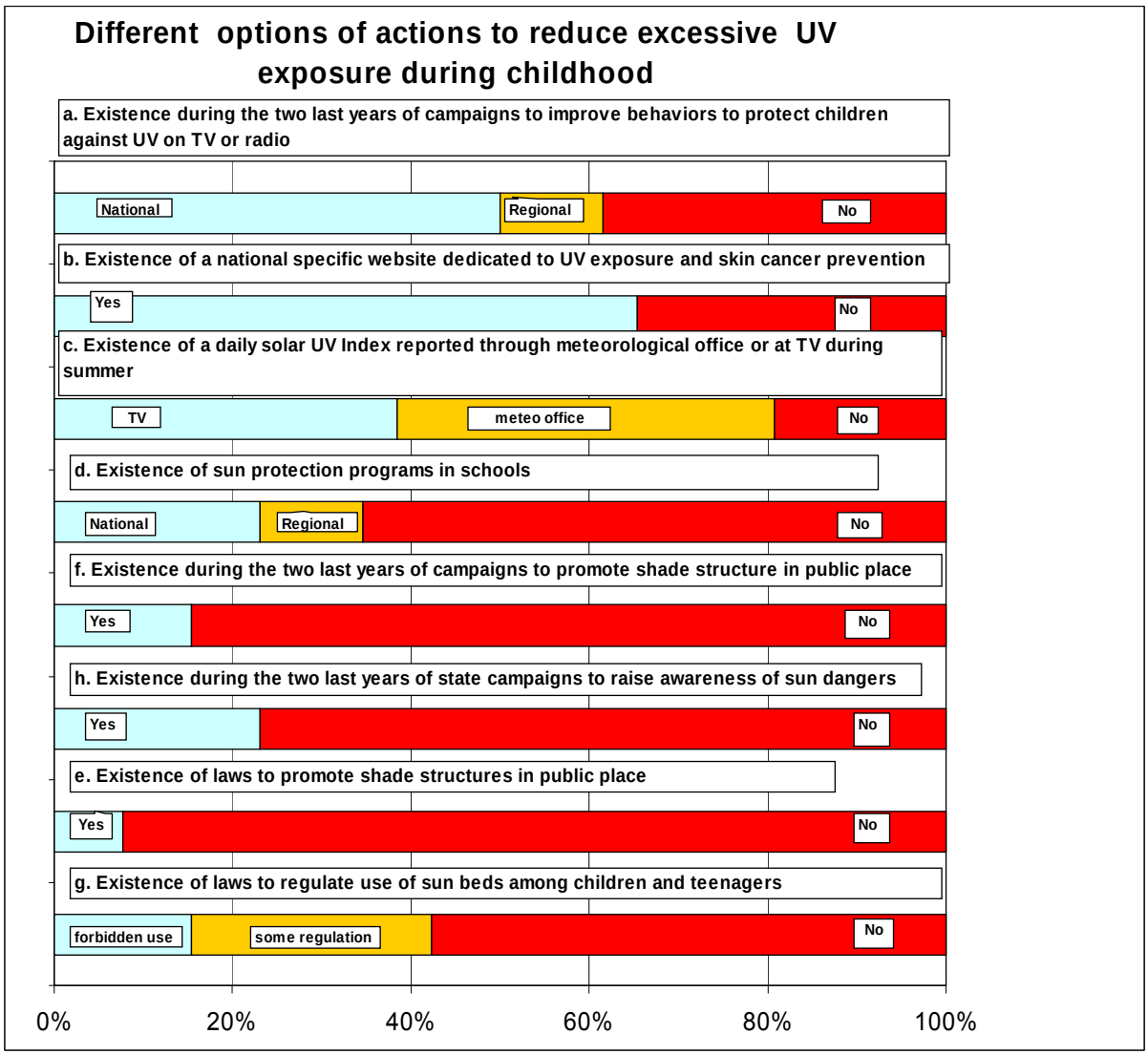
Idea: There is an increasing trend of children's exposure to UV, mainly due to sunny holidays and tanning being popular and frequent activities. The amount of UV required for bone and soft tissue development is acquired through normal outdoor activities of children in most countries. Excessive exposure can damage children's vulnerable body tissues and lead to chronic diseases, particularly skin cancer in later life. This action indicator gives an impression of national efforts to reduce children's exposure to UV. It is defined as a summary score indicating the extent to which different actions and policies exist as stated in the WHO-INTERSUN program recommendations.

Key message: While there are known benefits of UV radiation, UV protection measures are essential to reduce the burden from skin cancer and other diseases caused by excessive UV exposure. This indicator assesses the implementation of national actions in 26 countries of the WHO European region to prevent excessive UV exposure of children. Preventive actions range from information campaigns that aim at UV protection and provision of public information about the harmful level and effects of UV exposure via media channels to laws on regulated use of sun beds among children and teenagers. Major opportunities exist for general policy development as well as for harmonisation and strengthening of national efforts to reduce children's exposure to solar UV.

***Note**: Scores presented in this graph are based on a questionnaire filled by participating countries. All measures, including existence of laws and regulations have been included, maximum score is 12.5*

Figure 1: Degree of implementation of campaigns and programmes to reduce exposure of the population (including children) to UV (26 countries responding)





***Note**: The composite score was calculated based on a questionnaire filled in by the participating countries. Only measures dealing with existence and implementation of*

campaigns and programmes have been included in the calculation. The maximum possible score is 8.5.

Description of the graph
The implementation of the WHO INTERSUN recommendations is not complete. The degree of implementation of action policies varies considerably between countries and in general shows a low or moderate score. There is no clear north – south or east – west gradient. Figure 2 displays the responses to six action topics that directly aim at UV exposure reduction by means of campaigns and information programmes and two actions topics that concern laws. Most of the countries have a web site dedicated to UV protection and report national (50%) or regional (12%) TV or radio campaigns to improve behaviour to protect children against excessive UV exposure. Other actions are much less implemented in European countries. The differences between countries displayed in this figure may have various reasons, including underreporting and true non-existence of policy actions.

Health and environment context
Epidemiological and experimental studies have provided clear evidence that solar UV radiation, broad UVR, and use of sun beds can lead to skin cancer. Currently, UV exposure seems on the increase due to the higher number of people sunbathing year regularly, and due to the growing use of sun beds. Consequently, in European countries the incidence of melanoma is increasing (1).In Northern Europe a deceleration of this trend seems to have occurred recently in persons aged under 70. The incidence of other skin cancers is more difficult to assess because registrations are less reliable. However, an upward trend among adolescents has been reported (2). Exposure to UV during childhood and adolescence appears to be a causal factor for the development of both melanoma and non-melanoma skin cancers later in life. Both excessive exposure (burns) during early years and overall life-time exposure are important risk factors. A significant part of a person's lifetime UV exposure occurs below the age of 18 and children have more time to develop diseases with long latency. Some simple measures can decrease UV exposure in children, for example, wearing sunglasses, hat and t-shirt when spending time outdoors, and avoidance of sunbathing during midday times of most intense solar UV radiation (= 2 hours each side of the solar noon).

Policy relevance and context
This indicator aims to measure the extent to which actions exist to prevent or reduce excessive UV exposures in children. It monitors some of the main recommendations of the WHO INTERSUN program, as well as the level of official control of sun bed use by teenagers. This indicator also monitors one of the Regional Priority Goals (IV) of the CEHAPE: "implementing policies to raise awareness and endeavor to ensure reduction of exposure to UV radiation, particularly in children and adolescents". However, except for policies to regulate sun beds, few official national policy targets exist that are directed to reducing UV exposure in children.

It is vital to increase awareness and knowledge about the potential negative health effects of excessive UV exposure. This information should be readily available through various channels such as TV, radio, campaigns, meteo websites and in schools. Tourism industry representatives can also play a crucial role in minimizing risks associated with sun exposure by disseminating information to their clients, and by implementing a small number of essential measures in tourism facilities and services. A UV index can help to identify appropriate actions based on the measured UV levels. Furthermore, the use of sun beds by children and adolescents should be strongly discouraged, if not forbidden. There are European norms for sun bed usage, as well as international recommendations and programs concerning

excessive UV exposure prevention for children. INTERSUN program recommendations can serve as a framework for a European action plan to reduce UV exposure. The EPA Sunwise program, among others, provides all suitable contents of a children's educational program.

Assessment

Excessive UV exposure during childhood or adolescence is one of the main contributors to the development of skin cancer. Conversely, comprehensive policies to reduce excessive solar UV exposure in children do not yet exist in most countries. Artificial UV exposure is targeted by regulations that restrict the use of sun beds among children and teenagers. It is estimated that 25 per cent of users of sun beds in Northern Europe are between the ages of 16 and 24. Nevertheless, most countries do not regulate the use of sun beds by adolescents. Only Belgium, France, Portugal and Spain currently prohibit the use of sun beds by adolescents. Seven other countries report other methods to control use of sun beds by adolescents.

In addition, many countries report national and regional campaigns that focus on UV protection from solar exposure. The campaigns reported are: campaigns to improve behaviours to protect children against UV on public channels of TV or radio (17 countries), campaigns to promote shade structure in public places (4 countries), campaigns to raise awareness of sun dangers among tourists in tourist agencies (6 countries).

Information provision about the harmful level and effects of UV exposure is well-organised. Most countries (21 reported) provide a daily solar UV index through the online meteorological office or through TV during summer. 17 countries indicated having a national website dedicated to UV exposure and prevention of skin cancer. Sun protection education programmes for children as proposed in the INTERSUN program were reported to be in place at national level in Belarus, Macedonia, Malta, Portugal and Sweden. Austria, Belgium and Slovakia report regional programmes. Some studies have shown that children and adolescents obtain significant UV exposures during school hours even in Nordic countries such as Finland and Sweden on summer days. Laws to promote shade structures in public places are part of construction and technical building standards, as reported in three countries (Belarus, Slovenia, Uzbekistan).

It can be concluded that major opportunities exist for policy development as well as for harmonisation and strengthening of efforts to reduce children's excessive exposure to UV. National policies to reduce artificial UV exposure - including regulations for sun bed usage among children and teenagers – should be implemented in a higher number of countries in the WHO European Region. Excessive solar UV exposure can best be prevented by regional and local awareness-raising and information campaigns, in particular in educational institutes. These activities serve to stimulate use of sun protection measures among schoolchildren.

Suggestions for further monitoring

This indicator allows for assessment of the degree of implementation of action policies in the WHO European Region. It would be interesting to further assess the degree of implementation of the different actions by reapplying the questionnaire in the future years. It should be accompanied by surveys to assess the actual reduction of excessive UV exposure.
As there are currently few official regulations, the indicator is based on recommendations from the WHO INTERSUN program. As soon as official guidelines and laws are in place (e.g. defined in a common European action program), these should also be monitored.

Meta data

Data sources and methodology

Data for 2006 have been provided by health and cancer institutes in Albania, Austria, Belarus, Belgium, Bulgaria, Croatia, Czech Republic, Estonia, Finland, France, Georgia, Greece, Hungary, Italy, Lithuania, Macedonia, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Uzbekistan.
The indicator consists of a composite index of national efforts to improve protection of children against UV exposure. The national efforts are divided in eight action topics for which a high (max. 2) to low (min. 0) score can be obtained:

- Existence during the two last years of national or regional campaigns to improve behaviours to protect children against UV on public channels of TV or radio
  Score: National level: 2; Regional level: 1; No: 0
- Existence of a national specific website dedicated to UV exposure and skin cancer prevention
  Score: Yes: 0.5; No: 0
- Existence of a daily solar UV Index reported through meteorological office or at TV during summer
  Score: TV: 2; Meteo: 1; No: 0
- Existence of sun protection programs in schools at national or regional level
  Score: Systematic at national level: 2; Systematic at regional level: 1; No: 0
- Existence of laws to promote shade structures in public places
  Score: Yes: 2; No: 0
- Existence during the two last years of national or regional campaigns to promote shade structure in public places
  Score: Yes: 1; No: 0
- Existence of laws to regulate use of sun beds among children and teenagers
  Score: Ban of use: 2; If not others (cf.definition): 1; No: 0
- Existence during the two last years of state campaigns to raise awareness of sun dangers among tourists in tourist agencies
  Score: Yes: 1; No: 0

The total score is based on an ordinal scale and can run from 0 to 12.5.
In addition, descriptive meta data were collected that include the title of the policy, the year it was put in place and a web link for reference.

Data Quality

26 out of 28 countries reported their existing national efforts to reduce children's excessive exposure to UV for 2006. The indicator should be regularly adjusted as countries update or introduce new plans, policies and strategies. There is a small chance for interpretation bias in answering the questions, thus affecting comparison of results.
Regular updating of the data is recommended and more countries should be encouraged to participate. Efforts must be continued to encourage countries to involve ministry officials and qualified experts to respond to this and future questionnaires. Standardised interviews with ministry officials and UV protection specialists could allow to comparatively assess the extent of implementation and follow-up of the actions.

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www.Cancerresearchuk.org

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More information

More information about the control of sunbeds and their use:
http://www.sst.dk/upload/forebyggelse/cff/sol_hudkraeft/nordic_sunbed_position.pdf
http://www.who.int/mediacentre/factsheets/fs287/en/index.html

More information about recommendations on UV exposure in children:
http://www.who.int/mediacentre/factsheets/fs261/en/
http://www.who.int/uv/resources/recommendations/en/1stEuroskinrec.pdf
http://www.who.int/docstore/peh-uv/INTERSUNPresentation/sld013.htm
http://www.who.int/uv/publications/en/INTERSUNguide.pdf
http://www.epa.gov/sunwise/summary.html

Version

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ENHIS-2

WORK PACKAGE 5 (WP5) RESULTS

Deliverables:

1. **Definition of organisational framework for exchange of relevant data available in international data bases (month 10)**
2. **Inventory of available surveys methods for CEH indicators (month 12)**
3. Data sets necessary for the core indicators available in the international data bases (month 16)
4. Definition of information necessary for CEH to be collected by surveys (month 22)

Draft hands-on guidance – practical tool to support data retrieval and generation of the core set of EH indicators

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Introduction

Well-structured, reliable and legible information on the availability and accessibility of the data necessary to generate Environment and Health indicators is of key importance for the development and future operation of the environment and health information system. It facilitates multiple uses of already existing data and consequently helping to avoid duplication of data reporting and supporting streamlining of the data processing.

This hands-on guidance is intended to be a practical tool in supporting the data retrieval required for generating environmental health (EH) indicators, being structured in chapters according to the EH themes (e.g. air, water, etc). In the framework of the ENHIS-2 project[18], the hands-on guidance focused both on the indicators to assess EH status for general population (17 indicators selected from the ECOEHIS project[19]), but also on the indicators to assess environmental health status of children population (32 CEHAPE-RPGs core set of indicators, selected by ENHIS project[20]). These indicators cover the following most important EH issues: air quality, noise, housing, traffic accidents, chemical emergencies, water and sanitation, and radiation. Within each EH issue, CEHAPE-RPGs indicators were added. CEHAPE-RPGs indicators encompass the following most important children-related EH

[18] http://www.euro.who.int/EHindicators/Methodology/20060201_1

[19] Development of Environment and Health Indicators for European Union countries –ECOEHIS, Final Report, available at http://www.euro.who.int/document/E85061.pdf

[20] http://europa.eu.int/comm/health/ph_projects/2003/action1/action1_2003_28_en.htm

issues, as a significant contribution to the implementation of Decisions of the Ministerial Declaration of the 4th Ministerial Conference on Environment and Health[21], Budapest 2004:

1. **Regional Priority Goal I** – "aim to prevent and significantly reduce the morbidity and mortality arising from gastrointestinal disorders and other health effects, by ensuring that adequate measures are taken to improve access to safe and affordable water and adequate sanitation for all children"
2. **Regional Priority Goal II** – "aim to prevent and substantially reduce health consequences from accidents and injuries and pursue a decrease in morbidity from lack of adequate physical activity, by promoting safe, secure and supportive human settlements for all children"
3. **Regional Priority Goal III** – "aim to prevent and reduce respiratory disease due to outdoor and indoor air pollution, thereby contributing to a reduction in the frequency of asthmatic attacks, in order to ensure that children can live in an environment with clean air"
4. **Regional Priority Goal IV** – "commit ourselves to reducing the risk of disease and disability arising from exposure to hazardous chemicals (such as heavy metals), physical agents (e.g. excessive noise) and biological agents and to hazardous working environments during pregnancy, childhood and adolescence"

You can see the full list of indicators in Table 1, containing all the indicators (general population developed by ECOEHIS and children's one developed by ENHIS project) and hyperlinks allowing reference to data retrieval methods both for EH-thematic indicators and children's group ones. Each chapter (EH theme) starts with an overview table of data availability for the respective indicators. After it, follows the actual data retrieval methodology for each indicator. For each indicator from the list, a meta-data section for the respective data source and a structured description of access to are provided, where international data sources have been available. The description is organised into two parts.

Part I includes the meta-data section:

- indicator code and name
- source database (name and link to the home page)
- specification of the variables (required data as described within the Methodological Sheets)
- computation method
- geographical coverage for WHO-EURO region
- time coverage
- existing data stratification according to the Methodology Sheet
- data format in the respective data source

Part II provides a detailed step by step description of the path from home page to the data.

When data are available for many succeeding years there is written - since e.g. 1997. When data are available for many years, though not on an annual basis, the coverage is explained in the "Comments" column (e.g. every second year). When data are available just for some years, these years are individually stated (e.g. 1993-4, 2000). Information on geographical coverage of data, at the national or sub-national level are explained by N – for national and R – for regional plus specification (e.g. for Spain - R, Catalonia).

[21] http://www.euro.who.int/document/e83335.pdf

If alternative international data sources were in place for a certain indicator, a similar structured guidance was elaborated for each variable, contributing to the calculation of the indicator and mentioned as "alternative data source". The table containing an "Overview of Core Set of EH indicators" summarises all available international data sources, data sources in bold and red being considered the most appropriate to contribute to ENHIS-2 system design; main selection criteria were geographical coverage, time coverage, closeness or match with indicator definition as described within the methodological sheets. Data sources also in red, as a second option, are going to be used whenever necessary to complete missing or add information to the main data source. Where more data sources were available, they have been mentioned too, even if not used at present by ENHIS project for objective reasons, most frequent due to a different definition of indicator.

The hands-on guidance is periodically updated, because of continuously changing information, such as home web page addresses and organization of the data sources. When new relevant databases are launched, they are added within the document.

Table 1 Overview of core set of EH indicators (ECOEHIS and ENHIS)

Indicator		EH theme
General population		
RPG3_Air_Ex1	**Exposure to air pollutants**	Air quality
RPG3_Air_A1	**Policies to reduce ETS exposue**	Air quality
Nois_Ex1	**Population exposed to various noise level ranges per source**	Noise
Nois_A1	**Policies to reduce exposure to leisure sounds**	Noise
Hous_Ex1	**Crowding**	Housing
RPG3_Hous_Ex3	**Dampness/Mould growth**	Housing
Hous_Ex4	**Household hygiene**	Housing
Hous_Ex6	**Crime and Perception of crime**	Housing
RPG1_WatSan_Ex1	**Safe drinking-waters**	Water and Sanitation
RPG2_Traf_E1	**Mortality due to road traffic accidents**	Traffic accidents
Traf_E3	**Injury rate due to road traffic accidents**	Traffic accidents
Chem_A1	**Regulatory requirements for landuse planning**	Chemical emergencies
Chem_A2	**Chemical incidents register**	Chemical emergencies
Chem_A3	**Government preparedness**	Chemical emergencies
RPG4_ UVrd _E1	**Incidence of malignant melanoma**	Non-ionising radiation
Rad_A1	**Effective environmental monitoring of radioactivity**	Ionising radiation
Children population		
CEHAPE RPG 1		
RPG1_WatSan_P1	**Wastewater treatment**	Water and Sanitation
RPG1_WatSan_S1	**Recreational water compliance**	Water and Sanitation
RPG1_WatSan_S2	**Drinking water compliance**	Water and Sanitation
RPG1_WatSan_Ex1	**Access to safe drinking water**	Water and Sanitation
RPG1_WatSan_A1	**Management of bathing waters**	Water and Sanitation
RPG1_WatSan_A2	**Water safety plans**	Water and Sanitation
RPG1_WatSan_E1	**Outbreaks of water-borne diseases**	Water and Sanitation
CEHAPE RPG 2		
RPG2_Traf_E1	**Childhood mortality from traffic accidents**	Traffic accidents
RPG2_Hous_E1	**Children mortality from external causes excluding traffic**	Housing
RPG2_Hous_Ex1	**Percentage of physically active children**	Housing
RPG2_Hous_Ex2	**Prevalence of childhood overweight and obesity**	Housing
RPG2_Traf_A1	**Policies to promote safe mobility and transport for children**	Traffic accidents
RPG2_Hous_A1	**Policies to reduce child injury**	Housing
RPG2_Hous_A2	**Policies to reduce childhood obesity**	Housing

Indicator		EH theme
RPG2_Hous_E2	**Non-traffic injuries**	Housing
CEHAPE RPG 3		
RPG3_Air_A1	**Policies to reduce children's exposure to ETS**	Air quality
RPG3_Air_Ex1	**Children's exposure to outdoor air PM_{10}**	Air quality
RPG3_Hous_Ex3	**Children living in homes with dampness problems**	Housing
RPG3_Air_Ex2	**Children exposed to environmental tobacco smoke**	Air quality
RPG3_Air_E1	**Prevalence of asthma, allergies in children**	Air quality
RPG3_Air_E2	**Infant mortality from respiratory diseases**	Air quality
RPG3_Hous_Ex4	**Proportion of children living in homes using solid fuel**	Housing
RPG3_Air_Ex3	**Children in proximity of heavily trafficked roads**	Air quality
CEHAPE RPG 4		
RPG4_Nois_Ex1	**Percentage of children exposed to harmful noise at school**	Noise
RPG4_UVrd_A1	**Actions to lower children's exposure to UV**	Non-ionising radiation
RPG4_UVrd_E1	**Incidence of melanoma under 50 years old**	Non-ionising radiation
RPG4_Rad_E1	**Incidence of childhood leukaemia**	Ionising radiation
RPG4_Work_E1	**Work injuries in employees under 18 yrs**	Working conditions
RPG4_Food_Ex1	**Children's exposure to chemical hazards in food**	Food
RPG4_Food_Ex2	**POPs in human milk**	Food
RPG4_Chem_Ex1	**Blood lead level in children**	Chemical emergencies
RPG4_A1	**Ratifications of Conventions related to CEHAPE**	
RPG4_Rad_Ex1	**Radon levels in dwellings**	Ionising radiation

Air Quality
Overview of proposed indicators [1] (see Endnote)

No.	Indicator Code	Indicator full name	International data source	Children specific
Air Quality				
1.	**RPG3_Air_Ex1**	**Exposure to air pollutants**	1. **Airbase EEA** http://air-climate.eionet.europa.eu/databases/airbase/	Yes, also used for CEHAPE assessment "**Children's exposure to outdoor air PM_{10}"** in RPG III**.** Data from Airbase EEA are not children specific, children indicator must be estimated.
			2. EUROSTAT	
		Number of population in the urban/rural areas/cities	**EUROSTAT** http://europa.eu.int/comm/eurostat/	
2.	**RPG3_Air_A1**	**Policies to reduce ETS exposure**	**WHO Tobacco control database** http://data.euro.who.int/tobacco/	Yes, also used for CEHAPE assessment "**Policies to reduce children's exposure to tobacco smoke"** in RPG III.
3.	**RPG3_Air_Ex2**	**Children exposed to environmental tobacco smoke**	1. **GYTS study** http://www.cdc.gov/tobacco/global/GYTS.htm	Yes, used for CEHAPE assessment in RPG III**.** Both studies will be used to complement necessary information.
			2. **HBSC study** http://www.hbsc.org	
4.	**RPG3_Air_E1**	**Prevalence of allergies and asthma in children**	**ISAAC study** http://isaac.auckland.ac.nz/	Yes, used for CEHAPE assessment in RPG III**.**
5.	**RPG3_Air_E2**	**Infant mortality due to respiratory diseases**	1. **WHO MDB** http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english	Yes, used for CEHAPE assessment in RPG III**.**
			2. EUROSTAT	
6.	RPG3_Air_Ex3	Children living in proximity of heavily trafficked roads	Not available Case study is going to be developed; indicator needs further development.	

General Population

RPG3_Air_Ex1 Exposure to air pollutants

Part I. Meta-data section.

Indicator code	RPG3_Air_Ex1 Exposure to air pollutants
Source database	**Airbase EEA** http://air-climate.eionet.europa.eu/databases/airbase/
Data required for the indicator calculation	**Annual mean concentration for PM10, PM2.5, annual mean of daily 8h maxima for O3, the number of hours with c > 200 µg/m3 for NO2, the number of days with c > 125 µg/m3 for SO2 measured in the background urban/rural stations** Number of population in the urban/rural areas/cities. or Number of children or residents in the area for which the estimate of air pollution concentration is relevant.
Computation method	Exp*y*=SUM {(P*i*/P)*C*y*i*}, where: C*yi*=annual concentration of pollutant *y* in sub-population P*i*, P= SUM (P*i*) which is the total population of children in area
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit http://air-climate.eionet.europa.eu/databases/airbase/
2. Click on **Airview** , the first link label in the middle of the screen.
3. Click on the link label in the message window **Go to applet page of AirView** in the centre of the www. page
4. Confirm **Yes** in the small window Warning – Security.
5. Select the requested **country/countries** (when selecting more than one item, use the Ctrl button and mouse, clicking while going down on the scroll bar) in the Airview 3.1 Table **'Country and meta data selection'** in the column on the top of the Table.
6. Confirm by OK button and wait till the metadata are loaded.
7. In the lower part of the Table, '**Country and meta data selection',** select the requested items:
   a. In the **Component(s)** column select:
      Nitrogen dioxide (air),
      Ozone (air)
      Particulate matter < 10 µm (aerosol),
      Particulate matter < 2.5 µm (if present)
      Sulphur dioxide (air)
   b. In the **Type(s) of station** column select: "Background"

c. In the selection of **Type(s) of area** column select: "urban" and "suburban",

8. Press OK in the bottom of the Table.
9. In the next Table, '**Measurement Configuration Selection',** select the desired time period in the middle of the Table. In the Selection criteria options (left middle part) **Statistics** should be selected.
10. Mark the lines with the requested components in the requested cities and stations (again using the Ctrl button).
11. At the bottom of the screen click on the button **Table.**
12. You can save the Table with the data by clicking File – Save as CSV (for the Excel Table format).
13. In the Table **Airview statistics** on the left upper side of window find:
    - **a.** For NO2 – in the data line based on hourly values: no. of **hours with c > 200 µg/m3**
    - **b.** For O3 – in the data line based on daily 8-h maxima values: **annual mean**
    - **c.** For PM10 – in the data line based on daily values: **annual mean**
    - **d.** For PM2.5 – if presented **,** in the data line based on daily values: **annual mean**
    - **e.** For sulphure dioxide – in the data line based on daily values: no. of **days with c > 125 µg/m3**

Ignore data printed in red: they represent coverage less than 75%.
For the metadata on the stations, click **Meta information** in the Selection criteria options in the middle part (left) of Table **Measurement Configuration Selection**.

Same data source is used to compute the indicator "Children's exposure to air pollutants" in RPG III. Data in Airbase EEA are not children specific.

NO_2 concentration

Country	Time coverage	Geographical coverage	Data stratification	Data format	Comments
Austria	Since 1990	urban & rural areas (N)	For all countries data are not children specific.	Existing data need pre-processing to calculate the indicator.	
Bulgaria	2001, 2003, 2004	Urban			
Czech Rep.	Since 1992, mostly since the first half of the nineties	urban & rural areas (N)			
Estonia	Since 1997 and 2001	rural & urban (N)			only 1 urban station
Finland	Since 1990, mostly since late 1990s or 2000	urban & rural areas (N)			rural data mostly since 1998
France	Since 1982, mostly since 1999	urban & rural areas (N)			rural data mostly since 1999
Germany	Since 1984, mostly since the second half of the 90ties, of them mostly since 1996	urban & rural areas (N)			
Greece	1997, one station since 1983	urban & rural areas (N)			Only 1 rural station
Hungary	Since 1997 and 1999	urban & rural areas			in Airbase only 1 urban and 1 rural stations
Italy	1998-2004	Urban&Suburban			More data about 2003-04. Coverage for not all monitoring stations.
Lithuania	1998-1999; 2000-2004	urban & rural			1 urban station for the years 1998-1999; 3 urban stations for the years 2003-2004; 1 rural station for the years 2000-2004 (only daily values)
Netherlands	Since 1981, mostly since the end of 1990s	urban & rural areas (N)			
Poland	Since 1997	urban & rural areas (N)			
Portugal	1986-2004	urban & rural areas (N)			
Romania	Since 2001	urban & rural areas (N)			single rural station, since 2002
Slovakia	1995-2004	Regional			Available data from selected areas (cities)
Slovenia	Since 1997, mostly since 2002	(N)			
Spain	Since 1991	urban & rural areas (N)			
UK	Since 1992	urban & rural			

Country	Time coverage	Geographical coverage	Data stratification	Data format	Comments
		areas (N)			
England					
Wales					
Scotland					
North Ireland					
Other EU countries + EFTA + accessing		73%			

O_3 concentration

Country	Year	Spatial coverage	Comments
Austria	Since 1990	N	For all countries data are not children specific.
Bulgaria	2000, 2001, 2003, 2004	urban	
Czech Rep.	Since 1992	N	
Estonia	Since 1997 and 2001	rural and urban (N)	only 1 urban station
Finland	Since 1990	N	
France	Since 1999	N	rural data mostly since 1999
Germany	Since 1984	N	
Greece	1997, one station since 1983	urban & rural areas (N)	Only 1 rural station
Hungary	Since 1997 and 1999		in Airbase only 1 urban and 1 rural stations
Italy	1999-2004	Urban&Suburban	
Lithuania	1997-2004	urban & rural	1 urban station for the years 2004; 3 urban stations for the years 1997; 1 rural station for the years 1998-2001; 3 rural stations for the years 2002-2004
Netherlands	Since 1986	N	
Poland	Since 1997	N	
Portugal	1997-2004	urban & rural	
Romania	since 2002	N	
Slovakia	1997-2004	Regional	Available data from selected areas
Slovenia	Since 1997, mostly since 2002	N	
Spain	since 1988	N	
UK	since 1983	N	
England			
Wales			
Scotland			
North Ireland			

PM10 concentration

Country	Year[1]	Spatial coverage[2]	Comments
Austria	Since 2000	N	For all countries data are not children specific.
Bulgaria	2000, 2001, 2003, 2004	urban	
Czech Rep.	Since 1996	N	

Country	Year[1]	Spatial coverage[2]	Comments
Estonia	Since 2001	urban	only 1 station
Finland	Since 1993, mostly since 2001	N	rural data mostly since 1998
France	Since 2001	N	zone characterization is not specified, urban data within the category ”unknown”, rural data mostly since 1999
Germany	Since 1998	N	
Greece	2001	only suburban (N)	no rural station
Hungary	Since 2000	urban area	only 1 urban station in Airbase
Italy	1999-2004	Urban&Suburban	
Lithuania	1999;2003-2004	urban	only 1 urban station; different stations for the year 1999 and the years 2003-2004
Netherlands	Since 1997	N	
Poland	Since 1997	N	
Portugal	1999-2004	urban & rural	
Romania	Since 2001	N	single rural station (since 2002)
Slovakia	1999-2004	Regional	Available data from selected areas
Slovenia	Since 1997, mostly since 2002	N	
Spain	Since 1997	N	
UK	Since 1992	N	
England			
Wales			
Scotland			
North Ireland			

PM2.5 concentration

Country	Year[1]	Spatial coverage[2]	Comments
Austria	Since 2001	Rural area	For all countries data are not children specific. 1 rural station
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	Since 2001	Urban area	3 urban stations
France	Since 2001	N	rural data mostly since 1999
Germany	Not available		
Greece	Not available		
Hungary	Not available		
Italy	2004	Urban	4 monitoring stations of 3 cities
Lithuania	Not available		
Netherlands	Not available		
Poland	Since 2001	N	2 urban stations
Portugal	Since 2002	urban & rural	
Romania	Not available		

Country	Year[1]	Spatial coverage[2]	Comments
Slovakia	2003-2004	Regional	Available data from selected areas
Slovenia	Not available		
Spain	Not available		
UK	Not available		
England			
Wales			
Scotland			
North Ireland			

SO_2 concentration

Country	Year[1]	Spatial coverage[2]	Comments
Austria	Since 1990	N	For all countries data are not children specific.
Bulgaria	2003, 2004		
Czech Rep.	Since 1992	N	
Estonia	Since 1998	rural and urban (N)	only 1 urban station
Finland	Since 1990 mostly since 1998	N	mostly rural areas
France	Since 1999	N	zone characterization is not specified, the urban data fall within the category ”unknown”, 1 rural station since 1989
Germany	Since 1976	N	
Greece	1997, one station since 1987	urban and suburban (R)	one region only (Attica), but covering 40% of population
Hungary	Since 1997	urban & rural area	urban station since 1999 in Airbase only 1 urban station and 1 rural stations
Italy	1997-2004	Urban&Suburban	
Lithuania	1998-2004	urban & rural	1 urban station for the years 1998-199; 2 urban stations for the years 2003-2004; 1 rural station for the years 2000-2004
Netherlands	Since 1976	N	
Poland	Since 1997	N	
Portugal	1986-2004	urban & rural	
Romania	Since 2001	N	single rural station (since 2002)
Slovakia	1995-2004	Regional	Available data from selected areas
Slovenia	Since 1997, mostly since 2002	N	
Spain	Since 1986	N	
UK	Since 1992	N	Belfast since 1989
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG3_Air_Ex1 Exposure to air pollutants – Alternative data source

Part I. Meta-data section.

Indicator code	RPG3_Air_Ex1 Exposure to air pollutants
Source database	EUROSTAT Homepage http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	**Annual mean concentration for PM10, PM2.5, annual mean of daily 8h maxima for O3, the number of hours with c > 200 µg/m3 for NO2, the number of days with c > 125 µg/m3 for SO2 measured in the background urban/rural stations** Number of population in the urban/rural areas/cities

Part II. Step by step access to the data

1. Visit the Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. Under STATISTICS IN FOCUS heading, in the column 'Structural Indicators', click on **Environment**.
3. Click the Table **Population exposure to air pollution by ozone** and then **Population exposure to air pollution by particulate matter**
4. At present, you will get the following warning message for both exposures:

This indicator is under review because of methodological shortcomings, and is likely to be fundamentally revised in the near future.

RPG3_Air_Ex1 Exposure to air pollutants (Population)

Part I. Meta-data section.

Indicator code	RPG3_Air_Ex1 Exposure to air pollutants
Source database	**EUROSTAT Homepage** http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	Annual mean concentration for PM10, PM2.5, annual mean of daily 8h maxima for O3, the number of hours with c > 200 µg/m3 for NO2, the number of days with c > 125 µg/m3 for SO2 measured in the background urban/rural stations **Number of population in the urban/rural areas/cities**
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit EUROSTAT Homepage http://europa.eu.int/comm/eurostat/
2. In the middle part of the screen click the blue square DATA and then find General and regional statistics
3. Click on the third item **Urban audit**
4. Select the first item **Variables for core city and "Kernel" plus national data**
5. In the Table Eurostat Visual Application select:
    - Step one:
6. In an Info selection: Value (already selected) and Reference year
7. In the Cities selection: the requested cities (288 in total)
8. In Indic_urban selection: the first item Total resident population (already selected)
9. In Time period selection: the last time period (recently 1999-2003)
10. Click Next in the bottom of the Table.
    - Step two:
11. You do not need to set rows and columns: it is already set logically.
12. Click Next in the bottom of the Table.
    - Step three:
13. Select Data format "For spreadsheets"
14. Select Options "Codes and Labels"
15. Click Download in the bottom of the Table.
16. Click Save and save the file in your local drive.

Country	Year[1]	Cities in the EUROSTAT database
Austria	2001	Wien, Graz, Linz

Bulgaria	1989-1993, 1994-1998, 1999-2003	Sofia, Plovdiv, Varna, Burgas, Pleven, Ruse, Vidin
Czech Rep.	2001	Praha, Brno, Ostrava, Plzen, Usti nad Labem
Estonia	2001	Tallinn, Tartu
Finland	2001	Helsinki, Tampere, Turku, Oulu
France	2001	Paris, Marseille, Lyon, Toulouse, Nice, Strasbourg, Bordeaux, Nantes, Lille, Montpellier, Saint-Etienne, Rennes, Amiens, Rouen, Nancy, Metz, Reims, Orléans, Dijon, Poitiers Clermont-Ferrand, Caen, Limoges, Besançon, Grenoble, Ajaccio, Saint Denis, Pointe-a-Pitre, Fort-de-France, Cayenne
Germany	2001	Berlin, Hamburg, München, Köln, Frankfurt am Main, Essen, Leipzig, Dresden, Dortmund, Düsseldorf, Bremen, Hannover, Nürnberg, Bochum, Wuppertal, Bielefeld, Halle an der Saale, Magdeburg, Wiesbaden, Göttingen, Mülheim a.d. Ruhr, Moers, Darmstadt, Trier, Freiburg im Breisgau, Frankfurt (Oder), Regensburg, Weimar, Schwerin, Erfurt, Augsburg, Bonn, Karlsruhe, Mönchengladbach, Mainz
Greece	2001	Athina, Thessaloniki, Patra, Irakleio, larisa, Volos, Ioannina, Kavala, Kalamata
Hungary	2001	Budapest, Miskolc, Nyiregyhaza, Pecs
Italy	1989-1993, 1994-1998, 1999-2003	N, Roma, Milano, Napoli, Torino, Palermo, Genova, Firenze, Bari, Bologna, Catania, Venezia, Verona, Cremona, Trento, Trieste, Perugia, Ancona, l'Aquila, Pescara, Campobasso, Caserta, Taranto, Potenza, Catanzaro, Reggio di Calabria, Sassari, Cagliari
Lithuania	2001	Vilnius, kaunas, Panevezys
Netherlands	2001	Gravenhage, Amsterdam, Rotterdam, Utrecht, Eindhoven, Tilburg, Groningen, Enschede, Arnhem, Heerlen
Poland	2001	Warszawa, Lodz, Krakow, Wroclaw, Poznan, Gdansk, Szczecin, Bydgoszcz, Lublin, Katowice, Białystok, Kielce, Torun, Olsztyn, Rzeszow, Gorzow Wlk., Opole, Zielona Gora, Jelenia Gora, Nowy Sacz, Suwalki, Konin, Zory
Portugal	2001	Lisboa, Oporto, Braga, Funchal, Coimbra, Setubal, Ponto Delgada, Aveiro
Romania	2001	Bucuresti, Cluj-Napoca, Timisoara, Craiova, Braila, Oradea, Bacau, Arad, Targu, Mures, Sibiu, Piatra, Neamt, Calarasi, Giurgiu, Alba, Iulia
Slovakia	1989-1993, 1994-1998	Bratislava, Banská Bystrica, Košice, Nitra (1999-2003 missing)
Slovenia	2001	Ljubljana, Maribor
Spain	2001	Madrid, Barcelona, Valencia, Sevilla, Zaragoza, Málaga, Murcia, Las Palmas, Valladolid, Palma di Mallorca, Santiago de Compostela, Vitoria/Gasteiz, Oviedo, Pamplona/Iruña, Santander, Toledo, Badajoz, Logroño
UK	2001	Inner London, London, Birmingham, Leeds, Glasgow, Liverpool, Bradford, Edinburgh, Manchester, Cardiff, Sheffield, Bristol, Belfast, Newcastle upon Tyne, Leicester, Derry, Aberdeen, Cambridge, Exeter, Lincoln, Gravesham, Stevenage, Portsmouth, Wrexham, Worcester

The last data are from the period 1999-2003 (reference year 2001).
1 – see endnotes

RPG3_Air_A1 Policies to reduce environmental tobacco smoke exposure

Part I. Meta-data section.

Indicator code	RPG3_Air_A1 Policies to reduce environmental tobacco smoke exposure
Source database	**WHO Tobacco control database**: http://data.euro.who.int/tobacco/
Data required for the indicator calculation	Evidence of existence and enforcement of regulations to reduce ETS exposure in particular the legislation on smoke-free areas, smoke-free public transport and advertisement of cigarettes. 1. Smoking prohibited/restricted in health care facilities 2. Smoking prohibited/ restricted in education facilities 3. Smoking prohibited/ restricted in government facilities 4. Smoking prohibited/restricted in restaurants 5. Smoking prohibited/restricted in pubs and bars 6. Smoking prohibited/restricted in indoor workplaces and offices 7. Smoking prohibited/restricted in theatres and cinemas 8. Smoking prohibited/restricted in buses 9. Smoking prohibited/restricted in taxis 10. Smoking prohibited/restricted in trains 11. Smoking prohibited/restricted in domestic air transport 12. Smoking prohibited/restricted in international air transport 13. Smoking prohibited/restricted in domestic water transport 14. Smoking prohibited/restricted in international water transport 15. Advertisement of cigarettes in national mass-media (TV, radio) prohibited
Computation method	100 * *SUM* (Ci) / (2 * N) where Ci is the score for component i and N is the number of components excluding the number of not applicable components
Geographical coverage	Data available in 96% of WHO-EURO member states.
Time coverage	Current situation of existing legislation
Stratification according to Methodology	Not children specific.
Data format in the database	Scores should be assigned to existing qualitative (text) data in the database, according to the following methodology: For each component the following scoring is assigned: 0 – No restriction or prohibition 1 – Partial restriction, prohibition or voluntary agreement 2 – Complete ban or prohibition Existing data need to be pre-processed.

Part II. Step by step access to the data

1. Visit http://data.euro.who.int/tobacco/
2. Click on **Cross country profiles**.
3. Select the required issue in the Table using the pull-down menu:
    a. Smoke free public areas
    b. Smoke free public transport
    c. Direct advertising of tobacco products
    d. Indirect advertising of tobacco products
4. Save the requested Table on your local drive.

Same data source is used to compute the indicator "Policies to reduce children's exposure to tobacco smoke" in RPG III. Data in WHO Tobacco control database are not children specific.

Children Population

RPG3_Air_Ex2 Children exposed to environmental tobacco smoke (ETS)

Part I. Meta-data section.

Indicator code	RPG3_Air_Ex2 Children exposed to ETS
Source database	**Global Youth Tobacco Survey (GYTS)** http://www.cdc.gov/tobacco/global/GYTS.htm
Data required for the indicator calculation	**a) % children 0-4, 5-9,10-14 years old daily exposed to environmental tobacco smoke.** **b) % smokers among children 10-14, 15-19 years old.**
Computation method	a) Number of children exposed in the home/ number of all children, in each age group. b) Number of adolescents smoking at least twice a week/ number of all adolescents, in each age group.
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit http://www.cdc.gov/tobacco/global/GYTS.htm
2. Click on **Country Fact Sheets**.
3. Select a country within available year (Completed in):
4. Within the Fact Sheet find the following indicators
    a. percentage of children exposed to ETS in homes (ETS chapter)
    b. percentage of smokers among children (currently daily cigarette smokers) % (Prevalence chapter)
    c. Smoking prevalence in young people - current use of tobacco products (%) (Prevalence chapter)
5. Print the results..

Part II. Availability of the data for the countries participating in the ENHIS project.

Country	Year[1]	Spatial coverage[2]	Comments
Austria			
Bulgaria	2002		school-based survey of students in grades 7, 8, 9
Czech Rep.	2002		school-based survey of students in grades 7-9
Estonia	2002		school-based survey of students in grades 7-9
Finland	Not available		

Country	Year[1]	Spatial coverage[2]	Comments
France	Not available		
Germany	Not available		
Greece	2004		In Athens; school–based survey of students in grades 7–9
Hungary	2002		school-based survey of students in grades 7-10
Italy	Not available		
Lithuania	2001, 2005		school–based survey of students in grades 7, 8 and 9
Netherlands	Not available		
Poland	2003		school-based survey of students in gymnasium 1 - 3
Portugal	Not available		
Romania	2004		school-based survey of students in grades 7-10
Slovakia	2002		school-based survey of students in grades 7-9
Slovenia	2003		school-based survey of students in grades 7- 8 and 1st
Spain	Not available		
UK	Not available		
England	Not available		
Wales	Not available		
Scotland	Not available		
North Ireland	Not available		

1, 2 – see endnotes

RPG3_Air_Ex2 Children exposed to environmental tobacco smoke (ETS) – complementary data source

Part I. Meta-data section.

Indicator code	RPG3_Air_Ex2 Children exposed to ETS
Source database	**Health Behaviour in Schools Survey Homepage** http://www.hbsc.org
Data required for the indicator calculation	a) Number of children exposed in the home/ number of all children, in each age group. (0-4, 5-9, 10-14) b) **Number of adolescents smoking at least twice a week/ number of all adolescents, in each age group.** (10-14, 15-19)
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit the Health Behaviour in Schools Survey Homepage http://www.hbsc.org
2. In the upper part of the screen, in the main menu, click on a **Survey Data**.
3. For the moment, you will receive the following message:

The international data file is restricted for the use of member country teams for a period of three years from its completion. After this time the data is available for external use by agreement with the International Coordinator and the Principal Investigators. Access to the data from the 2001/02 survey will therefore be possible from June 2006.

However, data can be retrieved at present from the 2001/02 International Report on key findings of HBSC study at:

http://www.euro.who.int/eprise/main/who/InformationSources/Publications/Catalogue/20040601_1

Read Chapter 3: Tobacco smoking (page 67).

Country	Year[1]	Spatial coverage[2]	Comments
Austria	2001/02		Children of: 11, 13 and 15 years old were sampled. Definition: smoke at least once a week. Years mentioned represent the period when the survey was conducted.
Bulgaria	Not available		Bulgaria joined the HBSC Network in November 2004
Czech Rep.	2001/02		
Estonia	2001/02		
Finland	2001/02		
France	2001/02		
Germany	2001/02		
Greece	2001/02		
Hungary	2001/02		
Italy	2001/02		
Lithuania	2001/02		
Netherlands	2001/02		
Poland	2001/02		
Portugal	2001/02		
Romania	Not available		Romania joined the HBSC Network in May 2005
Slovakia	2001/02		
Slovenia	2001/02		
Spain	2001/02		
UK			
England	2001/02		
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG3_Air_E1 Prevalence of allergies and asthma in children

Part I. Meta-data section.

Indicator code	RPG3_Air_E1 Prevalence of allergies and asthma in children
Source database	**ISAAC study home page** http://isaac.auckland.ac.nz/
Data required for the indicator calculation	1. Prevalence (%) of children with asthma in age groups 0-4, 5-9, 10-14, 15-19 of total population of children in the respective age group
Computation method	Number of children with asthma / total number of children
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit ISAAC study home page http://isaac.auckland.ac.nz/
2. In the menu on the left side of the screen, click on **Phase One** link.
3. Under the heading "Phase One Links", click on **Phase One Results**
4. Under the heading "Phase One Data", make the appropriate selection for:
    - Region: either Northern and Eastern Europe, or Western Europe
    - Country: select the appropriate country
    - Centre: select each centre
5. Print the necessary data for the computation of the indicator.

Country	Year[1]	Spatial coverage[2]	Comments
Austria		Salzburg (1995), Urfahr-Umgebung (1996)	Only 2 age groups were studied: 6-7 and 13-14. Prevalence (%) of children with asthma
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia		Narva (1994), Tallinn (1994)	
Finland		Helsinki (1995), Kuopio County (1994), Lappland Area (1995), Turku and Pori County (1995)	
France		Marseilles (1994), Montpellier (1995), Pessac (1994), Strasbourg (1994), West Marne (1995)	
Germany		Greifswald (1995), Munster (1995)	
Greece		Athens (1995)	
Hungary	Not available		
Italy		Ascoli Piceno (1994), Cosenza (1995), Cremona (1994), Emilia-Romagna (1994), Emppoli (1994), Firenze (1994), Milano (1995), Roma (1995), Torino (1994), Verona	

Country	Year[1]	Spatial coverage[2]	Comments
		(1994), Viterbo (1994)	
Lithuania		Kaunas (1996), Panevezys (1997), Siauliai	
Netherlands	Not available		
Poland		Krakow (1993), Krakow (1995), Poznan (1994)	
Portugal		Funchal (1995), Lisbon (1994), Portimao (1994), Porto (1995)	
Romania		Cluj (1994)	
Slovakia	Not available		
Slovenia	Not available		
Spain		Almeria (1997), Barcelona (1993), Bilbao (1994), Cadiz (1995), Cartagena (1993), Castellón (1994), Pamplona (1994), Valencia (1994), Valladolid (1994)	
UK		Anglia and Oxford (1995), Guernsey (1996), Isle of Man (1995), Jersey (1996), North East and Yorkshire (1996), North Thames (1995), North West (1995), Scotland (1995), South and West (1995), South Thames (1995), Sunderland (1996), Surrey/Sussex (1993), Trent (1995), Wales (1995), West Midlands (1995)	

1, 2 – see endnotes

RPG3_Air_E2 Infant mortality due to respiratory diseases

Part I. Meta-data section.

Indicator code	RPG3_Air_E2 Infant mortality due to respiratory diseases
Source database	**WHO Mortality Database** http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english
Data required for the indicator calculation	**Annual number of deaths of children under 1-12 months of age due to respiratory diseases. (J00-99)** Total number of live births in the survey year.
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit WHO Mortality Database http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english
2. Click on the fourth bullet **Table 2: Infant Deaths**.
3. Under the heading "Country and year selection for Table 2 (Registered deaths), select a country and year 2002, then click on the button **Go**
4. Scroll-down the screen and find the necessary data for:
   - Diseases of the respiratory system (J00-J98 for ICD-10 and 31-32 for ICD-9), column "Number of infant deaths at age 28-364 days"
5. Print the necessary data for the computation of the indicator.
6. Total number of live births can be found within WHO MDB, see **Table 1: Number of registered deaths**, the bottom of table.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1980 - 2002	N	Number of infant deaths (N) at ages (in days) data also available: <1 day, 1-6 days, 7-27 days, 28-364 days. Stratification by geneder is also available.
Bulgaria	1980 - 2002	N	
Czech Rep.	1986 - 2002	N	
Estonia	1981 - 2002	N	
Finland	1987 - 2002	N	
France	1979 – 2000	N	
Germany	1990 - 2001	N	
Greece	1979 - 2001	N	
Hungary	1979 - 2002	N	
Italy	1979 - 2001	N	
Lithuania	1981 - 2002	N	
Netherlands	1979 - 2003	N	
Poland	1980 - 2002	N	
Portugal	1980 - 2002	N	
Romania	1980 - 2002	N	
Slovakia	1992 - 2000	N	
Slovenia	1985 - 2002	N	
Spain	1980 - 2001	N	
UK	1979 - 2002	N	
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG3_Air_E3 Infant mortality due to respiratory diseases - Alternative data source

Part I. Meta-data section.

Indicator code	RPG3_Air_E2 Infant mortality due to respiratory diseases
Source database	EUROSTAT Homepage http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	**Annual number of deaths of children under 1-12 months of age due to respiratory diseases. (J00-99)** Total number of live births in the survey year.
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit the Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. Click on a blue square **DATA** in the middle of the screen.
3. Below you will see a list of headings and links to respective statistics, go to the column "General and regional statistics". Click to open **Regions**.
4. Click to open the folder **Health statistics**.
5. Click the Table 'Causes of death by region- Absolute Number (3 years average) – Total '.
6. Make the selection of the necessary data. Mark the requested fields in the interactive screen:

TIME - period of time
GEO - geopolitical entities
ICD – international statistical classification of diseases and related health problems (WHO) – choose 'diseases of the respiratory system /J00-J99/
AGE – less than 1 year

After making the selection click 'Next'

Set rows and columns in the Table with the selected data. Follow the instructions on the screen. Click 'Next'.

7. Select download options, setting data format and its options.

8. Download the Table and save to a local drive.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	Absolute value (3 years average)
Czech Rep.	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
Estonia			
Finland	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
France	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
Germany	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
Greece	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
Hungary	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
Italy	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
Latvia	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
Lithuania	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
The Netherlands	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
Poland	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
Portugal	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
Romania	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
Slovakia			
Slovenia			
Spain	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
UK	2002-2004, 2001-2003, 2000-2002, 1999-2001, 1998-2000	N, R	
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

Noise

Overview of proposed indicators[1] (see Endnote)

No.	Indicator Code	Indicator full name	International data source	Children specific
Noise				
7.	Nois_Ex1	Population exposed to various noise level ranges per source	Not available	
8.	Nois_A1	Policies to reduce exposure to leisure sounds	Not available Policy indicator going to be submitted voluntary by the countries.	
9.	RPG4_Nois_Ex1	Percentage of children exposed to harmful noise at school	Not available Case study is going to be developed; indicator needs further development.	Yes, used for CEHAPE assessment in RPG IV.

General Population

Nois_Ex1 Population exposed to various noise level ranges per source

Indicator code	Nois_Ex1 Population exposed to various noise level ranges per source
Source database	Directive 2002/49/EC: http://europa.eu.int/eur-lex/pri/en/oj/dat/2002/l_189/l_18920020718en00120025.pdf Noise DG environment policy: http://europa.eu.int/comm/environment/noise/ Guidelines for Community Noise (B. Berglund, T. Lindvall, D. Schwela Ed), WHO, Geneva, 1999 http://whqlibdoc.who.int/hq/1999/a68672.pdf
Data required for the indicator calculation	Estimation on the number of people living in dwellings exposed from different sources of environmental noise in urban areas and along major transport infrastructures to the specified ranges of values of L_{den} in dB 4 m above the ground on the most exposed façade: **L_{den}** (day-evening-night equivalent level): 55-59, of L_{den} in dB; 60-64, of L_{den} in dB; 65-69, of L_{den} in dB 70-74, of L_{den} in dB; >75 of L_{den} in dB; separately for road, rail and air traffic, and for industrial sources. **L_{night}** (night equivalent level). 50-54, 55-59, 60-64, 65-69, >70; separately for road, rail and air traffic, and for industrial sources.

Part II. Step by step access to the data.

No data estimating the exposure to noise from different sources of environmental noise are available from the international databases. According to the Directive 2002/49/EC, Member States shall designate at the appropriate levels the competent authorities and bodies responsible for implementing this Directive, including the authorities for:

a) Making and, where relevant, approving noise maps and action plans for agglomerations, major roads, major railways and major airports.
b) Collecting noise maps and action plans

The Member States shall make the mentioned above information available to the Commission and to the public no later than 18 July 2005.

Member States shall ensure that no later than by 30 June 2007, strategic noise maps showing the situation in the preceding calendar year have been made and, where relevant, approved by the competent authorities, for all agglomerations with more than six million vehicle passages a year, major railways which have more than 60 000 train passages per year and major airports within their territories.

Access to the policy / regulatory data.

1) Visit http://europa.eu.int/comm/environment/noise/
2) Click on the **Directive on Environmental Noise**, point 2 of the text on the main screen.
3) Click on the **Directive 2002/49/EC** in the beginning of the text on the main screen.
4) Save the pdf file to your local drive.
5) Open the pdf file, find and read the following: Article 1 – Objectives; Article 4 – Implementation and responsibilities; Article 7 – Strategic noise mapping; Article 10 – Collection and publication of data by Member States and the Commission; Annex I – Noise indicators; Annex II – Assessment methods for the noise indicators; Annex IV – Minimum requirements for strategic noise mapping; Annex VI – Data to be sent to the Commission.

6) Nois_A1 Policies to reduce exposure to leisure sounds

Indicator code	Nois_A1 Policies to reduce exposure to leisure sounds.
Source database	Directive 2002/49/EC: http://europa.eu.int/eur-lex/pri/en/oj/dat/2002/l_189/l_18920020718en00120025.pdf
Data required for the indicator calculation	Evidence of existence and enforcement of regulations to regulate the music levels and insulation. Evidence of the appliance (control) of these regulations.

Part II. Step by step access to the data.

According to the Directive 2002/49/EC Member States shall designate at the appropriate levels the competent authorities and bodies responsible for implementing this Directive, including the authorities for:

c) Making and, where relevant, approving noise maps and action plans for agglomerations, major roads, major railways and major airports.
d) Collecting noise maps and action plans

The Member States shall make mentioned above information available to the Commission and to the public no later than 18 July 2005.

Member States shall ensure that no later than 18 July 2008 the competent authorities have drawn up action plans designed to manage, within their territories, noise issues and effects.

Access to the policy / regulatory data.

7) Visit http://europa.eu.int/comm/environment/noise/
8) Click on the **Directive on Environmental Noise** in point 2 of the text on the main screen.
9) Click on the **Directive 2002/49/EC** in the beginning of the text on the main screen.
10) Save the pdf file into your local drive.
11) Open the pdf file, find and read: Article 1 – Objectives; Article 4 – Implementation and responsibilities; Article 8 – Action plans; Article 14 – Transposition; Annex V – Minimum requirements for action plans

Housing
Overview of proposed indicators[1](see Endnote)

No.	Indicator Code	Indicator full name	International data source	Children specific
Housing				
10.	**Hous_Ex1**	**Crowding**	1. **EUROSTAT** http://europa.eu.int/comm/eurostat/	
			2. HFA database http://www.euro.who.int/hfadb	
11.	**RPG3_Hous_Ex3**	**Dampness/Mould growth**	**EUROSTAT**	Yes, also used for CEHAPE assessment "**Children living in homes with dampness problems"** in RPG III**.** Data from EUROSTAT are not children specific, children indicator must be estimated.
12.	**Hous_Ex4**	**Household hygiene**	**EUROSTAT**	
13.	**Hous_Ex6**	**Crime and Perception of crime**	**ICV Survey** http://www.unicri.it/wwd/analysis/icvs/index.php	
14.	**RPG2_Hous_E1**	**Children mortality from external causes, excluding traffic**	1. **WHO MDB** http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english	Yes, used for CEHAPE assessment in RPG II**.**
			2. EUROSTAT	
15.	**RPG2_Hous_E2**	**Non-traffic injuries**	**EU Injury database** https://webgate.ec.europa.eu/idbpa/welcome.jsp	Yes, used for CEHAPE assessment in RPG II**.**
16.	**RPG2_Hous_Ex1**	**Percentage of physically active children**	**HBSC study** http://www.hbsc.org	
17.	**RPG2_Hous_Ex2**	**Prevalence of childhood overweight and obesity**	1. **HBSC study** http://www.hbsc.org	
			2. OECD Health data http://www.oecd.org/document/62/0,2340,en_2649_34631_2345918_1_1_1_1,00.html	Yes, used for CEHAPE assessment in RPG II**.**
18.	RPG2_Hous_A1	Policies to reduce child injury	Not available. Policy indicator submitted voluntary by the countries.	
19.	RPG2_Hous_A2	Policies to prevent childhood obesity	Not available. Policy indicator submitted voluntary by the countries.	
20.	**RPG3_Hous_Ex4**	**% Children living in homes using solid fuels**	1. **Millennium Indicator DB** http://unstats.un.org/unsd/mi/mi_goals.asp	Yes, used for CEHAPE assessment in RPG III**.** Data are not children specific, children indicator must be estimated.
			2. World Health Survey http://www.who.int/healthinfo/statistics/en/	

General Population

Hous_Ex1 General Crowding

Part I. Meta-data section.

Indicator code	Hous_Ex1 Crowding*
Source database	**EUROSTAT Homepage** http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	**1. GC - General crowding** 2. PC - Poverty-related crowding 3. Households in total
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

* Data on share of persons living in crowded conditions within the country are not available in Eurostat. Using national average values of rooms per dwelling and average household size will not make it possible to identify the problem of housing shortage and crowding.

The following data are related to the specific indicator:

Part II. Step by step access to the data

Rooms per person

1. Visit the Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. In the lower part of the screen click the blue square **DATA**.
3. Below you will find 'Data explorer – Full view'. Click on the letters **Full view**. The set of categories will appear.
4. In the section 'Key indicators on EU policy (predefined tables)' click to open **Long-term indicators**.
5. Click to open the folder **Population and social conditions**.
6. Click to open the folder **Living conditions and welfare**.
7. Click to open the folder **Living conditions**.
8. Click on **Rooms per person**. This indicator shows the number of rooms that each person in a household has in his disposal.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1995 – 2001		Data are available in 3 categories: total, by owner and rent.
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1996 – 2001	N	
France	1994 – 2001	N	
Germany	1994 – 2001	N	
Greece	1994-2001	N	
Hungary	Not available		
Italy	1994-2001	N	
Lithuania	Not available		
Netherlands	1994 – 2001	N	
Poland	Not available		
Portugal	1994-2001	N	
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		
Spain	1994 – 2001	N	
UK	1994 – 2001	N	

1, 2 – see endnotes

Rooms per dwelling/person and persons per dwelling by tenure status

Part II. Step by step access to the data

1. Visit the Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. In the lower part of the screen click on a blue square **DATA**.
3. Below you will find 'Data explorer – Full view'. Click on the letters **Full view**. The set of categories will appear.
4. In the part 'Population and social conditions' click to open **Living conditions and welfare**.
5. Click to open the folder **Income and living conditions** (Metadata).
6. Click to open the folder **Non-monetary poverty and social exclusion**.
7. Click to open the folder **Housing**.
8. Click the Table **Rooms per dwelling/person and persons per dwelling by tenure status**.
9. Make the selection of the necessary data. Mark the requested fields in the interactive screen:

TIME - period of time
GEO - geopolitical entities

TENSTATU - housing tenure status, select **Total**
DWELIND - dwelling space, select all (**Rooms per dwelling, Rooms per person, Persons per dwelling**)

After making the selection click 'Next'

10. Set rows and columns in the Table with the selected data. Follow the instructions on the screen. Click 'Next'.

11. Select download options, setting data format and its options.

12. Download the Table and save to a local drive.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1991	N	Data available only for one, two or three years
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1991	N	
France	1971, 1981, 1991	N	
Germany	1971, 1981, 1991	N	
Greece	1981, 1991	N	
Hungary	Not available		
Italy	1971, 1981, 1991	N	
Lithuania	Not available		
Netherlands	1971, 1981, 1991	N	
Poland	Not available		
Portugal	1981, 1991	N	
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		
Spain	1981, 1991	N	
UK	1971, 1981, 1991	N	

1, 2 – see endnotes

Hous_Ex1 General Crowding – Alternative data source

Part I. Meta-data section.

Indicator code	Hous_Ex1 Crowding
Source database	Health For All Database http://www.euro.who.int/hfadb
Data required for the indicator calculation	**1. GC - General crowding** 2. PC - Poverty-related crowding 3. Households in total
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

The following data are related to the specific indicator:

Part II. Step by step access to the data

Average number of person per room in occupied housing unit

1. Visit http://www.euro.who.int/hfadb
2. Click on **Off-line version** link.
3. Click on **Download HFADB1.exe** and then on **Download HFADB2.exe** and follow the instructions on the screen. Click on **Run** and save their content into a new created folder on your hard disk (e.g name it HFA2006).
4. After installing the HFA database on your HDD, double click on the file HFA.
5. In the Main Menu click on 'Parameters', 'Select parameters' and make the following selections within the different squares:

   Indicators: Enlarge the folder 'Environment' by clicking on the +, then select 'Average number of person per room in occupied housing unit' (mark the square near the indicator).

   Years: select from 1999 - 2004.

   Countries: don't make any selection
6. After making all the selections, click **OK** button.
7. In the Main Menu click on 'Tables' and then on 'Table A'
8. You get a table with figures for the selected indicator for all European countries. You can either print the table or save it on the HDD as a text file.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	200-, 2003	N	
Bulgaria	2001	N	
Czech Rep.	2001	N	
Estonia	2000, 2002	N	
Finland	1999, 2002	N	
France	1999 – 2002	N	
Germany	1999 – 2003	N	
Greece	2001	N	
Hungary	Not available		
Italy	2001	N	
Lithuania	2001	N	
Netherlands	1999	N	
Poland	Not available		
Portugal	2001	N	
Romania	2002	N	
Slovakia	2001	N	
Slovenia	2002	N	
Spain	2001	N	
UK	2002	N	

1, 2 – see endnotes

Hous_Ex1 PC - Poverty-related crowding

Part I. Meta-data section.

Indicator code	Hous_Ex1
Source database	**EUROSTAT Homepage** http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	1. GC - General crowding **2. PC - Poverty-related crowding** 3. Households in total
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit the Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. In the lower part of the screen click on a blue square **DATA**.
3. Below you will find 'Data explorer – Full view'. Click on the letters **Full view**. The set of categories will appear.
4. In the part 'Population and social conditions' click to open **Living conditions and welfare**.
5. Click to open the folder **Income and living conditions** (explanatory texts - Metadata).
6. Click to open the folder **Non-monetary poverty and social exclusion**.
7. Click to open the folder **Housing**.
8. Click the Table **Households living in overcrowded conditions by type of household and income group**.
9. Make the selection of the necessary data. Mark the requested fields in the interactive screen:

TIME - Period of time
GEO - Geopolitical entities
UNIT - Select **Percentage of households living in overcrowded conditions**
INCOME - Income group, select LT60PC '**Household income less than 60% compared to median actual current income**'
HHTYP - Type of household, select **Total**

After making the selection click 'Next'

10. Set rows and columns in the Table with the selected data. Follow the instructions on the screen. Click 'Next'.
11. Select download options, setting data format and its options.
12. Download the Table and save to a local drive.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1995 – 2001	N	
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1996 – 2001	N	
France	1994 – 2001	N	
Germany	1994 – 2001	N	
Greece	1994-2001	N	
Hungary	Not available		
Italy	1994-2001	N	
Lithuania	Not available		
Netherlands	1994 – 2001	N	
Poland	Not available		
Portugal	1994-2001	N	
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		
Spain	1994 – 2001	N	
UK	1994 – 2001	N	

1, 2 – see endnotes

Hous_Ex1 Households in total

Part I. Meta-data section.

Indicator code	Hous_Ex1
Source database	**EUROSTAT Homepage** http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	1. GC - General crowding 2. PC - Poverty-related crowding **3. Households in total**
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit the Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. In the lower part of the screen click on a blue square **DATA**.
3. Below you will find 'Data explorer – Full view'. Click on the letters **Full view**. The set of categories will appear.
4. In the part 'Population and social conditions' click to open **Living conditions and welfare**.
5. Click to open the folder **Income and living conditions** (Metadata – explanatory texts).
6. Click to open the folder **Non-monetary poverty and social exclusion**.
7. Click to open the folder **Households and living conditions**.
8. Click the Table **Number of private households (in 000s)**.
9. Make the selection of the necessary data. Mark the requested fields in the interactive screen:

TIME - Period of time
GEO - Geopolitical entities

After making the selection click 'Next'

10. Set rows and columns in the Table with the selected data. Follow the instructions on the screen. Click 'Next'.
11. Select download options, setting data format and its options.

12. Download the Table and save to a local drive.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1997 – 2001	N	
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1997 – 2001	N	
France	1997 – 2001	N	
Germany	1997 – 2001	N	
Greece	1997-2001	N	
Hungary	Not available		
Italy	1997-2001	N	
Lithuania	Not available		
Netherlands	1997 – 2001	N	
Poland	Not available		
Portugal	1997-2001	N	
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		
Spain	1997 – 2001	N	
UK	1997 - 2001	N	

1, 2 – see endnotes

RPG3_Hous_Ex3 Dampness and mould growth

Part I.	Meta-data section.

Indicator code	RPG3_Hous_Ex3 Dampness and mould growth
Source database	**EUROSTAT Homepage** http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	1. Number of residents living in damp dwellings (will not be described) **2. Number of damp dwellings *** 3. Total residential population 4. Total number of dwellings 5. Number of dwellings with mouldy growth (will not be described)
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

* EUROSTAT database provides percentage, not the number of the damp dwellings.

Part II. Step by step access to the data

1. Visit the Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. In the lower part of the screen click on a blue square **DATA**.
3. Below you will find 'Data explorer – Full view'. Click on the letters **Full view**. The set of categories will appear.
4. Click to open the folder **Population and social conditions**.
5. Click to open the folder **Living conditions and welfare**.
6. Click to open the folder **Income and living conditions**. Please note an icon of the explanatory text file (with the letter M). Clicking on this icon leads to the Eurostat Metadata (in SDDS format).
7. Click to open the folder **Non monetary poverty and social exclusion**.
8. Click to open the folder **Housing**.
9. Click the icon at the **Housing problems by socio-economic status**.
10. Make the selection of the necessary data. Mark the requested fields in the interactive screen:

"TIME" (year, period of time)
"GEO" (geopolitical entities) - country
"WSTATUS" (activity and employment status) – mark **POP – Total population**
"PROBLEMS" (housing problems) – mark **DAMP – rot in the house or damp or leaky roof** After making the selection, click "Next"

REMARK: you may retrieve % of the damp dwelling using also "Housing problems by tenure status and type of housing" or "Housing problems by type of household and income group" (but the temporal coverage differs).

11. Set rows and columns in the Table with the selected data (if necessary). Follow the instructions on the screen. Click "Next"
12. Select download options, setting data format and its options.
13. Download the Table and save to a local drive.

Same data source is used to compute the indicator "Children living in homes with dampness problems" in RPG III. Data in EUROSTAT are not children specific.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1996-2001	N	Based on the indicator "Housing problems by socio-economic status". When using other indicators (… "by tenure status" …. or "household type…") the time coverage is poorer Data for the new EU members – probably from 2005.
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1996-2001	N	
France	1996-2001	N	
Germany	1996		
Greece	1994-2001	N	
Hungary	Not available		
Italy	1994-2001	N	
Lithuania	Not available		
Netherlands	1996-2001	N	
Poland	Not available		
Portugal	1994-2001	N	
Romania	Not available		
Slovakia	Not available		

Country	Year[1]	Spatial coverage[2]	Comments
Slovenia	Not available		
Spain	1996-2001	N	
UK	1996-2001	N	

1, 2 – see endnotes

Hous_Ex4 National at risk of poverty threshold (SILC HY020)

Part I. Meta-data section.

Indicator code	Hous_Ex4 Household hygiene
Source database	**EUROSTAT Homepage** http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	1. Bath or shower in dwelling (SILC HH080) 2. Indoor flush toilet for sole use of household (SILC HH090) **3. National at risk of poverty threshold (SILC HY020)*** 4. Number of dwellings not connected to public water supply (access to the data as for WatSan_Ex1) 5. Total residential population 6. Total number of dwellings (described before)
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

* this is the original variable referred to in the indicator methodology sheet. In the EUROSTAT database, a variable provides directly the proportion of population under the poverty threshold. The subsequent guidance is for the "at risk of poverty rates" variable.

Part II. Step by step access to the data

1. Access the Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. In the lower part of the screen click on a blue square **DATA**.
3. Below you will find 'Data explorer – Full view'. Click on the letters **Full view**. The set of categories will appear.
4. Click to open the folder **Population and social conditions**.
5. Click to open the folder **Living conditions and welfare**.
6. Click to open the folder **Income and living conditions**. Please note an icon of the explanatory text file (with the letter M). Clicking on this icon leads to the Eurostat Metadata (in SDDS format).
7. Click to open the folder **Monetary (income) poverty**.
8. Click to open the folder **Low income**.
9. Click the Table **At risk of poverty rates by age and gender**
10. Make the selection of the necessary data. Mark the requested fields in the interactive screen:

"TIME" - year of the survey
"GEO" - geopolitical entities
"AGE" – mark "Total"
"SEX" – mark "Total"
"INDIC_IL" – income and living conditions indicator. As a default, the threshold is set at the 40% of median equivalised income. After making the selection, click "Next".

11. Set rows and columns in the Table with the selected data (if necessary). Follow the instructions on the screen. Click "Next"
12. Select download options, setting data format and its options.
13. Download the Table and save it on the local drive.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1996-2001	N	Annual
Bulgaria	2000-2004	N	
Czech Rep.	2001	N	
Estonia	2000-2003	N	
Finland	1996-2001	N	
France	1996-2001	N	
Germany	1996-2001	N	
Greece	1995-2001	N	
Hungary	2000-2002	N	
Italy	1995-2001, 2004	N	2004: break in series
Lithuania	2000-2003	N	
Netherlands	1996-2001	N	
Poland	2000-2002	N	
Portugal	1995-2001, 2004	N	
Romania	2000-2002	N	
Slovakia	2003, 2004	N	
Slovenia	2000-2003	N	
Spain	1996-2001	N	
UK	1996-2001	N	

1, 2 – see endnotes

Hous_Ex4 Bath or shower in dwelling (SILC HH080) / Indoor flush toilet for sole use of household (SILC HH090)

Part I.	Meta-data section.

Indicator code	Hous_Ex4
Source database	**EUROSTAT Homepage** http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	**1. Bath or shower in dwelling (SILC HH080)** **2. Indoor flush toilet for sole use of household (SILC HH090)** 3. National at risk of poverty threshold (SILC HY020) 4. Number of dwellings not connected to public water supply 5. Total residential population 6. Total number of dwellings
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Access the Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. In the lower part of the screen click on a blue square **DATA**.
3. Below you will find 'Data explorer – Full view'. Click on the letters **Full view**. The set of categories will appear.
4. Click to open the folder **Population and social conditions**.
5. Click to open the folder **Living conditions and welfare**.
6. Click to open the folder **Income and living conditions**. Please note an icon of the explanatory text file (with the letter M). Clicking on this icon leads to the Eurostat Metadata (in SDDS format).
7. Click to open the folder **Non monetary poverty and social exclusion**.
8. Click to open the folder **Housing**.
9. Click the Table **Lack of amenities by type of household and income group**.
10. Make the selection of the necessary data. Mark the requested fields in the interactive screen:
"TIME" - year of the survey
"GEO" - geopolitical entities
"AMENITY" – mark **Bath or shower in dwelling** and **Flush toilet in dwelling**
"INCOME" – mark "Total" and "LT60PC – Household income less than 60% compared to median actual current income".
"HHTYP" – mark "Total"

After making the selection, click "Next".

11. Set rows and columns in the Table with the selected data (if necessary). Follow the instructions on the screen. Click "Next"
12. Select download options, setting data format and its options.
13. Download the Table and save to a local drive.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1996-2001	N	Numbers vary slightly depending on the EUROSTAT indicator used (e.g., between lack of amenities by socio-economic status and by type of housing, etc.)
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1996-2001	N	
France	1996-2001	N	
Germany	1996-2001	N	
Greece	1996-2001	N	
Hungary	Not available		
Italy	1994-2001	N	
Lithuania	Not available		
Netherlands	1996-2001	N	
Poland	Not available		
Portugal	1995-2001		
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		
Spain	1996-2001	N	
UK	1996-2001	N	

1, 2 – see endnotes

Hous_Ex6 Crime and perception of crime

Part I. Meta-data section.

Indicator code	Hous_Ex6 (Crime and perception of crime)
Source database	**International Crime Victim Survey** http://www.unicri.it/wwd/analysis/icvs/index.php
Data required for the indicator calculation	Number of thefts in dwellings; Number of crimes against people in public space (includes: theft by pull, pickpocket, robbery in the public space); Number of crimes against private property in public space (includes: theft by pull, pickpocket, robbery in the public space, theft in motorized vehicle, theft of motorized vehicle or bicycle, damage against cultural patrimony, other damage, set fire to building or motorized vehicle); Number of citizens reporting "fear of crime" in their neighbourhood; Number of dwellings with burglar alarms; number of dwellings with special door locks; Total number of dwellings; Total number of persons.
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit http://www.unicri.it/wwd/analysis/icvs/index.php

2. Click on **Statistics** in the menu of left-hand side of the screen.

3. Under the title of 'Industrialised countries', click on **Appendix 4 from 2000 Keyfindings in PDF format** from the article

Van Kesteren, J.N., Mayhew, P. & Nieuwbeerta, P. (2000) 'Criminal Victimisation in Seventeen Industrialized Countries: Key-findings from the 2000 International Crime Victims Survey'. The Hague, Ministry of Justice, WODC.

4. This will lead to a pdf file in a new screen.

5. Save the pdf file into your local drive by clicking on the diskette shaped icon of Adobe program.

6. Open the pdf file from your local drive.

7. Go to Table 2 and find the data on 'Crime' for the computation of the indicator elements

A, B and C.

8. For 'Urban Europe", repeat steps 3-7.

A - Number of thefts in dwellings: Burglary / per 100 inhabitants; Attempted burglary / per 100 inhabitants B – Number of crimes against people in public space: Robbery / per 100 inhabitants; Personal thefts / per 100 inhabitants; sexual incidences / per 100 inhabitants; Assaults and threats / per 100 inhabitants C – number of crimes against private property in public space: Car theft / per 100 inhabitants; theft from car / per 100 inhabitants; car vandalism / per 100 inhabitants; Motorcycle theft / per 100 inhabitants; Bicycle theft / per 100 inhabitants

9. Go to Table 24 and find the data on "Feeling of safety when walking alone after dark in the area" for the indicator element D, for Industrialised countries. Add the figures for "bit unsafe" and "very unsafe".

10. Go to Table 26 and find the data on 'Burglar alarms' and 'Special door locks' for the indicator elements E and F, for Industrialised countries.

Prevention actions E – number of dwellings with burglar alarms: percentage of burglar alarms F – number of dwellings with special door locks Percentage of special door locks

A - Number of thefts in dwellings: Burglary / per 100 inhabitants; Attempted burglary / per 100 inhabitants B – Number of crimes against people in public space: Robbery / per 100 inhabitants; Personal thefts / per 100 inhabitants; sexual incidences / per 100 inhabitants; Assaults and threats / per 100 inhabitants C – number of crimes against private property in public space: Car theft / per 100 inhabitants; theft from car / per 100 inhabitants; car vandalism / per 100 inhabitants; Motorcycle theft / per 100 inhabitants; Bicycle theft / per 100 inhabitants			
Country	Year[1]	Spatial coverage[2]	Comments
Austria	1996	N	Victimisation in the year preceding the survey. The data from the ICVS is available for further analysis. The full database can be downloaded for this internet site
Bulgaria	1997, 2000	Urban (Sofia)	
Czech Rep.	1992, 1996, 2000	Urban (Prague)	
Estonia	1992, 1995, 2000	Urban (Tallinn)	
Finland	1989, 1992, 1996, 2000	N	
France	1989, 1996, 2000	N	

Germany (West)	1989	N	(http://www.unicri.it/wwd/analysis/icvs/data.php). To publish results of secondary analysis you are kindly requested to seek written permission from UNICRI (Deputy Director Jan Van Dijk - vandijk @ unicri.it). We appreciate it very much if you would send us a draft of what you intend to publish that contains our data. We would also like to receive a copy of the final publication for our library.
Greece	Not available		
Hungary	1996, 2000	Urban (Budapest)	
Italy	1992	N	
Lithuania	1997, 2000	Urban (Vilnius)	
Netherlands	1989, 1992, 1996, 2000	N	
Poland	1989, 1992, 1996, 2000	N	
Portugal	2000	N	
Romania	1996, 2000	Urban (Bucharest)	
Slovakia	1997	Urban (Bratislava)	
Slovenia	1992, 1997, 2001	Urban (Ljubljana)	
Spain (Catalonia)	2000	R	
UK (England and Wales)	1989, 1992, 1996, 2000	R	
Scotland	1996, 2000	R	

Fear of crime D – citizens reporting fear of crime in the immediate environment: Percentage of feeling bit unsafe; Percentage of feeling very unsafe			
Country	Year[1]	Spatial coverage[2]	Comments
Austria	1996	N	The data from the ICVS is available for further analysis. The full database can be downloaded for this internet site (http://www.unicri.it/wwd/analysis/icvs/data.php). To publish results of secondary analysis you are kindly requested to seek written permission from UNICRI (Deputy Director Jan Van Dijk - vandijk @ unicri.it). We appreciate it very much if you would send us a draft of what you intend to publish that contains our data. We would also like to receive a copy of the final publication for our library.
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1992, 1996, 2000	N	
France	1996, 2000	N	
Germany (West)	Not available		
Greece	Not available		
Hungary	Not available		
Italy	1992	N	
Lithuania	Not available		
Netherlands	1992, 1996, 2000	N	
Poland	1992, 1996, 2000	N	
Portugal	2000	N	
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		
Spain (Catalonia)	2000	R	
UK (England and Wales)	1992, 1996, 2000	R	
Scotland	1996, 2000	R	

Prevention actions E – number of dwellings with burglar alarms: percentage of burglar alarms F – number of dwellings with special door locks Percentage of special door locks			
Country	Year[1]	Spatial coverage[2]	Comments
Austria	1996	N	The data from the ICVS is available for further analysis. The full database can be downloaded for this internet site (http://www.unicri.it/wwd/analysis/icvs/data.php). To publish results of secondary analysis you are kindly requested to seek written permission from UNICRI (Deputy Director Jan Van Dijk - vandijk @ unicri.it). We appreciate it very much if you would send us a draft of what you intend to publish that contains our data. We would also like to receive a copy of the final publication for our library.
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1992, 1996, 2000	N	
France	1996, 2000	N	
Germany (West)	Not available		
Greece	Not available		
Hungary	Not available		
Italy	1992	N	
Lithuania	Not available		
Netherlands	1992, 1996, 2000	N	
Poland	1992, 1996, 2000	N	
Portugal	2000	N	
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		
Spain (Catalonia)	2000	R	
UK (England and Wales)	1992, 1996, 2000	R	
Scotland	1996, 2000	R	

1, 2 – see endnotes

Children Population

RPG2_Hous_E1 Children mortality from external causes, excluding traffic

Part I. Meta-data section.

Indicator code	RPG2_Hous_E1 Children's mortality from external causes, excluding traffic
Source database	**WHO Mortality Database** http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english
Data required for the indicator calculation	**Children deaths stratified by: age, gender, unintentional injuries (ICD-10 Codes below or equivalent ICD-9 codes)** - **Drowning: W65-74** - **Falls: W00-19** - **Burns: X00-19.** - **Poisoning: X40-49** - **Choking/suffocation: W75-84,)**

	Total resident population stratified by sex and age
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit WHO Mortality Database
   http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english
2. Click on the third bullet **Table 1: Number of Registered Deaths**.
3. Under the heading "Country and year selection for Table 1 (Registered deaths), select a country and year 2002, then click on the button **Go**
4. Scroll-down the screen and find the necessary data for:
   - Accidental drowning and submersion (W65-W74)
   - Accidental falls (W00-W19)
   - Accidents caused by fire and flames (X00-X09)
   - Accidental poisoning (X40-X49)
5. Print the necessary data for the computation of the indicator.
6. Demographic data can be found within WHO MDB, see **Table 1: Number of registered deaths**, the bottom of table.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1980 - 2002	N	Data stratified by age: <1, 1-4, 5-14, 15-24 etc. Stratification by geneder is also available. Mortality rates by sex, age group and cause are presented for countries with a population of 500,000 or more.
Bulgaria	1980 - 2002	N	
Czech Rep.	1986 - 2002	N	
Estonia	1981 - 2002	N	
Finland	1987 - 2002	N	
France	1979 – 2000	N	
Germany	1990 - 2001	N	
Greece	1979 - 2001	N	
Hungary	1979 - 2002	N	
Italy	1979 - 2001	N	
Lithuania	1981 - 2002	N	
Netherlands	1979 - 2003	N	
Poland	1980 - 2002	N	
Portugal	1980 - 2002	N	
Romania	1980 - 2002	N	

Country	Year[1]	Spatial coverage[2]	Comments
Slovakia	1992 - 2000	N	
Slovenia	1985 - 2002	N	
Spain	1980 - 2001	N	
UK	1979 - 2002	N	
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG2_Hous_E1 Children's mortality from external causes, excluding traffic - Alternative data source

Part I. Meta-data section.

Indicator code	RPG2_Hous_E1 Children's mortality from external causes, excluding traffic
Source database	EUROSTAT Homepage http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	**Children deaths stratified by: age, gender, unintentional injuries (ICD-10 Codes below or equivalent ICD-9 codes)** - **Drowning: W65-74** - **Falls: W00-19** - **Burns: X00-19.** - **Poisoning: X40-49** - **Choking/suffocation: W75-84,)** Total resident population stratified by sex and age
Computation method	
Geographical coverage	
Time coverage	1999-2003 (for some countries even wider)
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit the Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. In the lower part of the screen click on a blue square **DATA**.
3. Below you will see a list of headings and links to respective statistics. In the middle, you will find a heading "Population/social conditions". Immediately below, click to open **Health**

4. Click to open the folder **Public health**
5. Click to open the folder **Causes of death**
6. Click to open the folder **National and regional level - Annual data**
7. Click the Table **Causes of death - Absolute number**
8. Make the selection of the necessary data. Mark the requested fields in the interactive screen:

TIME - period of time
GEO - geopolitical entities

ICD – select Accidental falls (W00-W19); Accidental poisoning (X40-X49); External causes of injury and poisoning (V01-Y89)

AGE – <1, 1-4, 5-9, 10-14, 15-19
SEX – Total

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1996 – 2004	N	<1, 1-4, 5-9, 10-14, 15-19
Bulgaria	1998 – 2004	N	
Czech Rep.	1996 – 2004	N	
Estonia	1999 – 2003	N	
Finland	1996 – 2004	N	
France	1996 – 2002	N	
Germany	1996 – 2003	N	
Greece	1996 – 2003	N	For Greece, missing data for Accidental Falls for 1997, 2000, 2001 and 2004
Hungary	1999 – 2004	N	
Italy	1996 – 2002	N	
Lithuania	1996 – 2004	N	
Netherlands	1996 – 2004	N	
Poland	1999 – 2003	N	
Portugal	1992 – 2004		
Romania	1999 – 2003	N	
Slovakia	1999 – 2001	N	
Slovenia	1999 – 2003	N	
Spain	1996 – 2003	N	
UK	1996 – 2003	N	
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG2_Hous_E2 Non-traffic injuries

Part I. Meta-data section.

Indicator code	RPG2_Hous_E2 Non-traffic injuries
Source database	**EU Injury database**: https://webgate.ec.europa.eu/idbpa/welcome.jsp
Data required for the indicator calculation	**Children injuries stratified by: age, gender, type of unintentional injuries** - **Drowning** - **Falls: on the same levels, on or from stairs, from lesser/greater height, unspecified** - **Burns, scalds** - **Poisoning** - **Choking/suffocation** Total resident population stratified by sex and age
Computation method	
Geographical coverage	Austria, Denmark, France, Netherlands, Portugal, Sweden, UK
Time coverage	2002, 2003, 2004
Stratification according to Methodology	0-4, 5-9, 10-14, 15-19
Data format in the database	csv file (can be opened with Excel)

Part II. Step by step access to the data

1. Visit https://webgate.ec.europa.eu/idbpa/welcome.jsp
2. Scroll down the screen and click on the box **Define conditions**.
3. Make the necessary selection of parameters:
    a. Select a country (to make multiple selections press Shift)
    b. Year of reporting (select all years)
    c. Sex (select both by pressing Shift)
    d. Age group (select: 00-04, 05-09, 10-14, 15-19)
    e. You can select the mechanism of injury
4. After making all necessary selections, press **Querry** at the bottom of the screen.
5. You obtain a table with requested data.
6. You can download the table in Excel format and save to your computer.

RPG2_ Hous_Ex1 Percentage of physically active children

Part I. Meta-data section.

Indicator code	RPG2_Hous_Ex1 Percentage of physically active children
Source database	**Health Behaviour in Schools Survey** http://www.hbsc.org
Data required for the indicator calculation	**Number of children reporting to be physically active for a total of 1 hour per day (can be achieved also in 2-3 bouts) on a usual or typical week** Number of children attending schools
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit the Health Behaviour in Schools Survey Homepage http://www.hbsc.org
2. In the upper part of the screen, in the main menu, click on a **Survey Data**.
3. For the moment, you will receive the following message:

The international data file is restricted for the use of member country teams for a period of three years from its completion. After this time the data will be available for external use by agreement with the International Coordinator and the Principal Investigators. Access to the data from the 2001/02 survey will therefore be possible from June 2006.

Howerver, data can be retrieved at present from the 2001/02 International Report on key findings of HBSC study at:

http://www.euro.who.int/eprise/main/who/InformationSources/Publications/Catalogue/20040601_1

Read Chapter 3: Physical activity (page 93) – Mean number of days when young people are physically active for one hour or more.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	2001/02		Children of: 13 and 15 years old were sampled. Years mentioned represent the period when the survey was conducted.
Bulgaria	Not available		Bulgaria joined the HBSC Network in November 2004
Czech Rep.	2001/02		
Estonia	2001/02		
Finland	2001/02		
France	2001/02		
Germany	2001/02		
Greece	2001/02		
Hungary	2001/02		
Italy	2001/02		
Lithuania	2001/02		
Netherlands	2001/02		
Poland	2001/02		
Portugal	2001/02		
Romania	Not available		Romania joined the HBSC Network in May 2005
Slovakia	2001/02		
Slovenia	2001/02		
Spain	2001/02		
UK			
England	2001/02		
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG2_Hous_Ex2 Prevalence of overweight and obesity in adolescents

Part I. Meta-data section.

Indicator code	RPG2_Hous_Ex2 Prevalence of overweight and obesity in adolescents
Source database	**Health Behaviour in Schools Survey** http://www.hbsc.org
Data required for the indicator calculation	Number of adolescents aged 15-19 whose BMI is: - Between 20- 25 Kg/m^2 - Between 25 and 30 Kg/m^2 - Above 30 Kg/m^2 Number of children in survey
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit the Health Behaviour in Schools Survey Homepage http://www.hbsc.org
2. In the upper part of the screen, in the main menu, click on a **Survey Data**.
3. For the moment, you will receive the following message:

The international data file is restricted for the use of member country teams for a period of three years from its completion. After this time the data is available for external use by agreement with the International Coordinator and the Principal Investigators. Access to the data from the 2001/02 survey will therefore be possible from June 2006.

Howerver, data can be retrieved at present from the 2001/02 International Report on key findings of HBSC study at:

http://www.euro.who.int/eprise/main/who/InformationSources/Publications/Catalogue/20040601_1

Read Chapter 3: Body image, weight control and body weight (page 125): young people who are overweight according to BMI.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	2001/02		Children of: 13 and 15 years old were sampled. Years mentioned represent the period when the survey was conducted.
Bulgaria	Not available		Bulgaria joined the HBSC Network in November 2004
Czech Rep.	2001/02		
Estonia	2001/02		
Finland	2001/02		
France	2001/02		
Germany	2001/02		
Greece	2001/02		
Hungary	2001/02		
Italy	2001/02		
Lithuania	2001/02		
Netherlands	2001/02		
Poland	2001/02		
Portugal	2001/02		
Romania	Not available		Romania joined the HBSC Network in May 2005
Slovakia	2001/02		
Slovenia	2001/02		
Spain	2001/02		
UK			
England	2001/02		
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG2_Hous_Ex2 Prevalence of overweight and obesity in adolescents – Alternative data source

Part I. Meta-data section.

Indicator code	RPG2_Hous_Ex2 Prevalence of overweight and obesity in adolescents
Source database	OECD Health data: http://www.oecd.org/document/62/0,2340,en_2649_34631_2345918_1_1_1_1,00.html
Data required for the indicator calculation	Number of adolescents aged 15-19 whose BMI is: - Between 20- 25 Kg/m^2 - Between 25 and 30 Kg/m^2 - Above 30 Kg/m^2 Number of children in survey
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit the OECD Health data Homepage http://www.oecd.org/document/62/0,2340,en_2649_34631_2345918_1_1_1_1,00.html
2. Scroll down the screen, under the heading "Here are some extracts from this edition" click on the bullet **Health: status**.
3. A new window will open and you will be asked if you want to open or save this file.
4. Click on Save and you can save the file on your local HDD.
5. Open the file from your local HDD and you can retrieve data.

You can retrieve 2 related indicators:

a. Overweight or obese population (% total population having BMI>25 kg/m^2)
b. Obese population (% total population having BMI>30 kg/m^2)

Country	Year[1]	Spatial coverage[2]	Comments
Austria	2003	N	Figures are mainly based on self-reported information from the national health interview surveys.
Bulgaria	Not available		
Czech Rep.	2003	N	
Estonia	Not available		
Finland	2003	N	
France	2003	N	
Germany	2003	N	
Greece	2003	N	
Hungary	2003	N	
Italy	2003	N	
Lithuania	Not available		
Netherlands	2003	N	
Poland	2003	N	For obesity data are available only for 1993
Portugal	2003	N	
Romania	Not available		
Slovakia	2003	N	
Slovenia	Not available		
Spain	2003	N	
UK	2003	N	Figures are based on health examinations, rather than self-reported information
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG3_Hous_Ex3 Proportion of children living in homes using solid fuel

Part I. Meta-data section.

Indicator code	RPG3_Hous_Ex3 Proportion of children living in homes using solid fuel
Source database	Demographic and Health Surveys; World Health Survey; **Millennium Indicator Database, indicator 29**
Data required for the indicator calculation	Number of children living in homes using - coal, wood or dung as the main source of heating and cooking fuel, - gas or kerosene as the main source of heating and cooking fuel. Number of children 0-4, 5-9, 10-14 years old.
Computation method	
Geographical coverage	
Time coverage	2003

Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit Millennium Indicator Database http://unstats.un.org/unsd/mi/mi_goals.asp
2. Scroll down the screen, go to 'Target 9' – 'Indicator 29' and click on **Proportion of population using solid fuels (WHO)**
3. Click on **View data**
4. You can download the file and save it on your HDD under the name Reuslts.csv, or print the table.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	2003	N	Data available for total population, not children specific
Bulgaria	2003	N	
Czech Rep.	2003	N	
Estonia	2003	N	
Finland	2003	N	
France	2003	N	
Germany	2003	N	
Greece	2003	N	
Hungary	2003	N	
Italy	2003	N	
Lithuania	2003	N	
Netherlands	2003	N	
Poland	2003	N	
Portugal	2003	N	
Romania	2002	N	
Slovakia	2003	N	
Slovenia	2003	N	
Spain	2003	N	
UK	2003	N	
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG3_Hous_Ex3 Proportion of children living in homes using solid fuel – Alternative data source

Part I. Meta-data section.

Indicator code	RPG3_Hous_Ex3 Proportion of children living in homes using solid fuel
Source database	Demographic and Health Surveys; *World Health Survey*; Millennium Indicator Database, indicator 29
Data required for the indicator calculation	Number of children living in homes using - coal, wood or dung as the main source of heating and cooking fuel, - gas or kerosene as the main source of heating and cooking fuel. Number of children 0-4, 5-9, 10-14 years old.
Computation method	
Geographical coverage	
Time coverage	2002
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit World Health Survey http://www.who.int/healthinfo/statistics/en/
2. Scroll down the screen and click on **Data Query** under the heading DOWNLOAD CENTER.
3. In the table you get, click again on **Data Query**
4. Make the appropriate selection for:
   - Select a category: **World Health Statistics**
   - Select a topic: **3. Behavioural and Risk Factors Indicators**
   - Select items: **Population using solid fuel**, then click on **Add** button
   - Under „Choose geographical area", select first **Continents**, then **Europe**, then Add all the appropriate countyries from the list
5. Click on **Submit Request**
6. Print the necessary data for the computation of the indicator. Data can be exported in Excel format

Country	Year[1]	Spatial coverage[2]	Comments
Austria	2002	N	Data available for total population, not children specific
Bulgaria	2002	N	
Czech Rep.	2002	N	
Estonia	2002	N	
Finland	2002	N	
France	2002	N	
Germany	2002	N	
Greece	2002	N	
Hungary	2002	N	
Italy	2002	N	
Lithuania	2002	N	
Netherlands	2002	N	
Poland	2002	N	
Portugal	2002	N	
Romania	2002	N	
Slovakia	2002	N	
Slovenia	2002	N	
Spain	2002	N	
UK	2002	N	
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

Water and Sanitation

Overview of proposed indicators[1] (see Endnote)

No.	Indicator Code	Indicator full name	International data source	Children specific
Water and Sanitation				
21.	**RPG1_WatSan_Ex1**	**Safe drinking-waters**	1. **EUROSTAT** http://europa.eu.int/comm/eurostat/ 2. **WHO/ UNICEF JMP** http://www.wssinfo.org/en/welcome.html	Yes, also used for CEHAPE assessment "**Access to safe drinking water"** in RPG I**.** Data are not children specific, children indicator must be estimated. Both studies will be used to complement necessary information.
22.	**RPG1_WatSan_P1**	**Wastewater treatment**	1. **WHO/ UNICEF JMP** 2. **EUROSTAT** 3. OECD	Yes, used for CEHAPE assessment in RPG I**.** Data are not children specific, children indicator must be estimated. Both studies will be used to complement necessary information.
23.	**RPG1_WatSan_S1**	**Recreational water compliance**	1. **EU Bathing Water Quality Report for 2005** http://www.europa.eu.int/water/water-bathing/report.html 2. **EEA data service** http://dataservice.eea.eu.int/dataservice	Yes, used for CEHAPE assessment in RPG I**.** Data are not children specific, children indicator must be estimated. Both studies will be used to complement necessary information.
24.	RPG1_WatSan_S2	Drinking water compliance	Not available Case study is going to be developed; indicator needs further development.	
25.	RPG1_WatSan_A1	Management of bathing waters	Not available Case study is going to be developed; indicator needs further development.	
26.	RPG1_WatSan_A2	Water safety plans	Not available Case study is going to be developed; indicator needs further development.	
27.	RPG1_WatSan_E1	Outbreaks of water-borne diseases	Not available Case study is going to be developed.	

RPG1_WatSan_Ex1 Safe drinking waters

Part I. Meta-data section.

Indicator code	RPG1_WatSan_Ex1 Safe drinking waters
Source database	**EUROSTAT Homepage** http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	**Number of people with access to safe drinking water or connected to public water supply*** Total population
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

*Eurostat produces a similar indicator using the definition of '**population connected to public water supply (%)**' that is further described.

Part II. Step by step access to the data

1. Visit Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. In the middle of the screen there is **STATISTICS IN FOCUS** with 4 options beneath: "TABLES", "DATA", , "METHODOLOGY" and "PUBLICATIONS". Click on **TABLES**.
3. Beneath the box "STATISTICS IN FOCUS", there are 3 columns: "Structural indicators", "Euro-indicators" and "Long-term indicators". In the column **Long-term indicators** click to open the folder **Environment and energy**
4. A new page opens, containing 2 sections: "Environment" and "Energy". By clicking on + symbol near the section 'Environment', a new list of 5 Environmental items will appear, marked in black: Water, Waste, Air pollution and climate change, Environmental protection expenditure, Agriculture and environment.
5. Click on the + symbol near the item **Water** to obtain a long list of water related topics. Scroll down the screen.

6. Click on the table symbol  near the topic **Population connected to public water supply**.
7. You obtain a table with data concerning the population connected to public water supply (%).
8. Find the data on Population connected to public water supply for further computation of the indicator.

Part II Availability of the data for the countries participating in the ENHIS project.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	Not available		No specific data for children for all countries.
Bulgaria	1992 - 2003	N	
Czech Rep.	1995 – 2002	N	Also available for 1980, 1985 and 1990
Estonia	2000 - 2002	N	
Finland	Not available		
France	1998	N	
Germany	1995, 1998, 2001	N	
Greece	Not available		
Hungary	1995 – 2002	N	Also available for 1900
Italy	1999	N	
Lithuania	2002	N	
Netherlands	1995 – 2002	N	Also available for 1980; all estimated values
Poland	1995 – 1998	N	Also an estimated value for 1990
Portugal	1998	N	
Romania	1990	N	
Slovakia	2003	N	
Slovenia	2002	N	
Spain	Not available		
UK	Not available		

1, 2 – see endnotes

Number of children (under 19 years of age)

Necessary to calculate weights for children population.

Part II. Step by step access to the data

1. Visit the Eurostat Homepage http://europa.eu.int/comm/eurostat/

2. In the lower part of the screen click on a blue square ‘DATA’.
3. Below you will find ‘Data explorer – Full view’. Click on the letters ‘Full view’. The set of categories will appear.
4. In the part ‘Population and social conditions’ click to open ‘Population’.
5. Click to open the folder ‘Demography’.
6. Click to open the folder ‘National data’.
7. Click to open the folder ‘Population’.
8. Click the Table ‘Population by sex and age on 1. January of each year’.
9. Make the selection of the necessary data. Mark the requested fields in the interactive screen:

TIME - period of time
GEO - geopolitical entities
SEX - select ‘Total’
AGE - select ‘Less than 15 years’, ’15 years’, ’16 years’, ‘17 years’, ’18 years’

After making the selection click ’Next’

10. Set rows and columns in the Table with the selected data. Follow the instructions on the screen. Click ’Next’.
11. Select download options, setting data format and its options.
12. Download the Table and save to a local drive.

Or from the step 7:

13. Click to open the folder ‘Population’.
14. Click the Table ‘Population structure indicators on 1. January of each year’.
15. Make the selection of the necessary data. Mark the requested fields in the interactive screen:

TIME - period of time
GEO - geopolitical entities
INDIC_DE - select ‘Proportion of population aged 0-19 years’

After making the selection click ’Next’

16. Set rows and columns in the Table with the selected data. Follow the instructions on the screen. Click ’Next’.
17. Select download options, setting data format and its options.
18. Download the Table and save to a local drive.

In this case children population will include children of 19 years of age.

RPG1_WatSan_Ex1 Safe drinking waters - Alternative data source

Part I. Meta-data section.

Indicator code	RPG1_WatSan_Ex1 Safe drinking waters
Source database	**Joint Monitoring Programme for Water Supply & Sanitation WHO/UNICEF** http://www.wssinfo.org/en/welcome.html
Data required for the indicator calculation	**Number of people with access to safe drinking water or connected to public water supply** P – Total population
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit http://www.wssinfo.org/en/welcome.html
2. From the Main Menu appearing in the upper part of the screen go to **water data**.
3. Using a pull-down menu, click on **data query**.
4. Make the selection in the four columns:

   First column ”1. Select region” - select **developed regions**.

   Second column ”2. Select countries” - select all the countries of interest. You can make multiple selections by using CTRL-ALT-click.

   Third column ”3. Select parameters” - select **Tot wat coverage** and **Tot HC wat coverage**.

   Fourth column ”4. Select years” - select 1990 and 2002.
5. After making all the selections, click **Submit** button.
6. Save the Table on the local drive as a CSV file (a spreadsheet format that can be read with MS-Excel).

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1990 and 2002	N	
Bulgaria	1992 - 2003	N	
Czech Rep.	Not available		
Estonia	2002	N	Provide data only for HC
Finland	1990 and 2002	N	
France	1990 and 2002	N	Provide data only for HC
Germany	1990 and 2002	N	
Greece	1990	N	Provide data only for HC
Hungary	1990 and 2002	N	
Italy	1990 and 2002	N	Provide data only for HC
Lithuania	Not available		
Netherlands	1990 and 2002	N	
Poland	1990 and 2002	N	Provide data only for HC
Portugal	1990	N	Provide data only for HC
Romania	2002	N	
Slovakia	1990 and 2002	N	data for “Tot HC wat coverage” missing
Slovenia	Not available		
Spain	1990		Provide data only for HC
UK	1990		Provide data only for HC

The database provides data for:

«total water coverage» - takes into account all improved water supply sources, privately or publicaly owned

«house connections –HC» - take into account only the piped water distributed in the house or just outside (yard) and can be considered as used privately

Definition: Access to safe drinking-water is the percentage of the population using "improved" water sources. Improved means: household connection, public standpipe, borehole, protected dug well, protected spring, rainwater collection

1, 2 – see endnotes

RPG1_WatSan_Ex2 Wastewater treatment

Part I. Meta-data section.

Indicator code	RPG1_WatSan_Ex2 Wastewater treatment
Source database	**Joint Monitoring Programme for Water Supply & Sanitation WHO/UNICEF** http://www.wssinfo.org/en/welcome.html
Data required for the indicator calculation	**The total number of children (under 19 years) served by sewerage connected to a waste water treatment facility or a safe local waste water disposal system*** The total of the child population in a community or area under consideration
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

This data source provides data on sanitation coverage in urban and rural areas as well as total (percentage).

Part II. Step by step access to the data

1. Visit http://www.wssinfo.org/en/welcome.html
2. From the Main Menu appearing in the upper part of the screen go to 'water data'.
3. Using a pull-down menu, click on 'data query '.
4. Make the selection in the four columns:
5. First column "1. Select region" - select "developed regions".
6. Second column "2. Select countries" - select all the countries of interest. You can make multiple selections by using CTRL-ALT-click.
7. Third column "3. Select parameters" - select "Tot san coverage", "Tot HC san coverage", "Urb san coverage", "Urb HC sancoverage", "Rur san coverage", "Rur HC san coverage".
8. Fourth column "4. Select years" - select 2002.
9. After making all the selections, click Submit button.
10. Save the Table on the local drive as a CSV file (a spreadsheet format that can be read with MS-Excel).

Country	Year[1]	Spatial coverage[2]	Comments
Austria	2002	N	No specific data for children
Bulgaria	2002	N	
Czech Rep.	Not available		
Estonia	2002	N	Total sanitation coverage and rural sanitation coverage data not available
Finland	2002	N	
France	Not available		
Germany	Not available		
Greece	Not available		
Hungary	2002	N	
Italy	Not available		
Lithuania	Not available		
The Netherlands	2002	N	Total house connection sanitation coverage and rural house connection sanitation coverage data not available
Poland	2002	N	Total, urban and rural sanitation connection data not available
Portugal	Not available		
Romania	2002	N	
Slovakia	2002	N	Total house connection and rural house connection sanitation coverage not available
Slovenia	Not available		
Spain	Not available		
UK	Not available		
England			
Wales			
Scotland			
North Ireland			

Total access – takes into account all improved sanitation facilities be they privately or publicaly owned.

Improved sanitation facilities – include connection to a public sewer, connection to a septic system, pou-fluch latrine, simple pit latrine, ventilated improved pit latrine.

House connection – only take into account domestic system that are connected to a sewarage system and therefore excluds septic tanks or dry sanitation, even if privately owned.

RPG1_WatSan_Ex2 Wastewater treatment – Alternative data source (1)

Part I. Meta-data section.

Indicator code	RPG1_WatSan_Ex2 Wastewater treatment
Source database	*EUROSTAT Homepage* http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	**The total number of children (under 19 years) served by sewerage connected to a waste water treatment facility or a safe local waste water disposal system*** The total of the child population in a community or area under consideration
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

*EUROSTAT holds data on population connected to urban wastewater treatment: total and population connected to independent waste water collecting systems: with treatment

Part II. Step by step access to the data

1. Visit Eurostat Homepage http://europa.eu.int/comm/eurostat/
2. Beneath the box "STATISTICS IN FOCUS", there are 3 columns: "Structural indicators", "Euro-indicators" and "Long-term indicators". In the column "Long-term indicators" click to open the folder **Environment and Energy**
3. A new page opens, containing 2 sections: "Environment" and "Energy". By clicking on + symbol near the section "Environment', a new list of 5 Environmental items will appear, marked in black: Water, Waste, Air pollution and climate change, Environmental protection expenditure, Agriculture and environment.
4. Click on the + symbol near the item **Water** to obtain a long list of water related topics. Scroll down the screen.
5. Click on the table symbol near the topic **Population connected to urban wastewater treatment : total**.
6. You obtain a table with data concerning the population connected to urban waste water treatment: total (%).
7. Print the table and find the data on Population connected to urban wastewater treatment : total for the computation of the indicator (this relates to any kind of sewage treatment (primary to tertiary) in municipal treatment plants run by public authorities or by private companies (on behalf of local authorities whose main purpose is sewage treatment)

Or from step 5:

8. Click on the table symbol near the topic "Population connected to independent wastewater collecting systems: with treatment".

9. You obtain a table with data concerning the population connected to independent wastewater collecting systems: with treatment (%).
10. Print the table and find the data on population connected to independent wastewater collecting systems: with treatment (this relates to percentage of the population connected to systems for the collection, pre-treatment, infiltration or evacuation of waste water from domestic dwellings, generally of between 1 and 50 inhabitant equivalents, not connected to an urban waste water treatment system. Septic tanks are an example. Not included in this category are storage systems from which waste water is regularly transported to urban waste water treatment stations. These are considered to be connected to public waste water treatment stations).

Population connected to urban wastewater treatment : total

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1993; 1995; 1998; 2000-2002	N	No specific data for children
Bulgaria	1993-2003	N	
Czech Rep.	1992-2002	N	
Estonia	1992-2002	N	
Finland	1996-2002	N	
France	1995; 1998; 2001	N	
Germany	1995; 1998; 2001	N	
Greece	Not available		
Hungary	1992-2002	N	
Italy	1995	N	
Lithuania	2002-2003	N	
The Netherlands	1992-2002	N	
Poland	1992-2003	N	
Portugal	1994; 1998	N	
Romania	Not available		
Slovakia	1998-2002	N	
Slovenia	1996-2003	N	
Spain	1992; 1995; 2000; 2002	N	
UK	1992-1994	N	See below
England			96% Water quality-urban waste water treatment directive Sewage Treatment in the UK: Implementation of the EC Urban Waste Water Treatment Directive Background on urban waste water http://www.defra.gov.uk/environment/water/quality/uwwtd/report02/01.htm
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

Population connected to independent wastewater collecting systems: with treatment

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1995; 1998; 2000-2002	N	No specific data for children
Bulgaria	2002-2003	N	
Czech Rep.	Not available		
Estonia	2002	N	
Finland	1992-1995	N	
France	1995, 1998, 2001	N	
Germany	1998, 2001	N	
Greece	Not available		
Hungary	1992-2002	N	
Italy	Not available		
Lithuania	Not available		
The Netherlands	Not available		
Poland	Not available		
Portugal	1998	N	
Romania	Not available		
Slovakia	Not available		
Slovenia	1998-2002	N	
Spain	Not available		
UK	Not available		
England			<4%. See web site as per Population connected to urban wastewater treatment : total
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG1_WatSan_Ex2 Wastewater treatment – Alternative data source (2)

Part I. Meta-data section.

Indicator code	RPG1_WatSan_Ex2 Wastewater treatment
Source database	OECD Homepage http://www.oecd.org/
Data required for the indicator calculation	**The total number of children (under 19 years) served by sewerage connected to a waste water treatment facility or a safe local waste water disposal system*** The total of the child population in a community or area under consideration
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

*OECD holds data on % of population served by public waste water treatment

Part I. Step by step access to the data.

1. Visit OECD Homepage http://www.oecd.org
2. From the meniu on the left side of the homepage in the section 'Find' click on **Statistics**.
3. In the middle of the page opened in the section 'Data by topic' find **Environment** and click on it.
4. In the middle of the opened page, under the heading 'Statistics, Data and Indicators' find **Selected Environmental Data** and click on it.
5. You will obtain a table with data on different indicators. On the left side of the table find section on Water and see indicator on Public waste water treatment (% of population served)

Being on the level of step 4 please find in the far right corner at the bottom of the page a link to the OECD Environmental Data Compendium 2004.

Country	Year	Spatial coverage[2]	Comments
Austria		N	Not clear for which year data is provided, stated "last available year"
Bulgaria	Not available		
Czech Rep.		N	
Estonia	Not available		
Finland		N	
France		N	
Germany		N	
Greece		N	
Hungary		N	
Italy		N	
Lithuania	Not available		
The Netherlands		N	
Poland		N	
Portugal		N	
Romania	Not available		
Slovakia		N	
Slovenia	Not available		
Spain		N	
UK		N	
England			
Wales			
Scotland			
North Ireland			

2 – see endnotes

RPG1_ WatSan_S1 Recreational Water Compliance

Part I. Meta-data section.

Indicator code	RPG1_ WatSan_S1 Recreational water compliance
Source database	**EU Bathing Water Quality Report for 2006** http://ec.europa.eu/water/water-bathing/report_2006.html
Data required for the indicator calculation	**Total number of bathing waters identified for compliance monitoring by the European Commission** **Number of bathing waters in compliance with the mandatory (imperative) coliform standards of Directive 76/160/EEC of as defined above**
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

The EU bathing water quality report published in 2006 uses several indicators to describe bathing water quality, namely:
CI – percentage of bathing areas sufficiently sampled which comply with mandatory values;
CG - percentage of bathing areas sufficiently sampled which comply with guide values and mandatory values;
NF – percentage of bathing areas not sufficiently sampled;
NB – percentage of bathing areas where bathing was prohibited throughout the bathing season;
NC – percentage or number of bathing areas which do not comply with mandatory values;
NS – percentage of bathing areas not sampled or for which no data are available
NM – percentage or number of bathing areas not sufficiently sampled, not sampled or for which no data are available (total of NF and NS)
B – percentage or number of bathing areas where bathing was prohibited throughout the bathing season;
DY – percentage or number of bathing areas de-listed during this bathing season (year) with respect to the previous one
DY – percentage or number of bathing areas de-listed during previous bathing seasons (accumulated)

Part II. Step by step access to the data

1. Visit http://ec.europa.eu/water/water-bathing/report_2006.html
2. The Euroean Commission website with information on Bathing water quality (annual report, 2005 bathing season) will be opened.
3. You will find a list of countries for which reports are available, each country marked with a small corresponding flag.
4. Click on the flag of the country of interest and the relevant report will appear beneath the list of the countries or will be opened as a pdf file.
5. Indicators of interest are CI and/or NC for coastal and fresh water zones separately.
6. To view the whole report or its summary see the link on the bottom on the page when you are in step 2.
7. To retrieve data for country regions and individual beaches and maps of bathing sites visit http://ec.europa.eu/water/cgi-bin/bw.pl
8. Table containing a list of countries will be available.
9. The second column of the table (marked as "#") includes the number of beaches. The third column (marked as "B") includes the number of sites where bathing was prohibited. Clicking of hyperlinks will reveal the list of relevant beaches.
10. Clicking of hyperlinks on country names will reveal the list of regions. The second column (marked as "##") contains the number of beaches in the region. Clicking of hyperlinks will reveal monitoring history of individual beaches.
11. The following columns in the table mark the number of beaches in columns marked "B" "NC", "NM", "CI", "CG" (meanings are presented above) Clicking of hyperlinks will reveal monitoring history of individual beaches.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1997-2004	N	Data available for fresh and coastal zones separately.
Bulgaria	Not available		
Czech Rep.	2005	N	
Estonia	2005	N	
Finland	1995-2005	N	
France	1992-2005	N	
Germany	1992-2005	N	
Greece	1992-2005	N	
Hungary	2005	N	
Italy	1992-2005	N	
Lithuania	2005	N	
The Netherlands	1992-2005	N	
Poland	2005	N	Different format of data presentation (not included in the report)
Portugal	1992-2005	N	
Romania	Not available		
Slovakia	2005	N	
Slovenia	2005	N	
Spain	1992-2005	N	
UK	1992-2005	N	
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG1_ WatSan_S1 Recreational Water Compliance – Alternative data source

Part I. Meta-data section.

Indicator code	RPG1_ WatSan_S1 Recreational water compliance
Source database	*The European Environmental Agency* http://dataservice.eea.eu.int/dataservice
Data required for the indicator calculation	**Total number of bathing waters identified for compliance monitoring by the European Commission** **Number of bathing waters in compliance with the mandatory (imperative) coliform standards of Directive 76/160/EEC of as defined above**
Computation method	
Geographical coverage	
Time coverage	
Stratification according to	

Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit http://dataservice.eea.eu.int/dataservice
2. Go to Products on the left menu (vertical) of the page opened.
3. Go to 'Data' menu and then click on **Thematically**.
4. In the section 'Information related to specific media' find **Water** and click on it.
5. Datasets and applications for theme water will be opened. In the section of 'Data sets' click on the first link in the Title column, namely **Compliance to the bathing water quality directive 76/160/EEC: coastal and fresh water zones**.
6. Go to 'Downloads' in the middle of the screen and click on **Microsof excel forma**t.
7. Save the file BATHSEA.EN.V2 on the local drive.
8. Data also contains the table definitions and meta information.

Part II Availability of the data for the countries participating in the ENHIS-2 project.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1997-2003	N	
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1995-2003	N	
France	1992-2003	N	
Germany	1992-2003	N	
Greece	1992-2003	N	
Hungary	Not available		
Italy	1992-2003	N	
Lithuania	Not available		
The Netherlands	1992-2003	N	
Poland	Not available		
Portugal	1992-2003	N	Fresh water data for 1993-2003
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		
Spain	1992-2003	N	
UK	1992-2003	N	Fresh water data for 1998-2003
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

Traffic accidents

Overview of proposed indicators[1] (see Endnote)

No.	Indicator Code	Indicator full name	International data source	Children specific
Traffic Accidents				
28.	**RPG2_Traf_E1**	**Mortality due to road traffic accidents**	1. **UNECE Transport Division** http://www.unece.org/trans/main/wp6/transstatpub.html#accidents	Yes, also used for CEHAPE assessment "**Childhood mortality from traffic accidents"** in RPG II.
			2. WHO MDB http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english	
			3. CARE http://europa.eu.int/comm/transport/care/index_en.htm	
29.	**Traf_E3**	**Injury rate due to road traffic accidents**	1. **UNECE Transport Division**	
			2. CARE	
30.	RPG2_Traf_A1	Policies to promote safe mobility and transport for children	Not available. Policy indicator submitted voluntary by the countries.	Yes, used for CEHAPE assessment in RPG II.

General Population

RPG2_Traf_E1 Mortality rate due to road traffic accidents

Part I. Meta-data section.

Indicator code	RPG2_Traf_E1 Mortality rate due to road traffic accidents
Source database	**UNECE – Transport Division** http://www.unece.org/trans/main/wp6/transstatpub.html#accidents
Data required for the indicator calculation	**Deaths due to road traffic accidents stratified by: age, gender, category of user (pedestrians, bicyclists, motorcyclist, car occupants)** Total resident population stratified by sex and age (age class need to be focused: 0-5; 6-9; 10-14; 15-17; 18-19)
Computation method	Numerator: number of (children) deaths stratified by: age, sex and mode of road user (pedestrians, cyclists, car passengers) Denominator: total (children) population by sex and age group (0-5 years old, 6-9 years old, 10-14 years old, 15-17 years old, 18-19 years old)
Geographical coverage	Data available in 83% of WHO-EURO member states. Data cover the National level.
Time coverage	2002 - 2003
Stratification according to Methodology	Existing stratification by age: 0-9, 10-14, 15-17, 18-20 Existing stratification by category of user (all categories requested in the Methodology).
Data format in the database	Data available only in pdf format. Data on number of deaths need to be extracted manually. Indicators need to be calculated (population data available in other data source).

Part II. Step by step access to the data

1. Visit UNECE – Transport Division home page: http://www.unece.org/trans/main/wp6/transstatpub.html#accidents
2. Under the heading 'STATISTICS OF ROAD TRAFFIC ACCIDENTS IN EUROPE AND NORTH AMERICA' click **Click here to download the 2005 version in pdf format.**
3. Save the pdf file into your local drive.
4. Open the pdf file from your local drive and go to page 60, table '3. Persons killed or injured in road traffic accidents by category of user and age group' and find necessary data.

Same data source is used to compute the indicator "Children's mortality from traffic accidents" in RPG II. Data in UNECE – Transport Division are also children specific.

RPG2_Traf_E1 Mortality due to traffic accidents - Alternative data source (1)

Part I. Meta-data section.

Indicator code	RPG2_Traf_E1 Mortality rate due to road traffic accidents
Source database	WHO Mortality Database http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english
Data required for the indicator calculation	**Deaths stratified by: age, gender, mode of road user (pedestrians, bicyclists, motorcyclist, car occupants)** Total resident population stratified by sex and age (age class need to be focused: 0-5; 6-9; 10-14; 15-17; 18-19)
Computation method	Numerator: number of (children) deaths stratified by: age, sex and mode of road user (pedestrians, cyclists, car passengers) Denominator: total (children) population by sex and age group (0-5 years old, 6-9 years old, 10-14 years old, 15-17 years old, 18-19 years old)
Geographical coverage	Data available in 92% of WHO-EURO member states. Data cover the National level.
Time coverage	Time series with latest available year 2001 or 2002.
Stratification according to Methodology	Existing stratification by sex and age: <1, 1-4, 5-14, 15-24 No stratification by category of user.
Data format in the database	Mortality rates by sex, age group and cause are available for countries with a population of 500,000 or more.

Part II. Step by step access to the data

1. Visit WHO Mortality Database http://www3.who.int/whosis/menu.cfm?path=whosis,mort&language=english
2. Click on the third bullet **Table 1: Number of Registered Deaths**.
3. Under the heading "Country and year selection for Table 1 (Registered deaths), select a country and year 2002, then click on the button **Go**
4. Scroll-down the screen and find the necessary data for:
   - Motor vehicle traffic accidents (V02-V04, V09, V12-V14, V19-V79, V86-V89)
   - Other transport accidents (V01, V05-V06, V10, V11, V15-V18, V80-V85, V90-V99)
5. Print the necessary data for the computation of the indicator.

RPG2_Traf_E1 Mortality due traffic accidents - Alternative data source (2)

Part I. Meta-data section.

Indicator code	RPG2_Traf_E1 Mortality due traffic accidents
Source database	CARE (Community Road Accident Database) http://europa.eu.int/comm/transport/care/index_en.htm
Data required for the indicator calculation	**Children deaths stratified by: age, gender, mode of road user (pedestrians, bicyclists, motorcyclist, car occupants)** Total resident population stratified by sex and age (age class need to be focused: 0-5; 6-9; 10-14; 15-17; 18-19)
Computation method	Numerator: number of (children) deaths stratified by: age, sex and mode of road user (pedestrians, cyclists, car passengers) Denominator: total (children) population by sex and age group (0-5 years old, 6-9 years old, 10-14 years old, 15-17 years old, 18-19 years old)
Geographical coverage	Poor coverage.
Time coverage	Mostly 1991 – 2002.
Stratification according to Methodology	Data are available by 10-years age groups (0-9, 10-19 etc) No stratification by category of user.
Data format in the database	Data on fatalities need to be extracted manually.

Part II. Step by step access to the data

1. Visit CARE database: http://europa.eu.int/comm/transport/care/index_en.htm
2. Click on **ACCIDENT STATISTICS** in the menu of left-hand side of the screen.
3. Click on **FATALITIES: HISTORICAL SERIES** in the box under the title of 'ACCIDENT STATISTICS'.
4. Click **Age group by country** under the heading of 'FATALITIES: HISTORICAL SERIES'.
5. Select each country of interest by clicking on the icon showing the table.
6. Print the table with the data on accidents (fatalities) and find the data on fatalities for the computation of the indicator numerator.
7. The site also contains a "GLOSSARY OF DEFINITIONS' to check the data quality.

Traf_E3 Injury rate due to road traffic accidents

Part I. Meta-data section.

Indicator code	Traf_E3 Injury rate due to road traffic accidents
Source database	**UNECE – Transport Division** http://www.unece.org/trans/main/wp6/transstatpub.html#accidents
Data required for the indicator calculation	Injuries stratified for: mode of road user (pedestrians, cyclists, motorcyclist, car or taxi, lorry) and severity Total resident population stratified by gender and age
Computation method	
Geographical coverage	
Time coverage	1985, 1990, 1995, 2000-2003
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit UNECE – Transport Division home page: http://www.unece.org/trans/main/wp6/transstatpub.html#accidents
2. Under the heading 'STATISTICS OF ROAD TRAFFIC ACCIDENTS IN EUROPE AND NORTH AMERICA' click **Click here to download the 2005 version in pdf format .**
3. Save the pdf file into your local drive.
4. Open the pdf file from your local drive and go to page 15, table 'G. Persons killed or injured in road traffic accidents' and find necessary data.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1985, 1990, 1995, 2000-2003	N	Best geographical coverage. Data are available only in pdf format.
Bulgaria	990, 1995, 2000-2003	N	
Czech Rep.	1995, 2000-2003	N	
Estonia	1985, 1990, 1995, 2000-2003	N	
Finland	1985, 1990, 1995, 2000-2003	N	
France	1985, 1990, 1995, 2000-2003	N	
Germany	1985, 1990,	N	

Country	Year[1]	Spatial coverage[2]	Comments
	1995, 2000-2003		
Greece	1985, 1990, 1995, 2000-2003	N	
Hungary	1985, 1990, 1995, 2000-2003	N	
Italy	Not available		
Lithuania	1985, 1990, 1995, 2000-2003	N	
Netherlands	1985, 1990, 1995, 2000-2003	N	
Poland	1985, 1990, 1995, 2000-2003	N	
Portugal	1985, 1990, 1995, 2000-2003	N	
Romania	1985, 1990, 1995, 2000-2003	N	
Slovakia	1990, 1995, 2000-2003	N	
Slovenia	1985, 1990, 1995, 2000-2003	N	
Spain	1985, 1990, 1995, 2000-2003	N	
UK	1985, 1990, 1995, 2000-2003	N	

1, 2 – see endnotes

Traf_E3 Injury rate due to road traffic accidents - Alternative data source

Part I. Meta-data section.

Indicator code	Traf_E3 Injury rate due to road traffic accidents
Source database	CARE Community Road Accident Database http://europa.eu.int/comm/transport/care/index_en.htm
Data required for the indicator calculation	Injuries stratified for: mode of road user (pedestrians, cyclists, motorcyclist, car or taxi, lorry) and severity Total resident population stratified by gender and age
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit CARE database: http://europa.eu.int/comm/transport/care/index_en.htm
2. Click on **ACCIDENT STATISTICS** in the menu of left-hand side of the screen.
3. Click on **Overview** in the box under the title of 'ACCIDENT STATISTICS'.
4. Then click on **Detailed breakdown for each country**
5. Print the table and find the data on injuries for the computation of the indicator numerator.
6. Data on residents should be available from the national censuses.
7. The site also contains a 'GLOSSARY OF DEFINITIONS' to check the data quality.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	2002	N	
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	2002	N	
France	2002	N	
Germany	2002	N	
Greece	2002	N	
Hungary	Not available		
Italy	2002	N	
Lithuania	Not available		
Netherlands	2002	N	
Poland	Not available		
Portugal	2002	N	

Country	Year[1]	Spatial coverage[2]	Comments
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		
Spain	2002	N	
UK	2002	N	

1, 2 – see endnotes

Chemical emergencies, Food, Radiation[1] (see Endnote)
Overview of proposed indicators

No.	Indicator Code	Indicator full name	International data source	Children specific
Chemical Emergencies				
31.	Chem_A1	Regulatory requirements for landuse planning	Not available. Policy indicator going to be submitted voluntary by the countries.	
32.	Chem_A2	Chemical incidents register	Not available. Policy indicator going to be submitted voluntary by the countries.	
33.	Chem_A3	Government preparedness	Not available. Policy indicator going to be submitted voluntary by the countries.	
34.	RPG4_Chem_Ex1	Blood lead level in children	Not available. Case study is going to be developed.	Used for CEHAPE assessment in RPG IV.
Food				
35.	RPG4_Food_Ex1	Children's exposure to chemical hazards in food	Indicator under further development.	Used for CEHAPE assessment in RPG IV.
36.	**RPG4_Food_Ex2**	**POPs in human milk**	**Publications of WHO Surveys** Case study is going to be developed.	Used for CEHAPE assessment in RPG IV.
Radiation				
37.	**RPG4_ UVrd _E1**	**Incidence of malignant melanoma**	1. **CI5-IARC** http://www-dep.iarc.fr/	Yes, also used for CEHAPE assessment "**Incidence of melanoma under 50 years old"** in RPG IV
			2. GLOBOCAN 2002, IARC http://www.iarc.fr/ENG/Databases/index.php	
			3. EUCAN – 1998 IARC http://www-dep.iarc.fr/eucan/eucan.htm	
38.	**RPG4_Rad_E2**	**Incidence of childhood Leukemia**	1. **ACCIS** http://www-dep.iarc.fr/accis.htm	Yes, used for CEHAPE assessment in RPG IV.
			2. CI5-IARC	
			3. GLOBOCAN 2002, IARC	
39.	Rad_A1	Effective environmental monitoring of radioactivity	Not available. Policy indicator going to be submitted voluntary by the countries.	
40.	RPG4_ UVrd _A1	Actions to lower children's exposure to UV	Not available. Policy indicator submitted voluntary by the countries.	Yes, used for CEHAPE assessment in RPG IV.
41.	**RPG4_Rad_Ex1**	**Radon levels in dwellings**	**Joint Research Centre** http://radonmapping.jrc.it/	Yes, used for CEHAPE assessment in RPG IV.

RPG4_Food_Ex2 Persistent Organic Pollutants (POPs) in human milk

Part I. Meta-data section.

Indicator	RPG4_Chem_Ex2 Persistent Organic Pollutants (POPs) in human milk
Source database	**Available from WHO publications, not available on the web**
Data required for the indicator calculation	GEMS/Food Consumption Cluster Diets, Food Balance Sheets or national individual food consumption data. Food categorization system for mixed food (not harmonized) for children Body weight estimates (e.g. mean), or standards (e.g. children 15 kg) Concentrations of chemicals in food, number of samples analyzed and results of the analyses etc, (see GEMS/Food data structure) Aggregating / disaggregating data, such as by age-group (e.g., 0-2 years and 2-6 years), gender, high percentile food consumption (95th or 97.5th)
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

The World Health Organization (WHO) has coordinated 3 international studies of human milk on the levels and trends of dioxins, dibenzofurans and polychlorinated biphenyls over the period 1987-2003

1. 1987-1988: published in Environmental Health Series No34 (1989), Levels of PCBs, PCDDs, and PCDFs in breast milk, WHO Regional Office for Europe, Copenhagen, Denmark,
2. 1992 – 93(4): Environmental Health Series No 3 (1996), Levels of Polychlorinated dibenzo-p-dioxines(PCDDs), polychlorinated dibensofurans(PCDFs) and polychlorinated biphenyls(PCBs) in human milk : Second round of WHO-coordinated exposure study, WHO Regional Office for Europe, Copenhagen, Denmark,
3. 2000: Van Leeuween, FXR, Malish R. Results of the third round of WHO-coordinated exposure study on the levels of PCBs, PCDDs and PCDFs in human milk. Organohologen Compounds (2002).

In 2003, United Nations Environment Programme (UNEP) held a workshop to develop a global POPs monitoring programme (GMP) and to support the effectiveness evaluation of the Stockholm convention. GEMs Food has developed a new protocol for a Global Survey of Human Milk for POPs.

RPG4_UVrd_E1 Incidence of melanoma under 50 years old

Part I. Meta-data section.

Indicator	RPG4_Uvrd_E1 Incidence of melanoma under 50 years old
Source database	**Cancer Incidence in Five Continents (CI5) – IARC** http://www-dep.iarc.fr/
Data required for the indicator calculation	Incidence of melanoma by age periods of 5 years, among children and adults up to 45-50, ICD C43, D03
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

The overall objective of the Cancer Incidence in Five Continents (CI5) series is to make available comparable data on cancer incidence from as wide a range of geographical locations worldwide as possible to provide comparable data on the incidence of cancer in different geographical locations, and distinct sub-populations (especially ethnic) within these locations. The advantage of this source is existing age stratification and a long temporal series, disadvantage is low coverage within the European region.

Part II. Step by step access to the data

1. Visit http://www-dep.iarc.fr/
2. Click on CI5 I-VIII (detailed) in the blue horizontal menu on the top of the window
3. Click on the **By cancer** under "Summary rates" in the vertical menu under the section Tables.
4. Choose in the Cancer selection field Melanoma of skin
5. Choose in the Year selection field a requested year or time period (for multiple selection use the 'Ctrl' key).
1. Choose in the Sex selection field – Male, in the section From-to choose 0 to 49.
2. Click Execute button
6. In the Table Melanoma of skin find the country of interest.
7. The Table can be exported into Excel sheet with aid of right mouse.
8. Repeat steps for Females.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	Not available		This database contains updated annual incidence for selected cancer registries published in the *Cancer Incidence in Five Continents* (CI5) series.
Bulgaria	Not available		
Czech Rep.	1990-97	N	
Estonia	1990-97	N	
Finland	1990-97	N	

Country	Year[1]	Spatial coverage[2]	Comments
France	1975-97 1978-97 1978-97 1979-97 1983-97 1983-97	Bas-Rhin, Calvados, Doubs, Isere, Somme, Tarn	Data are presented as Crude and Age-Standardised Rate per 100,000 *Note: Variances compared to Methodological sheet* In the cited database only diagnose C43 is available. Crude rates per 100 000 population have been presented (not per million).
Germany	1970-97	Saarland	
Greece	Not available		
Hungary	Not available		
Italy	1985-97 1978-97 1978-97 1983-97 1985-97	Florence, Lombardy, Varese province, Parma, Ragusa Province, Torino	
Lithuania	Not available		
The Netherlands	1973-97	Eindhoven	
Poland	1978-97	Cracow city	
Portugal	Not available		
Romania	Not available		
Slovakia	1968-97	N	
Slovenia	1963-97	N	
Spain	1985-97 1983-97 1973-97 1983-97 1978-97	Granada, Murcia, Navarra, Tarragona, Zaragoza	
UK	1979 1975 1979 1985 1960 1983 1975	England- Birmingham and West Midlands Region, Merseyside and Cheshire, England-North Western, Oxford, South Thames Region, England-Yorkshire, Scotland	
England			
Wales			
Scotland			
North Ireland			

RPG4_ UVrd _E1 Incidence of malignant melanoma - Alternative data source (1)

Part I. Meta-data section.

Indicator code	RPG4_ UVrd _E1 Incidence of malignant melanoma
Source database	**GLOBOCAN2002 database** http://www.iarc.fr/ENG/Databases/index.php
Data required for the indicator calculation	annual number of malignant melanoma cases total population
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit IARC Cancer Databases: http://www.iarc.fr/ENG/Databases/index.php
2. Click under '**IARC Resources**' on **IARC Cancer Epidemiology Database**
3. Click on **GLOBOCAN 2002** on the Main Menu
4. Click on **Tables** in the menu of left-hand side of the screen. Select Tables by cancer. You will get two items in the blue middle of the screen:

   Region

   Cancer.
5. In the box under 'Cancer', click on the down arrow to obtain a list of cancer sites. Select **Melanoma of skin**.
6. Move to the right and below the box 'Region', click on the down arrow to obtain a list of world regions. Select **Western Europe** from the list (then, other region of interest).
7. Move to the 'Sex' title and click on **Male**.
8. To save the output Table as a text file click "Output file".
9. After making all the selections, click on **Execute** box and you obtain on the bottom-half of the screen a Table containing data, including Cases (new cases), Crude Rate of Incidence and Age-Standardised Rate of incidence (ASR).
10. Repeat steps 6 to 9 for **Females**.

You can change the selections you made according to the region you need.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	2002	N	Information from the national cancer registries. GLOBOCAN 2002 presents estimates for the year 2002 based on the **most recent** incidence, mortality and survival data available at IARC. Because of continuous improvement of the quality and extent of the data, estimates may not be truly comparable and **care should be taken when comparing the estimates over time**.
Bulgaria	2002	N	
Czech Rep.	2002	N	
Estonia	Not available		
Finland	2002	N	
France	2002	N	
Germany	2002	N	
Greece	2002	N	
Hungary	2002	N	
Italy	2002	N	
Lithuania	2002	N	
Netherlands	2002	N	
Poland	2002	N	
Portugal	2002	N	
Romania	2002	N	
Slovakia	2002	N	
Slovenia	2002	N	
Spain	2002	N	
UK	2002	N	

1, 2 – see endnotes

RPG4_UVrd_E1 Incidence of malignant melanoma - Alternative data source (2)

Part I. Meta-data section.

Indicator code	RPG4_UVrd_E1 Incidence of malignant melanoma
Source database	EUCAN – 1998 ESTIMATES http://www-dep.iarc.fr/eucan/eucan.htm
Data required for the indicator calculation	Annual number of malignant melanoma cases total population
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit EUCAN database: http://www-dep.iarc.fr/eucan/eucan.htm

2. In a small window, click on the icon called **Tables of Incidence, Mortality and Prevalence**.
3. In the next small window with 2 options: 'Incidence and mortality rates by sex' and 'Number of incident cases and 1 and 5 years prevalence', click on the **Radio button** (circle) near the **Number of incident cases and 1 and 5 years prevalence**. Then click on **Next**.
4. Scroll down the list of cancer types and select **Melanoma of skin**. Then click on **Finish**.
5. In the Table with 4 columns: Population, Cases, 1 year prevalence, 5 years prevalence, select Male, Female or Both sexes.
6. Select Both sexes for the total number of incident cases.
7. Print the Table and find the data on cases for the computation of the indicator numerator.
8. The Help button provides the underlying definitions used in the database.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1998	N	Information collected from national cancer registries.
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1998	N	
France	1998	N	
Germany	1998	N	
Greece	1998	N	
Hungary	Not available		
Italy	1998	N	
Lithuania	Not available		
Netherlands	1998	N	
Poland	Not available		
Portugal	1998	N	
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		
Spain	1998	N	
UK	1998	N	

1, 2 – see endnotes

RPG4_Rad_E2 Incidence of childhood leukaemia

Part I. Meta-data section.

Indicator	RPG4_Rad_E2 Incidence of childhood leukaemia
Source database	**ACCIS**, http://www-dep.iarc.fr/accis.htm
Data required for the indicator calculation	Annual number of childhood cancer cases ICD-10 C90-95 Total children population (19 years and under)
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

ACCIS database is estiblishing database that will be concerned with childhood cancers in the whole of Europe, as defined geographically. All population-based cancer registries collecting relevant data in Europe will be invited to participate. The target for the time coverage of ACCIS will span from around the year 1970 until the latest available year. The age-range of the patients included will be 0-14 or 0-19 years, as available. This database will be a good source after including all registries.

Recently, data on National estimates of incidence rates standardized to world standard population age 0-19, including leukaemia are available not for particular years, but only for the whole time period 1993 – 1996/7. Some data are nationwide, some regional.

Part II. Step by step access to the data

1. Visit http://www-dep.iarc.fr/accis.htm
2. Click on the **Data available** in the table under the emblems of involved organizations
3. In the appeared table click on **Cancer incidence and survival by registry and tumour**
4. In the next window label in the left side selection field **Data type** - Incidence
5. In the right side selection field label **Tumour** and select I Leukaemia
6. Click **Table view** button
7. The appeared Table in PDF format with number of cases and rates per million can be saved on the harddisc.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	Not available		Estimates of incidence rates standardized to world standard population age 0-19 for the whole period 1993-1996/7 Data stratified for age: 0-4, 5-9, 10-14, 15-19
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	1993-97	N	
Finland	1993-97	N	
France	1993-97 1993-96	Brittany, Lorraine, Rhone-Alps, Herault, Isere, PACA, Doubs, Bas-Rhin	
Germany	1993-97	N	
Greece	-		
Hungary	1993-97	N	
Italy	1993-97 1993-96	Piedmont, Lombardy, Tuscany Veneto	
Lithuania	1990-98	N	
The Netherlands	1993-95 1993-97	N Eindhoven	
Poland	Not available		
Portugal	Not available		
Romania	Not available		
Slovakia	1993-97	N	
Slovenia	1993-97	N	
Spain	1993-95	N	
UK			
England	1993-95 1993-96 1993-97	England and Wales	
Wales			
Scotland	1993-95 1993-96 1993-97	Scotland	
North Ireland	1993-95 1993-96 1993-97	Northern Ireland	

1, 2 – see endnotes

RPG4_Rad_E2 Incidence of childhood leukaemia- Alternative data source (1)

Part I. Meta-data section.

Indicator	RPG4_Rad_E2 Incidence of childhood leukaemia
Source database	*Cancer Incidence in Five Continents (CI5)* - *IARC*, http://www-dep.iarc.fr/
Data required for the indicator calculation	Annual number of childhood cancer cases ICD-10 C90-95 Total children population (19 years and under)
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

The overall objective of the **Cancer Incidence in Five Continents (CI5)** series is to make available comparable data on cancer incidence from as wide a range of geographical locations worldwide as possible to provide comparable data on the incidence of cancer in different geographical locations, and distinct sub-populations (especially ethnic) within these locations. The advantage of this source is existing age stratification and a long temporal series, disadvantage is low coverage within the European region.

Part II. Step by step access to the data

1. Visit http://www-dep.iarc.fr/
2. Click on CI5 I-VIII (detailed) in the blue horizontal menu on the top of the window
3. Click on the Age specific in the vertical menu under the section Tables.
4. Choose in the Population selection field the requested nation/region
5. Choose in the Year selection field a requested year or time period (for multiple selection use the 'Ctrl' key).
6. Choose in the Sex selection field - Male.
7. Click Execute button
8. In the Table Incidence per 100,000 by age group find Multiple myeloma (the semifinal position in the end of Table) and Leukaemia (the last position)
9. The Table can be exported into Excel sheet with aid of right mouse.
10. Repeat the steps from 20. for Females.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	Not available		This database contains updated annual incidence for selected cancer registries published in the *Cancer Incidence in Five Continents*
Bulgaria	Not available		
Czech Rep.	1983-97	N	
Estonia	1968-97	N	
Finland	1953-97	N	

Country	Year[1]	Spatial coverage[2]	Comments
France	1975-97 1978-97 1978-97 1979-97 1983-97 1983-97	Bas-Rhin, Calvados, Doubs, Isere, Somme, Tarn	(CI5) series. Data are presented as Cases, Crude and Age-Standardised Rate per 100,000
Germany	1970-97	Saarland	
Greece	Not available		
Hungary	Not available		
Italy	1985-97 1978-97 1978-97 1983-97 1985-97	Florence, Lombardy, Varese province, Parma, Ragusa Province, Torino	
Lithuania	Not available	N	
The Netherlands	1973-97	Eindhoven	
Poland	1978-97	Cracow city	
Portugal	Not available		
Romania	Not available		
Slovakia	1968-97	N	
Slovenia	1963-97	N	
Spain	1985-97 1983-97 1973-97 1983-97 1978-97	Granada, Murcia, Navarra, Tarragona, Zaragoza	
UK	1979 1975 1979 1985 1960 1983 1975	England- Birmingham and West Midlands Region, Merseyside and Cheshire, England-North Western, Oxford, South Thames Region, England-Yorkshire, Scotland	

1, 2 – see endnotes

RPG4_Rad_E2 Incidence of childhood leukaemia - Alternative data source (2)

Part I. Meta-data section.

Indicator	RPG4_Rad_E2 Incidence of childhood leukaemia
Source database	GLOBOCAN 2002 - IARC database http://www-dep.iarc.fr/
Data required for the indicator calculation	Annual number of childhood cancer cases ICD-10 C90-95 Total children population (19 years and under)
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Visit http://www-dep.iarc.fr/
2. Click on **GLOBOCAN 2002** in the blue horizontal menu on the top of the window (in the right side)
3. Click on the **By cancer** in the vertical menu under the section **Tables.**
4. In the appeared table choose in the **Cancer** selection field– **Multiple myeloma** (C90)
5. Choose in the **Region** selection field a requested region e.g. Central and Eastern Europe.
6. Choose in the Sex selection field - Male.
7. Click **Execute** button
8. The appeared Table with Crude rates and ASR can be exported into Excel sheet with aid of right mouse.
9. Repeat steps 15-17for Female.
10. From the 13. step repeat the procedure for Leukaemia (C91-95) choosing in the **Cancer** selection field.

You can change the selections you made according to the region you need.
Number of Cases, Crude rates and Age standardized rates (world population) are available.
In the GLOBOCAN 2002 database contain diagnoses ICD-10 C90 - multiple myeloma, and C91-95 - leukaemia separately. The total number of cases makes then the sum of the cases of particular diagnoses. As in the majority of cases the multiple myeloma in childhood is not reported, it is to be considered making change in the diagnoses range in the Metodology.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	2002	N	Information from the national cancer registries. GLOBOCAN 2002 presents
Bulgaria	2002	N	
Czech Rep.	2002	N	

Country	Year[1]	Spatial coverage[2]	Comments
Estonia	2002	N	estimates for the year 2002 based on the **most recent** incidence, mortality and survival data available at IARC. Because of continuous improvement of the quality and extent of the data, estimates may not be truly comparable and **care should be taken when comparing the estimates over time**. *Note: Variances compared to Methodological sheet* Only total population, no age stratification available.
Finland	2002	N	
France	2002	N	
Germany	2002	N	
Greece	2002	N	
Hungary	2002	N	
Italy	2002	N	
Lithuania	2002	N	
The Netherlands	2002	N	
Poland	2002	N	
Portugal	2002	N	
Romania	2002	N	
Slovakia	2002	N	
Slovenia	2002	N	
Spain	2002	N	
UK	2002	N	
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG4_Rad_Ex1 Radon levels in dwellings

Indicator title	**RPG4_Rad_Ex1 Monitoring of radon levels in dwellings**
Source database	**Joint Research Centre** http://radonmapping.jrc.it/
Data required for the indicator calculation	**Arithmetic mean** **Estimated percentage** of dwellings with annual mean levels of radon above 200 Bq/m^3 : **Estimated percentage** of dwellings with annual mean levels of radon above 400 Bq/m^3 Please specify if it is at the national or regional level
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part I. Step by step access to the data of the UNSCEAR

14. Visit : http://radonmapping.jrc.it/
15. Click on “restricted areas”, the link label in the menu at the left column of the screen.
16. Click the password in the cell “please enter password”
17. right click on go

18. Then you can choose the country of interest
19. Read the indoor radon part of the document of the country
20. **Arithmetic mean** : go to "estimated mean annual radon levels in "country"dwellings and take the value in the cell under mean
21. **Estimated percentage** of dwellings with annual mean levels of radon above 200 Bq/m^3 : go to "estimated mean annual radon levels in the corresponding "country" dwellings and add the values in the cells under % of dwellings above 200 Bq/m^3 and bellow 400 Bq/m^3 and in the cell under % of dwellings above 400 Bq/m^3 .
22. **Estimated percentage** of dwellings with annual mean levels of radon above 400 Bq/m^3 : go to "estimated mean annual radon levels in "country" dwellings and take the value in the cell under % of dwellings above 400 Bq/m^3 .
23. **Reference survey**: go to selected references and pick up the name of the national or main survey (described in the document of the country)
24. Survey period: go to the chapter "campaigns" pick up the value in the cell under survey periods
25. **number of dwellings**: go to the chapter "campaigns" pick up the value in the cell under number of dwellings
26. sampling strategy: go to the chapter "sampling strategy " pick up the corresponding information
27. Track-etch detector: go to the chapter "measurement techniques" pick up the name of the Track-etch detector in the corresponding cell
28. Other measurment technique: go to the chapter "measurement techniques" pick up the name of the Track-etch detector in the corresponding cell

Part II. Availability of the data for the countries participating in the ENHIS project

Radon

Country	Year	Spatial coverage	Comments
Austria	1991-2002	National	
Czech Rep.	1984-2004	National	
Finland	1990-91	National	
France	1983-2000	National	
Germany	1978-2003	National	
Hungary	1994-2004	National	
The Netherlands	1984/ 1995-6	National National	
Poland	1992-4 // 1995-2003	National Regional	
Romania	1987-90/ /90-94/ /2000	Regions with high population density	
Spain	1990-2005	Rural regions and areas with potential high levels	
UK	1988	Great Britain	

Other

Overview of proposed indicators[1] (see Endnote)

No.	Indicator Code	Indicator full name	Available		Remarks
			Y/N	International data source	
Other					
41.	**RPG4_Work_E1**	**Work injuries among employees under 18 year olds**	1. **EUROSTAT** http://europa.eu.int/comm/eurostat/		Yes, used for CEHAPE assessment in RPG IV.
			2. EUROPA EC – ESAW study http://europa.eu.int/comm/employment_social/health_safety/docs/social_statistics_1994_2000_en.pdf		
42.	**Population**	Population data needed for the denominator	1. **UN Population Division** http://esa.un.org/unpp/		Both will be used, depending on the nominator (same data source).
			2. **EUROSTAT** http://europa.eu.int/comm/eurostat/		

RPG4_Work_E1 Work injuries among employees under 18 years old

Part I. Meta-data section.

Indicator	RPG4_Work_E1 Work injuries among employees under 18 years old
Source database	**EUROSTAT** http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	Number of work accidents with victims under age 18 resulting in more than 3 days lost (4 days of absence of more) Number of workers under age 18
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data

1. Click EUROSTAT Homepage http://europa.eu.int/comm/eurostat/
2. Click in the vertical menu under Themes **Population and social conditions**
3. Choose **Data** on the orange horizontal menu above
4. Click on folder **Health** from the menu in the middle of the window
5. Click on folder **Health and safety at work**
6. Click on folder **Accidents at work**
7. Click on the second item Number of accidents at work by economic activity, severity and age
8. In the appeared table select **Time** – requested year from 1995 – 2003, **Geo** – requested country from EU15, **Nace** – Total- all Nace branches, **Age** – Less than 18 years
9. Click on **Next**
10. In the table **Step 2 –** Set rows click on **Next**
11. In the table **Select Download** click on Data format **For Internet browsers** and on options **Codes and Labels**
12. Click **Download**
13. The appearing Table can be transferred and saved onto harddisc by converting into PDF format, exporting to the Excel sheet did not work (Windows 2000).

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1995-2003	N	Only **number**s of accidents in age period under 18 years, with more than 3 days absence from work is available, **data on standardized incidence rates per 100 000** workers requested in the ENHIS methodology are missing in Eurostat database.
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1995-2003	N	
France	1995-2003	N	
Germany	1995-2002	N	
Greece	1995-2003	N	
Hungary	Not available		
Italy	1995-2003	N	
Lithuania	Not available		
The Netherlands	1995-2003	N	
Poland	Not available		
Portugal	1995-2002	N	
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		
Spain	1995-2003	N	
UK- Great Britain only	1995-2003	N	
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

RPG4_Work_E1 Work injuries among employees under 18 years old – Alternative data source

Part I. Meta-data section.

Indicator	RPG4_Work_E1 Work injuries among employees under 18 years old
Source database	EUROPA EC http://europa.eu.int/comm/employment_social/health_safety/docs/social_statistics_1994_2000_en.pdf
Data required for the indicator calculation	Number of work accidents with victims under age 18 resulting in more than 3 days lost (4 days of absence of more) Number of workers under age 18
Computation method	
Geographical coverage	
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part I. Step by step access to the data

The source is a particular publication in PDF format, based on data collecting within ESAW project methodology.
Drawing of raw data from the database would require communication with the ESAW data maintainer.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1999		EUROPA EC - Employment and social affairs – Health and Safety at Work – publication European Social Statistics, Accidents at work and work-related health problems, data 1994 – 2000 http://europa.eu.int/comm/employment_social/health_safety/docs/social_statistics_1994_2000_en.pdf , contents Standardized incidence rate of accidents at work, more than 3 day's absence, data for age group under 18 years for former EU15, age groups only for the year 1999.
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia	Not available		
Finland	1999		
France	1999		
Germany	1999		
Greece	1999		
Hungary	Not available		
Italy	1999		
Lithuania	Not available		
The Netherlands	1999		
Poland	Not available		
Portugal	1999		
Romania	Not available		
Slovakia	Not available		
Slovenia	Not available		

Spain	1999		
UK- Great Britain only	1999		
England			
Wales			
Scotland			
North Ireland			

1, 2 – see endnotes

Population

Indicator code	Population
Source database	**UN Population Division** http://esa.un.org/unpp/
Data required for the indicator calculation	**Total residential population, by age groups**
Computation method	
Geographical coverage	1995, 2000, 2005
Time coverage	
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data.

1. Access the UN Population Division Population Database page http://esa.un.org/unpp/

2. In the left side of the screen click the yellow square **Panel 2 – Detailed data**.

3. In the middle of the screen the selection of the necessary data. Mark the requested fields in each box:

"Variable" - mark "Population by five-year age group and sex"

"Country/region" – you can select up to 5 countries (hold the CTRL key pressed and select no more than 5 countries at once)

"Start year" - mark 1995

"End year" - mark 2005

4. After making the selection, click "Display". You can also save the data in a CVS file format on your hard disk.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1995, 2000, 2005	N	Stratified by sex and five-year age groups.
Bulgaria	1995, 2000, 2005	N	

Country	Year[1]	Spatial coverage[2]	Comments
Czech Rep.	1995, 2000, 2005	N	
Estonia	1995, 2000, 2005	N	The database also contains specific age groups.
Finland	1995, 2000, 2005	N	
France	1995, 2000, 2005	N	
Germany	1995, 2000, 2005	N	
Greece	1995, 2000, 2005	N	
Hungary	1995, 2000, 2005	N	
Italy	1995, 2000, 2005	N	
Lithuania	1995, 2000, 2005	N	
Netherlands	1995, 2000, 2005	N	
Poland	1995, 2000, 2005	N	
Portugal	1995, 2000, 2005	N	
Romania	1995, 2000, 2005	N	
Slovakia	1995, 2000, 2005	N	
Slovenia	1995, 2000, 2005	N	
Spain	1995, 2000, 2005	N	
UK	1995, 2000, 2005	N	

1, 2 – see endnotes

Population - Alternative data source

Indicator code	Population
Source database	EUROSTAT Homepage http://europa.eu.int/comm/eurostat/
Data required for the indicator calculation	**Total residential population**
Computation method	
Geographical coverage	
Time coverage	1996 – 2003 (for some countries even wider)
Stratification according to Methodology	
Data format in the database	

Part II. Step by step access to the data.

1. Access the Eurostat Homepage http://europa.eu.int/comm/eurostat/

2. In the lower part of the screen click the blue square **DATA**.

3. Below you will find 'Data explorer – Full view'. Click on the letters **Full view**. The set of categories will appear.

3. Click to open the folder **Population and social conditions**.

4. Click to open the folder **Population**. Please note an icon of the explanatory text file (with the letter M). Clicking on this icon leads to the Eurostat Metadata (in SDDS format).

5. Click to open the folder **Demography**.

6. Click to open the folder **National data**.

7. Click to open the folder **Population**.

8. Click the Table **Average population by sex and five-year age groups**

9. Make the selection of the necessary data. Mark the requested fields in the interactive screen:

"TIME" - year of the survey

"GEO"- geopolitical entities

"SEX" - mark "Total" for the total population in given country/year

"AGE"- mark "Total" for the total population in given country/year

- mark the respective age categories, as necessary for the indicator

After making the selection, click "Next".

10. Set rows and columns in the Table with the selected data (if necessary). Follow the instructions on the screen. Click "Next".

11. Select download options, setting data format and its options.

12. Download the Table and save on the local drive.

Country	Year[1]	Spatial coverage[2]	Comments
Austria	1996-2003	N	Can be stratified by sex and age groups
Bulgaria	1960-2004	N	
Czech Rep.	1996-2003	N	
Estonia	since 1975	N	
Finland	1996-2003	N	
France	1996-2003	N	
Germany	1996-2003	N	
Greece	1960-2003	N	
Hungary	1996-2003	N	
Italy	1958-2003	N	
Lithuania	1996-2003	N	
Netherlands	1996-2003	N	
Poland	1996-2003	N	
Portugal	1950-2004	N	
Romania	1996-2003	N	
Slovakia	1960 - 2003	N	
Slovenia	1990-2003	N	
Spain	1996-2003	N	
UK	1996-2001	N	

1, 2 – see endnotes

[1] For all the indicators in bold letters, hands-on guidelines were produced, meaning that the data are available in international data sources.
Data sources in red are currently used by ENHIS to produce the indicators.
Characteristics of these data sources are provided in the following Hands-on guidance.

ENHIS-2

WORK PACKAGE 6 (WP6) RESULTS

Deliverables:

1. **Communication and information exchange links with all NCC established and operational (month 2)**
2. **Pilot study of indicators defined by WP4 implemented in the partner countries (month 12)**
3. Contributions to international indicator report (month 20)
4. Set of national factsheets (month 22)

Table of Contents:

Operational communication and information exchange links with all the partners: Examples of ENHIS SharePoint Webpages

Figure 1. Screenshot of ENHIS SharePoint Home Page

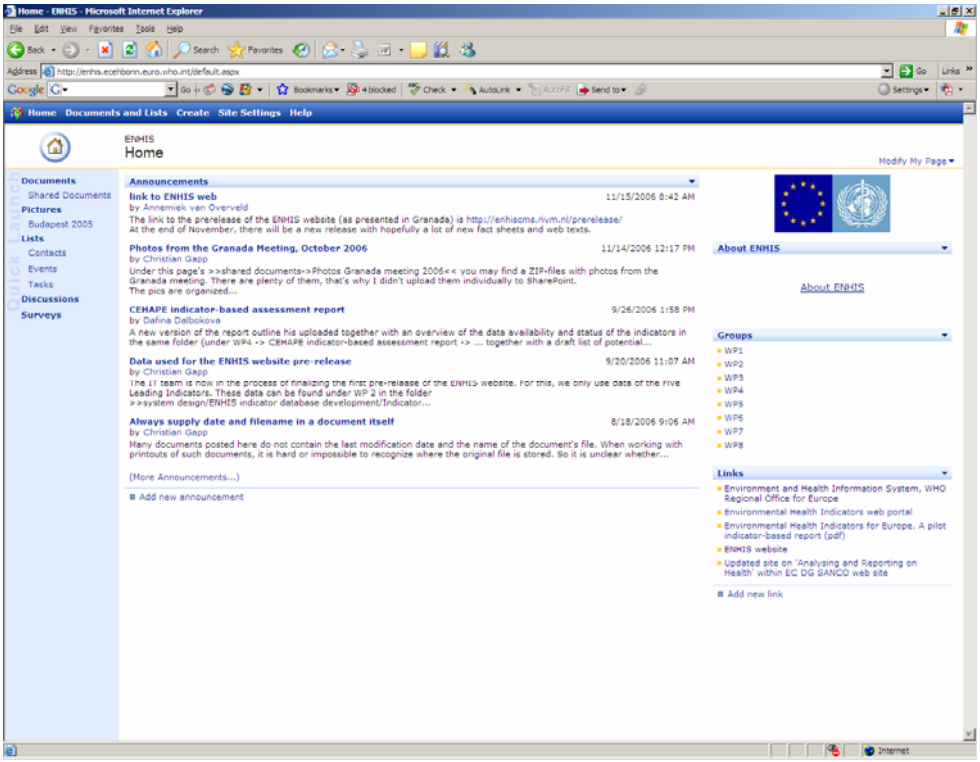


Figure 2. Work Package 1: coordination page

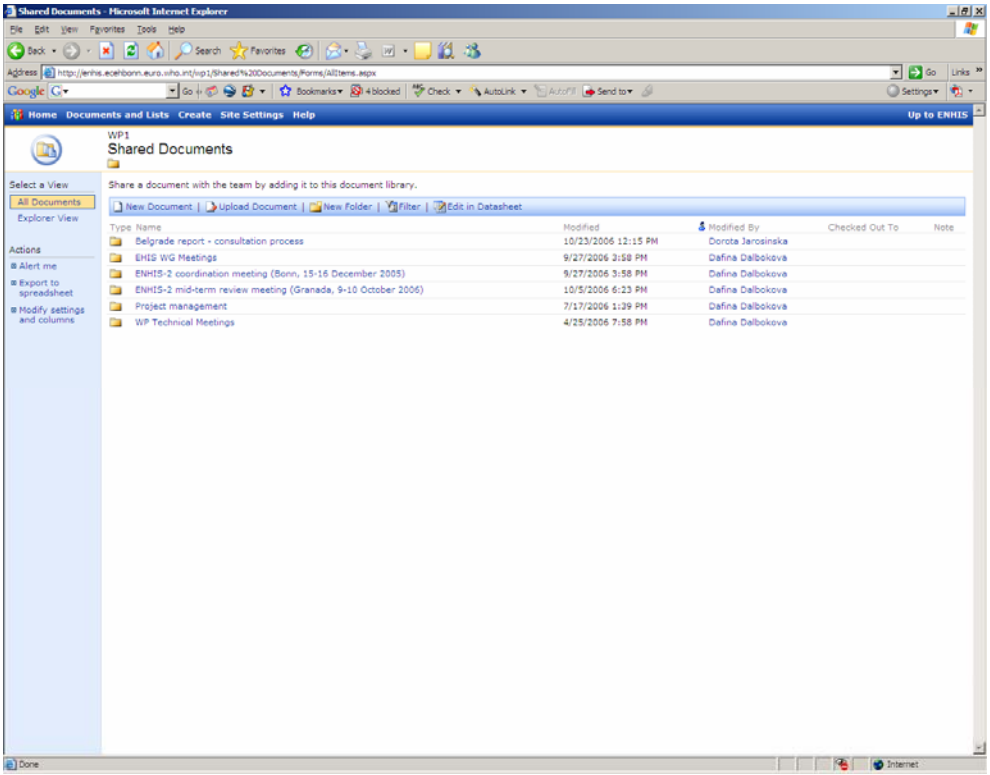
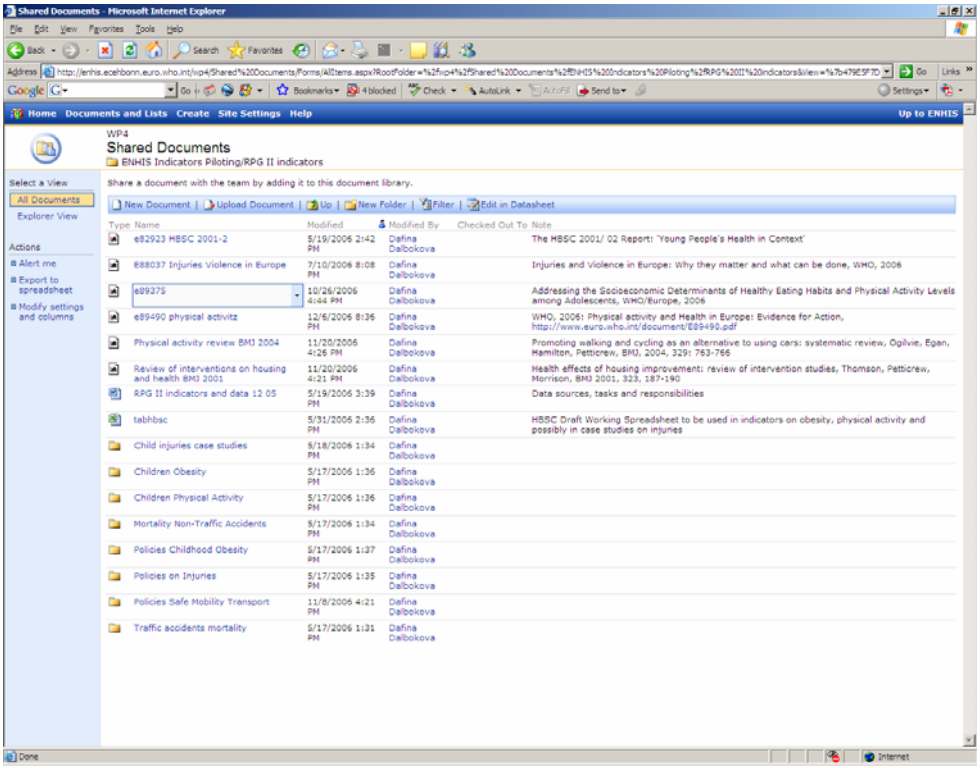


Figure 3. Work Package 4, Indicator pilot study: sharing data and information on Regional Priority Goal II



Examples of ENHIS indicator fact sheets prepared by the network of collaborating centres

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

WELTGESUNDHEITSORGANISATION
REGIONALBÜRO FÜR EUROPA

ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÉGIONAL DE L'EUROPE

ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

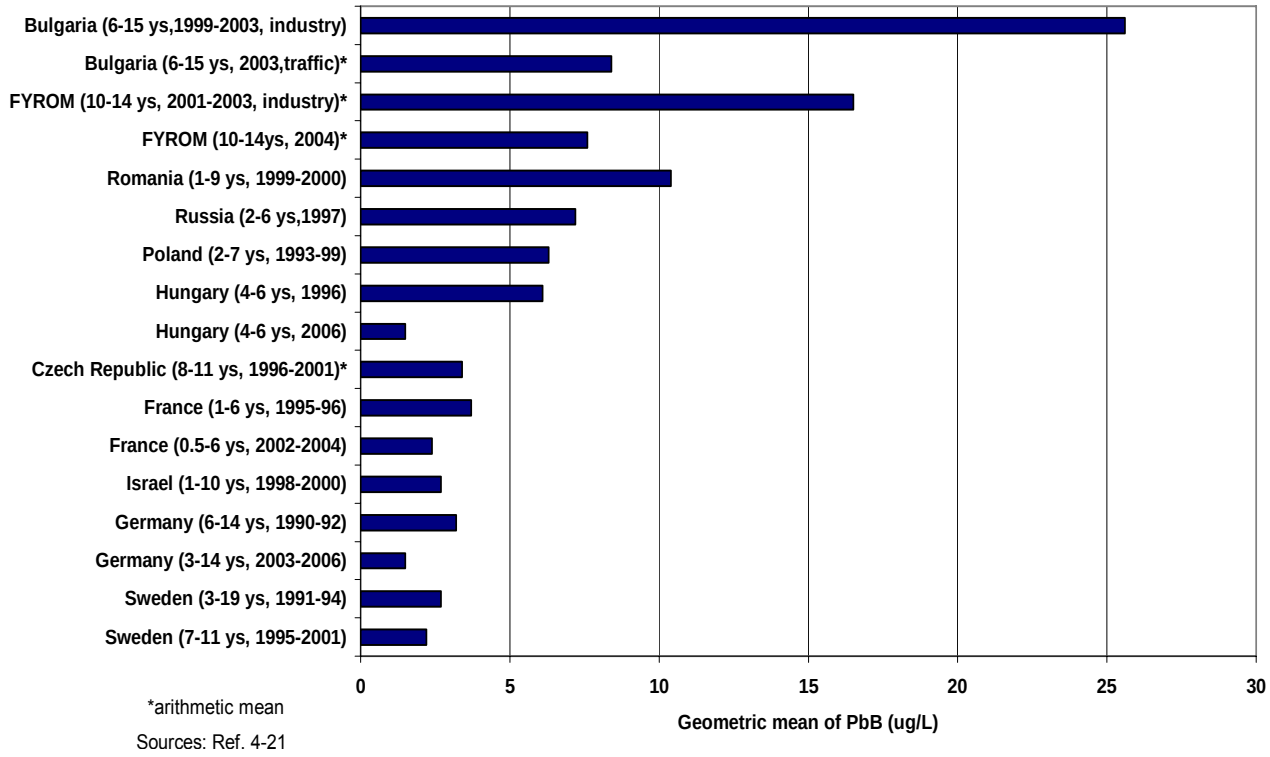
EUROPEAN CENTRE FOR ENVIRONMENT AND HEALTH
BONN OFFICE

Name: Blood lead (PbB) level of children (µg/litre) **RPG4_Chem_Ex1**

Idea:
Lead is one of the best known toxic heavy metals. Blood lead level is a very reliable biological marker of recent exposure to lead. Elevated blood lead level (10 µg/dL or above) has been associated with toxicity on the developing brain and nervous system of young children leading to lower IQ (1). According to the most recent evidence, however, loss of IQ was observed in children with blood lead levels even below 10 µg/dL Therefore, prevention activities should be initiated to decrease blood lead levels as low as possible.

Key message:
Phasing out lead from petrol, first in Western European countries then later in Central and Eastern Europe as well, has resulted in significant decrease of blood lead levels in children during the last two decades. Industrial emissions are still important local sources of lead exposure in some countries. After phasing out lead from petrol, decrease of blood lead levels became less spectacular. However, further reduction of blood lead level is still needed because there is no known safe level of lead in blood in children. Sources of lead exposure that were ignored previously became more and more significant. Therefore a proper surveillance system is needed for monitoring the children's blood lead level and to identify and eliminate remaining sources of lead exposure and to monitor the effectiveness of the efforts done for preventing children's further exposure to this toxic metal.

Geometric mean of blood lead levels (PbB) of children measured in various European countries between 1991-2006



*arithmetic mean

Sources: Ref. 4-21

Health and Environment context

Environmental exposure to lead has multiple sources (petrol, industrial processes, paint, solder in canned foods, water pipes) and pathways (air, household dust, street dirt, soil, water, food). Evaluation of the relative contribution of different sources is therefore complex and likely to differ between areas and population groups. Lead-containing petrol is still the most important source of atmospheric lead, which through its presence in particulates, is a significant contributor to the body lead burden in the countries where it is still consumed. Industrial emissions are also important sources of lead contamination of the soil and ambient air. Atmospheric lead deposited in soil and dust may then be ingested by children and may substantially raise their blood lead levels. In addition, food and water may also be important media of baseline exposure to lead. (2)

According to research results the potential for adverse effects of lead exposure in children is increased because: a.) intake of lead per unit body weight is higher for children than for adults; b.) young children often place objects in their mouths, resulting in dust and soil ingestion and, possibly, an increased intake of lead; c.) physiological uptake rates of lead in children are higher than those in adults; d.) young children are undergoing rapid development, their systems are not fully developed, and consequently they are more vulnerable than adults to the toxic effects of lead.

Epidemiological studies revealed that exposure to lead during the early stages of a child's development is linked, inter alia, to deficits in later neurobehavioural performance (e.g. IQ deficits of 1-3 points per 10µg/dLitre), which may not seem to be substantial for an individual child but it may burden the society with loss of intellectual performance and consequential economic losses. Scientists in the United States made calculations on the financial earnings which can be achieved by decreasing the blood lead level of children. Cognitive ability affects school performance, educational attainment, and success in the labour market, and hence is

positively associated with earnings. Improvements in cognitive ability benefit society by raising economic productivity, including profits and tax revenues, and by reducing crime and other behaviours with negative impacts on others. (2,3)
The following public health measures can be recommended to decrease the environmental exposure of children to lead, and thus, to further decrease their blood lead level (2):
1.) Phasing out lead additives in fuels and removing lead from petrol
2.) Reducing and phasing out the use of lead-based paints
3.) Eliminating the use of lead in food containers
4.) Identifying, reducing and eliminating lead used in traditional medicines and cosmetics
5.) Minimising the dissolving of lead in water treatment and water distribution systems
6.) Improving identification of populations at high risk of exposure on the basis of monitoring systems
7.) Improving promotion of understanding and awareness of exposure to lead
8.) Increasing emphasis on adequate nutrition, health care and attention to socioeconomic conditions that may enhance the effects of lead

Policy relevance and context
International conventions and action programmes as well as EU Directives and resolutions have acknowledged the importance of exposure to lead as a key public health issue:

International context

The Convention on the Rights of the Child (United Nations General Assembly resolution 44/25 of 20 November 1989) and *Agenda 21* (adopted by more than 178 Governments at the United Nations Conference on Environment and Development (UNCED), Rio de Janeiro - Brazil, 3 to 14 June 1992) form the general framework that is to protect children´s health to hazardous environmental exposures. (23,24)
In addition, international commitments are made that specifically address children´s exposure to lead. In February 1996 the Environment Ministers of the Organization for Economic Cooperation and Development *(OECD)* issued a *Declaration on Lead Risk Reduction* seeking to voluntarily develop and strengthen national and cooperative efforts considered necessary to reduce risks from exposure to lead. Their goals include efforts to e.g. phase out leaded gasoline and eliminate childhood exposure to lead (25) The *1997 Declaration of the Environment Leaders of the Eight on Children's Environmental Health* commits the G8 countries to fulfil and promote internationally the OECD Declaration on Lead Risk Reduction. They specifically called for further actions that will result in reducing blood lead levels in children to below 10 micrograms per decilitre. Where this blood lead level is exceeded, further action is required. They agreed to conduct public awareness campaigns on the risks to children from lead exposure and to develop scientific protocols and programs to monitor blood lead levels in children to track the progress in this important effort. (26) In September 2006 a statement on lead was set at the *Intergovernmental Forum on Chemical Safety (IFCS or Forum), The Budapest Statement on Mercury, Lead and Cadmium* recognises that the risks from mercury, lead and cadmium need to be addressed by further global, regional, national and local actions, as appropriate, (27)

(Pan-)European context

Already in 1977 the *Council Directive on biological screening of the population for lead (77/312/EEC)* committed the Member States to apply a common procedure for biological screening in order to assess the exposure of the population to lead outside the working

environment. The common procedure is based on the measurement of blood lead levels and is carried out on volunteers. Critical groups, such as children, have to be considered as determined by the competent authorities in the Member States. (28)

Several European policy initiatives on reduction of leaded petrol - the main source of increased blood lead levels in children – are in place in the Member States. The Fourth Ministerial Conference "Environment for Europe" in June 1998 - the *Aarhus Conference - endorsed the UN/ECE Declaration on the Phase-out of Added Lead in Petrol* for general use by road vehicles as early as possible and no later than 1 January 2005. 30 governments signed this declaration of which most Central and East European (CEE) countries; this can be seen as an important step to reducing airborne lead pollution. (29) *The Resolution No. 99/6 on phasing out lead in petrol by the Council of Ministers of Transport*, meeting in Warsaw on 18 and 19 May 1999 reiterates the recommendation that where they have not already done so, governments should encourage the more rapid and widespread introduction of unleaded fuel by measures including the use of fiscal incentives and information campaigns. (30)

In *CEHAPE RPG IV* specific actions are formulated on reducing lead exposure to children, such as to enact legislation on the content of lead in petrol and building materials, to protect children from exposure to lead; to develop and enforce regulations to minimize risks from hazardous building materials (e.g. lead) and to carry out biomonitoring of lead in at-risk infants and mothers.(31)

Description of the graph

Information on blood lead levels in children measured during the last 15 years was available from 11 countries (Bulgaria, Czech Republic, France, Former Yugoslav Republic of Macedonia (FYROM), Germany, Hungary, Israel, Poland, Romania, Russia and Sweden). Data collection and evaluation could not be restricted to the results covering the period of this century only because due to the scarcity of more recent data, this would have covered less countries and, first of all, the trend could have been missed. Instead, the period of data collection was given for each data.

Blood lead levels are known to differ according to age-groups: young children tend to have higher level of blood lead due to their hand-to-mouth behaviour. The data reported for the various countries mostly covered summary data for age groups with wide age-ranges therefore it was not possible to limit the data shown in the graph to children under 6 years only.

Blood lead levels were provided in forms of arithmetic mean and/or geometric mean and one country presented only the percentage of children in risk categories, therefore it was difficult to summarize the data in one graph. At last, geometric mean was chosen for a common indicator of blood lead as the distribution of blood lead levels is generally log-normal. Reports using only arithmetic means, are marked with an asterisk.

Assessment

In general, blood lead levels started to decrease earlier in the Western European and Scandinavian countries than in Eastern Europe, because the former ones started to gradually introduce *lead-free petrol* earlier. In the mid 1980s in a WHO/CEC collaborative study blood lead levels of children in the general population of Bulgaria, Hungary and Romania were 18.2-18.9 μg/dL, while those in Italy and Germany were 11.0 μg/dL and 7.4 μg/dL, respectively. (22) This difference could still be seen in the 1990s: much lower values were measured in France, Germany, Sweden and Israel than e.g. in Russia, Poland and Hungary. Yearly measurements of blood-lead level in children living in a general urban environment of Sweden provides an other example of the results of effective intervention: the geometric mean of blood lead was 5.8 μg/dL in 1978-82, it went down to 3.4μg/dL in 1989 and to 2.3 μg/dL in 1993. (20) Once after phasing

out lead from petrol, the decrease of blood lead became less spectacular but still continued the previous trends. For instance, mean level of blood lead among children decreased by more than 50% during the past 12-14 years in Germany. In spite of the significant decrease over the past 8 years in France, however, the blood lead level of about 10% of children is still above 5.0 μg/dL which may affect their neurobehavioural performance.
Besides car exhaust, *industrial emissions* are also important sources of lead exposure. The data from industrial areas in Bulgaria, the Former Yugoslav Republic of Macedonia and Poland show the significant impact of lead emitted by the nearby plants on the blood lead level of children. In FYROM, the measurements were made in the same community during an active period of a lead and zinc smelter plant and after the plant stopped its activity in the second half of 2003. In Poland, the geometric mean of blood lead levels of children living in the vicinity of zinc and copper mills ranged between 7.4 μg/dL and 11.4 μg/dL, in contrast to the range of 3.0μg/dL - 6.3 μg/dL among children living in 5 towns with no industrial lead emitters (32).
The analysis of information from questionnaires which accompanied the blood lead level surveys revealed *other determinants* of increased blood lead level of children, like tap water, age of the dwelling, poor housing, environmental tobacco smoke, breastfeeding in infancy, use of painted ceramic dishes, use of cosmetic kohl, low milk intake, poor socio-economic status, etc., indicating the importance of education and risk communication towards the public to achieve further decrease of blood lead level in children.

Suggestions for further monitoring
A proper surveillance system is needed with regular monitoring of children's blood lead levels in order to identify and eliminate remaining sources of lead exposure for children and to monitor the effectiveness of the policy actions. Considering that young children have higher blood lead levels due to their hand-to-mouth behaviour and that their lead exposure may affect school performance, monitoring blood lead level is preferable in preschool age.

Meta data
Data source:
Data were kindly provided by volunteers from Bulgaria (Nikolova V, Georgieva R, Metchkueva L, Gopina G, Sidjimov M and Mileva H, National Center for Public Health Protection, Sofia), Czech Republic (Batáriová A and Puklová V, Centre of Envioronmental Health, National Institute of Public Health, Prague), France (Pirard, P, Institut de Veille Sanitaire), Former Yugoslav Republic of Macedonia (FYROM: Kochubowski M, Republic Institute for Health Protection, Skopje), Germany (Mekel O, Landesinstitut für den Öffentlichen Gesundheitsdienst NRW), Hungary (Rudnai P, National Institute of Environmental Health, Budapest), Israel (Elihu Richter, Hebrew University-Hadassah International School of Public Health and Community Medicine, Jerusalem), Poland (Dabkowska B, Institute of Occupational Medicine and Environmental Health, Sosnowiec), Romania (Niciu EM, Institute of Public Health, Bucharest), Russia and Sweden (Widell A, National Board of Health and Welfare, Stockholm)

Description of data
Blood lead levels of children were determined mostly from venous blood samples using atomic absorption spectrometry or ICP-MS. Three countries reported use of capillary samples and Blood Test Kit (based on electro-chemistry). According to the comparison tests performed, these data are claimed to be comparable (4) Blood lead levels were provided in forms of arithmetic mean and/or geometric mean and one country presented the percentage of children in blood lead categories only.

Methodology of indicator computation
As the data were provided in various forms and for various time periods and various age groups, it was not possible to do a meta-analysis. In the case of Romania, geometric mean was estimated on the basis of frequency distribution among blood lead level categories.

Geographical coverage
Bulgaria, Czech Republic, France, Former Yugoslav Republic of Macedonia (FYROM), Germany, Hungary, Israel, Poland, Romania, Russia and Sweden

Temporal coverage
1991-2006

Periodicity No

Data quality: The accuracy and precision are high for blood lead measurements reported by the countries regardless of different methods of analysis. All samples were analyzed by laboratories participating in international proficiency programs. Only the report from Germany 2003-2006 was based on representative samples of the population, other data presented in this fact-sheet are specific to the areas and time of the study. Therefore, comparison of the data over time and between countries should be made with extra caution.

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Version

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WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

WELTGESUNDHEITSORGANISATION
REGIONALBÜRO FÜR EUROPA

ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÈGIONAL DE L'EUROPE

ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

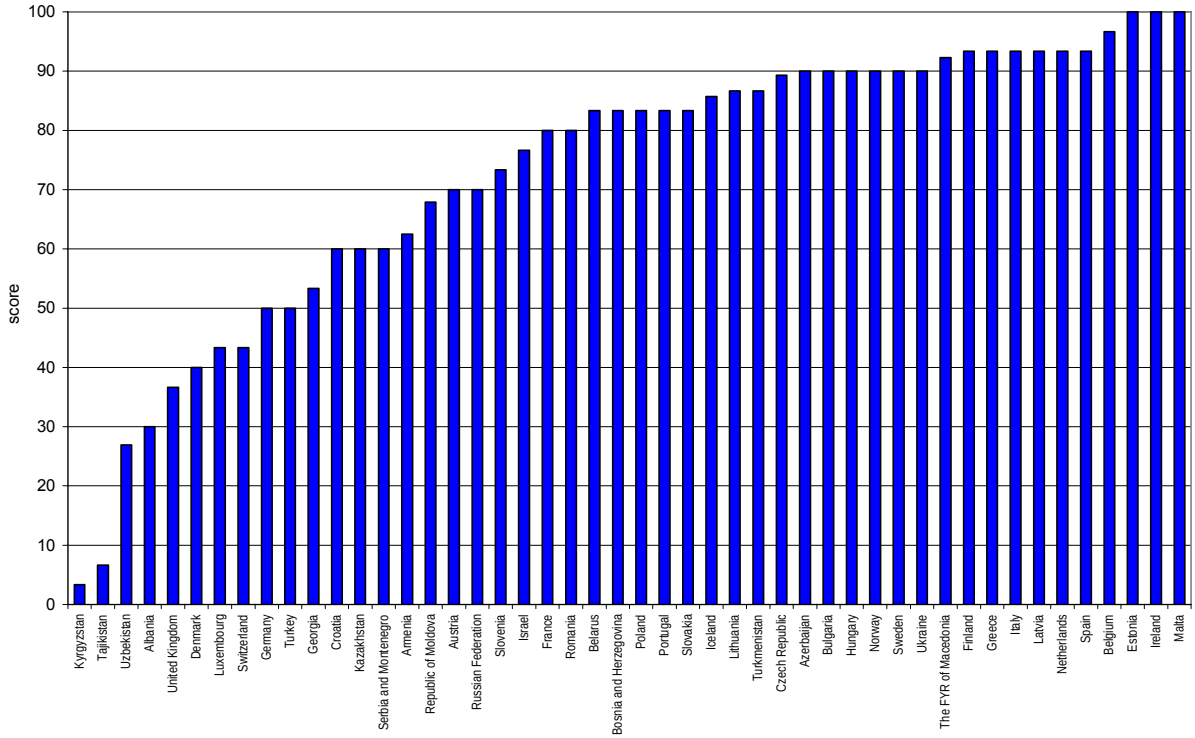
EUROPEAN CENTRE FOR ENVIRONMENT AND HEALTH
BONN OFFICE

Name: Policies to reduce children's exposure to tobacco smoke RPG3_Air_A1
Capability for implementing policies to reduce environmental tobacco smoke exposure and promoting smoke free areas

Idea: The Action indicator illustrates the stage of implementation and enforcement of national legal instruments to ensure smoke-free areas, smoke-free public transport and restricted advertising of tobacco products. Legal instruments are effective tools to provide protection against involuntary smoking and to restrict promotion and advertisement of tobacco products that can especially influence children and adolescents.

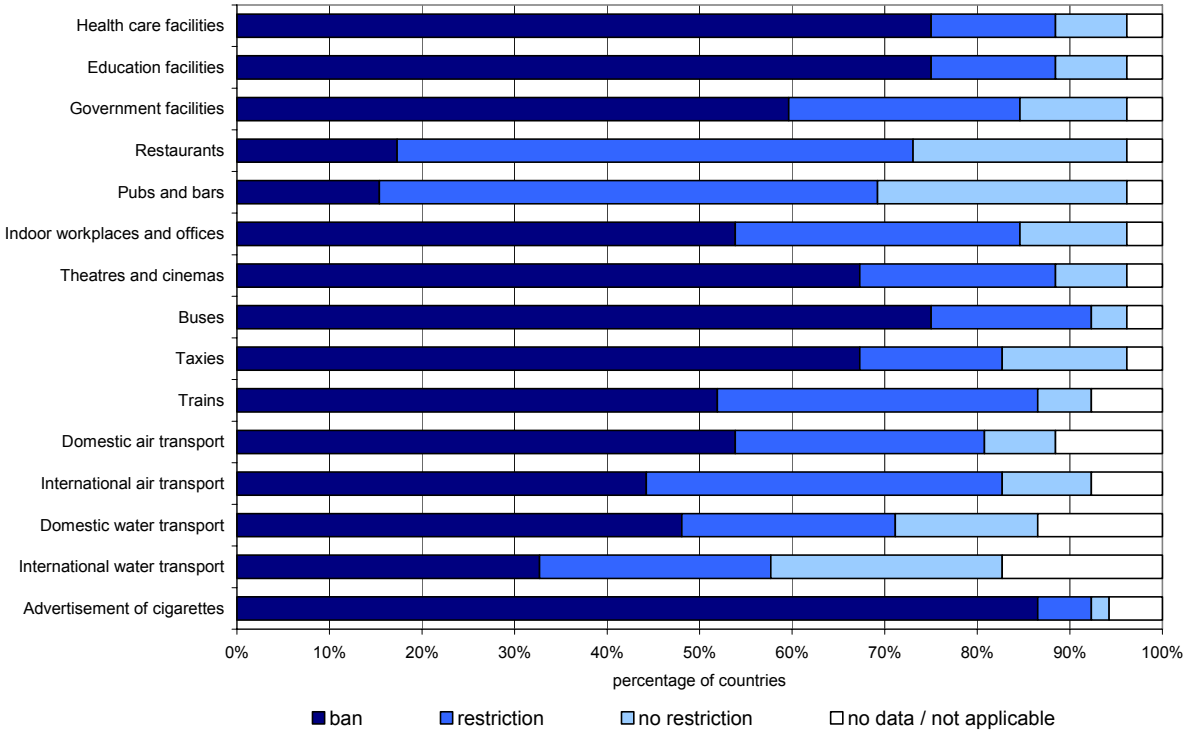
Key message: National restrictive policies for smoking in public areas, in public transport as well as for direct advertisement of tobacco products are in place. Most of the 52 reporting countries in the WHO European Region cover these areas to a certain extent with partial restrictions, complete bans, prohibitions or voluntary agreements. Through these means children's exposure to tobacco smoke is prevented and reduced in public areas, and active smoking is discouraged under adolescents.

Figure 1. Degree of implementation of policies to reduce environmental tobacco smoke exposure in the countries* of the WHO European Region



Data source: WHO Tobacco Control Database [11], accessed August 2006
*Note: no data available for Andorra, Cyprus, Monaco and San Marino

Figure 2. Existence and level of implementation of policies to reduce exposure to environmental tobacco smoke, proportion of countries of the WHO European Region



Data source: WHO Tobacco Control Database [11], accessed August 2006

Health and Environment context

Environmental tobacco smoke (ETS) is a mixture of smoke breathed out by smokers (mainstream smoke), and smoke emitted from the burning cigarette or other tobacco products (sidestream smoke). ETS contains more than 4 000 compounds and at least 40 are known or suspected human carcinogens.

There is a causal relationship between lung cancer of non-smokers and long-term exposure to ETS. The combined evidence from epidemiology and studies of mechanisms leads to the conclusion that ETS increases the risk of morbidity and mortality from cardiovascular disease in non-smokers. [1]

Children's exposure to environmental tobacco smoke as well as maternal exposure and smoking during pregnancy causes an increased risk of sudden infant death syndrome, low birth weight, reduced lung function, asthma, lower respiratory tract infections and middle ear infection in children. Prenatal exposure to tobacco products and postnatal exposure to ETS may be associated with reductions in mental and social development. Several studies suggest that exposure to environmental tobacco smoke products may be causally associated with childhood cancer. [2]

Policy relevance and context

The WHO Framework Convention on Tobacco Control, the first legal instrument designed to reduce tobacco-related deaths and disease around the world, entered into force in February 2005. The WHO Framework Convention on Tobacco Control has been ratified by most of the reporting states, and those still without ratification are making the final steps towards doing so. The convention requires countries to enforce restrictions on tobacco advertising, sponsorship and promotion; establish new packaging and labelling of tobacco products providing reliable information about the health effects, hazards and emission; establish clean indoor air controls; and strengthen legislation to eliminate all forms of illegal trade in cigarettes and other tobacco products. [3, 4]

The European Strategy for Tobacco Control reflects the increased political commitment to, and public health expectations of tobacco control in WHO's European Region. It was adopted by the WHO Regional Committee for Europe in September 2002 and provides an evidence-based framework and guidance for effective national action and international cooperation. The Strategy sets out strategic directions for action in the Region, to be carried out through national policies, legislation and action plans. It also makes recommendations on monitoring, evaluating and reporting on tobacco use and tobacco control policies. Finally, it specifies mechanisms, tools and a timeframe for international cooperation. [5, 6] The Children's Environment and Health Action Plan for Europe (CEHAPE) approved by European Ministers at the Fourth Ministerial Conference on Environment and Health (2004) states in the III. Regional Priority Goal, that the Member States aim to prevent and reduce respiratory disease due to outdoor and indoor air pollution by (among others) "implementing the Framework Convention on Tobacco Control, by legislative measures, through the drafting and enforcement of the necessary regulations and by setting up health promotion programmes that will reduce smoking prevalence and the exposure of pregnant women and children to environmental tobacco smoke." [7]

The European Union plays an active role in global tobacco control policies and ratified the Framework Convention on Tobacco Control in July 2006. The Community's tobacco control activities include legislative measures e.g. Council Recommendation 2003/54/EC for prevention of smoking and improvement of tobacco control, Tobacco Products Directive 2001/37/EC,

Tobacco Advertising Directive 2003/33/EC), tobacco control projects under the Public Health Programme and information campaigns (e.g. "Feel Free to Say No" 2002-2004; "HELP - For a life without tobacco"). The comprehensive anti-smoking strategy supports Europe-wide smoking prevention and cessation activities, including health education measures, improved consumer information and assistance, and restrictions on tobacco advertising and marketing. The EU is also integrating tobacco control into a range of other Community policies such as taxation policy and agricultural policy. [8, 9, 10]

Description of the graph
Figure 1: Some data are missing for Andorra, Cyprus, Monaco and San Marino, the indicator value has not been presented for these countries. Figure 2 shows the percentage of the 52 countries of the WHO European Region where the relevant policy is in place (ban or restriction of smoking and advertisement of tobacco products) or is missing (no restriction).

Assessment
Legislations to prevent ETS exposure of non-smokers in public places are in place in most of the countries in the WHO European Region. In most of the countries the restriction policies are introduced through laws and regulations. The most common form used, incl. concerning ETS exposure are laws, dealing with one or more aspects of smoking control. Usually these laws address individual smoking control issues. Generally, the ETS policies apply to the whole population. In all countries the policy lies on the principle that non-smokers (both adults and children) are protected from ETS in all public indoor environments. Children are not exclusively considered, but are taken into account as a priority group. The legislative actions towards smoking ban have stressed special attention to some child specific environments like nurseries, kindergartens, schools and children playing areas. Three quarter of the countries ban smoking in places that are of special importance for children, in education and health care facilities. Most of the national legislations prohibit smoking in government offices, workplaces and theatres, cinemas. Countries less strictly regulate smoking in restaurants and in pubs; one out of four does not have any restriction, however more than half of the countries partly restrict smoking. Much effort is needed to implement stronger policies in order to protect health of customers and employees of bars and restaurants.

European Member States are taking stronger smoking control measures after the Council Recommendation of 2 December 2002 on the prevention of smoking and on initiatives to improve tobacco control (2003/54/EC); many countries enact new laws or amend their legislation to ensure stronger smoking control and lowered ETS exposure. Most of the country partners have enforced laws, implementing also the essence of EU Directive 2003/33/EC on "the approximation of the laws, regulations and administrative provisions of the Member States relating to the advertising and sponsorship of tobacco products" and Directive 2001/37/EC "on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco products".

Suggestions for further monitoring
Council Recommendation 2003/54/EC says the Member states should "continue developing strategies and measures to reduce the prevalence of smoking, such as strengthening overall health education, particularly in schools, and general programmes to discourage the initial use of tobacco products and to overcome tobacco addiction". A lot is expected from introduction of regular national reporting of ETS exposure rates in future, with following evaluation of policies effectiveness.

Meta data

Data source

WHO Tobacco Control Database: http://data.euro.who.int/tobacco

Description of data

The WHO Tobacco Control Database covers 41 indicators on tobacco use and control policies in 48 WHO European Member States. The data are drawn mainly from the regional survey of country-specific data (provided by the WHO national counterparts for the Action Plan for a Tobacco-free Europe), first undertaken in 2001, and other internationally recognised sources. The database covers five main areas: smoking prevalence, legislation, economics, cessation and general policy. It is constantly updated. An important advance on the 2001 exercise is that countries' information on their national legislation on tobacco control has been directly checked and cross-checked with information received from other sources.

Country data on three indicators were collected for the purpose of this indicator factsheet; Smoke Free Public Areas, Smoke Free Public Transport, Direct Advertising of Tobacco Products. The data were collected in a meta data sheet and assessed according to the scoring system.

Methodology of indicator computation

For each component the following scoring is accepted:

0 – No restriction or prohibition

1 – Partial restriction, prohibition or voluntary agreement

2 – Complete ban or prohibition

The index is computed as: $100 * SUM (C_i) / (2 * N)$

where C_i is the score for component i and N is the number of components excluding the number of not applicable components *(if a component is not relevant, e.g. a country does not have domestic air or international water transport and therefore there is no policy in place regarding the component, it is considered as not applicable and it is excluded from the computation of the indicator)*

The full list of components is as follows:

1. Smoking prohibited / restricted in health care facilities
2. Smoking prohibited / restricted in education facilities
3. Smoking prohibited / restricted in government facilities
4. Smoking prohibited / restricted in restaurants
5. Smoking prohibited / restricted in pubs and bars
6. Smoking prohibited / restricted in indoor workplaces and offices
7. Smoking prohibited / restricted in theatres and cinemas
8. Smoking prohibited / restricted in buses
9. Smoking prohibited / restricted in taxis
10. Smoking prohibited / restricted in trains
11. Smoking prohibited / restricted in domestic air transport
12. Smoking prohibited / restricted in international air transport
13. Smoking prohibited / restricted in domestic water transport
14. Smoking prohibited / restricted in international water transport
15. Advertisement of cigarettes in national mass-media (TV, radio) prohibited

Geographical coverage

52 countries of the WHO European Region

Temporal coverage

The analysis based on the latest available information. The database was accessed on August 2006.

Periodicity
The database is reviewed and updated on a regular basis in close collaboration with the national counterparts for the European Strategy for Tobacco Control.

Data quality
There exists inconsistency between the meta data sheet and the tobacco control database, due to misinterpretation of the TCD data in the context of the indicator scoring system.

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WHO European strategy for smoking cessation policy, European Tobacco Control Policy Series No.1. WHO Regional Office for Europe 2004 (EUR/03/5041354)

Legislating for smoke-free workplaces, European Tobacco Control Policy Series No.3. WHO Regional Office for Europe 2006 (EUR/06/5073161)

Tobacco: Public Health Thematic Portal of the European Union: http://ec.europa.eu/health-eu/my_lifestyle/tobacco/index_en.htm

Website of the European Commission related to tobacco:
http://ec.europa.eu/health/ph_determinants/life_style/Tobacco/tobacco_en.htm

Website of the EU anti-smoking campaign ("HELP - For a life without tobacco"):
http://www.help-eu.com

Version

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WORK PACKAGE 7 (WP7) RESULTS

Deliverables:

1. **Methodological guidelines for HIA of indoor air quality focussing on children (month 6)**
2. **Report on the HIA of indoor air quality completed by selected local collaborators: results and assessment of methods feasibility (month 12)**
3. **Methodological guidelines for HIA of noise focussing on children (month 12)**
4. Report on the HIA of noise completed by selected local collaborators: results and assessment of methods feasibility (month 18)
5. Report from the HIA of ambient air quality and water quality completed by selected local collaborators (month 22)

Table of Contents:

Routine tool for Health Impact Assessment (HIA) of outdoor air pollution

1.1: Overview of relevant international databases

Outdoor air pollution data in AIRBASE database:

- Air quality data at AIRBASE are recorded at city level, while data on health effects are usually recorded in EUROSTAT at national or regional level.
- Why are not included all the stations in a specified city? For example, Madrid city has 25 stations and AIRBASE database only contains 10. Athens city has 6 PM10 stations (see apheis3 report) and AIRBASE only contains 2. What are the criteria to select the stations?
- For some cities we have the name of stations but not the name of the city to which they belong, how can we know the city and select the right stations?
- AIRBASE website doesn't contain any document about quality control of data. It is necessary to know the quality of the exposure data to use them in the routine tool.

Table 1: Availability of APHEIS and ENHIS air pollution indicators in AIRBASE database at different geographic levels.

OUTDOOR AIR POLLUTION INDICATORS	AVAILABILITY in AIRBASE		
	city	region	country[22]
O_3 8h max	YES	NO	NO
O_3 1h max	YES	NO	NO
PM10 (24h)	YES	NO	NO
PM10 (1year)	YES	NO	NO
PM2.5(24h)	YES	NO	NO
PM2.5(1year)	YES	NO	NO
SO2 (1h)	YES	NO	NO
SO2 (24h)	YES	NO	NO
SO2 (1year)	YES	NO	NO
NO(24h)	YES	NO	NO
NO(1year)	YES	NO	NO
NO2(24h)	YES	NO	NO
NO2(1year)	YES	NO	NO
Lead (1year)	YES	NO	NO
Benzene(1year)	YES	NO	NO

[22] In AIRBASE, stations are classified by COUNTRY, but raw data or statistics data at country level are not available.

CO(8h)	YES	NO	NO

Health data in EUROSTAT database:

- It is not possible to get mortality data by ICD codes at the city level. The only indicator is **Total deaths per year**, but probably it includes external causes. Data availability corresponds only to the following periods of time: 1989-1993, 1994-1998, 1999-2003.

Availability of health indicators at regional level

- It is possible to obtain some mortality indicators and the result it is not an annual absolute number. The result could be:
  - 3 years average: Absolute number
  - Annual data: Crude death rate (per 100.000 inhabitants)
- Problems with some mortality indicators (see Table 3)

Availability of health indicators at country level

- Health data at country level are the most available.
- Problems with some mortality indicators (see Table 2 and 3)
- Problems with some Hospital discharges data (see Table 2 and 4)

Table 2: Availability of APHEIS and ENHIS mortality and morbidity indicators in EUROSTAT database at different geographic levels.

HEALTH INDICATORS	AVAILABILITY in EUROSTAT		
	city	region	country
Total mortality excluding external causes (ICD10 A00-R99)	NO	APROX	APROX
Cardiovascular mortality (ICD10 I00-I99)	NO	YES	YES
Respiratory mortality (ICD10 J00-J99)	NO	YES	YES
Cardiopulmonary mortality (ICD10 I10-I70 and J00-J99) - all ages	NO	APROX	APROX
Lung cancer mortality (ICD10 C33-C34) - all ages	NO	APROX	APROX
Total postneonatal mortality include all causes	NO	YES	YES
Postneonatal respiratory mortality (ICD10 J00-J99)	NO	YES	YES
Postneonatal Sudden Infant Death Syndrom Mortality (ICD10 R95)	NO	YES	YES
Emergency room visits for asthma (ICD-10 J45, J46) - Age < 18 years	NO	NO	NO
Hospital respiratory admissions (ICD10 J00-J99) - Age < 15 years	NO	NO	NO
Hospital respiratory admissions (ICD10 J00-J99) - Age between 15 and 64 years	NO	NO	NO
Hospital respiratory admissions (ICD10 J00-J99) - Age > 64 years	NO	NO	NO
Hospital cardiac admissions (ICD10 I00-I52) - all ages	NO	NO	APROX
Hospital respiratory admissions (ICD10 J00-J99) - all ages	NO	NO	YES

Table 3: Mortality indicators required and available ones in EUROSTAT (regional and national level)

REQUIREMENTS		**AVAILABLE IN EUROSTAT**	
Indicator name	ICD10 codes	Indicator name	ICD10 codes
Total mortality excluding external causes[23]	A00-R99	All causes of death External causes of injury and poisoning	A00-Y89 V01-Y89
Cardiopulmonary mortality	I10-I70 and J00-J99	Diseases of the circulatory system	I00-I99
		Ischaemic heart diseases	I20-I25
		Other heart diseases	I30-I33, I39-I52
		Cerebrovascular diseases	I60-I69
		Diseases of the respiratory system	J00-J99
Lung cancer mortality	C33-C34	Malingnant neoplasm of larynx and trachea/bronchus/lung	C32-C34

Table 4: Morbidity indicators required and available ones in EUROSTAT (only at national level)

REQUIREMENTS		**AVAILABLE IN EUROSTAT**	
Indicator name	ICD10 codes	Indicator name	ICD10 codes
Hospital cardiac admissions - all ages	I00-I52	Diseases of the circulatory system	I00-I99
		Hypertensive disease	I10-I15
		Ischaemic heart diseases	I20-I25
		Acute myocardial infarction	I21
		Diseases of pulmonary circulation	I26-I28
		Cerebrovascular diseases	I60-I69

The most important problem is: **It is impossible to cross health data and air pollution data at the same level through downloading data from international databases.**

[23] It could be possible to calculate: First, get total mortality (A00-Y89) and subsequently, subtract External causes of injury and poisoning (V01-Y89)

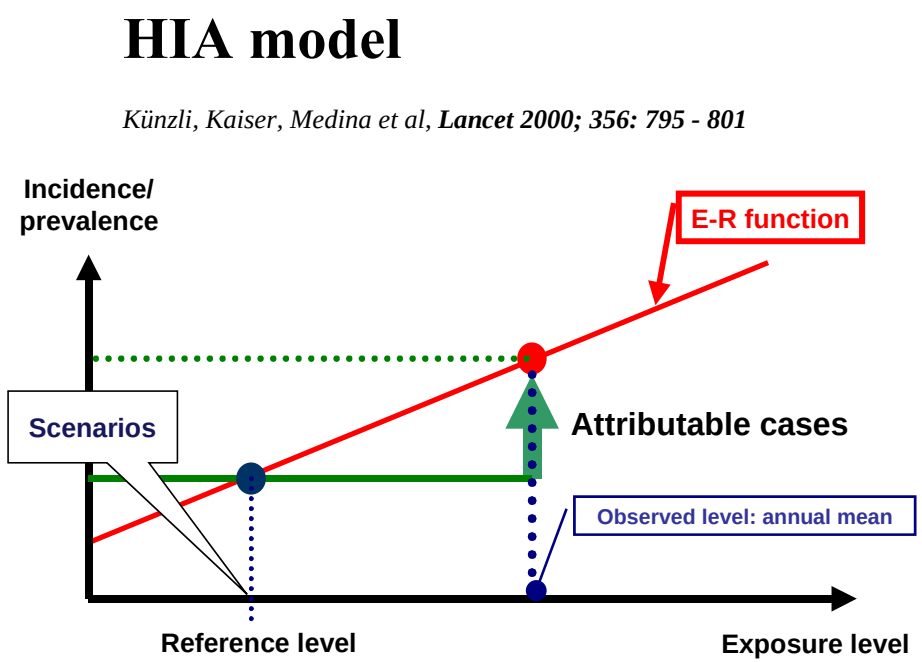
1.2: Online guidelines for how to perform the HIA

Prepared by Natalia Valero (ASPB), Sylvia Medina (InVS), Piedad Martin Olmedo (EASP), Elena Boldo (ISCIII)

HOME	**HIAir** is a routine tool on Health Impact Assessment (HIA) of Urban Air Pollution,(UAP). This tool **aims** to provide the number of health events that could potentially be prevented (or the gain in life expectancy) from an exp population. This enables evaluating different policy scenarios for reducing air-pollution levels, and can help to assess new strategies. Login Help How to use HIAir Disclaimer: "The way this tool is employed is the exclusive responsibility of the user. ENHIS declines any responsibility on its use. Links: (EC Grant Agreement 2004124 between European Commission, DG SANCO and the World Health Organization, Regional Office for
HIA - Steps - Assumptions - Limits - Requirements	- **HIA procedure: steps** Step 1: Specify the measure of exposure to selected urban air pollutants (e.g. PM_{10}, $PM_{2.5}$, BS, O_3) and their distribution in the target population for which the assessment is requested. Step 2: Define the appropriate health outcomes on the basis of the specified urban air pollutants, the epidemiological evidence that relate both events (pollution and health outcomes) and the availability of necessary data. Step 3: Specify the exposure-response function (ERF).The ERF is the key contribution of epidemiology to HIA. This may be reported as a slope of a regression line or as a relative risk for a give change in exposure. Step 4: Derive population baseline frequency measures for the health outcomes under consideration. This is to quantify the prevalence or incidence of the selected health outcomes in the target population.

Step 5: Calculate the number of air pollution attributable cases

Using the ERF, expressed as a relative risk (RR) per a 10µg/m^3 increase in air pollution levels and the baseline frequency measure for the health outcome under consideration, you can calculate for each health outcome, the number of air pollution attributable cases, as follows:



For more information: WHO Guidelines on the Assessment and Use of Epidemiological Evidence for Environmental Health Risk Assessment (WHO, 2000)

Link: http://www.euro.who.int/document/e68940.pdf

- **Our HIA assumptions**

  - HIAir assumes a **causal** relationship between exposure to air pollution and the health outcome.under consideration. The scientific basis for this assumption has been widely argued in the literature

  - The **dose-response curve (E-R functions) is considered to be linear**, assuming that for the general population there is no threshold below which air pollution has no impact on health

    - HIAir chooses a **conservative approach** to deal with the uncertainties when determining the number of cases attributable to air pollution. In this sense HIAir only uses ERFs or risk estimates that are well established.

- **Our HIA limits**

  - **This tool enables HIA on outdoor air pollution (OAP) only in urban areas**. Measurements of OAP come mainly from urban air pollution monitoring networks. Extrapolating urban air-pollution levels to a bigger scale (regional and/or national) may lead to overestimate the population's exposure. Moreover, we consider air-pollution indicators as a proxy of real exposure to a complex mixture and applying ERFs calculated for an urban mixture to a rural area is not justified. For these reasons, following a conservative, approach" regional and country levels are not considered in this HIA.
  - At the city level, depending on data availability, the HIA can be done for mortality and morbidity indicators. However if you want to compare your findings with other cities or HIAs, we advise you to limit this comparison to mortality indicators. Even if most of the cities have hospital data from registries that use a quality-control programme, the **hospital admissions data is not strictly comparable.** Some cities use emergency admissions, while others that lacked this information use non-emergency admissions.

  - Results shown for different scenarios and different pollutants should **not be added together because:**

    - The pollutants are highly correlated,

    - some of the impacts provided by one air-pollution indicator are already included in another indicator, and

    - some of the impacts provided in one scenario are already included in another scenario.

  - For $PM_{2.5}$, HIAir uses ERF values from an updated ACS study (Pope, 2002) covering 1.2 million adults in 50 states of the United States of America. The question of **transferability of estimates between the U.S. and Europe have raised**

uncertainties since the particulate mixtures and populations can differ between the two continents and there are differences in the methods used, however recent updates of this study including better exposure assessments show that the ERF used in our HIA falls in the lowest range of the more recent estimates.

- For the time being, this tool does not calculate the external monetary costs of OAP.

- **HIA requirements**

  - To calculate air-pollution attributable cases, you need the following data from your city:

    - Air pollution data available from the air pollution monitoring network and /or European Databases (AIRBASE)
    - Mortality and/or morbidity data
    - Population data

Warning: HIA findings depend directly on the measured air pollution levels. These levels vary widely as a function of the number and location of the monitoring sites, the analytical methods used, and the sites selected for our HIA. We propose the use of the Apheis Guidelines to ensure comparability of the data. For more information: Apheis 2 and Apheis 3 scientific reports and Annex 1 ENHIS Final Technical Report. Guidelines on information needs for HIA on OAP.

Links:
http://www.apheis.net/Pdf/Apheis_1_60.pdf
http://www.apheis.net/Pdf/Apheis_61_194.pdf
http://www.apheis.net/Pdf/Apheis_195_232.pdf
http://ec.europa.eu/health/ph_projects/2003/action1/docs/2003_1_28_frep_en.pdf

	Exposure assessment means the determination of the magnitude, frequency, duration, and extent (number of people) of exposure to a certain urban ambient pollutant. In our HIA, PM (particulate matter) (as an example) is used as an air-pollution indicator of the air pollution complex mixture, although we are aware that some fractions of the PM are more harmful to health than others. For the purpose of HIA the individual exposure approach is not feasible. Therefore, our exposure assessment relies on indirect exposure estimates. HIAir uses ambient fixed air monitoring sites as a surrogate for population exposure. For more information: WHO, 1999. Monitoring ambient air quality for health impact assessment. Link: http://www.euro.who.int/document/e67902.pdf

Air-pollution indicators

Air-pollution indicators are selected on the basis of the epidemiological studies that provide the exposure-response functions (ERFs) necessary for our HIAs. All of them are regulated by European Directives.

Indicator	definition
O_3 8h max - summer	Daily value of ozone maximum 8 h at summer period[24]
O_3 1h max	Daily value of ozone maximum 1 h
PM_{10} (24h)	Daily value (24h mean) of particulate matter less than 1 μm
PM_{10} (1year)	Annual mean of particulate matter less than 1 μm
$PM_{2.5}$(24h)	Daily value (24h mean) of particulate matter less than 2,5 μm
$PM_{2.5}$(1year)	Annual mean of particulate matter less than 2,5 μm
SO_2 (1h)	Daily value of sulphur dioxide maximum 1 h
SO_2 (24h)	Daily value (24h mean) of sulphur dioxide
SO_2 (1year)	Annual mean of sulphur dioxide
NO(24h)	Daily value (24h mean) of nitrogen monoxide
NO(1year)	Annual mean of nitrogen monoxide
NO_2(24h)	Daily value (24h mean) of nitrogen dioxide
NO_2(1year)	Annual mean of nitrogen dioxide
Lead (1year)	Annual mean of lead
Benzene(1year)	Annual mean of benzene
CO(8h)	Daily value of carbon monoxide 8-h average

The list of indicators will be updated in accordance with new epidemiological evidence.

Definition of the study area and selection of monitoring sites

In order to guarantee the applicability of the exposure / response functions, the definition of the study area aims at the best homogeneity of population exposure as possible and air pollution measurements have to be representative of this exposure. Indeed, the ERFs used in HIA make the underlying hypothesis that the global exposure calculated with ambient air pollution measurements is an un-biased proxy of the mean of all the individual exposures for the entire population studied.

The procedures below aim at helping concretely to define your study area and then select the monitoring stations with this objective.

I – Study area definition (multi-municipalities agglomeration is supposed)

Useful data and information :

- if available, administrative definition, in terms of municipalities, of the agglomeration (list of these municipalities)
- Precise and recent map of agglomeration (scale1/25,000) with topographic curves and urbanization indications
- Knowledge of dominant winds
- Inventory of the main industrial plants emitting air pollution and mapping their location
- Inventory of all the urban background and suburban air monitoring stations and mapping their locations
- As part of the routinely collected air quality data, data of eventual measurements campaign on the agglomeration (on sites different from those of fixed monitors) and/or mapping of annual levels of air pollution (obtained from measurements or modelling)
- Population data for each municipality of the agglomeration and the part of 65 years and older people for each of these municipality
- Data on population displacements between home and work location
- Inventory of hospitals with cardiovascular and/or respiratory activity and mapping their location

Initial area : agglomeration defined on administrative criteria

Step 1 : Identify urban and peri-urban monitoring sites and hospitals location on a general agglomeration map

Step 2 : Use the precise map (scale 1/25 000) to outline a zone 1 around the centre city, following administrative limits of the municipalities[25] and according to :

	• Topographic characteristics (in case of an important relief, a zone may be excluded of the study area) • Urbanization density **Step 3 :** Use population data to outline a zone 2 around the centre city (following also administrative limits of municipalities) with the following criteria : • More than 20% of the population of each municipality come in centre city to work • The percentage of people of 65 years and older in each municipality is lower than the mean of this percentage in all the agglomeration. By this step, we can take into account municipalities whose a big part of the population is daily exposed to the centre city pollution. **Step 4** : outline a zone 3, intersection of zones 1 and 2. For example : zone 1 = municipalities a, b, c, d Zone 2 = municipalities a, b, c, e Zone 3 = municipalities a, b, c **Step 5 :** In order to define the final zone, confront the zone 3 with : - the main industrial areas emitting air pollution : some peri-centre municipalities may be excluded - the dominant winds : the study area around the centre city has to be consistent with them - the results of eventual measurements campaign of air pollution on the zone 3 : the levels registered have to be consistent with those of the fixed monitoring sites - the results of eventual mapping of annual levels of air pollution (modelling) on agglomeration **Remarks :** - All these last criteria (step 5) are not in "all or nothing": the judgment of the epidemiologist should be based on the first objective of this procedure - <u>For any doubt, please take advice with the metrologists of the air quality monitoring network of the area.</u> For more information: Sylvie Cassadou, Appendix2 ENHIS Final Technical Report. Help for study area definition and monitoring stations selection from the PSAS-9 study.

II–Site selection criteria and construction of data series

Inclusion/exclusion criteria

- Measurements done at stations located in limited access highways are excluded.
- Only urban stations (except for ozone, due its special pattern of spread).
- Stations must have more than 75% of daily values per year.

Checking homogeneity of exposure measurements

Step 1 : for each station and each pollutant, calculate data distribution for the study period. Distribution parameters can be :

- mean
- standard error
- variation coefficient
- minimum
- percentile 5
- percentile 25
- median
- percentile 75
- percentile 95
- maximum

If inter-quartile of data of one station do not overlap the inter-quartile of the other, that means that this station represents another exposure and may be excluded.

Step 2 : for each pair of station and each pollutant, calculate correlation coefficients between data for the study period.

For example, stations a, b, c are available, matrix of correlation can be calculate

	a	b	c

a	1	r(a,b)	r(a,c)
b		1	r(b,c)
c			1

If one station is badly correlated with the others, that means that this station measures another exposure and may be excluded.

Remarks: if these criteria cannot be fulfilled, the decision to select or not a station depends on the total number of available stations and on the spatial representativity of these stations. In all the cases, advices of local metrologists can help for this decision.

Construction of data series

- For each pollutant, HIAir constructs a series consisting of arithmetic mean of daily values of all monitoring stations that fulfil inclusion criteria (see above).
- If there will still be missing values in the air pollutants series for some days, HIAir fill them in accordance with the following procedure:the value in a day with missing data in a monitoring station *j* in the year *k* will be replaced by the weighted average of the values of the rest of the monitoring stations, i.e.

$$\hat{x}_{ijk} = \bar{x}_{i.k} * \left(\bar{x}_{.jk} / \bar{x}_{..k} \right)$$

- For days with missing values in all used monitoring stations, these are replaced using the average of the value of the pollutant of the previous day (to the one with the missing value) and the next day, if these are not missing as well. In case there are consecutive days with missing values they will not be filled in.

For more information: Sylvie Cassadou, Help for study area definition and monitoring stations selection from the PSAS-9 study. Hans-Guido Mücke, Update on guidelines on exposure assessment.

Link: http://www.apheis.net/FinalReportNew/WP5OAPAppendix2.pdf

Quality control of air quality data

- To obtain *24 hour* PM, NO_2 and SO_2 and maximum one hour NO_2 values, it is required to have at least 75% of the one hour values on that particular day.
- To obtain *one hour* O_3 values, 75% of the hourly values from 6am to 7pm have to be available, since the maximum O_3 levels

always occur during day-light.

- To obtain *8-hour* value of O_3, it was decided to take the 9am to 5pm average (since O_3 peaks at or immediately after mid-day and this eight hour average is probably identical or very close to the maximum), and to calculate this, at least six hourly values have to be available.

For more information: Hans-Guido Mücke, Appendix2 ENHIS Final Technical Report. Update on guidelines on exposure assessment. http://ec.europa.eu/health/ph_projects/2003/action1/docs/2003_1_28_frep_en.pdf

Correction factors

Conversion factor for PM10

Under long-term scenarios, automatic PM_{10} measurements (β-attenuation and TEOM methodologies) need to be corrected by a specific factor (local or, by default, European) when the selected ERFs use gravimetric methods for PM_{10} measurements..The European default correction factor recommended by the EC Working Group on Particulate Matter is 1.3, but a local correction factor may be available from the local air-pollution monitoring network.

For more information: EC Working Group on Particulate Matter report :
http://ec.europa.eu/environment/air/pdf/finalwgreporten.pdf

Conversion factor from PM10 to PM2.5

If available, use a local conversion factor selected with the advice of the local air-monitoring network. A default factor of 0.7 was recommended by the Apheis Exposure Assessment Working Group.

For more information: - 1st European Daughter Directive, the 2nd Position Paper on Particulate Matter
Link: http://ec.europa.eu/environment/air/cafe/pdf/working_groups/**2nd_position_paper**_pm.pdf

Data retrieval

Air pollution data could be retrieved through **AirBase** database.

AirBase is the air quality information system of the European Environment Agency (EEA). It contains database carrying information submitted by participating countries from across Europe. This information comprises air quality data for a selection of stations and a number of components, and meta information on air quality monitoring networks and stations.

29. Visit http://air-climate.eionet.eu.int/databases/airbase/index_html
30. Click on **Airview** , the first link label in the middle of the screen.

31. Click on the link label in the message window **Go to applet page of AirView** in the centre of the www. page
32. Confirm **Yes** in the small window Warning – Security.
33. Select the requested **country/countries** (when selecting more than one item, use the Ctrl button and mouse, clicking while going down on the scroll bar) in the Airview 3.1 Table **'Country and meta data selection'** in the column on the top of the Table.
34. Confirm by OK button and wait till the metadata are loaded.
35. In the lower part of the Table, '**Country and meta data selection',** select the requested items:
    a. In the **Component(s)** column select: Nitrogen dioxide (air), Ozone (air), Particulate matter < 10 µm (aerosol), Particulate matter < 2.5 µm (if present), Sulphur dioxide (air)
    b. In the **Type(s) of station** column select: "Background"
    c. In the selection of **Type(s) of area** column select: "urban" and "suburban",
36. Press OK in the bottom of the Table.
37. In the next Table, '**Measurement Configuration Selection',** select the desired time period in the middle of the Table. In the Selection criteria options (left middle part) **Statistics** should be selected.
38. Mark the lines with the requested components in the requested cities and stations (again using the Ctrl button).
39. At the bottom of the screen click on the button **Table.**
40. You can save the Table with the data by clicking File – Save as CSV (for the Excel Table format).
41. In the Table **Airview statistics** on the left upper side of window find:
    a. For NO_2 – in the data line based on hourly values: no. of **hours with c > 200 µg/m3**
    b. For O_3 – in the data line based on daily 8-h maximum values: **annual mean**
    c. For PM_{10} – in the data line based on daily values: **annual mean**
    d. For $PM_{2.5}$ – if presented **,** in the data line based on daily values: **annual mean**
    e. For sulphure dioxide – in the data line based on daily values: no. of **days with c > 125 µg/m3**

Ignore data printed in red: they represent coverage less than 75%.
For the metadata on the stations, click **Meta information** in the Selection criteria options in the middle part (left) of Table **Measurement Configuration Selection**.

For more information: Annex 1. Methodological Guidelines. ENHIS Final Technical Report. Hands-on guidelines for data retrieval. Air_Ex1 Exposure to air pollutants.
Link: http://ec.europa.eu/health/ph_projects/2003/action1/docs/2003_1_28_frep_en.pdf

HEALTH OUTCOMES

- Health outcomes
- Quality control of health outcomes
- Data retrieval

The health outcomes are those potentially related to air pollution exposure as described in the literature.

Health outcomes

Health indicators are selected on the basis of the epidemiological studies that provide the ERFs available for HIA.

The following health outcomes will be updated as epidemiological evidence progresses.

Mortality indicators

Indicator	**Population ages**
Total mortality excluding external causes (ICD9 <800 - ICD10 A00-R99)	All ages
Cardiovascular mortality (ICD9 390-459 - ICD10 I00-I99)	All ages
Respiratory mortality (ICD9 460-519 - ICD10 J00-J99)	All ages
All causes mortality (ICD9 0-999 – ICD10 A00-R99)	All ages
Cardiopulmonary mortality (ICD9 401-440 and 460-519 - ICD10 I10-I70 and J00-J99)	All ages
Lung cancer mortality (ICD9 162 - ICD10 C33-C34)	All ages
Total postneonatal mortality include all causes (ICD9 0-999 – ICD10 A00-Y98)	1 month-1year
Postneonatal respiratory mortality (ICD9 460-519 - ICD10 J00-J99)	1 month-1year
Postneonatal Sudden Infant Death Syndrom Mortality (ICD9 798.0 - ICD10 R95)	1 month-1year

Morbidity indicators

Indicator	**Population ages**

Hospital respiratory admissions (ICD9 460-519 - ICD10 J00-J99)	Age between 15 and 64 years
Hospital respiratory admissions (ICD9 460-519 - ICD10 J00-J99)	Age > 64 years
Hospital respiratory admissions (ICD9 460-519 - ICD10 J00-J99)	All ages
Hospital cardiac admissions (ICD9 390-429 - ICD10 I00-I52)	All ages

Quality control of health outcomes

Health outcomes are codified by ICD9 or ICD10, depending on the country. The information source is EUROSTAT database, but when the health indicator is not available, you must ask for it to the local registries.

Criteria for a quality control programme should look at the completeness of the data and percentage of missing data.
For more information: APHEIS 3. Health Impact Assessment of Air Pollution and Communication Strategy . Third Year Report 2002-2003. June 2005.
Link: http://www.apheis.net/vfbisnvsApheis.pdf

Data retrieval

EUROSTAT provides the European Union (EU) with statistics at European level that enable comparisons between countries and regions. It contains data about economy, population and health, industry, agriculture, transport, environment and energy…

1. Visit EUROSTAT home page : http://europa.eu.int/comm/eurostat/
2. Click on the button Data, stated in the middle of the screen
3. In the Menu-Data in the middle of the screen find General and regional statistics
4. Click on the third item Urban audit
5. Select the item variables for core city and kernel plus national data

EXPOSURE-RESPONSE FUNCTION

- Short-term HIA
- Long-term HIA

ERFs express the relationship between air pollution exposure and health effects based on the best epidemiological evidence. The proposed ERFs will be updated as new epidemiological studies will be available

This routine tool proposes ERFs by default, but you can use other robust ERFs.

Short term HIA

ERFs by default:

Health outcome	Population	Pollutant	Period	Mean type	RR (for 10 µg.m^3 increase)	References
Mortality						
Total mortality excluding external causes (ICD9 < 800 - ICD10 A00-R99) Cardiovascular mortality (ICD9 390-459 - ICD10 I00-I99) Respiratory mortality (ICD9 460-519 - ICD10 J00-J99)	All ages	O_3 8h max	Summer[1]	Daily	1.0031 (1.0017-1.0052) 1.0046 (1.0022-1.0073) 1.0113 (1.0074-1.0151)	Gryparis et al 2004
Total mortality excluding external causes (ICD9 < 800 - ICD10 A00-R99) Cardiovascular mortality (ICD9 390-459 - ICD10 I00-I99) Respiratory mortality (ICD9 460-519 - ICD10 J00-J99)	All ages	PM_{10} daily mean	Year	Daily	1.006(1.004-1.008) 1.009 (1.005-1.021) 1.013 (1.005-1.021)	Apheis 3
Total mortality excluding external causes (ICD9 < 800 - ICD10 A00-R99)	All ages	BS	Year	Daily	1.006 (1.004-1.009)	Apheis 3

	Cardiovascular mortality (ICD9 390-459 - ICD10 I00-I99) Respiratory mortality (ICD9 460-519 - ICD10 J00-J99)					1.004 (1.002-1.007) 1.006 (0.998-1.015)	
	Morbidity						
	Cardiac hospital admissions (ICD9 390-429 - ICD10 I00-I52) Respiratory hospital admissions (ICD9 460-519 - ICD10 J00-J99)	All ages	PM_{10} daily mean	Year	Daily	1.006 (1.003-1.009) 1.0114 (1.0062-1.0167)	Apheis 3
	Cardiac hospital admissions (ICD9 390-429 - ICD10 I00-I52) Respiratory hospital admissions (ICD9 460-519 - ICD10 J00-J99)	All ages	BS	Year		1.011 (1.004-1.019) 1.0030 (0.9985-1.0075)	Apheis 3
	Hospital respiratory admissions (ICD9 460-519 - ICD10 J00-J99)	< 15 years	PM_{10} daily mean	Year		1.010 (0.998-1.021)	Anderson et al 2004
	Hospital respiratory admissions (ICD9 460-519 - ICD10 J00-J99)	15 - 64 years	O_3 8h max	Summer		1.001 (0.991-1.012)	Anderson et al 2004
	Hospital respiratory admissions (ICD9 460-519 - ICD10 J00-J99)	> 64 years	O_3 8h max	Summer		1.005 (0.998-1.012)	Anderson et al 2004

[1] Definition of summer period: 01 April - 30 September

Long Term HIA:
ERFs by default:

SCENARIOS	HIAir suggests the following scenarios of reduction of air-pollution exposure. Some of them are chosen according to European Directives but you can use other reduction scenarios. The following scenarios are presented as an example. - **Short term exposure to PM_{10}** - Reduction of PM_{10} levels to a 24-h value of **50 μg/m^3** in all days exceeding this value (Limit of 1999/30/EC Directive) - Reduction of PM_{10} levels to a 24-h value of **20 μg/m^3** in all days exceeding this value - Reduction by **5 μg/m^3** of all the 24-h values - **Long term exposure to PM_{10}** - Reduction of the annual mean value of PM_{10} to a level of **40 μg/m^3** (Limit of 1999/30/EC Directive for 2005) - Reduction of the annual mean value of PM_{10} to a level of **20 μg/m^3** (Limit of 1999/30/EC Directive for 2010) - Reduction by **5 μg/m^3** of the annual mean value of PM_{10} - **Long term exposure to $PM_{2.5}$** - Reduction of the annual mean value of $PM_{2.5}$ to a level of **15 μg/m^3** - Reduction of the annual mean value of $PM_{2.5}$ to a level of **10 μg/m^3** - Reduction by **3.5 μg/m^3** of the annual mean value of $PM_{2.5}$ (equivalent to 5 μg/m3 in PM_{10} using the European conversion factor 0.7).

CALCULATIONS - Number of attributable cases (short term scenarios) - Number of attributable cases (long term scenarios) - Comparison of attributable cases between cities - DALYs - Years of life lost (YoLL) and Gain in life expectancy (LE) (AIRQ)	**DALYs** DALYs give an indication of the (potential) number of healthy life years lost in a population due to premature mortality or morbidity, the latter being weighted for the severity of the disorder. The concept was first introduced by Murray and Lopez (1996) as part of the Global Burden of Disease study, which was launched by the World Bank. Since them, the World Health Organization has endorsed the procedure, and the DALY approach has been used in various studies on a global, national and regional level. For more information: WHO Burden of disease project Link: http://www3.who.int/whosis/menu.cfm?path=evidence,burden&language=english
LINKs	http://www.who.int/hia/en/ https://webcollect.rivm.nl/ENHIS_pilot/general/startmenu.aspx http://www.apheis.net/
FAQs	

Examples of HIA feasibility Assessments

Children living in homes with mould and dampness problems

Prepared by Vladimíra Puklová, SZU (Czech Republic)

Indicator name: **Children living in homes with dampness** **RPG3_Hous_Ex3**

Table 1. HIA components for this indicator

Exposure	Health outcomes	Exposure-response function (OR, AOR*, CI95)	Causal relationship	Guidelines
Children exposed to dampness/moulds at homes (reported dampness/damp spots/moisture/moulds/odor of moulds)	*Children 6-12 years* [1/] -cross-sectional study Cough – damp signs Cough – mould signs *Children 6-9 years* [2/] Atopic rhinitis *Children 6-15 years* [3/] Asthma *Children –only early, not current exposure* [4/] Asthma (7 years in average) Asthma (13 years in average) Rhino-conjunctivitis (7 years in average) Wheeze ((13 years in average) *- early and current exposure* Wheeze (7 years in average) Eczema (7 years in average) Rhino-conjunctivitis (13 years in average) *Children 1-7 y (prospective*	 1.57 (1.06 – 2.32) 2.05 (1.35 – 3.19) *1.5 (1.31-1.74)* *1.20 (1.01-1.41) girls* *1.80 (1.41 – 2.30)* *1.89 (1.38 – 2.59)* 1.46 (1.17 - 1.82) 1.56 (1.15 - 2.11) 1.98 (1.47 to 2.66) 1.44 (1.09 - 1.91) 1.78 (1.30 - 2.45)	- respiratory disorders such as wheeze and asthma can often be explained by exposure to home mould/dampness, especially early in life. The association seems more evident in children than in adolescents. -causal association between dampness and health is strong, nevertheless which humidity related agents are responsible and causal connections are unknown. - dampness indoor induce growth of molds, dust mites and various microbial agents, excess moisture may also initiate the release of chemical emissions from damaged building materials and furnishings. - there is sufficient evidence of an association between damp indoor environments and some	The recommended relative humidity indoors ranges between 30 – 55%. The problems with the exposure assessment of damp buildings are mainly attributed to methodological issues. Technical requirements and guidelines exist in construction legislative and norms.

	cohort study) [5/] Asthma *Children 6-19y cross. study* [6/] Bronchitis Cough *Children 8-12 y* [7/] *- subtropical climate* Allergic rhinitis Cough *Children 9 y* [8/] Hay fever Wheezing Children 0 -2 y- cohort study [9/] Bronchial obstruction (observed) Bronchial obstruction (reported) *Children 5-6 y* [10/] Higher sensitization after skin-prick testing -to house dust mites - to cat *Children 6-9 y* [11/] Wheezing *Children 1-6 y* [12/] Persistent cough Phlegm Wheezing Nasal congestion *Children 6-12 y – cross. study* [13/] Chronic cough	IRR 2.44 (1.07-5.60) (Poisson regr) 1.32 (1.06-1.39) 1.89 (1.58-2.26) 1.37 (1.03-1.83) 5.74 (2.20-14.95) 2.1 (1.5 - 3.0) 1.6 (1.1 - 2.5) 3.8 (2.0 - 7.2) 2.5 (1.1 – 5.5) 3.37 (1.63-6.96) 3.19 (1.11-5.74) 1.43 (1.24 - 1.65) 2.17 (1.39, 3.39) 2.20 (1.27 - 3.82) 2.62 (1.39 - 4.39) 1.94 (1.15 - 4.98) 3.01 (1.31 – 6.92) boys 1.41 (0,52 – 3.83) girls	upper respiratory tract symptoms, coughing, wheezing and asthma symptoms. - home dampness is associated with increased sensitization to dust mites and molds.	

Visible dampness	*Children 9-16 y* [14/] Asthma *Children 7-8 y cross. study* [15/] Asthma *Children 3-5 y cross. study* [16/] Wheezing *Children 10y* [17/] Tonsillopharyngitis *Children 6-12 y cross-study* [18/] Asthma *Children 7-8 y case study* [19/] Asthmatic symptoms *Children 6-18y* [20/] Asthma *Children 1-2 y cohort study* [21/] Wheezing – reported dampness Wheezing – observed dampness *Children 9-11 y case study* [22/] Wheezing *Children 6-16 cross study* [23/] Atopic eczema symptoms *Children 1-6 y cross study* [24/] Wheezing Cough at night Asthma (doctor-diagnosed)	1.33 – 1.88 1.9 (*P*=0.0007) 3.25 (1.8-6.0) 1.4 (1.1 - 1.6) 1.82 (1.23 - 2.69) 2.98 (1.10 - 8.28) 2.19 (1.81 – 2.64) 1.4 (0.9 - 2.2) 1.6 (1.0 - 2.5) 1.32 (1.00 - 1.75) 1.40 (1.00-1.97} 1.53 (1.08-2.18) 2.50 (1.63 – 3.82) 1.67 (0.96 – 2.91)		

** OR adjusted for age, gender, parents' education, environmental tobacco smoke, gas cooking, pets, etc*

According to the conclusions of the „Report on the WHO technical meeting on quantifying disease from inadequate housing", Bonn Nov 2005, (http://www.euro.who.int/Housing/20060519_2) perhaps the strongest evidence exists on the association of dampness with cough, wheeze and on asthma; there is evidence on both onset of new asthma cases and increased asthma symptoms on previously sensitized individuals. The ORs vary between 1.4-2.2. For other health outcomes, the ORs vary remarkably from study to study and from symptom to symptom; approximately between 1.1-4.6.

The recommendation of the document cited above, the suggested most reliable and evidence based health outcomes are cough, wheeze and asthma and suggested OR between 1.4 and 2.2.

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Table 2. Data availability

International databases (HIA)		National databases (case study)		Regional/local databases (case study)	
Exposure	**Health outcomes**	**Exposure**	**Health outcomes**	**Exposure**	**Health outcomes**
EUROSTAT (1994-2001) **-rate of households (not children) with dampness/mould** http://europa.eu.int/comm/eurostat/ Austria, Belgium, Denmark, Luxemburg, Germany, Greece, Italy, Ireland, France, Finland, Netherlands, Spain, , Portugal, UK (see Tab.4 for further information)	ISAAC+ – children 6-7 years and 13 – 14 years, percentage of children reporting wheeze, cough, asthma http://isaac.auckland.ac.nz/Index.html Last available year: Albania, Austria, Belgium, Estonia, Finland, France, Georgia, Germany, Greece, Italy, Latvia, Malta, Poland, Portugal, Ireland, Romania, Russia, Spain, Sweden, United Kingdom, Uzbekistan (see Tab.5 for further information)	Finland - prevalence of moisture problems in Finnish houses – random sample of 450 houses in 5 cities [i/] Czech Rep. - prevalence damp/molds by 7,868 children in 18 cities - 2001[iii/] - it have been repeated in 2006	Czech Rep. - prevalence of asthma in children – 7,868 children in 18 cities -2001[iii/] - have been repeated in 2006	Sweden - the dampness in buildings and health (DBH) study in Sweden - a cross-sectional questionnaire investigation involving 10,851 children 1-6 years of age in Varmland. (all pre-school children) [ii/]	Sweden - prevalence of health outcomes – wheezing, cough, asthma doctor diagnosed, rhinitis, eczema - in the same study [ii/]
ECRHS - European Community Respiratory Health Survey – housing characteristics, reported mold exposure http://www.ecrhs.org/	ECRHS - European Community Respiratory Health Survey - asthma http://www.ecrhs.org/	Germany -"Dampness and mould in homes" (2000/ 2001)-a study of about 12,000 persons living in 5530 randomly selected apartments and houses[v/]	Italy – SIDRIA2 study - 20,016 children (mean age 7 years) and 13,266 adolescents (mean age 13 years) completed questionnaires on indoor exposures and respiratory symptoms/ diseases [vi/]	Finland - a population-based, 6-year prospective cohort study of 1,984 children 1-7 years of age – moisture, koles occurence in dwellings [vii/]	Finland - development of asthma in children from prospective cohort study [vii/]
The LARES project (Large Analysis and Review of European housing and health Status) – 8 european cities Vilnius, Forli, Bratislava, Budapest, Geneva, Angers, Bonn, Ferreira– dampness prevalence in dwellings – total population 8519 individual residents in 3373 households http://www.euro.who.int/Housing/activities/20020711_1	Pollution Effects on Asthmatic Children in Europe – 10 countries (28 regions) data on persistent (night) cough in children 6-13 y school children – about 50 000 children [iv/]	Germany- The German Environmental Survey (GerES IV) - 1,800 children 3 to 14 years of age – molds occurrence in homes http://www.umweltbundesamt.de/survey-e/us03/uprog.htm	United Kingdom - Burden of allergic disease in the UK: secondary analyses of national databases – athma and allergy prevalence in UK children from several sources [xi/]	Russia - 9 cities and towns, 5,951 children -	Croatia - Zagreb - questionnaire on base of ISAAC - 1047 children 6-16 y – prevalence of asthmasymptoms, wheeze, cough [viii/] Russia- about 5,951 children - health outcomes – allergy, cough,

			United Kingdom - prevalence of atopic symptoms in 27,507 children throughout the UK,12-14 year olds in England, Wales, Scotland, and the Scottish Islands using ISAAC protocol [xii/]	leakages and mould in the flats [ix/] Sweden – Stockholm - Prospective birth cohort study (BAMSE) - 4089 children, from0 to 2 years of age – home dampness [x/]	wheezing [ix/] Sweden – Stockholm - Prospective birth cohort study (BAMSE) - 4089 children, 2 years of age – wheezing and astma prevalence [x/]

[+]ISAAC study – standardized method for collection of comparable data on symptoms of asthma, allergic rhinitis and eczema in populations, not representative for countries- involved are particular regions/cities (see Tab.5). It is focused on self-reported or parent´s reported symptoms, the figures are higher than those presented in health statistics.

Criteria for asthma diagnosis and methodology of survey are crucial points for the results. Officially reported prevalence of asthma in national statistics (records from general practicioners and /or allergologists, or hospital admissions data) differs from survey figures based on parent´s questionnaire and from self-reported data by school-children etc).

Table 3. Summary for this indicator

Possible HIA/case study? **If not, possible HRA and/or EBD study?**	**Remarks**
There is possibility to make an estimation on number of children living in damp homes from the data on households with damp/moulds collected by censuses and contained in statistic of EUROSTAT SILC data. Health outcomes data could be extracted from ISAAC study or national surveys on the base of ISAAC questionnaire (that are not involved in ISAAC group). There is possibility to perform HIA-case study on base of the regional data from surveys, advisable is Finland, Netherlands, (out of ENHIS2 countries), or Sweden (WHO EU Region)	The exposure data on number of children living in damp homes is not a subject of routinely collecting. When directly children exposure have been investigated, then in majority of surveys it is combined with health outcomes prevalence detecting and with association finding between exposure and health (together with AOR expression). The exposure data in surveys is not uniform, the definition varies. The prevalence of dampness depends on the definition of exposure - dampness/damp spots/moisture/moulds/odor of moulds/condensation on the windows/damp floor etc. The subjective element plays the role as the self-reporting is used in major of studies. There is need to make a consensus on the definition, then the comparable estimation of the exposure could be done (also conclusion from the „Report on the WHO technical meeting on quantifying disease from inadequate housing“, Bonn Nov 2005).

HIA: Health Impact Assessment; HRA: Health Risk Assessment; EBD: Environmental Burden of Disease; RR: relative risk

Table. 4 Rate of the households with dampness problems (EUROSTAT – ENHIS)

Country_code	Country	1994	1995	1996	1997	1998	1999	2000	2001
at	Austria	:	14.3	11.4	11	10.3	12	8.4	8
be	Belgium	23	23.8	18	17.7	17.3	18.4	16.5	14.6
dk	Denmark	13.7	11.7	11.9	9.5	11.8	9.7	10.6	11
fi	Finland			6.3	6.4	5.5	5.4	4.6	4.2
fr	France	26.2	23.8	21.1	19.9	22.1	21.6	21.4	20.3
de	Germany (including ex-GDR from 1991)	:	11.9	9.9	:	:	:	:	:
gr	Greece	28.7	24.3	22.7	22.8	20.7	19.9	18.4	16.9
ie	Ireland	17.7	13.8	13.9	13.6	10.8	9.8	9.7	9.5
it	Italy	15.4	12.3	11.2	10.5	13.3	12.8	11.6	11.9
lu	Luxembourg (Grand-Duché)	:	13.5	10.6	:	:	:	:	:
nl	Netherlands	21.3	21	18.5	17.7	16.7	17.7	16.7	17.3
pt	Portugal	43.4	42.7	43.5	44.1	41.6	38.1	38.8	35.7
es	Spain	30.8	24.6	24.8	24.8	21.9	19.4	15.3	17.2
uk	United Kingdom	:	25.2	18.8	17.1	15.6	15.8	13.6	14.6
eu15	European Union (15 countries)	24.8	22.5	18.5	17.6	17.7	17.3	15.8	15.8

Even ideally housing surveys will be the most reliable source of data, this indicator uses the Eurostat SILC (variable HH040) on dampness-related problems such as (a) leaking roof, (b) damp walls/floors/foundations, and (c) rot in window frames or floor; all of which could lead to or represent mould growth. EU-SILC (Statistics on Income and Living Conditions) , launched under a gentleman's agreement with six EU15 countries plus Norway in 2003 and re-launched under a Regulation with twelve EU15 countries plus Iceland in 2004 and remaining three countries in 2005, it is being launched in Estonia in 2004 and remaining new member states in 2005. Bulgaria and Romania will launch in 2005 and Turkey in 2004. Switzerland will launch by 2007. Results from EU-SILC should be supplied by participant countries to Eurostat within 12 months of the end of the survey year: annual data for 2004 will be available in December 2005.

Table 5 Asthma symptoms and asthma prevalence in children – last available data from 1993-1996 (parent´s reports and self reported) (ISAAC – ENHIS2)

Country_code		Country of the WHO European Region	Region	6-7-year-olds, 13-14-year-olds		
WHO	ISO			Wheeze in the last 12 months	Nigt cough in the last 12 months	Asthma ever
ALB	al	Albania	Tirana			
AUT	at	Austria	Salzburg			
			Urfahr-Umgebung			
BEL	be	Belgium	Antwerp			
EST	ee	Estonia	Narva			
			Tallinn			
FIN	fi	Finland	Helsinki			
			Kuopio County			
			Lappland Area			
			Turku and Pori County			
FRA	fr	France	Marseille			
			Montpellier			
			Pessac			
			Strasbourg			
			West Marne			
GEO	ge	Georgia	Kutaisi			
			Tbilisi			
DEU	de	Germany	Greifswald			
			Münster			
GRC	gr	Greece	Athens			
IRL	ie	Ireland	Rep. of Ireland			
ITA	it	Italy	Ascoli Piceno			
			Cosenza			
			Cremona			
			Emilia-Romagna			
			Empoli			
			Firenze			
			Frosinone			
			Milano			

			Roma
			Siena
			Torino
			Trento
			Verona
			Viterbo
LVA	lv	Latvia	Riga
			Rural Latvia
MLT	mt	Malta	Malta
POL	pl	Poland	Krakow
			Poznan
PRT	pt	Portugal	Funchal
			Lisbon
			Portimão
			Porto
ROU	ro	Romania	Cluj
RUS	ru	Russian Federation	Moscow
	ukm	Scotland	Scotland
ESP	es	Spain	Barcelona
			Bilbao
			Cádiz
			Cartagena
			Castellón
			Pamplona
			Valencia
			Valladolid
SWE	se	Sweden	Linköping
			Stockholm/Uppsala
		United Kingdom	Anglia and Oxford
			Northeast and Yorkshire
			North Thames
			North West
			South and West
			South Thames
			Trent
			West Midlands

			Guernsey	
			Isle of Man	
			Jersey	
			Sunderland	
			Surrey/Sussex	
UZB	uz	Uzbekistan	Samarkand	
			Tashkent	
		Wales	Wales	

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Children exposed to Environmental Tobacco Smoke (ETS)

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Contribution to ENHIS by the Children's Health and the Environment Programme

This document describes a proposed selection of major recent reports addressing child health effects from Environmental Tobacco Smoke (ETS). In addition, it summarizes the estimates from meta-analyses of the relationship between exposure and response (i.e. odds rations) from these documents. Only outcomes with a clear causal relationship are included.

Selected major reports addressing effects from ETS exposure

The major reports that were found to give an updated review of the data are shown in table 1. These reports have systematically search the evidence and evaluated the evidence for causality, judging the extent of the evidence available and then making an inference as to the nature of the association. All these documents (except the IARC report) are available to download as pdf-files at internet.

Table 1. Selected recent major reports addressing adverse child health effects from ETS exposure.

AGENCY	PUBLICATION	PLACE AND DATE
U.S. Environmental Protection Agency (EPA)	Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders	Washington, D.C. United States 1992
Californian EPA	Health Effects of Exposure to Environmental Tobacco Smoke	Sacramento, California United States 1997 (published 1999)
World Health Organization	International Consultation on Environmental Tobacco Smoke (ETS) and Child Health. Consultation Report	Geneva Switzerland 1999
International Agency for Research on Cancer (IARC)	Tobacco smoke and Involuntary Smoking (IARC Monograph 83)	Lyon France 2004
Californian EPA	Proposed Identification of Environmental Tobacco Smoke as a Toxic Air Contaminant	Sacramento, California United States 2005
U.S. Surgeon General	The Health Consequences of Involuntary Exposure to Tobacco Smoke	Atlanta, GA United States 2006

Estimates of relative risk

1. Developmental effects

a. Foetal growth

Several epidemiological studies have measures weight at birth, as a proxy for foetal growth. Those measures include mean birth weight, low birth weight (LBW, <2500 grams), and intra-uterine growth retardation, which is defined as less than the tenth percentile of weight for gestational age. Since decades there is a consensus about that decreased foetal growth is causally related to active smoking with a typical mean birth weight 150-200 less than those of non-smokers and a doubled risk for low birth weight (Stillman *et al.*, 1986).

The small negative mean differences between exposed and non-exposed may not be important for most individuals, but the infants who are already compromised may be pushed into even higher risk categories. In fact several studies have reported a relationship between LBW and

paternal smoking. Since birth weight is depending on maturation it is important to analyse the relationship between ETS exposure and children born small for gestational age.

The most recent report on ETS identified 46 epidemiological studies on ETS exposure and LBW. The risk estimates have generally been small and without statistical significance. However, almost all of them show a consistent pattern with increase risk of LBW.

Based on all studies available at the time, a meta-analysis suggests that prenatal ETS exposure has a small effect on birth weight, with a pooled risk estimate of 1.2 (1.1-1.3) (Windham *et al.*, 1999) (Table 2). The pooled estimate of mean birthweight indicated a decrement of 28.5 g with ETS exposure of non-smoking women (95% CI = -40.8, -16.2).

Table 2. Meta-analysis of studies examining low birthweight as result of exposure to ETS. Data from Windham et al, (1999).

STUDIES	**N**	**POOLED RESULT**	**95% CI**
LBW and SGA (OR)			
All	16	1.07	(1.0, 1.15)
adjusted	8	1.18	(1.0, 1.39)
Term LBW or SGA only	11	1.19	(1.08, 1.32)
adjusted	6	1.11	(0.92, 1.34)
LBW only	8	1.00	(0.90, 1.10)
adjusted	3	1.38	(1.01, 1.87)

Since the meta-analysis published in 1999, more recent studies have provided evidence that strengthen the association made by Windham and colleagues. Six of seven identified studies found increased risk of LBW associated with ETS, two of which were statistically significant.

b. Sudden infant death syndrome (SIDS)

The sudden, unexplained, unexpected death of an infant before one year of age, referred to as sudden infant death syndrome (SIDS) has previously been causally linked to maternal smoking before and after delivery. However, it has been difficult to separate the prenatal effects from the effects induced by ETS exposure postnatally. There has been two systematic reviews of the relationship (Anderson and Cook, 1997; US-EPA, 1999). Thirteen individual studies have been identified to examine the association between household ETS and SIDS. Ten of these independently examined the effect of post partum maternal smoking and they all found a significant association. However, two did not consider confounders, and three studies did not adjust for prenatal active smoking. In one study, the effect was no longer significant when controlled for prenatal maternal smoking, possibly because of a strong correlation between maternal prenatal and postnatal smoking. Four studies had a complete adjustment for confounders such as prenatal maternal smoking. The adjusted OR:s for postnatal maternal smoking is summarized in table 3 and varies between 1.65 to 2.39.

Table 3. Odds ratios for postnatal exposure to ETS and SIDS.

STUDY	TYPE	MATERNAL	PATERNAL	OTHER
Michell et al. 1993	Case-control	1.65 (1.20-2.28)	1.37 (1.02-1.84)	1.17 (0.84-1.63)
Schoendorf and Kiely, 1992	Case-control (black)	2.33 (1.48-3.67)	1.03 (0.43-2.47)	
	Case-control (white)	1.75 (1.04-2.95)	1.63 (0.58-4.74)	
Klonoff-Cohen et al., 1995	Case-control	2.28 (1.04-4.98)	3.46 (1.91-6.28)	2.18 (1.09-4.38)
Ponsonby et al., 1995	Case-control	2.39 (1.01-6.00)		
Andersson and Cook, 1997	Meta-analysis of 39 relevant studies	1.94 (1.55-2.43)		

2. Respiratory effects

a. Acute lower respiratory tract infections

More than hundred publications with original data on lower respiratory illnesses in infants and early childhood are available. The majority of these were reviewed in 1997 (Strachan and Cook, 1997) and 1999 (Li *et al.*, 1999). According to the US Surgeon General's report (2006), 26 more articles have been published since the Strachan and Cook review (1997). However, only few studies include data on the effects of smoking by only the father. This is an important factor since lasting effects of *in utero* exposure to tobacco smoke from maternal smoking may increase the likelihood of a more severe LRI with infection.

In the meta-analysis by Li and colleagues (1999), the association between ETS exposure and LRI (including pneumonia, bronchitis and bronchiolitis) was found to be 1.93 (1.66-2.25) for overall risk of hospitalizations. When the data were categorized by age, the ORs for LRI from ETS exposure were 1.71 (95% CI 1.33-2.20) for 0-2 yr olds, 1.57 (95% CI 1.28-1.91) for 0-6 yr olds, and 1.25 (95% CI 0.88-1.78) for 3-6 yr olds, respectively. However, only the 0-6 yr olds group achieved statistical significance after test for heterogenicity across studies. Based on the three studies that allowed differentiation of the effects od pre- versus postnala smoke exposure, an OR of 2.13 (1.52-3.00) was calculated.

Thirty-eight studies that looked at ETS and LRI in the first three years of life were included in the meta-analysis by Strachan and Cook (1997). Pooled OR:s 1.57 (1.42-1.74) for LRI with smoking by either parent, 1.72 (1.55-1.91) and 1.29 (1.16-1.44), for maternal and paternal smoking, respectively.

The SG report combine the studies from the 1997 review with subsequent publications, in total 34 studies. All except one study (Nuesslein *et al.*, 1999) found elevated risks of LRI associated with parental smoking. Two high quality papers are specifically mentioned in the SG report. One that examines data from the National Health and Nutrition Examination Survey (Gergen *et al.*, 1998) and a Swedish study focused on pneumonia and hospital admissions (Hjern *et al.*, 2000). In a meta-analysis, they separately report pooled OR:s with association with parental, maternal and paternal smoking (Table 6.3).

Table 6.3 Pooled odds ratios (ORs), 95% confidence intervals (CIs), and heterogeneity tests from meta-analyses of lower respiratory illnesses associated with parental smoking

		Findings		
Study description		**Either parent smoked**	**Mother smoked**	**Father smoked**
All studies	Number of studies	38	41	18
	Heterogeneity χ^2	73.1 ($p < 0.001$)	110.5 ($p < 0.001$)	19.3 ($p = 0.311$)
	ORs (95% CIs) (fixed)	1.51 (1.44–1.59)	1.56 (1.51–1.62)	1.31 (1.20–1.42)
	ORs (95% CIs) (random)	1.59 (1.47–1.73)	1.72 (1.59–1.86)	1.31 (1.19–1.43)
Excluded studies with upper respiratory illnesses	Number of studies	35	37	15
	Heterogeneity χ^2	71.8 ($p < 0.001$)	99.0 ($p < 0.001$)	17.2 ($p = 0.247$)
	ORs (95% CIs) (fixed)	1.50 (1.43–1.58)	1.54 (1.48–1.61)	1.28 (1.17–1.40)
	ORs (95% CIs) (random)	1.59 (1.46–1.74)	1.70 (1.56–1.84)	1.28 (1.15–1.42)
Community studies of lower respiratory illnesses (LRIs), bronchitis, and/or pneumonia	Number of studies	13	9	4
	Heterogeneity χ^2	24.7 ($p = 0.016$)	18.2 ($p = 0.020$)	3.03 ($p = 0.387$)
	ORs (95% CIs) (fixed)	1.55 (1.42–1.69)	1.61 (1.47–1.75)	1.31 (1.16–1.48)
	ORs (95% CIs) (random)	1.60 (1.38–1.84)	1.66 (1.42–1.94)	*
Community studies of wheeze illnesses	Number of studies	13	17	4
	Heterogeneity χ^2	23.7 ($p = 0.022$)	29.9 ($p = 0.018$)	1.72 ($p = 0.633$)
	ORs (95% CIs) (fixed)	1.48 (1.38–1.59)	1.71 (1.60–1.83)	1.29 (1.05–1.59)
	ORs (95% CIs) (random)	1.57 (1.39–1.79)	1.85 (1.66–2.06)	*
Studies based on surveys that relied on recall over many years	Number of studies	4	6	3
	Heterogeneity χ^2	6.0 ($p = 0.109$)	12.08 ($p = 0.034$)	3.02 ($p = 0.221$)
	ORs (95% CIs) (fixed)	1.66 (1.46–1.89)	1.58 (1.47–1.71)	1.43 (1.22–1.68)
	ORs (95% CIs) (random)	1.65 (1.33–2.06)	1.58 (1.38–1.81)	*
All studies excluding those that were based on recall over many years	Number of studies	34	35	15
	Heterogeneity χ^2	64.1 ($p < 0.001$)	98.3 ($p < 0.001$)	14.4 ($p = 0.419$)
	ORs (95% CIs) (fixed)	1.49 (1.41–1.57)	1.56 (1.49–1.63)	1.26 (1.14–1.39)
	ORs (95% CIs) (random)	1.58 (1.45–1.73)	1.77 (1.62–1.94)	1.26 (1.14–1.39)
Hospitalizations for LRIs, bronchitis, bronchiolitis, or pneumonia	Number of studies	9	11	7
	Heterogeneity χ^2	22.5 ($p = 0.004$)	28.4 ($p = 0.002$)	11.8 ($p = 0.067$)
	ORs (95% CIs) (fixed)	1.46 (1.27–1.66)	1.39 (1.31–1.47)	1.20 (1.0–1.44)
	ORs (95% CIs) (random)	1.73 (1.31–2.28)	1.49 (1.29–1.73)	1.31 (0.98–1.76)

*The number of studies was too small for reliable random effects modeling; there was no significant heterogeneity of effects.

b. Chronic respiratory symptoms

A meta-analysis of seven studies of wheezing illness in early childhood showed that maternal smoking increased the risk (OR= 1.98, 1.71-2.30) for wheezing (Strachan and Cook, 1997). The same authors also provided evidence of an effect of ETS on respiratory symptoms in school-aged children (Cook and Strachan, 1997) (Table 4)

Table 4. Meta-analysis estimates of the relationship between parental smoking and respiratory symptoms among school-age children. Adapted from (Jaakkola and Jaakkola, 2002). Data from Cook and Strachan, 1997.

SYMPTOM	EITHER		MOTHER		FATHER		BOTH	
	OR	CI	OR	CI	OR	CI	OR	CI
Wheezing	1.24	1.17-1.31	1.28	1.19-1.38	1.14	1.06-1.23	1.47	1.14-1.90
Cough	1.40	1.27-1.53	1.40	1.20-1.64	1.21	1.09-1.34	1.67	1.48-1.89
Phlegm	1.35	1.13-1.62	NC		NC		1.46	1.04-2.05
Breathlessness	1.31	1.08-1.59	NC		NC			

A meta-analysis by the California EPA estimated the risk of wheezy bronchitis or chronic wheezing to 1.47 (1.34-1.61) among children <18 years of age (EPA, 1997).

c. Middle ear infections

Otitis media, middle ear infections, is one of the most commonly diagnosed problems in outpatient pedriatrics. Eustachian tube dysfunction of whatever etiology results in a sustained pressure differential between the middle ear and the surrounding atmosphere, with subsequent effusion of serous fluid into the middle ear. This produces a sensation of fullness and temporarily decreased hearing. The acute *otitis media* occurs when this fluid becomes infected with bacteria and results in pain, fever, and a potential for tympanic membrane perfusion. Serious secondary complications may lead to sustained hearing loss, communication difficulties and educational impairment in children.

In its 1997 report, Cal/EPA reviews 22 reports. However, few were without methodological shortcomings. Three studies were considered as convincing (Iversen *et al.*, 1985; Strachan *et al.*, 1989; Etzel *et al.*, 1992). They used biomarkers of ETS or periodic prospective screening and found statistically significant associations. The study by Etzel et al. was the only study with a combination. Seven more studies have been identified in the Cal/EPA report (2005). Of these, four found significant positive association between ETS and *otitis media*. None of the newly reviewed studies used both prospective OM screening and biomarkers, as was the case in the study by Etzel and collegues (1992). The negative studies were all cross-sectional or of "unknown" design. The recent SG report identify a total of 59 studies on the association between ETS and acute otitis media, recurrent OM, middle ear disease or adenotonsillectomy in children. Meta-analysis were done in relation to smoking by either parent (table 5).

Table 5. Pooled odds ratios for the effect of smoking by either parent on middle ear disease. Data from meta-analysis by SG (2006).

OUTCOME	EITHER	MATERNAL	PATERNAL
AOM	0.99 (0.7 – 1.4)		
ROM	1.32 (1.14 – 1.52)	1.37 (1.19 – 1.59)	0.90 (0.70 – 1.15)
Middle ear effusions (MEE)			
Outpatients referred for MEE	1.20 (0.90 – 1.60)	1.84 (1.54 – 2.20)	1.49 (1.13 – 1.96)

d. Induction of asthma

A meta-analysis by the Californian EPA estimated the risk of clinically diagnosed asthma to 1.44 (1.27-1.64) among children <18 years of age (EPA, 1997).

The most recent meta-analysis based on epidemiological evidence is presented by the Office of Environmental Health Hazard Assessment (OEHHA) and published in the Californian EPA report (2005). They examined the association between exposure to ETS in the home and the development of childhood asthma. This analysis comprise 85 studies, covering over 460,000 children, and representing 29 countries. To make the individual OR:s comparable between studies, exposure parameters were normalised. From the pooled estimate, they conclude that the risk of developing asthma was likely in the range of 1.21 and 1.37. An article cited as Vork et al. (submitted to JAMA) is said to report a risk of 1.32 for developing childhood asthma after exposure to ETS. It is unclear to the reader if this is a scientific paper on the OEHHA report. However, this value is then used by the Californian EPA in their calculation of the attributable risk in the population of non-smoking children.

e. Exacerbation of asthma

There is a consensus among scientists about the conclusion that ETS is causally associated with additional episodes and increased severity of asthma in children who already have the disease. During the last decade several epidemiological studies have affirmed the causal connection to outcomes such as moderate or severe asthma and seconday effects such as school absenteeism (Gilliland *et al.*, 2003). The studies with a cross-sectional design are limited by selection effects, such as smoking reduction among parents with asthmatic children. However, there are several longitudinal studies which are consistent with an adverse effect.

Longitudinal studies assessing incidence of asthma was meta-analysed by (Strachan and Cook, 1998). They found a relation between maternal smoking and asthma among children 5-7 years of age (OR=1.31; 1.22-1.41). For older children at school age there was a weaker relationship (OR= 1.13; 1.04-1.22). A Norwegian study supported this finding (Nafstad *et al.*, 1997b). The risk of "bronchial obstruction" was increased in relation to parental smoking with an OR of 1.6 (1.3-2.1). ETS also seems to worsen the prognosis of asthma. A meta-analysis of five studies on persistence of early wheezing in childhood, reported a summary OR of 1.35 (0.87-2.08) (Strachan and Cook, 1998). Another meta-analysis by (Cook and Strachan, 1997) found asthma related to parental smoking with an OR of 1.21 (1.10-1.34). The effect estimate was 1.50 (1.29-1.73) when both parents smoked and 1.36 and 1.07 for maternal and paternal smoking, respectively. Cross-sectional studies (e.g. the studies analysed by Cook et al.) of asthma are known to have some bias related to the fact that parents may avoid smoking if their children show symptoms of asthma. The presence of asthma could also influence the reporting of exposure. Both these bias sources lead to an underestimation of the exposure-effect relationship.

In 2006, the SG report presented a meta-analyses with odds ratios for the effect of smoking by either parent on asthma prevalence, wheeze, cough, phlegm and breastlessness (Table 6.14).

Table 6.14 Summary of pooled random effects (odds ratios) of respiratory symptoms associated with parental smoking

Symptom	Number of studies	Odds ratio for smoking (95% confidence interval)				
		Either parent	One parent	Both parents	Mother only	Father only
Asthma	31*	1.23 (1.14–1.33)				
	7		1.01 (0.84–1.22)			
	10			1.42 (1.30–1.56)		
	21				1.33 (1.24–1.43)	
	12					1.07 (0.97–1.18)
Wheeze†	45*,‡	1.26 (1.20–1.33)				
	13		1.18 (1.10–1.26)			
	14			1.41 (1.23–1.63)		
	27§				1.28 (1.21–1.35)	
	14					1.13 (1.08–1.20)
Cough	39	1.35 (1.27–1.43)				
	18		1.27 (1.14–1.41)			
	18			1.64 (1.48–1.81)		
	16§				1.34 (1.17–1.54)	
	10					1.22 (1.12–1.32)
Phlegm△	10	1.35 (1.30–1.41)				
	7		1.24 (1.10–1.39)			
	6			1.42 (1.19–1.70)		
Breathlessness△	6	1.31 (1.14–1.50)				

*Two age groups from Moyes et al. 1995 were included as separate studies.
†Excluded the European Communities Study, which had a pooled odds ratio of 1.20.
‡Agabiti et al. 1999 was included as two separate studies.
§Bråbäck et al. 1995 was included as three separate studies.
△Data for phlegm and breathlessness are restricted because several comparisons were based on fewer than five studies.

Children's prenatal exposure to ETS and low-birth weight, non-smoking mother

Indicator name: **Children exposed to environmental tobacco smoke (ETS)** **RPG3_Air_Ex2**

Table 1. HIA components for this indicator

Exposure	Health outcomes	Exposure-response function[1] (OR, 95% CI)	Causal relationship[2]	Guideline
Mother's passive smoking during pregnancy	Low birth weight (LBW) (<2500 grams)	LBW: 1.19 (1.08-1.32)	The evidence is strong for low birth weight. On average the birth weight of infants born to non-smoking mothers exposed to ETS seems to be about 25-50 g lower than of babies born to mothers who where not exposed[3].	ETS has been classified as carcinogenic by IARC and WHO (Group A carcinogen I), no level of exposure being considered safe.

Table 2. Data availability for this indicator

International databases (HIA)		National databases (case study)		Regional/local databases (case study)	
Exposure	**Health outcomes**	**Exposure**	**Health outcomes**	**Exposure**	**Health outcomes**
WHO[4]: prenatal exposure Czech Republic, Germany, Greece, Netherlands, United Kingdom (see Table 4 for further information)	http://www.who.int/reproductive-health/global_monitoring/RHRxmls/alldata.xls World Health Organization, Department of Reproductive Health and Research (See table 5 for further information)				

Table 3. Summary for this indicator

Possible HIA/case study? If not, possible HRA and/or EBD study?	Remarks
Possible HIA or case-study	Check availability of databases at country level on the selected health outcome

HIA: Health Impact Assessment; HRA: Health Risk Assessment; EBD: Environmental Burden of Disease; RR: relative risk

Reference List

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2. IARC-International Agency for Research on Cancer. Tobacco smoke and involuntary smoking.Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 83. Lyon (France). 2004.
   Ref Type: Generic
3. DHHS-US Department of Health and Human Services. Women and Smoking. A report of the Surgeon General, Rockville, MD. 2001.
   Ref Type: Generic
4. Olenka Brynczka. Exposure to Environmental Tobacco Smoke in Europe; a review. WHO Technical Report. Bonn, Germany. 2003.
   Ref Type: Generic

Children's prenatal exposure to ETS and low-birth weight, smoker mother

Table 1. HIA components for this indicator

Exposure	Health outcomes	Exposure-response function	Causal relationship [1]	Guideline
Mother smoker during pregnancy	Low birth weight (LBW) (<2500 grams)		The evidence is strong for low birth weight. The birth weight of a newborn of smoking mother is estimated to be on average 150-250 grams lower compared to a newborn of non-smoking mother. The risk of low birth weight is estimated to double in relation to mother's smoking.	WHO No safe level of ETS-as a Group A carcinogen I

Table 2. Data availability for this indicator

International databases (HIA)		National databases (case study)		Regional/local databases (case study)	
Exposure	**Health outcomes**	**Exposure**	**Health outcomes**	**Exposure**	**Health outcomes**
WHO[2]: prenatal exposure Czech Republic, Germany, Greece, Netherlands, United Kingdom (see Table 4 for further information)	http://www.who.int/reproductive-health/global_monitoring/RHRxmls/alldata.xls World Health Organization, Department of Reproductive Health and Research (See table 5 for further information)				

Table 3. Summary for this indicator

Possible HIA/case study? If not, possible HRA and/or EBD study?	Remarks
Not possible HIA or case-study for the time being	Check available ERF Check availability of databases on the selected health outcome at country level

HIA: Health Impact Assessment; HRA: Health Risk Assessment; EBD: Environmental Burden of Disease; RR: relative risk

Reference List

1. IARC-International Agency for Research on Cancer. Tobacco smoke and involuntary smoking.Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 83. Lyon (France). 2004.

2. Olenka Brynczka. Exposure to Environmental Tobacco Smoke in Europe; a review. WHO Technical Report. Bonn, Germany. 2003.

Table 4. Children's rates of prenatal exposure to ETS in ENHIS countries

ENHIS country	Prenatal exposure to ETS
Austria	Not available
Bulgaria	Not available
Czech Republic Brno & Znojmo (idem UK): 1991-1998 (pub.2001), n=5000 (Brno); 1000 (Znojmo), Yrs=prenatal and at 6 months	7,1% exposure before birth, 9,7%
Estonia	Not available
Finland	Not available
France	Not available
Germany Bremen: 1997 (pub.1998), n=1043, Yrs= prenatal	35% women smoked during pregnancy
Greece Athens: 1998 (pub.2000), n=6010, Yrs=prenatal	60,9% women smoked during pregnancy
Hungary	Not available
Italy	Not available
Lithuania	Not available
Netherlands Leiden: 1996 (pub.2000), n=1702, Yrs= 1-14 months National statistics: 1999 (pub.2000), n=?, Yrs=0-4 years old	21% women smoked during pregnancy
Poland	Not available
Portugal	Not available
Romania	Not available
Slovakia	Not available
Slovenia	Not available
Spain	Not available
United Kingdom:	
England Region not specified: 1992-1999 (pub.2002), n=7836 parents Avon (study idem Czech Rep.): 1991-1998 (pub.2001), n=14000, Yrs= prenatal and at 6 months	27% women smoked during pregnancy (in 1992) **17,5% exposure before birth (1991)**
Scotland	Not available

Source: Olenka Brynczka. Exposure to Environmental Tobacco Smoke in Europe; a review. WHO Technical Report. Bonn, Germany. 2003.

Table 5 Low Birth Weight prevalence (%) at European level

	LBW prevalence (%)
Europe	6,4
Eastern Europe	6,4
Northern Europe	6,5
Southern Europe	5,9
Western Europe	6,7

Source: Reproductive Health Indicator Database
World Health Organization, Department of Reproductive Health and Research
http://www.who.int/reproductive-health/global_monitoring/RHRxmls/RHRmainpage.htm
Last update: 30 September 2004

Children's postnatal exposure to ETS and respiratory symptoms and asthma

Table 1. HIA components for this indicator

Exposure	Health outcomes	Exposure-response function (OR, 95% CI) [1-3]	Causal relationship	Guideline
Children living in homes where others (parents) smoke in their presence Para asma se cogen primero los estudios longitudinales, despues case control studies y después cross sectional studies	*Children 0-3 y* Wheeze (0-2 y) Asthma (longitudinal; < 3y)	Either parent smokes 1.55 (1.16-2.08) 2.08 (1.59-2.71)	IARC: Effect causally associated with exposure to ETS The relationship between respiratory diseases and exposure to ETS are well known. There is convincing evidence that parents' smoking increases the risk of all chronic respiratory symptoms in children. The risk increase with increasing number of household smokers and with increasing number of cigarettes smoked inside home.	ETS has been classified as carcinogenic by IARC and WHO (Group A carcinogen I), no level of exposure being considered safe.
	Children 5-16 y Wheeze Cough Phlegm production Breathlessness Asthma (cross sectional studies) Asthma (case-control studies) Asthma (longitudinal; 5-7 y) Asthma (longitudinal; 1-17 y)	Either parent smokes 1.24 (1.17-1.31) 1.40 (1.27-1.53) 1.35 (1.13-1.62) 1.31 (1.08-1.59) 1.21 (1.10-1.34) 1.37 (1.15-1.64) 1.31 (1.22-1.41) 1.13 (1.04-1.22)		

Table 2. Data availability for this indicato

International databases (HIA)		National databases (case study)		Regional/local databases (case study)	
Exposure	**Health outcomes**	**Exposure**	**Health outcomes**	**Exposure**	**Health outcomes**
GYTS[4]: 2001-2004; children *13-15 y*: % live in homes where others smoke • Greece (Athens) WHO[5]: ETS exposure at home • % children *0-4 y*: Czech Republic, Finland, Netherlands, England • % children *4-13 y*: France, Germany, Greece, Poland, England • % children *13-17 y*: Czech Republic, Estonia, Germany (East), Lithuania, Poland • % children *<18*: France, England (see Table 4 for further information)	ISAAC[6]: children *6-7 y* and *13-14 y* , percentage of wheeze, cough and asthma Austria, Estonia, Finland, France, Germany, Greece, Italy, Lithuania, Poland, Portugal, Romania, Spain, United Kingdom (see Table 5 for further information).	*Germany* German Environmental Survey for children (GerES IV) About half of the 3 to 14 y children are living in households with at least one smoker	ISAAC[6]: children *6-7 y* and *13-14 y* , percentage of wheeze, cough and asthma Austria, Estonia, Finland, France, Germany, Greece, Italy, Lithuania, Poland, Portugal, Romania, Spain, United Kingdom (see Table 5 for		ISAAC[6]: children *6-7 y* and *13-14 y* , percentage of wheeze, cough and asthma (see Table 5 for further information).

			further information).		

Table 3. Summary for this indicator

Possible HIA/case study? **If not, possible HRA and/or EBD study?**	**Remarks**
Possible HIA	For children 6-7 y, 13-14 y and wheeze, cough and asthma in several ENHIS countries
Possible case-studies	For children 0-2 y and wheeze; children 5-16 y and phlegm production, breathlessness.

HIA: Health Impact Assessment; HRA: Health Risk Assessment; EBD: Environmental Burden of Disease; RR: relative risk

Table 4. Children's rates of postnatal exposure to ETS in ENHIS countries

ENHIS country	**0 to 4 years**	**4 to 13 years**	**13 to 17**
Austria	Not available	Not available	Not available
Bulgaria	Not available	Not available	Not available
Czech Republic GYTS: 2002 (to be pub.2003), n=4 149, Yrs= "grades 7-9" (ages 12/13-15/16) Brno & Znojmo (idem UK): 1991-1998 (pub.2001), n=5000 (Brno); 1000 (Znojmo), Yrs=prenatal and at 6 months	exposure at 6 months (1991)		41.6% exp. at home 74.0% exp. outside home
Estonia Tallinn: (pub.1999), n=2170, Yrs= 13-18			52% daily exposure, 31% exp. less than 1 hour/day, 15% exp. Btw 1-5 hrs/day, 6% exp.over 5hrs/day

Finland No specified region (Denmark, Finland, Iceland, Norway, Sweden): 1994/5 (pub.1998), n=1000, Yrs=2-3 years (born 1992)	25% children in Nordic countries exp. at home (joint average*)		
France 5 areas: Clermont-Ferrand, Grenoble, Nice, Paris, Toulouse; 1999-2000 (pub. 2003), n=313, Yrs=7± 2,6		47% 4-10 year olds exp. at home	
Germany Osnabrück: (pub.1999), n=105 parents, Yrs=? Former East Germany: 1995 (pub.1997), n=approx. 25% of population Yrs= "children and young adolescents"		50% of "children", "constantly" exposed at home	65% children up to 15 years old are exposed
Greece Athens: (pub.1998), n=?, Yrs="children" Athens: (pub.1997), n=2108, Yrs= "< 14"		0,7% exp in classroom at school 73% exp. in household	
Hungary	Not available	Not available	Not available
Italy	Not available	Not available	Not available
Lithuania GYTS: 2001 (pub.2002), n= 1993, Yrs= "grades 7-9" (ages 12/13-15/16)			42,8% exp. at home 67,3% exp. outside home
Netherlands Leiden: 1996 (pub.2000), n=1702, Yrs= 1-14 months National statistics: 1999 (pub.2000), n=?, Yrs=0-4 years old	exposure at home: 19,1% always (A), 15,9% regular (R), 33,9% sometimes (S); in the bedroom: 2,6% (A), 5,1(R), 3,8% (S); in the living room: 29,7 % (A), 24,0 % (R), 41,5 % (S); in the car: 31,5 % (A), 41,0 % (R), 22,8 % (S)		
Poland Upper Silesia (3 cities): (pub.1998), n= 26 008, Yrs= "school girls" Rural. GYTS: 1999 (pub.2002), n= 1993, Yrs= "grades		76% "school girls" exposed to smoke by their parents	67,9% exp. at home 62,3% outside home

7-9" (ages 12/13-15/16) Urban. GYTS: 1999 (pub.2002), n= 1993, Yrs= "grades 7-9" (ages 12/13-15/16)			68,6% exp. at home 72,1% outside home
Portugal	Not available	Not available	Not available
Romania	Not available	Not available	Not available
Slovakia	Not available	Not available	Not available
Slovenia	Not available	Not available	Not available
Spain	Not available	Not available	Not available
United Kingdom:			
England Avon (study idem Czech Rep.): 1991-1998 (pub.2001), n=14000, Yrs= prenatal and at 6 months Region not specified: 1988-1998 (pub. 2000), n=576* (*for 1996), Yrs=11-15	35.5% exposure at 6 months (1991)	45.5% exposed at home	
Scotland	Not available	Not available	Not available

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Table 5. Availability of prevalence (%) of children with respiratory symptoms and asthma for the countries participating in ENHIS project (ISAAC database)

Country	Year	Spatial coverage	Comments
Austria		Salzburg, Urfahr-Umgebung	Only 2 age groups were studied: 6-7 and 13-14.
Bulgaria	Not available		
Czech Rep.	Not available		
Estonia		Narva, Tallinn	
Finland		Helsinki, Kuopio County, Lappland Area, Turku and Pori County,	
France		Marseilles, Montpellier, Pessac, Strasbourg, West Marne	
Germany		Greifswald, Munster	
Greece		Athens	
Hungary	Not available		
Italy		Ascoli Piceno, Cosenza, Cremona, Emilia-Romagna, Emppoli, Firenze, Milano, Roma, Torino, Verona, Viterbo	
Lithuania		Kaunas, Panevezys, Siauliai	
Netherlands	Not available		
Poland		Krakow (1993), Krakow (1995), Poznan	
Portugal		Funchal, Lisbon, Portimao, Porto	
Romania		Cluj	
Slovakia	Not available		
Slovenia	Not available		
Spain		Almeria, Barcelona, Bilbao, Cadiz, Cartagena, Castellón, Pamplona, Valencia, Valladolid	
UK		Anglia and Oxford, Guernsey, Isle of Man, Jersey, North East and Yorkshire, North Thames, North West, Scotland, South and West, South Thames, Sunderland, Surrey/Sussex, Trent, Wales, West Midlands	

Source: ENHIS2-WP5. Hands on guidance for information retrieval of 30 "core" CEHAPE-RPGs indicators from international databases. August 06

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Children's postnatal exposure to ETS and respiratory infections

Table 1. HIA components for this indicator

Exposure	Health outcomes	Exposure-response function (OR, 95% CI) [1;2]	Causal relationship	Guideline
Children living in homes where others (parents) smoke in their presence	*Children 0-2 years* Lower respiratory illness (LRI) (bronchitis and/or pneumonia) Hospital admissions for LRI (bronchitis, bronchiolitis or pneumonia)	Either parent smokes 1.54 (1.31-1.80) 1.71 (1.21-2.40)	IARC: Effects causally associated with exposure to ETS The relationship between respiratory diseases and exposure to ETS are well known.	ETS has been classified as carcinogenic by IARC and WHO (Group A carcinogen I), no level of exposure being considered safe.
	Children 5-16 years Middle ear diseases: Acute otitis media Recurrent otitis media	Either parent smokes Range 1.0 to 1.6 1.48 (1.08-2.04)		

Table 2. Data availability for this indicator

International databases (HIA)		National databases (case study)		Regional/local databases (case study)	
Exposure	**Health outcomes**	**Exposure**	**Health outcomes**	**Exposure**	**Health outcomes**

GYTS[3]: 2001-2004; children *13-15 y*: % live in homes where others smoke • Greece (Athens) WHO[4]: ETS exposure at home • % children *0-4 y*: Czech Republic, Finland, Netherlands, England • % children *4-13 y*: France, Germany, Greece, Poland, England • % children *13-17 y*: Czech Republic, Estonia, Germany (East), Lithuania, Poland • % children *<18*: France, England (See Table 4 for further information)	Children *0, 1-4, 5-9,10-14, 15-19 y* Eurostat[5]: Hospital discharges by diagnosis (ISHMT), in-patients, total number Austria, Czech Republic, Estonia, France, Germany, Lithuania, Netherlands, Slovakia, Finland, United Kingdom (See Table 5 for further information)	*Germany* German Environmental Survey for children (GerES IV) About half of the 3 to 14 y children are living in households with at least one smoker	Children *0, 1-4, 5-9,10-14, 15-19 y* Eurostat[5]: Hospital discharges by diagnosis (ISHMT), in-patients, total number (See Table 5 for further information)		Children *0, 1-4, 5-9,10-14, 15-19 y* Eurostat[5]: Hospital discharges by diagnosis (ISHMT), in-patients, total number (See Table 5 for further information)

Table 3. Summary for this indicator

Possible HIA/case study? If not, possible HRA and/or EBD study?	**Remarks**
Possible HIA	Age groups are not the same for exposure and for health outcomes

HIA: Health Impact Assessment; HRA: Health Risk Assessment; EBD: Environmental Burden of Disease; RR: relative risk

Table 4. Children's rates of postnatal exposure to ETS in ENHIS countries

ENHIS country	**0 to 4 years**	**4 to 13 years**	**13 to 17**

Austria	Not available	Not available	Not available
Bulgaria	Not available	Not available	Not available
Czech Republic GYTS[26]: 2002 (to be pub.2003), n=4 149, Yrs= "grades 7-9" (ages 12/13-15/16) Brno & Znojmo (idem UK)[27]: 1991-1998 (pub.2001), n=5000 (Brno); 1000 (Znojmo), Yrs=prenatal and at 6 months	exposure at 6 months (1991)		41,6% exp. at home 74,0% exp. outside home
Estonia Tallinn: (pub.1999)[28], n=2170, Yrs= 13-18			52% daily exposure, 31% exp. less than 1 hour/day, 15% exp. Btw 1-5 hrs/day, 6% exp.over 5hrs/day
Finland No specified region (Denmark, Finland, Iceland, Norway, Sweden)[29]: 1994/5 (pub.1998), n=1000, Yrs=2-3 years (born 1992)	25% children in Nordic countries exp. at home (joint average*)		
France 5 areas[30]: Clermont-Ferrand, Grenoble, Nice, Paris, Toulouse; 1999-2000 (pub. 2003), n=313, Yrs=7± 2,6		47% 4-10 year olds exp. at home	
Germany Osnabrück[31]: (pub.1999), n=105 parents, Yrs=? Former East Germany[32]: 1995 (pub.1997), n=approx. 25% of population Yrs= "children and young adolescents"		50% of "children", "constantly" exposed at home	65% children up to 15 years old are exposed

Greece Athens[33]: (pub.1998), n=?, Yrs="children" Athens[34]: (pub.1997), n=2108, Yrs= "< 14"		0,7% exp in classroom at school 73% exp. in household	
Hungary	Not available	Not available	Not available
Italy	Not available	Not available	Not available
Lithuania GYTS[35]: 2001 (pub.2002), n= 1993, Yrs= "grades 7-9" (ages 12/13-15/16)			**42,8% exp. at home** 67,3% exp. outside home
Netherlands Leiden[36]: 1996 (pub.2000), n=1702, Yrs= 1-14 months National statistics[37]: 1999 (pub.2000), n=?, Yrs=0-4 years old	exposure at home: 19,1% always (A), 15,9% regular (R), 33,9% sometimes (S); in the bedroom: 2,6% (A), 5,1(R), 3,8% (S); in the living room: 29,7 % (A), 24,0 % (R), 41,5 % (S); in the car: 31,5 % (A), 41,0 % (R), 22,8 % (S)		
Poland Upper Silesia (3 cities)[38]: (pub.1998), n= 26 008, Yrs= "school girls" Rural. GYTS[39]: 1999 (pub.2002), n= 1993, Yrs= "grades 7-9" (ages 12/13-15/16) Urban. GYTS[40]: 1999 (pub.2002), n= 1993,		76% "school girls" exposed to smoke by their parents	**67,9% exp. at home** **62,3% outside home** **68,6% exp. at home** 72,1% outside home

Yrs= "grades 7-9" (ages 12/13-15/16)			
Portugal	Not available	Not available	Not available
Romania	Not available	Not available	Not available
Slovakia	Not available	Not available	Not available
Slovenia	Not available	Not available	Not available
Spain	Not available	Not available	Not available
United Kingdom:			
England Avon (study idem Czech Rep.)[41]: 1991-1998 (pub.2001), n=14000, Yrs= prenatal and at 6 months Region not specified[42]: 1988-1998 (pub. 2000), n=576* (*for 1996), Yrs=11-15	35,5% exposure at 6 months (1991)	45,5% exposed at home	
Scotland	Not available	Not available	Not available

Table 5. Availability of hospital admissions of LRI and asthma for ENHIS countries in Eurostat database

Age groups	Health outcomes	Countries	Regions
Y0 Y1_4 Y5_9 Y10_14 Y15_19	Total number of hospital discharges by diagnosis: C1002 Pneumonia (J12-J18) C1003 Other acute lower respiratory infections (J20-J22) C1004 Chronic diseases of tonsils and adenoids (J35) C1005 Other diseases of upper respiratory tract (J30-J34, J36-J39) C1006 Chronic obstructive pulmonary disease and bronchiectasis (J40-J44, J47) C1007 Asthma (J45-J46) C1008 Other diseases of the respiratory system (J60-	AT Austria	AT1 Ostösterreich AT11 Burgenland AT12 Niederösterreich AT13 Wien AT2 Südösterreich AT21 Kärnten AT22 Steiermark AT3 Westösterreich AT31 Oberösterreich AT32 Salzburg AT33 Tirol AT34 Vorarlberg

	J99)	CZ Czech Republic	CZ01 Praha CZ02 Střední Cechy CZ03 Jihozápad CZ04 Severozápad CZ05 Severovýchod CZ06 Jihovýchod CZ07 Střední Morava CZ08 Moravskoslezko
		DE Germany (including ex-GDR from 1991)	DE1 Baden-Württemberg DE2 Bayern DE30 Berlin DE4 Brandenburg DE50 Bremen DE60 Hamburg DE7 Hessen DE80 Mecklenburg-Vorpommern DE9 Niedersachsen DEA Nordrhein-Westfalen DEB Rheinland-Pfalz DEC0 Saarland DED Sachsen DEE Sachsen-Anhalt DEF0 Schleswig-Holstein DEG0 Thüringen
		EE Estonia	
		FR France	FR10 Île de France FR2 Bassin Parisien

		LT Lithuania	FR21 Champagne-Ardenne FR22 Picardie FR23 Haute-Normandie FR24 Centre FR25 Basse-Normandie FR26 Bourgogne FR30 Nord - Pas-de-Calais FR4 Est
		NL Netherlands	FR41 Lorraine FR42 Alsace FR43 Franche-Comté FR5 Ouest
		SK Slovakia	FR51 Pays de la Loire FR52 Bretagne
		FI Finland	FR53 Poitou-Charentes FR6 Sud-Ouest FR61 Aquitaine FR62 Midi-Pyrénées FR63 Limousin FR7 Centre-Est FR71 Rhône-Alpes FR72 Auvergne FR8 Méditerranée FR81 Languedoc-Roussillon FR82 Provence-Alpes-Côte d'Azur FR83 Corse FR9 French overseas departments (FR) FR91 Guadeloupe (FR) FR92 Martinique (FR) FR93 Guyane (FR)

		UK United Kingdom	FR94 Reunion (FR) UKC_K England UKL Wales UKM Scotland UKN0 Northern Ireland

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Children living in proximity of heavily trafficked roads (noise)

Prepared by Odile Mekel and Thomas Claßen (LÖGD, Germany)

Indicator name: children living in proximity of heavily trafficked roads **RPG3_Air_Ex3**

Table 1. HIA components for this indicator ***REFERENCES IN BOLD NUMBERS: REVIEW***

Exposure	Health outcomes	Exposure-response function (OR, 95% CI)	Causal relationship	Guidelines
Noise: outdoor and indoor noise levels due to heavily trafficked roads	*Children aged 0-4 years:* - increased blood pressure of 2-5mm Hg (3-7 y) [42]	*Children aged 0-4 years:* - significant (p< 0.001), but no OR [42]	- causal relationship is well-known for higher noise levels (acute deregulation) - People moderately annoyed at 50 dB(A), seriously annoyed at 55 dB(A), at health risk above 65 dB(A) [**15**] - risk (OR) for asthma bronchiale during lifetime exposure to high L_{Aeq} = 1.5 [7, see 23] - some studies showing noise directly affecting pupils learning and conversation performance in schools [19-20, 22, 24, 45] - little known about other health outcomes especially for children [**11**, **29**] - no relationship between traffic noise and blood pressure in children [21, 44] except for very high doses (> 65 dB(A) [**29**, see 42]) - study about sleep-disturbance, stress hormones, concentration and cognitive performance according to noise levels, one	- Maximum values for exposure according to: Regulation on noise pollution due to road and railroad traffic (Verkehrslärmschutzverordnung , 16. BImSchV from 12.06.1990), Regulation on noise protection measures near traffic routes (Verkehrswege-Schallschutz-maßnahmenverordnung, 24. BImSchV from 04.07.1997) & Technical guidelines for noise protection (Technische Anleitung zum Schutz gegen Lärm (TA Lärm) from 26.08.1998) - screening values according to DIN 18 005 (1985) - Guidelines for noise protection near roads (Richtlinien für den Lärmschutz an Straßen v. 1990 (RLS-90)) & - Guidelines for traffic induced noise protection on long-distance roads (Richtlinien für den Verkehrslärmschutz an Bundesfernstraßen
	Children aged 5-9 years: - increased blood pressure of 2-5mm Hg (3-7 y) [42] - decreased heart rate of 2-5 beats/min (3-7 y) [42] - increased Cortisol concentration (7-13y) [14] - asthma or allergies (7-13 y) [14] - respiratory & dermatological diseases (5-12 y) [53]	*Children aged 5-9 years:* - significant (p< 0.001), but no OR [42] - significant (p< 0.001), but no OR [42] - significant as noise declares >5% of variance [14] - tendencies, not significant [14] - several significant ORs >1 for diseases associated with moderate and high noise levels at night-time (noise not quantified) [53]		
	Children aged 10-14 years: - increased blood pressure (14-17 y) [41] - increased Cortisol concentration (7-13 y) [14] - asthma or allergies (7-13 y) [14] - changed systolic blood pressure near airports (9-10 y) [21] - changed diastol. blood pressure near airports (9-10 y) [21] - changed heart rate near airports	*Children aged 10-14 years:* - level of significance unknown - significant as noise declares >5% of variance [14] - tendencies, not significant [14] - Δ/dB(A): -0.11 (-0.21 - 0.00) - Δ/dB(A): -0.04 (-0.13 - 0.06) - Δ/dB(A): -0.02 (-0.13 - 0.08)		

Exposure	Health outcomes	Exposure-response function (OR, 95% CI)	Causal relationship	Guidelines
	(9-10 y) [21] - less reading comprehension at school (9-10 y) [20, 19] - respiratory & dermatological diseases (5-12 y) [53] - conceptual recall [19] - information recall [19] - annoyance [19]	 - no outcome (p>0.5) for road traffic noise, but significant for aircraft noise (p=0.012), linear! - several significant ORs >1 for these diseases associated with moderate and high noise levels at night-time (noise not quantified) [53] - β= 0.013 (p=0.0201 or 0.0066) - β= 0.040 (p=0.0713 or 0.0489) - β= 0.016 (0.008-0.024)	especially for trucks [14] - study about noise annoyance and noise induced sleep disturbance explicitly for children showing significant associations [13] - study with significant association between high noise levels at night-time and siliva cortisol [14, 23, see **12**] - variation in local space variation of noise and air pollution are substantial and may be a confounding factor in epidemiological studies [38] - aggravation of bronchitis in children significantly due to traffic noise [23] - review on studies dealing with very low differences in noise levels < 3dB(A) [**55**]	(VLärmSchR 97)) - environmental quality targets for traffic induced noise (Umweltqualitätsziele für den Straßenverkehrslärm) [4] - German industrial technical guidelines (VDI-Richtlinien 3722) [5] - WHO Guidelines for Community Noise (2000) [**15**] - Position paper on EU noise indicators (2000) - EC Directive 2002/49/EC relating to the assessment and management of environmental noise
	Children aged 1-17 y: - Resp. symptoms due to (a) traffic noise or (b) noise induced sleep disturbance [13] - SALSA[43] due to (a) traffic noise or (b) noise induced sleep disturbance [13] - Bronchitis due to noise induced sleep disturbance [13]	*Children aged 1-1 7y:* - (a) OR=1.8 (~1.2 - 2.7) [13] - (b) OR=1.9 (~1.3 - 2.9) [13] - (a) OR=1.8 (~1.1 - 2.9) [13] - (b) OR=3.5 (~2.2 - >4.5) [13] - OR=3.7 (~1.9 - >4.5) [13]		
	People aged >14 (or >17): - sleep disturbance [30] - annoyance [30] - cognitive impairment [30] - % highly annoyed [**33, 54**] - % with sleep disturbance [**33, 54**]	*People aged >14 (or >17):* - OR in Miedema [see 30] - OR in Miedema [see 30] - probab. applicable f. Sweden [30] - function in Miedema [see **33, 54**, 57] - function in Miedema [see **33, 54**]		
	Other information: Physiological and psychological effects [see 1, **11**, 12, **29**]: - sleep disturbance - annoyance (in general)	*Other information:* - Dose-effect-curves of the German technical industrial guideline (VDI Richtlinie 3722) [5] - for cardiovascular effects, children		

Exposure	Health outcomes	Exposure-response function (OR, 95% CI)	Causal relationship	Guidelines
	- disruption of neural system - increased stress hormones (Cortisol, Adrenalin, Noradrenalin) - loss of Mg - interference of recreation - performance reduction - emotional effects - cardiovascular effects (IHD = ischemic heart disease) - speech interference - cognitive delays/impairments	do not seem to be at higher risk than adults; function is supplied for myocardial infarction [**29**] and for IHD for Europe [30, **31**, **33**] - for sleep disturbance and annoyance [26, 30, 32, **33**]		

Table 2. Data availability for this indicator

International databases (HIA)		National databases (case study)		Regional/local databases (case study)	
Exposure	**Health outcomes**	**Exposure**	**Health outcomes**	**Exposure**	**Health outcomes**
European Union/Region: - Number of children aged 0-4, 5-14, 15-19 in EUROSTAT_WS for countries and most of the bigger cities (> 100.000 inh.), see wp4 - % and total number of people exposed to noise levels > 75 dB(A), 65-75 dB(A), 55-65 dB(A) and 45-55 dB(A); ~ 32% > 55 dB(A) [34a] (estimation) - 30% of European Pop. > 55 dB(A), 20% at unacceptable high noise levels [15] (estimation) - Noise levels in different	*European Union/Region:* - annoyance [34a] - 20% of children <13y with sleep disturbance due to noise [**51**] - results from LARES-project in urban areas on annoyance and sleep disturbance for children <18y [13] - sleep-wake stages of of children at various ages [**52**, p.54]	*Netherlands:* - % exposed to road noise > 65 dB(A) and <50 dB(A) [40] *Germany:* - data about population, demographics, traffic, e.g. total vehicles & length of the German long-distance roads net at DESTATIS [8] - annual report about noise protection walls (Lärmschutzwälle) built close to German long-distance roads (Bundesfernstraßen) [3] - noise levels due to traffic during day and night [10]	*Netherlands:* - 29% severely annoyed and 17 by road traffic [32] - DALYs for sleep disturbance and annoyance [30] *Germany:* - reported annoyance [35, 28, 47] - annoyance, sleep disturbance, conversation interference, IHD in case of noise reducing measures [18, maybe 50] *Sweden:* - cognitive impairment	*NRW statistics:* - Data on road categories (down to regional roads = Kreisstraßen), mean hourly and daily traffic, % of trucks > 3.5t available in NWSIB-Straßendatenbank [37] - data about population, demographics, dwellings, traffic etc. at LDS [36; see 9] *Munich:* - children aged 8-12 with substantially higher noise levels > 60 dB(A) during daytime than those aged 13-17 and older [39]	*NRW statistics:* mortality & morbidity data (GBE-Stat of loegd [28]) e.g. - 03_18_2000: % of most common diseases by age and sex (survey 2000) - 03_96_2003: respiratory diseases by sex (trend since 2000) - 05_09_2000: people feeling annoyed by noise (survey 2000) - asthma bronchiale [7]

European countries [2; **52**] - results from the HEARTS-project for three European cities (Leicester, Lille Florence) [17] (measured & modelled) - Results from the RANCH project considering pupils in three European cities (Madrid, London, Amsterdam) close to airports [19-21] (measured & modelled)		- influence of noise reducing measures on exposed population [18] - % of children (3-14 y) exposed to noise levels [48] *Denmark:* - number of dwellings exposed to road noise different noise levels >55dB(A) [**52**]	[30]		

Table 3. Summary for this indicator (HIA, noise)

The data necessary for conducting a HIA on noise for children living in the proximity of heavily trafficked roads are not collected on a routine basis in the ENHIS2 countries.

Exposure:
The indicator data (children living in proximity of heavily trafficked roads) is only available through modelling (see work of JRC done in WP4)
International data provide rough estimates on noise exposure levels, mostly not differentiated by source of noise (roads, aircraft etc.). Specific data for children are lacking: estimates are available for whole population. Using estimates of % of children in the populations, rough estimates for children may be possible.

With implementation of the EU directive on residential noise, noise maps for big cities and heavily trafficked roads will provide exposure information, and will be useful in future HIA development. Maps are being produced but not finished yet (at least in Germany) and difficulties still occur in estimating the number of people exposed to the noise levels. On a sub-national level in Germany (NRW), the Ministry of Environment expressed their interest in cooperating with the ENHIS2 project on this aspect. Until now special attention to children is not given in the assessment of number of people exposed.

Health outcomes, ERF
Child specific health effects of noise are rare and partly inconsistent.

Reflecting on the health impact of noise on the **cardiovascular system**, Babisch 2006: 45-46 [29]: concludes

> "The available database on cardiovascular effects of noise in children is poor. No data is available that refers, in particular, to noise and sleep. The quantitative impact of transportation noise on the cardiovascular system is still a matter of research. A quantitative health risk assessment for children cannot be made at the moment. Based on the available information from noise studies, it must be concluded that children do not appear to be a particular risk group with respect to cardiovascular outcomes, especially blood pressure. This does not mean that the literature does not suggest higher blood pressure readings in children. It only means, that the effect in children does not appear to be different than that in adults. However, children may be longer exposed to noise throughout their lifetime than the adults that have already been studied. No long-term follow-up studies are known that focus on noise exposure. Most studies on children considered noise in schools rather than noise at home, which implies different mechanisms about how noise could contribute to a rise in blood pressure (raised effort in learning/speech perception vs. disturbed relaxation/sleep)."

However, not all recent studies were included in the review of Babisch (esp. RANCH studies).

A causal relationship between noise and **annoyance** and **(sleep) disturbance** for children seems to be evident. Some dose response-functions are available, that need, however, to be analysed in more detail by the ENHIS team.

Data on the health outcomes "annoyance" and "(sleep) disturbance" are, however, not collected on a routine basis, but rather in Health Surveys or specific epidemiologic studies (e.g. RANCH).

For Germany and NRW, representative data on annoyance is available from the National Health Survey 1998. For NRW an additional population sample was interviewed in the year 2000, so that representative data for NRW are available (n = 1171 (1998), n = 749 (2000), n total = 1920 (936 male, 984 female), but in the age category 18-79 yr.) (see excel-sheet). The upcoming children and youth survey (KiGGS) will provide these data for younger age groups. These data have, however, not been analysed by the survey-researchers yet.

HIA or case study?
Quantification of the health effects of noise in childhood may be possible as a case study. For the general population calculations were done based on the EBD-methodology resulting in the population health summary measure DALY for the Netherlands [26, 32, 33] and for Europe ([30] under the Environmental Burden of Disease Project of WHO Europe, using rather crude assumptions and for all noise sources). These EBD-initiatives are promising developments, which need further analysis within the project and will provide important input on conducting case study/studies on HIA of traffic related noise in children. For NRW the loegd will explore the possibilities in detail with the MoE in November 2006 on the exchange of data concerning noise exposure levels in NRW.

Table 4. Children's rates of exposure to road traffic-induced noise in ENHIS countries

ENHIS country	Availability of data
Austria	- see 56
(Belgium)[44]	- 9,6% of total population > 65 dB(A) in late 1990ies [**52**]
Bulgaria	Not available
Czech Republic	Not available
(Denmark)	- 5,9% of total population > 65 dB(A) in late 1990ies [**52**] - number of dwellings exposed to different noise levels > 55dB(A) [**52**, p.27]
Estonia	Not available
Finland	- 17% of total population exposed to L>55dB(A) in 1992-1996 [34a]
France	Not available
Germany	- in western Germany 48,9% of the population exposed to L_{eq} >55 dB(A) and 15,6% to >65 dB(A) during daytime; during night-time 16,6% & 3,1%, respectively (in 1999) [10] - 12,5% of total population > 65 dB(A) in late 1990ies [**52**]
Greece	Not available
Hungary	Not available
Italy	Not available
Lithuania	Not available
Netherlands	- ~ 3% > 65 dB(A), > 70% exposed to > 50 dB(A) [40] - 3,6% of total population > 65 dB(A) in late 1990ies [**52**]
Poland	Not available
Portugal	Not available
Romania	Not available
Slovakia	- % of children exposed to various noise levels (<60, 60-70, >70dB(A)) at home and in Kindergartens in Bratislava in 1993 [42]
Slovenia	Not available
Spain	Not available
United Kingdom:	Not available
England	Not available

Scotland	Not available

Table 5. health outcomes due to road traffic-induced noise in ENHIS countries

ENHIS country	Availability of data
Austria	- see [56]
Bulgaria	Not available
Czech Republic	Not available
Estonia	Not available
Finland	Not available
France	Not available
Germany	- 22% of total population seriously annoyed by road traffic in 1994 [34a] 21.1% annoyed in 1998 [47], 22% in NRW in 2000 [28], but only 10% seriously annoyed in 2004 (17% in 2002) [49]
Greece	Not available
Hungary	Not available
Italy	Not available
Lithuania	Not available
Netherlands	- 28% of total population annoyed by road traffic in 1999 [34a] (survey data) - 24% of the total environment-related health loss due to environmental noise [26] (DALYs calculated)
Poland	Not available
Portugal	Not available
Romania	Not available
Slovakia	- blood pressure and heart of rate of children exposed to various noise levels at home and in Kindergartens in Bratislava in 1993 (levels of significance) [42]
Slovenia	Not available
Spain	Not available
United Kingdom:	Not available
England	Not available

Scotland	Not available

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Interesting quotations:

Evans & Lepore 1993 [43]:

"We know essentially nothing about the long-term consequences of early noise exposure on developing cardiovascular systems. The degree of blood pressure elevations is small. The clinical significance of such changes in childhood blood pressure is difficult to determine. The ranges of blood pressure among noise-exposed children are within the normal levels and do not suggest hypertension. The extent of BP elevations found from chronic exposure are probably not significant for children during their youth, but could portend elevations later in life that might be health damaging." Cited in Babisch 2006: 21 [29]

EEA 2001: 5 [34a]

"At present, differences in methodologies preclude comparisons between Member States."

Babisch 2006: 45-46 [29]:

"The available database on cardiovascular effects of noise in children is poor. No data is available that refers, in particular, to noise and sleep. The quantitative impact of transportation noise on the cardiovascular system is still a matter of research. A quantitative health risk assessment for children cannot be made at the moment. Based on the available information from noise studies, it must be concluded that children do not appear to be a particular risk group with respect to cardiovascular outcomes, especially blood pressure. This does not mean that the literature does not suggest higher blood pressure readings in children. It only means, that the effect in children does not appear to be different than that in adults. However, children may be longer exposed to noise throughout their lifetime than the adults that have already been studied. No long-term follow-up studies are known that focus on noise exposure. Most studies on children considered noise in schools rather than noise at home, which implies different mechanisms about how noise could contribute to a rise in blood pressure (raised effort in learning/speech perception vs. disturbed relaxation/sleep)."

Examples of Key Messages

Children living in homes with mould and dampness problems

Exposure to dampness/moulds at homes: threat to health

Indoor dampness induces growth of moulds, dust mites and various microbial agents. Excess moisture (together with temperature terms) may initiate the release of chemicals from building materials and furnishings. There is sufficiently strong evidence that excessive dampness/moulds at homes is an important risk factor namely for respiratory illness. Asthma, cough and wheezing, bronchial obstruction, bronchitis, hay fever, atopic rhinitis, rhino-conjunctivitis, and eczema were found to be significantly connected with exposure to damp (see references below).

There are no routinely collected data on the scope of child population exposure to dampness/moulds at homes. Data stem from surveys, usually focused on finding the health effects significantly connected with such exposures. A case study will be carried out, based on a survey concerning a defined target group of children in a defined locality. The output of the case study will be the estimate prevalence decrease of adverse health effects (which were proved by the survey as significantly associated with damp/moulds) induced by decrease of exposure extension in the target group. It is expected that such information will support the initiatives and programmes struggling against the inadequate housing.

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Key message on Children exposed to Environmental Tobacco Smoke (ETS)

Environmental Tobacco Smoke (ETS): Health hazard to children

ETS is now recognized as an important problem for public health, and infants and children are among the most susceptible populations. According to WHO[1], around 700 million, almost half of the world's children, were estimated to be exposed to ETS, particularly at home. Epidemiological evidence is sufficiently strong to provide robust exposure-response functions, and no level of exposure is considered safe.

The biggest challenge in quantifying the number of attributable cases related to this risk factor is to determine how to estimate ETS exposure. In ENHIS-2, health impact assessment of ETS will be carried out for developmental health effects, as low birth weight, and certain respiratory endpoints, specifically lower respiratory tract infections (i.e., pneumonia and bronchitis), asthma, wheeze and cough. Parental smoking prevalence, provided by GYTS[2] or WHO[3], will be use as a surrogate measure of exposure of children at home. Information on health data will be gathered from international databases as Eurostat[4] or ISAAC[5].

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Key message on HIA feasibility for Children in proximity to traffic (noise)

Noise is associated with different negative health effects which may in part depend on the noise source (aircraft, road traffic, trains, leisure noise etc.) [1]. Noise induced by road traffic is associated with a variety of health effects: sleep-disturbance, stress related somatic effects, concentration and cognitive performance.

Quantitative dose-response relationships are known for adults [2, 3] but have not yet been studied in detail for children although some evidence shows that children may react more sensitive to noise than adults. Child specific health effects of noise are rare and partly inconsistent [4] but a causal relationship between road traffic noise and **annoyance** and **(sleep) disturbance** for children seems to be evident. Some dose-response functions are available that need, however, to be analysed in more detail by the experts and the ENHIS team.

Data on the health outcomes "annoyance" and "(sleep) disturbance" are however not collected on a routine basis, but rather in Health Surveys or specific epidemiologic studies (e.g. RANCH [5]). Regarding exposure data, with the implementation of the EU directive on Environmental Noise, noise maps for big cities and heavily trafficked roads will be available for future HIA development, but difficulties still occur in estimating the number of people exposed to noise levels and special attention to children is not given in this assessment. On a sub-national level in Germany (NRW), the Ministry of Environment expressed its interest in cooperating with the ENHIS2 project on this aspect.

In ENHIS-2 a case study on the indicator "children living in the proximity of heavily-trafficked roads" will be carried out by the Joint Research Center. Also, quantification of noise-induced health effects in childhood is possible as a case study. For general population, calculations have been done based on the EBD-methodology resulting in the population health summary measure “DALY” for the Netherlands [6,7, 2] and for Europe ([8] as part of the Environmental Burden of Disease Project of WHO Europe, using rather crude assumptions for all noise sources). These EBD-initiatives are promising developments, which need further analysis within the project and will provide important input on conducting case study/studies on HIA of traffic-related noise in children.

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ENHIS-2

WORK PACKAGE 8 (WP8) RESULTS

Deliverables:

1. **Data exchange module, version 1, ready for testing (month 6)**
2. **Guidelines for international indicator based report and other reporting tools (month 10)**
3. Meta-data base on the data elements for the core indicators (month 18)
4. User manual and description of the software tools (month 22)
5. Data exchange module, version 2, and operational (month 22)
6. Draft CEHAPE assessment report (month 22)

Table of Contents:

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

WELTGESUNDHEITSORGANISATION
REGIONALBÜRO FÜR EUROPA

ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÉGIONAL DE L'EUROPE

ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

EUROPEAN CENTRE FOR ENVIRONMENT AND HEALTH

BONN OFFICE

SUMMARY OF PRODUCTS DEVELOPED WITHIN WP8

For ENHIS2, the following products and activities have been developed:

- Content management system is ready for use and will allow editors to alter texts and documents without extensive html or programming knowledge
- Training of the ENHIS people for using the Netwriter CMS . In August RIVM editors have been trained. In January WHO and others will be trained
- Prototype website with search function and link to database ready (1st release September, 2nd release November: adaptation based on comments ENHIS members)
- Content website (including input from other work packages):
    - Text for 5 test indicators and summary texts for most issues
    - Fact sheets: editing of factsheets submitted
    - Methodology sheets for key indicators
    - Information about environment and health in Europe
    - Information about environment and health policies
    - Information about Health Impact Assessment
    - Project information
    - Graphics tool (still to be developed further)
    - Possibilities to export data to excel
- Report describing functional design website and requirements for further development (draft to be finalized in december)
- Technical documentation and installation guidelines
- Implementation of the graphics tool for ENHIS, including linking the tool to the ENHIS implementation.
- Technical support for using the CMS, search tool and graphics tool.
- Adaptation of existing EUPHIX databases and filling of these databases
- Transference of procedures for filling databases to WHO Bonn

Content Management System

During the second half of 2006 the RIVM/VTV CMS (content management system) has been implemented for ENHIS with a connection to the ENHIS database filled with (partly validated) data for priority-indicators. This is a big improvement compared to previous versions of the website since changes in the database will be reflected directly on the website without manual uploading of new data and graphs.

The new ENHIS website has been produced using a content management system developed by RIVM-VTV. It allows editing of texts without IT knowledge. The CMS contains features such as authorization and authentication of editors; a word-like editor to enter and edit textual

content; the possibility to work on documents that have different statuses (i.e. planned, editor processing/maintenance, approved by editor, approved by editor in chief, in production, removed) in order to have control over work-flow elements; as well as the possibility to enter geographical maps, charts and tables. To enable editors to work with the CMS it is **not** necessary to install any software but they can use the system within MS Explorer, a normal web browser that most users have pre-installed on their PC.

Web-site: design and implementation
The structure, navigation and desired functionalities of the website, including future needs and conditions for the harmonized production of graphs etc, were described in a functional design report. WHO and RIVM met with David Barrett from WHO-Europe to discuss the compliance with WHO-standards and possible future arrangements.

Next, the technical design started. Many features used in the enhis website were already developed within the RIVM/VTV CMS or within the EUPHIX project, with whom we have collaborated. An external programmer developed the search functionality. This function allows for searching in both text and data (linked to a chart tool), thus enabling easy comparison of country results. RIVM-VTV made an *interactive graphics* tool (which has been developed for EUPHIX) available for ENHIS. This tool enables editors to make charts and graphs of data stored in the SQL database. With this new technology the end-users of the ENHIS website will be able to create customized graphs and (in future) maps choosing indicators for specific years orcountries or e.g. for males, females separately.

- Adaptation of website according to comments of Enhis users INSERT COMMENTS HERE
- Design of Enhis website and also Fuctional design report for Enhis website
- Implementation of the Netwriter CMS for ENHIS, including the development of special stylesheets, a specific CMS database, and some adaptations to the CMS. These adaptations were made especially for ENHIS and include a piece of software to use the search application (see below) on the website.
- An ASP.net search application has been developed that is linked to the web in order for the end users to access both the web content and the indicator data. The application consists of two components: 1) the search engine which searches the html content of the ENHIS website using MS Index server; and 2) a search engine that searches within the ENHIS SQL database for relevant indicators, linking these to the appropriate data. Using only one search term provides the end user with two search results, namely a list of html content and a list of related indicators with data. These data can be filtered and can also be exported to Excel. Besides, a “face value” graph can be produced of the (filtered) data.
- Implementation of the graphics tool for Enhis, including linking the tool to the Enhis implementation.
- Regular releases of the ENHIS website

Desired functionalities (based on comments from the users during ENHIS-1 and start ENHIS-2):

- User-friendly and visual attractive website . Visitors of the site should be able to find their way easily. Content: information on indicators (key message and possible HIA results, policy information, methodological guidelines, direct link to (meta)data
- Search and compare by country and year, search by theme;
- Clickable maps;
- User-friendly management of text and menus by means of a web based CMS;

- User-friendly management of content ('indicators'): possibility to add, refresh or delete fact sheets, methodology sheets, graphs and maps without technological know-how;
- Easy overview of data-availability indicators (cf dot-table ENHIS1, but adapted to new 'look and feel');
- Combination/merging of ENHIS1 and ENHIS2 indicators and texts in one site;
- Option to download/ export text and raw data (available, needs further development)
- Standardised formats for reporting tools (fact sheets, graphics)
- Data entry and storage: will be dealt with by WHO

Database development and implementation together with WP 2

- Adaptation of existing Euphix databases and filling of these databases
- Transference or procedures for filling databases to WHO Bonn

Guidelines and technical support

- Guidelines for writing factsheets AND webtexts
- Guidelines for graphs and figures on the web
- Technical documentation and installation guidelines
- Training of the Enhis people for using the Netwriter CMS.
- Technical support for using the CMS, search tool and graphics tool

Guidelines for the production of indicator fact sheets and graphs for the ENHIS-Website

1. Purpose of the fact sheet:

A fact sheet is meant to present 'facts' about a certain indicator. This means that the information that is presented should be short and concise and easy to understand for people that are not a member of the ENHIS project. These guidelines are based on guidelines of November 2005. The structure of the fact sheet is the same as in ENHIS-1, but there are some additional comments on what to mention in each section.

If you have any questions about these guidelines, please contact Anne Knol (Anne.knol@rivm.nl) or Annemiek van Overveld (Annemiek.van.Overveld@rivm.nl).

2. Content of the fact sheet

This part explains which items should be included in the fact sheet. To make the fact sheet, please use the enclosed 'template' (see annex). Please comply with the stated maximum lengths for every section and limit the length of a paragraph to approx. 150 words.

Heading (WHO regional office for Europe/ Environment and Health Information System)	
Name Max 1 line	**(short) Name of the indicator** Short definition of the indicator (as mentioned in methodology sheet)
Idea Max 5 lines	Describe why the indicator is important for environment and health and which part of the causal chain it represents
Key message Max 8 lines	The key message is a very simplified description of the situation which is shown by the indicator. Aspects to be mentioned: - State of the indicator at EU level: average of all reported countries - Trends at EU level and possible explanations - Comparison with target/limit/guideline values - Difference in trends/values between countries and possible explanations
Graph	Graphical presentation is the main part of the fact sheet. It presents the situation in a comprehensive way and enables the user to draw his conclusions. *Only one graph should be given, but exceptions are possible.* Guidelines for graphs can be found in paragraph 3
Environment and health context Max 3 paragraphs	This section presents the scientific background of the indicator. Describe the importance of the indicator for human health, based on state-of-the-art knowledge and evidence. - What is the link between environment and health? Give information on the position of the indicator in the DPSEEA chain and linkage to other indicators.

	- Magnitude and severity of the problem: relative burden of disease attributable to the environmental factor across the EU/WHO region and in countries (also in children) - Evidence for existence of effective interventions which may reduce the problem
Policy relevance and context Max 3 paragraphs	As ENHIS is meant to support policy making, the indicators should have a link to current policy and targets. Describe the relevant EU and/or WHO policy/regulations/action programmes.
Description of the graph Max 2 paragraphs	A short comment has already been given as key message. Please describe here the data quality and completeness. - Are all countries represented in the graph? - What is the basis of the presented EU average? (Is it the average of all countries or does it come from a different data source?) - Are there known differences between data collecting procedures in the countries? If there are countries with values very different from the EU average, the data should be checked. If differences in data collection or processing can be the cause of the difference, this should be mentioned!
Assessment Max 4 paragraphs	The assessment gives a more detailed explanation of the key message and should include the following: - A general assessment of the situation in the EU and trends on EU level - Assessment of the situation in specific countries and trends - Possible explanations for the EU trend - Possible explanations for variation between countries (if relevant) - Comparison of the indicator values to limit/target values or guidelines and (if relevant) a judgment whether the targets will be reached in time - Relevant policy measures that were taken that may have influenced the trends - Description of the implications of current trends for policy makers and suggestions for political actions which should be taken to improve the trend - The importance of the indicator for the future. Will the problem be solved in the next years? Will the indicator be especially important for specific countries? Refer to the 'interpretation section' in the methodology sheet, try to link trends to results of case studies or other sources of information and include these in the references or links for further information.
Suggestions for further monitoring Max 1 paragraph	Comments on the weaknesses of the current assessment which may be due to gaps in data or to insufficient knowledge about cause-effect relationships etc. Give suggestions for modifications.
Meta data	Meta data document information about the data. It should contain the following: - Data source (name and web link if available) - Description of the data - Methodology of indicator computation (from methodology sheet) - Does the indicator differ from the description in the methodology sheet? (age groups/definitions/…) - Temporal coverage (for which years have data been collected?) - Geographical coverage (for which countries has data been collected?) - Periodicity of data sampling (e.g. every year, every 5 years,…)

	- Data quality (reliability/completeness/accuracy) - If relevant: sampling methods in specific countries
References	References used in this fact sheet (report and links, describe the links carefully)
More information	Links to additional information on the indicator If you link to pdf-files or reports, please add author, title and year
Version	Author: name, institute, email address Date of production of fact sheet: …e.g. 10 August, 2006 Date of editorial revision: …

3. Production of a graph

You have to decide for yourself what kind of graph best represents the data. Keep in mind the following questions:

1. What is the **message** you want to send to the reader?
2. **Who** will read the message?
3. **How** will the information be used?

Line charts enable the user to look for trends in one country and to compare the situation in different countries at a point in time or as trend. If target values or limit values (on EU-level) are available, they can be included in the graph.
Bar charts describe the situation in all countries at a certain point in time. They can be useful for presentation of the 'action' indicators that are compiled of several components or to show the amount of variation across the EU
Maps can describe the situation in all member states at a certain point in time. A map is appropriate for indicators like "Existence of anti smoking policies" or "State of ratification of the protocol on drinking water and health".

A graph should be readable without additional information from the text. Each graph should contain the following:

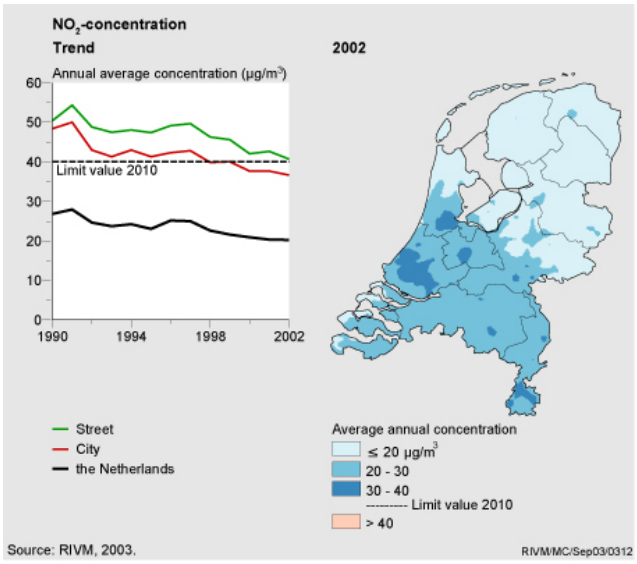
- Title (not more than two lines; what/where/when)
- Clear definition of the x- and y-axis, written at the axes
- Legend with keys of symbols, colours etc.
- Source of data/information as a note below the graph (for most indicators the source will be ENHIS).
- Rank the countries according to their score/value on the indicator (not alphabetically)

The graph should be readable if reproduced with a black/white copy machine. This means you must not use too many colors and preferable a grading of one colour range instead of complementary colours: A range from light blue to dark blue is better than red versus green.

Depending on the number of lines, several options may be taken:

- If there are not too many lines, each line should be shown in a different color or a different type of line, EU-average and target-values may be highlighted,
- If the number of lines is too large for one graph, the graph may be restricted to those states which differ from EU-average significantly (the definition of significantly depends on the situation) or which have extraordinary trends,

The following graph gives an example of a line chart and a map:


NO2-concentration
Trend
Annual average concentration (µg/m3)
60
50
40
30
20
10
0
Limit value 2010
1990
1994
1998
2002
Street
City
the Netherlands
2002
Average annual concentration
≤ 20 µg/m3
20 - 30
30 - 40
Limit value 2010
> 40
Source: RIVM, 2003.
RIVM/MC/Sep03/0312

4. Template for the fact sheet

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

WELTGESUNDHEITSORGANISATION
REGIONALBÜRO FÜR EUROPA

ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÉGIONAL DE L'EUROPE

ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

EUROPEAN CENTRE FOR ENVIRONMENT AND HEALTH

BONN OFFICE

Name: <Name>
<definition MAX 1 LINE>

Idea: <Why is the indicator so important, MAX 5 LINES>

Key message: <simplified description of the situation, MAX 8 LINES>

<include graph here>

Environment and health context
<max 3 paragraphs>

Policy relevance and context
<max 3 paragraphs>

Description of the graph
<max 2 paragraphs>

Assessment
<max 4 paragraphs>

Suggestions for further monitoring
<max 1 paragraph>

Meta data
Data source
<name, web link>
Description of data
<…>
Methodology of indicator computation
<see methodology sheet>
Geographical coverage
<which countries>
Temporal coverage
<which years>
Periodicity
<periodic sampling?>
Data quality
<reliability/completeness/accuracy>

References
<references used in the fact sheet, use numbers in the text and give the reference here>

More information
<links to additional relevant information>

Version

Author: <name, institute, email address>
Date of production of fact sheet: <e.g. 10 August, 2006>
Date of editorial revision: <e.g. October-November, 2006>

Prototype web-site with search function and link to databe: Examples of the ENHIS content management system (CMS)

Figure 1. ENHIS indicator web page: Policies for the safe transportation of children

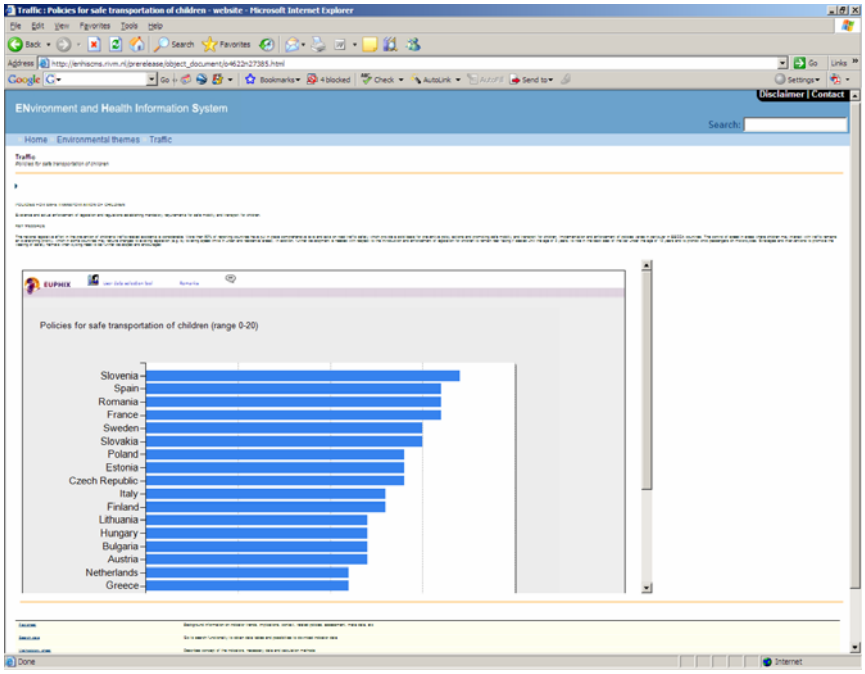
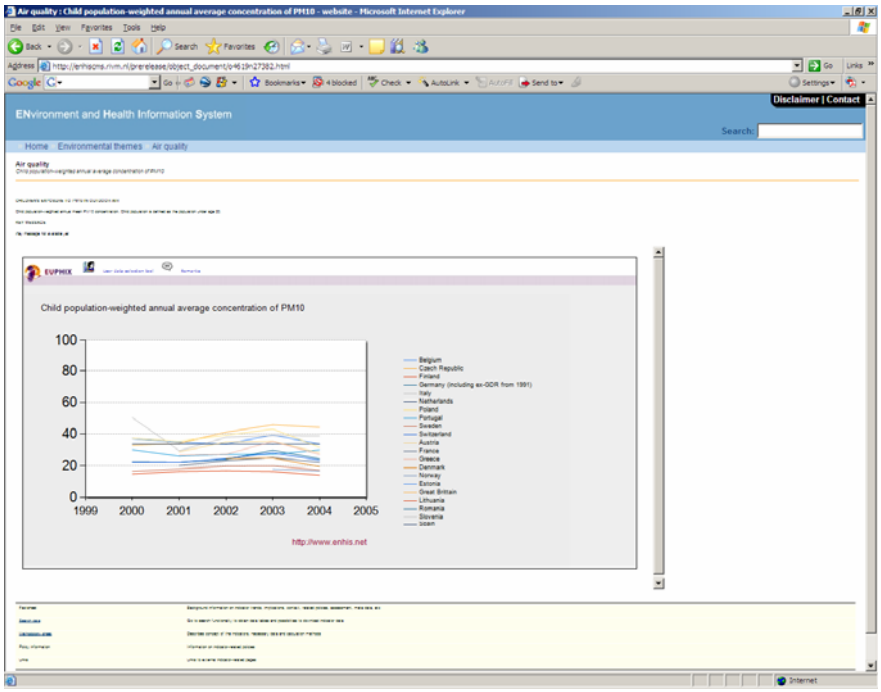


Figure 2. ENHIS indicator web page: Child population-weighted average annual concentration of PM10



ENHIS-2

PUBLICATIONS

Publications

1. 'Environment and health information system and WHO collaborative projects', WHO CC of Air Quality Management and Air Pollution Control, UBA Newsletter, 37, June 2006, 4-9 (http://www.umweltbundesamt.de/whocc/archiv/Newsletter37.pdf)

2. 'Environmental public health indicators and health-environment information system: experiences from Europe', Presentation at *Third National Tracking Conference of the US CDC National Environmental Health Tracking Program*, Atlanta, 9-11 August 2006 (http://www.cdc.gov/nceh/tracking/tracks06/home.htm)

3. Boldo E. et al, 'Necesidades de información para cuantificar el impacto en salud por contaminación del agua de consumo en Europa, Proyecto ENHIS' Presentation at *Sociedad Española de Epidemiolgia*, Logroño, 5 October, 2006

4. Boldo E. et al, 'Assessing the implementation of health impact assessment ofr drinking-water pollution in European countries,' Poster presentation at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006.

5. Boldo E., et al, 'ENHIS project: availability of drinking-water information for health impact assessment purposed in 9 European countries,' Poster presentation at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France,2-6 September, 2006.

6. Boldo E. et al, 'Towards the quantification of health impacts caused by drinking-water pollution in European countries,' Poster presentation at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006

7. Carroquino M.J. et al, 'Development of indicators for Regional Priority Goal II of Children's Environment and Health Action Plan for Europe,' Poster discussion at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006.

8. Dalbokova D. et al, 'Development of environment and health indicator system in Europe,' Poster presentation at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006.

9. Edwards S. et al, 'Children's health and the environment on the border,' Poster discussion at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006.

10. Gonzalez-Cabre M. et al, 'Health impact assessment of ozone on mortality in 30 European cities,' Poster presentation at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006.

11. Kim R., 'Developing environmental health indicators for European children,' Poster discussion at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006.

12. Kim R., ' Development of indicators to monitor Regional Priority Goal IV of Children's Environment and Health Action Plan for Europe,' Poster discussion at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006.

13. Koldo C. et al, 'Health impact assessment of PM10 air pollution on postneonatal mortality in 31 European cities,' Poster presentation at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006.

14. Málnási T., Páldy A., 'Environmental health indicators of the European Environmental Health Information System (ENHIS) for evaluation of environmental factors influencing children's health,' Presentation at *II. Forum of Young Hygienists*, Szeged, Hungary, 1-3 June 2006.

15. Málnási T., Páldy A., 'Environmental health indicators of the European Environmental Health Information System (ENHIS) for evaluation of environmental factors influencing children's health ,' Poster presentation at *XXXVI. Annual Meeting of the Hungarian Society of Hygiene*, Siófok, Hungary, 3-5 October 2006.

16. Páldy A., 'Analysis of the environmental health situation of children in the mirror of the European Environmental Health Information System (ENHIS),' Presentation at *II. Forum of Young Hygienists*, Szeged, Hungary, 1-3 June 2006.

17. Páldy A., Málnási T., 'Evaluation of policies on prevention of children's non-traffic accidents with the help of the tools of the European Environmental Health Information System (ENHIS),' Presentation at *XXXVI. Annual Meeting of the Hungarian Society of Hygiene*, Siófok, Hungary, 3-5 October 2006.

18. Paldy A. et al, 'Health impact assessment of PM10 on mortality and morbidity in children in central-eastern European cities,' Presentation at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006.

19. Smedje G. et al, 'Development of air pollution and respiratory diseases indicators to monitor implementation of Children's Environment and Health Action Plan for Europe,' Poster discussion at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006.

20. Smedje G. et al, ' Development of indicators for Regional Priority Goal III of Children's Environment and Health Action Plan for Europe,' Poster presentation at *International Conference on Environmental Epidemiology & Exposure (ISEE)*, Paris, France, 2-6 September, 2006.

21. van Overveld A., Staatsen B., Knol A., 'ENHIS Presentation of indicators,' Vienna, Austria, 27 June, 2006.

Indicator fact sheets published on the ENHIS website (http://enhiscms.rivm.nl/prerelease/object_class/euwp_home_tab.html) as of 5 December, 2006:

1. Exposure to air pollutants in outdoor air
2. Incidence of childhood leukaemia
3. Actions to lower children's exposure to UV
4. Waste water treatment
5. Children's mortality from traffic accidents
6. Policies for safe transportation of children
7. National actions to prevent obesity