



Environmental Health Risks in European Birth Cohorts (ENRIECO)

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AIM: To advance our knowledge on specific environment and health causal relationships in pregnancy and birth cohorts by providing support to exploitation of past or ongoing studies.

Countries with participating cohorts



BACKGROUND

There are **many pregnancy and birth cohorts in Europe**, with sample sizes ranging from a few hundred to tens of thousands.

These cohorts are currently collecting a wealth of information on environmental exposures and child health outcomes, but data are often of fragmented nature and there is little **coordination to structure and consolidate scattered research**.

OBJECTIVES

- Make **inventories** of birth cohorts: health data, environmental exposure data, biological samples, environmental exposure response functions, expertise, access
- **Evaluate** exposure, health and exposure-response data
- Attempt to **combine** data from various cohorts
- Make **recommendations**

WORK PACKAGES (WP)

- WP1.** Inventory of birth cohorts
- WP2.** Evaluation of exposures
- WP3.** Evaluation of health outcomes
- WP4.** Evaluation of exposure-response relationship
- WP5.** Database building
- WP6.** Dissemination
- WP7.** Management

FINDINGS & IMPLICATIONS

There are many pregnancy and birth cohorts (N=35, **>400000 children**) in Europe with information on environmental exposures and health outcomes.

There is fairly good cover of Europe, **except Eastern Europe**.

There is considerable **expertise** and experience associated with the cohorts, and a great effort goes into them.

The cohorts have provided important environmental exposure, health and environmental exposure-response data.

The amount and detail of information provided by cohorts on environment and health **differs considerably**.

Greater and more efficient use needs to be made of the existing cohort data at the European level to:

- Provide speedy response to key **policy questions**.
- Provide speedy response to concerns about **"new" environmental exposures**.
- Improve understanding of **geographical and cultural inequalities** in disease, exposure, and health related behaviours.
- Replicate findings with important public health implications in different settings.
- Link with routinely collected environmental and health data.
- Improve **methodological approaches**, including protocols of biological and environmental sample collection and analysis.
- Improve statistical power through **combined analyses**.

COMBINED ANALYSIS

Cohorts tend to report **individually**, but recent initiatives have tried to combine data from various cohorts to increase e.g. power (overall and subgroups).

Combining information from different cohorts appears to be beneficial and **increase the value** of the cohorts and resulting information.

Combining data from various cohorts requires careful consideration of the **aims, protocols, data, ethical issues, analyses and management**, and it is time and labour intensive but potential fruitful.

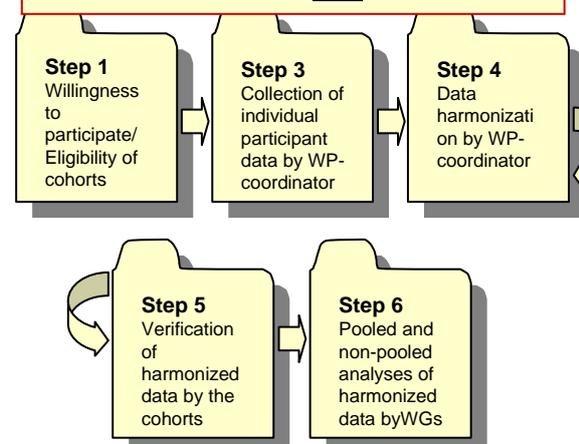
WP	Case study
WP2	Occupational Exposures during pregnancy
WP3	POPs; DDE and PCB152 and birth weight
WP5	Case study on dampness/mould and asthma/allergy in European birth cohorts Case study on tobacco smoke exposure and asthma among 4-6 year olds Case study on tobacco smoke exposure and wheezing among 0-2 year olds

PRELIMINARY CONSIDERATIONS

Follow up of existing cohorts is essential to determine health effects in later life of pre natal and early childhood exposure, for which there is some but not conclusive evidence.

New pregnancy and birth cohorts are needed to evaluate any potential health effects of **new environmental exposures**, or existing environmental exposures under **new conditions**.

Working steps for the working group coordinator, working groups (WG) and cohorts within the WP5 workflow.



Project duration:
2 years from March 2009

Funded by:
European Union's 7th Framework Programme
[Theme 6, Environment (Including Climate)]

