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Participating cohorts

Knowledge Dissemination

Enrieco is committed to disseminating the project results to a wide user community, ensure an active dialogue, provide opportunities for exchange of expertise and experience, and knowledge transfer. Dissemination will be achieved through the workshops, the project website, virtual network, and easy accessible information.

Social relevance

- The societal and economic costs of children's health disorders associated with environmental exposures are substantial
- Many epidemiological studies conducted in Europe have addressed these issues but the wealth of available information has only been partially exploited
- There is an urgent need to evaluate and combine the existing data, methods and tools from European birth cohort studies. This will help identify causal links between environmental exposures and health and provide recommendations for effective policy decisions
- Finally, as mentioned in the European *Children's Environment and Health Action Plan, Budapest 2004* "We recognize that children are entitled to grow and live in healthy environments...We are well aware that protecting children's health and environment is crucial to the sustainable development of countries."

Project partners (PIs and WP leaders)

- **Centre for Research in Environmental Epidemiology**, Barcelona, Spain. (Prof Mark Nieuwenhuijsen, Dr Martine Vrijheid)
- **Institut National de la Santé et de la Recherche Médicale**, Paris, France. (Dr Sylvaine Cordier, Dr Remy Slama)
- **Institute for Risk Assessment Sciences**, Utrecht University, Utrecht, The Netherlands. (Prof Bert Brunekreef)
- **Helmholtz Zentrum München - Deutsches Forschungszentrum für Gesundheit und Umwelt GmbH**, Neuherberg, Germany. (Dr Joachim Heinrich)
- **University of Crete**, Heraklion, Greece. (Prof Manolis Kogevinas)
- **Karolinska Institutet**, Stockholm, Sweden (Prof Magnus Wickman)
- **Charité University Medical Center Berlin**, Berlin, Germany. (Dr Thomas Keil)
- **Aarhus Universitetshospital**, Aarhus Sygehus, Aarhus, Denmark (Prof Jens Peter Bonde) *and representatives of more than 30 European birth cohorts*

Project details

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Project Co-ordinator

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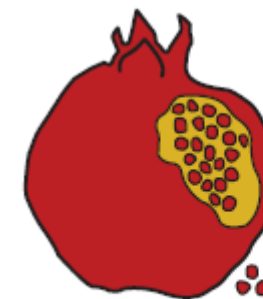
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Communication and Dissemination

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Enrieco: Environmental Health Risks in European Birth Cohorts

Advancement of knowledge on specific environment and health causal relationships in pregnancy and birth cohorts by providing support to exploitation of the wealth of data generated by past or ongoing studies funded by the EC and national programmes



A project conducted within the European Union's 7th Framework Programme - Theme 6, Environment



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Why focus on the foetus, infants and children?

Exposure to many external agents during growth and development may produce adverse effects on health, such as birth defects and neurodevelopmental damage, that have no counterpart in adult life. Epidemiological studies have shown associations between environmental hazards and adverse child health outcomes. The foetus and infant are especially vulnerable to the exposure to environmental risk factors that disrupt the developmental processes. Major environmental hazard such as ambient air pollution, water contaminants, allergens/ biological organisms, environmental tobacco smoke (ETS), noise pollution, pesticides, radiation, toxic wastes, and ultraviolet (UV) light may lead to serious health problems including premature birth, congenital anomalies, low birth weight, respiratory diseases, cancer, learning disabilities, behavioural problems, and may affect health in later life.

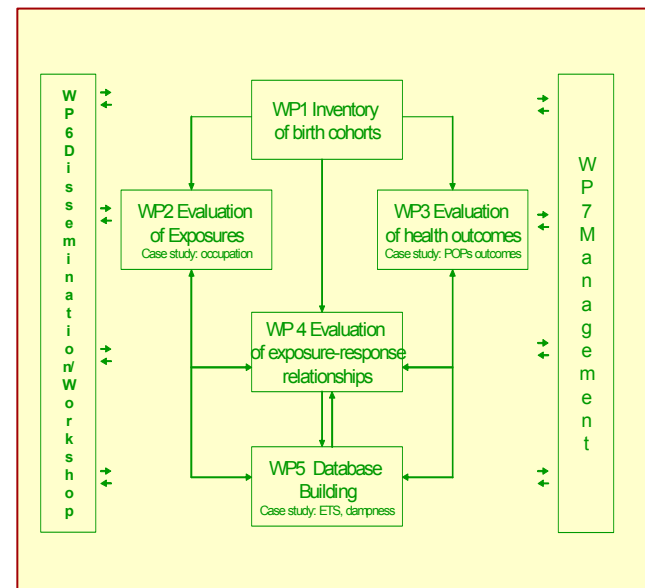


Specific objectives

Make inventories of birth cohorts; assure quality and interoperability; validate exposure, health and exposure-response data; obtain data access; build databases and conduct analyses; make recommendations for data collection in the future to improve environment-health linkages; disseminate the information.

Project Methodology

- Include all pregnancy and birth cohorts in Europe that have an environmental component
- Focus on the relationship of environmental factors and health in pregnancy and early childhood
- Bring together cohorts with environment and health information, share resources, expertise and experience in this area, extract environmental exposure response relationships and evaluate this information and build common databases
- Develop protocols that could be used for other projects. Furthermore, evaluate new exposures in relation to health outcomes and make recommendations
- Complete case studies on occupation of the mother, exposure to POPs (persistent organic pollutants), second hand smoke, damp and mould in relation to several health outcomes such as allergy/respiratory diseases and reproductive outcomes
- Develop data regarding environment-health causal relationships that will be more readily available in a form useful for policy makers
- Promote exchange of information and experience between older and newer cohorts and formulate new hypotheses and use of state-of-the-art methods to test these hypotheses
- Implement a fully transparent policy that allows sharing the information obtained by the project with stakeholders including other researchers, policy makers and the public



- WP 1:** To make inventories of existing cohorts (health data, exposure data, biological samples, exposure response functions, expertise), including a searchable database.
- WP 2:** To evaluate existing environmental exposure information, methods and tools, including assurance of quality and interoperability, and data access, analysis and validation, and make recommendations
- WP 3:** To evaluate existing health information, methods and tools, including assurance of quality and interoperability, data access and validation, and make recommendations
- WP 4:** Evaluation of the existing environmental exposure response data, methods and tools, including assurance of quality and interoperability, and data access and validation, and make recommendations
- WP 5:** To build databases, and conduct assurance of quality and interoperability, data access, analysis and validation
- WP 6:** To organise the workshops and dissemination through a project website, virtual network, workshop(s) and easy accessible info (policy makers etc).
- WP 7:** To manage the overall project.

There are many pregnancy and birth cohorts in Europe, with sample sizes ranging from a few hundred to tens of thousands and a number of them aim to examine environment and health relationships. The project aspires to bring together information on approximately 250,000 newborns, infants and children.