Tables complementing ENRIECO project summary

Reporting period 01/03/2009-28/02/2010

Table 1.1 Working Group (WG) composition and progress of work package 2

WG title	WG Lead	WG Cohort Members*	Protocol Completed	Evaluation Progress
1 - Air pollution	Ulrike Gehring (UU)	FLEHS, Generation R, INMA Valencia, REPRO_PL, RHEA	x	Ongoing, drafting reports, presenting in May
2 – Water contamination	Mark Nieuwenhuijsen (CREAL)	PELAGIE, RHEA	x	Ongoing, drafting reports, presenting in May
3 – Allergens/biological organisms	Joachim Heinrich (HMGU)	LISA, PIAMA, RHEA	x	Ongoing, Drafting reports, presenting in May
4 – Heavy metals	Jordi Sunyer (CREAL)	INMA Valencia, REPRO_PL, PELAGIE	x	Ongoing, drafting reports, presenting in May
5 - Pesticides	Sylvaine Cordier (INSERM)	EFES/ELFE, Generation R, PELAGIE	x	Ongoing, drafting reports, presenting in May
6 - Radiations	Martine Vrijheid (CREAL)	INMA Sabadell,	x	Ongoing, drafting reports, presenting in May
7 – Smoking and ETS	Magnus Wickman (KI)	ALSPAC, Generation XXI, RHEA	x	Ongoing, drafting reports, presenting in May
8 - noise	Thomas Keil (Charité)	CONER, MAS, Generation R	x	Ongoing, drafting reports, presenting in May
9 - Persistent organic pollutants	Jens Peter Bonde (AUH)	Duisburg, EDEN, EFESE/ELFE, FLESH, HUMIS, INUENDO/LUPERCUS, LUKAS, RHEA	x	Ongoing, drafting reports, presenting in May
10 - Occupation	Sylvaine Cordier	ABCS, Generation R, HUMIS, INMA Sabadell, INUENDO/LUPERCUS, LUKAS, RHEA	x	Ongoing, drafting reports, presenting in May
11 – Emerging exposures	Martine Vrijheid	DNBC, FLEHS, Generation R, INMA, Granada & Sabadell, INUENDO/LUPERCUS,	x	Ongoing, drafting reports, presenting in May

Table 1.2 Working group (WG) composition and progress of work package 3

WG title	WG leader	WG Cohort Members*	Protocol completed	Evaluation Progress
1 - Reproductive outcomes	Rémy Slama (INSERM)	EDEN, ELFE, INMA Valencia, INUENDE/LUPERCUS, PELAGIE, DNBC, Generation R	x	Ongoing, drafting reports, presenting in May
2 - Allergy, asthma and respiratory health	Thomas Keil (Charité)	BAMSE, MAS	x	Ongoing, drafting reports, presenting in May
3 – Neurobehavioral/ cognitive function	Jordi Sunyer (CREAL)	ABCD, Generation R, INMA Ribera & Sabadell, MAS, PELAGIE, REPRO_PL	x	Ongoing, drafting reports, presenting in May
4 – Childhood cancer	Manolis Kogevinas (CREAL)	NINFEA, RHEA	x	Ongoing, drafting reports, presenting in May
5 - Case study on Persistent organic pollutants (POPs)	Jens Peter Bonde, Gunnar Toft (AUH)	ARC Risk, Duisburg, EDEN, FLESH, PELAGIE, HUMIS, INMA Granada, Sabadell & Valencia, INUENDO/ LUPERCUS, PCB Cohort, RHEA	x	Ongoing, drafting reports, presenting in May
6 - Child growth, metabolic and Endocrine disorders	Marie-Aline Charles (INSERM)	EDEN, FLESH, INMA Sabadell	x	Ongoing, drafting reports, presenting in May

Table 1.3 Working Groups (WG) composition and progress of work package 4.

WG title	WG Lead	WG Cohort Members*	Protocol completed	Evaluation Progress
Air pollution and Birth Outcomes	Manolis Kogevinas (CREAL)	PIAMA, Generation R, DNBC, EDEN, REPRO_PL, INMA Valencia, Duisburg	x	Ongoing, drafting report, Presenting in May
Occupation and Birth Outcomes	Martine Vrijheid (CREAL)	INUENDO, PELAGRIE, EDEN, Generation R, CONER, REPRO_PL, DNBC	x	Ongoing, drafting report, presenting in May
Air pollution and Allergy and Asthma	Ulrike Gehring (UU)	LISA, PIAMA, ALSPAC, INMA Menorca	x	Ongoing, drafting report, presenting in May
Allergens/Biological Organism and Allergy and Asthma	Joachim Heinrich, Chih-Mei Chen (HMGU)	LISA, PIAMA, INMA Menorca, RHEA	x	Ongoing - mould and endotoxin exposure + updating already published review for pets exposure (Chen et al. 2010, Int J Hyg Environ Health), drafting report, presenting in May
Pesticides and Birth Outcomes	Sylvaine Cordier (INSERM)	PELAGIE, Generation R, INUENDO, ELFE	x	Ongoing, drafting report, presenting in May
Water contaminants and Birth Outcomes	Mark Nieuwenhuijsen (CREAL)		x	Ongoing, drafting report, presenting in May
Metals and Birth Outcomes	Manolis Kogevinas	INMA Sabadell & Valencia, REPRO_PL, RHEA	x	Ongoing, drafting report, presenting in May
Metals and Neurobehavioural/ Cognitive Function	Jordi Sunyer (CREAL)	INMA Sabadell, RHEA	x	Ongoing, drafting report, presenting in May
POPs and Birth Outcomes	Jens Peter Bonde (AUH)	INUENDO, INMA Valencia, PELAGIE, C-Faroes, ELFE,	x	Ongoing, drafting report, presenting in May
POPs and Neurobehavioural/ Cognitive Function	Jens Peter Bonde	PELAGIE, INMA Sabadell	x	Draft review circulated in WP, presenting in May
Noise and Asthma and Birth Outcomes	Thomas Keil (Charité)	MAS, Generation R, CONER	x	Ongoing, drafting report, presenting in May
Second Hand Smoking and Birth Outcomes	Vicky Patelarou	REPRO_PL, CONER	x	Ongoing, drafting report, presenting in May

Table 1.4 Organizational structure for case studies on mould/dampness and second hand tobacco smoke exposure and asthma and allergies

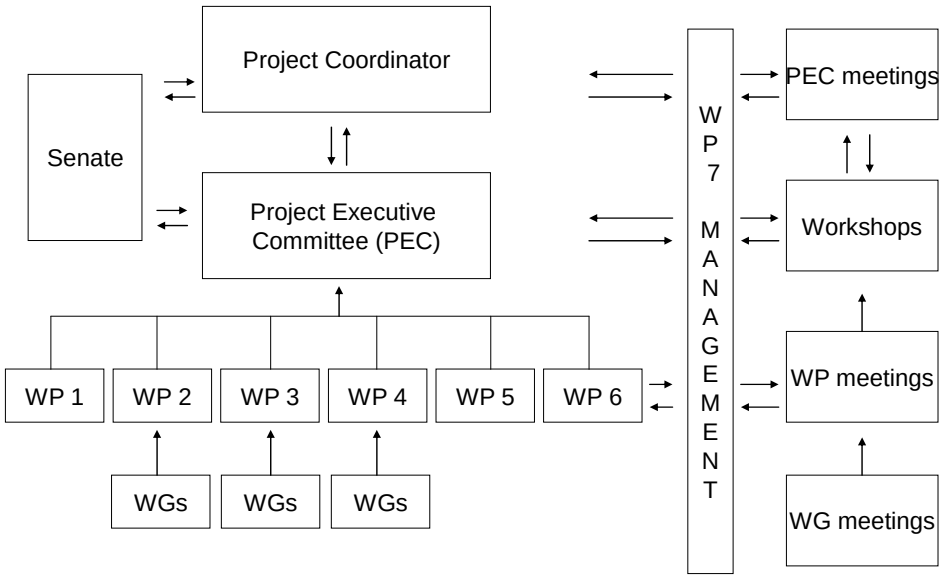
WG title	WG Lead	WG Members Cohorts*	Protocol completed	Evaluation Progress
1 – Mold/ dampness and asthma/allergy	Joachim Heinrich, Chih-Mei Chen (HMGU)	ALSPAC, BAMSE, CONER, DARC, GINI, KOALA, Leicester, LISA, MAS, NINFEA, PIAMA-NHS	x	Ongoing, drafting report, presenting in May
2 – Tobacco smoke and asthma	Magnus Wickman (KI)	ALSPAC, AMICS, BAMSE, DARC, GINI, KOALA, Leicester, LISA, MAS, PIAMA-NHS	x	Ongoing, drafting report, presenting in May
3 – Tobacco smoke and wheeze	Constantine Vardavas, Martine Vrijheid (CREAL)	ALSPAC, AMICS, BAMSE, CONER, DARC, Generation R, GINI, INMA (A, G, S and V), KOALA, Leicester, LISA, MAS, NINFEA- PIAMA-NHS, PELAGIE, RHEA	x	Ongoing, drafting report, presenting in May

***Information of Cohorts involved in the respective work packages.**

Cohort	Country	Source population	Geographical coverage	Start
ABCD	Netherlands	Regional	At enrolment, municipality of Amsterdam; at follow-up, the Netherlands (some mothers changed the residence during the study)	2003
ALSPAC	UK	Regional	Resident in the former Avon health authority in South-West England	1991
AMICS	Spain	Regional	Public and private medical facitities in Menorca, 492 births over one year. Twelve years follow-up under way.	1997
APREG	Hungary	Regional	Three towns with various sizes (Dorog with 13,000 inhabitants, Veszprem with 60,000 inhabitants, Gyor with 130,000 inhabitants)	2000
BAMSE	Sweden	Regional	Selected areas of Stockholm representative for Sweden	1994
BiB	UK	Regional	Bradford	2007
C. Faroes I	Faroe Islands	National	Faroe Islands	1986
C. Faroes II	Faroe Islands	National	Faroe Islands	1994
C. Faroes III	Faroe Islands	National	Faroe Islands	1997
C. Faroes V	Faroe Islands	National	Faroe Islands	2007
CONER	Italy	Hospital	Catchment area of Bologna (Province of Bologna), Emilia Romagna, Italy	2004
DARC	Denmark	National	Population-based, 562 children	-
DNBC	Denmark	National	Denmark	1996
Duisburg	Germany	Regional	Germany, North-Rhine Westphalia, Rhine-Ruhr-District, Duisburg (~500.000 residents)	2000
EDEN	France	Hospital	Nancy and Poitiers areas (not limited to the city limits), France	2003
EFESE/ELFE	France	National	France (national)	2011
FLEHS	Belgium	Regional	8 geographical areas of Flanders.	2002
GESP II	Italy	Hospital	Area of the local health Unit RME (north of Rome, about 500000 inhabitants)	2003
GINIplus	Germany	Regional	München (urban, South Germany); Wesel (rural, West Germany)	1995
Generation R	Netherlands	Regional	Predefined area in the city of Rotterdam, the Netherlands	2001
Generation XXI	Portugal	Regional	Porto Metropolitan area	2004
HUMIS	Norway	Regional	Six different counties in Norway, representing the North, south Middle and west of Norway, and both inland and coastal areas.	2002

Cohort	Country	Source population	Geographical coverage	Start
INMA Asturias	Spain	Regional	Asturias (Cudillero, Muros del Nalón, Castrillón, Avilés, Gozón, Pravia, Soto del Barco, Illas y Corvera de Asturias).	2004
INMA Gipuzkoa	Spain	Regional	Areas of de province of Gipuzkoa (25 municipalities divided by three valleys (Alto Urola, Urola Medio and Oria).	2006
INMA Granada	Spain	Hospital	Hospital area (part of Granada capital and province)	2000
INMA Menorca	Spain	Regional	Menorca island	1997
INMA Ribera Ebre	Spain	Regional	Ribera d'Ebre	1997
INMA Sabadell	Spain	Regional	Sabadell	2004
INMA Valencia	Spain	Regional	Valencia	2004
INUENDO	Denmark	Regional	Greenland (whole country), Swedish fishermen(east & west coast), Poland (Warsaw) and Ukraine (Kharkiv)	2002
KANC	Lithuania	Regional	Kaunas city	2007
KOALA	Netherlands	Regional	South Netherlands	2000
The Leicestershire Cohort Studies	UK	Regional	Leicestershire Health Authority, 1650 and 8700 respectively. Covering asthma and wheezing disorders.	1990 1998
LISA	Germany	Regional	München, Wesel, Leipzig, Bad Honneff	1997
LUKAS	Finland	Hospital	Four hospitals in East and Middle Finland (Kuopio, Jyväskylä, Joensuu and Iisalmi)	2002
MAS	Germany	Selected (high-risk, exposure, etc)	Five German study centers in North-East Germany (Berlin), West-Germany (Duesseldorf), South-Germany (Freiburg, Mainz, Munich)	1990
MoBa	Norway	National	Starting in one county, recruitment was gradually increased to be countrywide.	1999
NINFEA	Italy	National	Whole Italian country, with a higher participation in the Piedmont Region (4000000 inhabitants, North-West Italy)	2005
PCB cohort	Slovakia	Regional	Two selected regions of eastern Slovakia	2001
PIAMA	Netherlands	Regional	A series of communities varying from rural areas to large cities in 3 regions (Northern, Western and Central parts) of the Netherlands	1996
REPRO_PL	Poland	National	Different regions in Poland: big city (Lodz, Wroclaw), small (Lask, Kielce), polluted (Katowice, Legnica), not polluted (Lublin), north part (Szczecin)	2007
PELAGIE	France	Regional	3 departments in Brittany (out of 4)	2002
RHEA	Greece	Regional	Greece, Heraklion	2007

Figure 1.1 The ENRIECO logo is represented by a pomegranate, a symbol of fertility in arts (1). The project website is publicly available, providing background information and news (2), the login portal allows authorised participants to enter the partner zone, where completed deliverables are stored. A brochure has been developed for public use (3).



WP = work package, WG = working group

Figure 1.2 Graphic representation of the management structure of the ENRIECO project, work package (WP) leads are overseeing the working groups (WG) and form with the Project Coordinator and Project Manager the Project Executive Committee (PEC). Participating cohorts are represented in the Senate.

Annex I ENRIECO Inventory of birth cohorts with data on environmental exposures (WP1)

Aim

To make an inventory of all existing pregnancy and birth cohorts in Europe that have data which can be used to explore environment and health relationships.

Background

There are many pregnancy and birth cohorts in Europe, with sample sizes ranging from a few hundred to tens of thousands. A number of these aim to examine environment and health relationships. ENRIECO has as aim to support the exploitation, at European level, of data generated by past and ongoing birth cohort studies. The development of an inventory is a ***first and important prerequisite*** for such exploitation.

Who will use the inventory?

1) Researchers, to enable more effective exploitation of existing studies. For example researchers looking to pool their data with other European cohorts will be able to assess easily which cohorts may be suitable for such pooling.

2) Policy makers, to enable them to identify birth cohorts that can provide certain types of information, specifically on environmental exposures.

How will information be collected?

All information to be included in the inventory will be collected from the cohorts using the attached ***Inventory Questionnaire***. All cohorts are invited to comment on the draft of this questionnaire. The final questionnaire will be completed through *personal contact* with each cohort, it is not meant to be a purely self-administered questionnaire. The PI of each cohort will be asked to distribute appropriate sections to the appropriate researchers in the cohort first. WP1 will then contact these researchers (usually by phone) and complete the questionnaires with them.

How will the information collected for the inventory be used?

The inventory will be stored in a searchable web database. We will link this inventory to the already existing website www.birthcohorts.net, which currently holds basic protocol information on a large number of European cohorts and will be expanded to include modules relating to "exposure data", "outcome data", etc. Users will be able to search for specific exposures and outcomes, and extract information on the cohorts that have data for the specific topic as well as basic information on the methods used to collect data. For example, users interested in air pollution will be able to search the database on air pollution and/or specific pollutants and extract a list of cohorts that collect these exposures with some basic details about the exposure assessment method used (timing, type of modelling).

At the end of the project, a publication will be prepared with an overview and description of European birth cohorts. All cohorts included in the inventory will be invited to participate in this publication.

Which cohorts will be included in the inventory?

Inclusion criteria will be flexible. The main focus of the inventory will be on cohorts that:

1. collect data on at least one environmental exposure topic (see questionnaire);
2. start enrolment during pregnancy or at birth (or during first year of life if data on birth outcomes is collected from medical records);
3. have at least one follow-up point after birth;
4. include at least 200-300 mother-child pairs.

Cohorts that do not fit these criteria entirely can be included on request, but data collection will be passive rather than active.

INVENTORY QUESTIONNAIRE

IMPORTANT:

- *This questionnaire will be completed through personal contact with cohort researchers, it is **not** meant to be administered as a purely postal or email questionnaire. We will discuss with you the best ways of completing the questionnaire.*
- *This questionnaire aims to collect information needed for the **web-based inventory**. ENRIECO working groups may need additional information for their reviews. Such information will be collected separately.*
- ***Please add more space** where needed for description and comments and copy sections/pages where multiple pollutants are concerned.*

CONTACT for questions: Martine Vrijheid (mvrijheid@creal.cat), Maribel Casas (mcasas@creal.cat)

CONTENT

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A2. Basic Description
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B2. Indoor contaminants
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B10. Persistent organic pollutants (POPs)
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B12. Other and emerging chemical exposures: e.g. BPA, phthalates, etc.

C. Outcome Assessment

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C2. Neurodevelopment
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D. Other Information

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A. Basic Protocol Description (update of www.birthcohorts.net)

A1. Identification

- **Cohort name:**
- **Principal investigator:**
- **Contact(s) for environmental exposures:**
- **Cohort website:**
- **Key publication(s) of cohort protocol/methods/description:**

A2. Basic Description

- **Main aim/objectives/focus of cohort:**
- **Source population**

☐ nation-based
☐ region-based
☐ hospital-based
☐ selected (high-risk, exposure etc.), describe:
☐ other:

- **Geographical coverage**, please describe: _____
- **Calendar period of enrolment** – calendar years of start and finish: _____
- **Enrolment - status:**

☐ completed
☐ ongoing
☐ planned

- **Developmental period of enrolment** – give developmental period of start of enrolment:

☐ pre-pregnancy
☐ pregnancy, give pregnancy week(s) _____ weeks of pregnancy
☐ at birth
☐ postnatal, give month(s) _____ months of age

- **Enrolment criteria**, please describe in and exclusion criteria:
- **Expected number of participants** at enrolment when enrolment completed:

_____ mothers _____ fathers _____ children

- **Expected duration of follow-up**: _____ years

A3. Basic Data Collection Scheme

Type of data collection (Give estimate of number of subjects for each period where data/samples are available: N=XXX)	**Pregnancy**			**Birth**	**Post natal**				
	1st trimester	2nd trimester	3rd trimester		0-6 months	7-18 months	18-60 months	5-10 years	10+ years
Questionnaires:									
maternal exposures									
paternal exposures									
offspring exposures									
maternal outcomes									
paternal outcomes									
offspring outcomes									
Biological samples:									
maternal blood									
paternal blood									
cord blood									
offspring blood									
maternal urine									
paternal urine									
offspring urine									
maternal other (hair, nails, saliva, breast milk, etc.)									
paternal other (hair, nails, saliva etc.)									
offspring other (hair, nails, saliva, etc.)									

B. Exposure Assessment

B1. Outdoor Air Pollution

- **Were *outdoor* air pollution exposures assessed for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no, please proceed to part B2

- **Which air pollutants were/will be assessed** *(multiple answers possible)***?**

☐ nitrogen dioxide (NO_2)
☐ nitrogen oxides (NO_x)
☐ particulate matter < 10 µg in diameter (PM_{10})
☐ particulate matter < 2.5 µg in diameter ($PM_{2.5}$)
☐ soot content of particulate matter
☐ ozone (O_3)
☐ others: _____

- **Which types of exposure assessment were/will be used** *(multiple answers possible)***?**

☐ dispersion modelling
☐ land-use regression modelling
☐ routine air monitoring network measurements (e.g. nearest monitor, interpolation)
☐ exposure indicator variables (e.g. traffic density; proximity to traffic/industry from geographic information system)
☐ questionnaires (e.g. self-reported traffic densities; proximity to traffic or industrial sources; wood smoke exposure). Please describe: _____
☐ individual measurements (e.g. personal monitoring, stationary measurements outside/inside participants' homes). Please describe:_____

- **Details of the assessments (complete table with pollutant, assessment method, timing, and rough number of assessments):**

Type of air pollution assessment		**Pregnancy (mother)**			**Post natal (child)**	Number/% of the cohort
Air pollutant	Method	1st trim.	2nd trim.	3rd trim.	Age	
Example:						
NO2	LUR & routine monitoring	x	x	x	0-4 years	All
NO2	Personal monitoring (validation)			x		N=50
Completed:						
Planned:						

B2. Indoor Contaminants (for example from combustion sources, cleaning products, or any indoor exposures not already included in other sections)

- **Were exposures to *indoor* contaminants assessed for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (proceed to part B3)

- **Which indoor contaminants were/will be assessed?**

☐ nitrogen dioxide (NO_2)
☐ VOCs
☐ gas cooking / heating / appliances
☐ cleaning products
☐ others:

- **Which types of exposure assessment were/will be used (*multiple answers possible*)?**

☐ modelling
☐ individual measurements (e.g. personal monitoring, indoor air monitoring)
☐ questionnaires (e.g. use of gas cookers, type of heating system, use of cleaning products)
☐ other:

- **Details of the assessments (complete table with pollutant/contaminant, assessment method, timing, and rough number of assessments):**

Type of indoor contaminant assessment		**Pregnancy (mother)**			**Post natal (child)**	Number/% of the cohort
contaminant	Method	1st trim.	2nd trim.	3rd trim.	Age	
Examples:						
Gas cooking	questionnaire			x		90%
NO2	Personal monitoring & indoor monitoring			x		N=57
Completed:						
Planned:						

Further description:

B3. Water Contamination

- **Were water contaminants assessed for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (proceed to part B4)

- **Which water contaminants were/will be assessed?**

☐ disinfection by products
☐ pesticides
☐ metals
☐ endocrine disrupting substances
☐ others: _____

- **Which type of assessment/questionnaire questions are/were used?**

☐ routine monitoring water concentration data from water companies or government
☐ newly collected water concentration data (measurements)
☐ questionnaire:
  ☐ information on tap/bottled water ingestion
  ☐ information on coffee, tea and other tap water based beverage ingestion
  ☐ information on swimming habits
  ☐ information on showering/bathing habits
☐ personal biomonitoring
☐ other:

- **Details of the assessments (complete table with pollutant/contaminant, assessment method, timing, and rough number of assessments):**

Type of water contaminant assessment		**Pregnancy (mother)**			**Post natal (child)**	Number/% of the cohort
contaminant	Method	1st trim.	2nd trim.	3rd trim.	Age	
Examples						
DBPs	questionnaire			x		all
DBPs	biomonitoring			x		N=40
Completed						
Planned:						

Further description:

B4. Allergens and biological organisms

- **Were exposures to allergens and biological organisms assessed for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no (proceed to part B5)

- **Which allergens and biological organisms <u>were assessed or will be assessed</u>** *(indicate whether completed or planned)***?**

Type of allergens	**Assessment method**		**Timing of the assessment (please specify)**			**% or N of the cohort measured**
	Direct measurement from house dust or air samples	Surrogate* (please specify)	During pregnancy	0-1 years (up to 12 months)	During Early Childhood	
Mite- Der p						
Der f						
Pets- Cat						
Dog						
Other pets (please specify)						
Mold-Cladosporium						
Penicillium						
Aspergilus						
Alternaria						
Other mold allergens						
Cockroach						
Pollen						
Other						
Other bio-contaminant:						
Pests & Vermin						
Endotoxin						
Mold-Eps						
Glucan						
Other mold species						
Other						

* Please specify the surrogate measures, for example: cat ownership for cat allergen, humidity for mold exposure in general, spore counts for mold allergen, season of birth for specific pollen.

B5. Heavy Metals

- **Was exposure to heavy metals assessed for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (please proceed to part B6)

- **Which agents were/will be assessed?**

☐ mercury (Hg)
☐ lead (Pb)
☐ cadmium (Cd)
☐ arsenic (As)
☐ manganese (Mn)
☐ total metals spectrum
☐ other: _____

- **Which type of assessment was/will be used?**

☐ biological sampling
☐ environmental sampling
☐ questionnaires
☐ occupational exposure / JEM
☐ dietary exposure (please specify: _____)
☐ through tap water consumption

- **Details of the biomonitoring analyses (complete table with heavy metal, medium, person, timing, and rough number analysed):**

Type of heavy metal assessment		**Pregnancy (mother)**			**Birth (mother or child)**	**Post natal (child)**	
Metals	Medium	1st trim.	2nd trim.	3rd trim.		Age	Number
Examples:							
Pb	Serum			N=xxx		4 years	N=xxx
Cd	Urine					6 months	N=xxx
Hg	Cord blood				N=xxx		
Completed:							
Planned:							

B6. Pesticides

- **Was exposure to pesticides assessed for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (please proceed to part B7)

Assessment of exposure at *individual* level

- **Which type of assessment was/will be used?**

☐ biological sampling
☐ questionnaire data on self-reported pesticide use (in home)
☐ occupational exposure
☐ dietary exposure
☐ environmental survey (dust, etc…)
☐ other: _____

- **Details of the assessments (complete table with pesticides type, medium, person, timing, and rough number of assessments):**

Type of pesticide assessment		**Pregnancy (mother)**			**Birth (mother or child)**	**Post natal (child)**	
Pesticide	Medium	1st trim.	2nd trim.	3rd trim.		Age	Number
Examples:							
DDE	Cord blood serum				N=xxx		
DDE	serum					4 years	N=xx
Organophosphorous	Urine	N=xx					
Household use (all)	questionnaire			N=xx		6 months	N=xx
Completed:							
Planned:							

Assessment of exposure at a *geographical* level:

- **Which type of assessment was/will be used?**

☐ land/crop data:
  geographical scale (national, regional, etc.): _____
  years available (relevant to your cohort): _____
☐ pesticide usages in crops:
  official recommendations or real uses: _____
  geographical scale (national, regional, etc.): _____
  years available (relevant to your cohort): _____
☐ drinking water contamination:
  groups of pesticides: _____
  frequency (yearly, monthly, etc.): _____
☐ air measurements:
  groups of pesticides: _____
  frequency (yearly, monthly, etc.): _____

B7. Radiations: EMF/UV/ionising

- **Were any of the following sources of non-ionising or ionising radiation exposure assessed for the members of your cohort?**

☐ power lines
☐ mobile phone handsets (use of a mobile phone)
☐ mobile phone base stations
☐ other RF exposures such as WiFi, cordless phones
☐ occupational EMF exposure
☐ sun (sun bathing, sun beds, application of protection creams, etc)
☐ medical ionising radiation exposures (CT scans, X-rays, interventional cardiology procedures)
☐ residential radon exposure
☐ not yet, but planned. Please give predicted year of completion for the specific exposure:
☐ no (proceed to part B8)

- **Which type of assessment was/will be used?** *(copy for each exposure source separately)*

☐ personal monitors
☐ environmental measurements
☐ questionnaire data
☐ geographical data on source location (for power lines, mobile phone base stations, radon)
☐ individual data from mobile phone network operators
☐ occupational exposure / JEM

- **Details of the assessments (complete table with type of assessment, person, timing, and rough number of assessments):**

Type of assessment		**Pregnancy (mother)**			**Birth (mother or child)**	**Post natal (child)**	
Exposure	Method	1st trim.	2nd trim.	3rd trim.		Age	Number
Example:							
mobile phones	questionnaire			x			
Completed:							
Planned:							

B8. Smoking and Second-hand Smoke (SHS)

A. Active smoking of the *mother*

- **Was exposure to *active* tobacco smoke assessed for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (proceed to second-hand smoke)

- **Which type of assessment was used for verifying active smoking (of the mother)?**

☐ biological sampling
☐ questionnaire data (self report)
☐ other:_____

- **If biomarkers were used to verify active smoking status, if known, what was the cut-off used?**

☐ serum cotinine > _____ ng/ml
☐ urinary cotinine > _____ ng/ml

- **If questionnaires were used, which of the following information is available:**

☐ number of cigarettes smoked per day/week/month
  ☐ at one point during pregnancy
  ☐ at different time points during pregnancy
  ☐ before pregnancy
☐ time (week/month) before conception at which mother quit smoking
☐ time (week/month) during pregnancy at which mother quit smoking
☐ other:_____

B. Passive smoking / second-hand smoke (SHS)

- **Was exposure to *passive* tobacco smoke / environmental tobacco smoke /second hand smoke (SHS) assessed for the members of you cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (proceed to part B9)

- **For which members of your cohort did you collect information of exposure to SHS?**

☐ pregnant women
☐ children, age:
☐ other: _____

- **Which type of assessment was used for evaluating exposure to SHS (mother/child)?**

☐ biological sampling (i.e cotinine, NNAL)
☐ environmental measurements (nicotine dosimeters, indoor PM 2.5 monitors, dust swipes)
☐ questionnaire data (who smokes at home, at work, visiting smoky places)
☐ other:_____

- **Details of the active and passive smoking assessments (complete table with type, method, person, timing, and rough number of assessments):**

Type of smoking assessment		**Pregnancy (mother)**			**Birth (mother or child)**	**Post natal (child)**	
Compound	Medium	1st trim.	2nd trim.	3rd trim.		Age	Number
Completed:							
NNAL							
Cotinine							
Maternal smoking							
Smoking in home							
Smoking in working place							
Smoking in bars/cafes (before ban of tobacco smoke)							
Planned:							

B9. Noise

- **Was noise exposure assessed for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no (proceed to part B10)

A. Objective assessment

- **Was noise data collected by *objective* assessments – noise measurements or noise maps?**

☐ yes
☐ no

- If yes please provide details: _____

B. Passive assessment

- **Was noise data collected by *subjective* assessments?**

☐ yes: participants were asked for subjective description of noise exposure:
  ☐ at home
    ☐ during day
    ☐ at night
  ☐ roads/traffic
  ☐ airplanes
  ☐ other: _____
☐ yes: personal feeling of noise annoyance/disturbance (degree with Likert scale etc)
☐ no

- **Details of the noise assessments (complete table with type of assessment, timing, and rough number of assessments):**

Type of noise assessment		**Pregnancy (mother)**			**Birth (mother or child)**	**Post natal (child)**	
Noise	Type of measurement	1st trim.	2nd trim.	3rd trim.		Age	Number
Examples:							
Noise measurement	....				N=xxx		
Subjective	Questionnaire					4 years	N=xx
Completed:							
Planned:							

B10. POPs

- **Was exposure to POPs (PCBs, dioxins, etc.) assessed in biological samples for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (proceed to part B11)

- **Which (groups of) POPs were assessed?**

☐ aldrin
☐ chlordane
☐ DDT and metabolites
☐ dieldrin and endrin
☐ heptachlor
☐ hexachlorobenzene
☐ mirex
☐ polychlorinated biphenyls
☐ polychlorinated dibenzo-p-dioxins
☐ polychlorinated dibenzo furans
☐ toxaphene
☐ brominated flame retardants
☐ flourinated compounds
☐ organometallic compunds (TBT)
☐ other: _____

- **Details of the assessments (complete table with POP type, medium, person, timing, and rough number of assessments):**

Type of POP assessment		**Pregnancy (mother)**			**Birth (mother or child)**	**Post natal (child)**	
POPs	Medium	1st trim.	2nd trim.	3rd trim.		Age	Number
Examples:							
Total PCB	Cord blood serum				N=xxx		
Dioxin activity - Calux	Serum			N=xxx			
Completed:							
Planned:							

- **Was fatty acids measured in the blood samples?**

☐ yes, specify which _____
☐ no
☐ not yet, but planned

B11. Occupation

- **B11a. Was occupational history collected for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (proceed to B11.b)

- **Please tick below the periods for which this data was collected and whether it is available for mother and father? Please indicate whether data was collected *prospectively* or *retrospectively*?**

	Before pregnancy	**Pregnancy**			Retrospective or prospective	Timing of the questionnaire
		1st trimester	2nd trimester	3rd trimester		
Mother						
Father						

- **Indicate below the codes used for recording occupation and industrial activity in your cohort:**

☐ occupation (ie ILO 1968, or national coding system): _____
☐ industrial activity (ie ISIC 1971):
☐ no coding, but checklist of occupations
☐ no coding, but recording of job title and/or task performed

- **B11.b Was any specific occupational exposure assessed?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

- **If yes, specify the list of occupational exposures assessed** *(ie solvents, hair sprays, mercury, endocrine disruptors, etc…):*

_____
_____
_____

- **Which type of assessment was used?** (*copy the section for each category of exposure*):

☐ biological sampling
☐ environmental sampling
☐ questionnaires on specific exposures or jobs (e.g. health care workers, hairdressers, agriculture, etc)
☐ Job Exposure Matrix (JEM)
☐ expert judgment

☐ other:_____

- **Please provide details for the specific occupational exposures. Please indicate whether data was collected prospectively or retrospectively?**

Assessment	**Before pregnancy**	**Pregnancy**			Retrospective or prospective
		1st trimester	2nd trimester	3rd trimester	

B11c. Other data available at a national level:

- **Are you aware of any JEMs built in your country in the recent period (covering the enrolment period of your cohort)?**

☐ yes
☐ no (please proceed to part B12)

- **Which exposures were assessed?**

_____

- **Which coding system was used?**

_____

- **Please give a reference or report number describing these JEMs:**

_____
_____
_____

B12. Other chemical exposures: e.g. BPA, phthalates, etc.

- **Was exposure to any other chemicals assessed for the members of you cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

- **Which agents were/will be assessed?**

☐ bisphenol A
☐ phthalates
☐
☐
☐

- **Which type of assessment was used?**

☐ biological sampling
☐ environmental sampling (dust, etc…)
☐ questionnaire data (use of hair sprays, cosmetics, food containers,...), please specify_____
☐ occupational exposure / JEM
☐ dietary exposure
☐ other: _____

- **Details of the assessments (complete table with type of substance, medium, person, timing, and rough number of assessments):**

Type of assessment		**Pregnancy (mother)**			**Birth (mother or child)**	**Post natal (child)**	
Pesticide	Medium	1st trim.	2nd trim.	3rd trim.		Age	Number
Examples:							
phthalates	urine			N=xxx			
BPA	urine			N=xxx			
Completed:							
Planned:							

C. Health Outcome Assessment

C1. Reproduction and Birth outcomes

- **Was data on reproductive and birth outcomes collected for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no (proceed to part C2)

- **Use of a contraceptive method at the start of a pregnancy:**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

- **Time to pregnancy:**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

- **Infertility treatment before the index pregnancy:**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

If yes, was the duration of the pregnancy attempt until the start of the infertility treatment recorded? ☐ yes
☐ no

- **Congenital anomalies:**

☐ yes. Please give %/number of subjects for whom this information was collected: _____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

- **Specific anomalies of the male reproductive system:**

☐ yes.
  ☐ cryptorchidism (if planned, year _____)
  ☐ hypospadias (if planned, year _____)
  ☐ anogenital distance (if planned, year _____)
☐ no

- **Spontaneous abortions (until 21 weeks of amenorrhea)**

☐ yes. Please give %/number of subjects for whom this information was collected: _____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

- **Stillbirths (after 22 weeks of amenorrhea)**

☐ yes. Please give %/number of subjects for whom this information was collected: _____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

- **Medical termination of pregnancy**

☐ yes. Please give %/number of subjects for whom this information was collected: _____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no
If yes, please indicate if information on the reason of the termination of the pregnancy is known, and if the presence of congenital malformations has been recorded.
_____
_

- **Birth weight**

☐ yes. Please give %/number of subjects for whom this information was collected: _____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no
If yes, please indicate how the data were collected:
☐ Self-reported from mothers
☐ Medical record, midwife or doctor reported
☐ Other, specify_____

- **Gestational Duration**

☐ yes. Please give %/number of subjects for whom this information was collected: _____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no
If yes, what is the origin for the calculation of gestational duration?
☐ self-reported last menstrual period (by study subject)
☐ Medical record: midwife or physician assessed last menstrual period (on basis of self-report, but assessed and recorded by medically qualified person)
☐ ultrasound
☐ other:

- **Premature Rupture of Membranes**

☐ yes. Please give %/number of subjects for whom this information was collected: _____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

- **Onset of labour (spontaneous, induced, caesarean section before onset, ...)**

☐ yes. Please give %/number of subjects for whom this information was collected: _____
☐ not yet, but planned. Please give predicted year of completion: 20_____

☐ no

- **Mode of delivery (spontaneous vaginal birth, operative vaginal birth, caesarean section)**

☐ yes. Please give %/number of subjects for whom this information was collected: _____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

- **Ultrasound measurements**

☐ yes. Please give %/number of subjects for whom this information was collected: _____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

If yes, describe how many ultrasounds, which gestational weeks:

- **Doppler measurements (of uterine, umbilical, fetal cervical arteries, or other)**

☐ yes. Please give %/number of subjects for whom this information was collected: _____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

If yes, describe the arteries concerned, which gestational weeks, how many (or percentage of) women:

C2. Neurodevelopment

- **Was data on neurodevelopmental and behavioural outcomes collected for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no (proceed to part C3)

- **Which of the following outcomes were assessed in the children:**

☐ neuropsychological assessment (e.g. developmental tests for executive function, memory,
language, IQ)
☐ behaviour (ADHD symptoms, etc)
☐ autism symptoms
☐ school achievements/performance
☐ neurophysiology/neuroimaging: _____
☐ other:_____

- Details of neurobehavioural and cognitive development assessment of child (number completed or planned)

Name of test/assessment and year (Bayley, McCarthy, Griffith, ...)	**Birth**	**Post natal (give months/years of age)**				
		e.g. 14 months		4 years		
Dubowitz						
Bayley scales of infant development (BSID)						
Griffiths Mental Development scales						
McCarthy scales of children's abilities (MSCA)				planned		
Wechsler Preschool and Primary scale of Intelligence (**WPPSI**)						
Others:						

- Which of the following assessments were completed in ***mothers and fathers***:

Type of assessment	**Name of test**	**Timing**	**Number/% of cohort**
maternal IQ			
paternal IQ			
maternal mental health			
paternal mental health			
maternal stress			

Paternal stress			
maternal attachment			
paternal attachment			
Other			

C3. Allergies and Asthma

- **Was data on asthma and allergies collected for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no (proceed to part C4)

- **Which of the following outcomes were assessed in the children:**

☐ asthma
☐ allergies (other than allergic rhinitis)
☐ allergic rhinitis (indoor/outdoor)
☐ eczema
☐ respiratory infections (upper/lower)
☐ food allergies

Asthma

- **Which of the following methods to assess asthma were used?**

☐ parental questionnaires / interview (wheezing, asthma symptoms)
☐ doctor´s diagnosis of asthma (by study doctor or parent-reported doctor´s diagnosis)
☐ lung function tests
  ☐ oscilometry
  ☐ spirometry
  ☐ bronchial challenge test
  ☐ tested reversibility (bronchodilators)
  ☐ interrupter technique (Rint)
  ☐ exhaled NO

Allergic Rhinitis

- **Which of the following methods to assess allergies were used?**

☐ parental questionnaires/ interview (sneezing, runny nose, nasal congestion, itching of the nose, and post nasal drip)
☐ doctor´s diagnosis of allergy (by study doctor or parent-reported doctor´s diagnosis)
☐ sensitization assessment (blood samples, SPT (skin prick test), urine samples)

Eczema

- **Which of the following methods to assess eczema were used?**

☐ parental questionnaires/ interview
☐ doctor´s diagnosis of allergy (by study doctor or parent-reported doctor´s diagnosis)

Allergic Sensitization Assessment

- **Were IgE-antibodies to common inhalant allergens analysed in biological samples?**

☐ yes
☐ no

If yes, describe the specific IgE measured:
  ☐ total IgE
  ☐ IgE mite
  ☐ IgE cat
  ☐ IgE dog

☐ IgE pollen
☐ IgE grass
☐ other, including food allergies

- **Were skin prick tests (SPT) performed?**

☐ yes
☐ no

If yes, indicate the specific SPT performed:

☐ mite
☐ cat
☐ dog
☐ pollen
☐ mould
☐ others, including food allergens

- **Details of asthma and allergy assessment of child (number completed or planned)**

Type of assessment and timing		**Birth**	**Post natal (give months/years of age)**			
Outcome	Method		e.g. 14 months		e.g. 4 years	**Number/% of cohort**
Examples:						
allergic rhinitis	parental questionnaires / interview					
eczema	doctor´s diagnosis of asthma					
asthma	lung function tests					
	oscilometry					
	spirometry					
	bronchial challenge test					
	tested reversibility (bronchodilators)					
	interrupter technique (Rint)					
	exhaled NO					
allergies	IgEs					
	Skin prick test					
Completed:						
Planned:						

C4. Cancer

- **Is information on childhood cancers collected for your cohort**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

- **Please describe how:**

☐ linkage to cancer registry
☐ other: _____

- **What is the estimated annual number of childhood cancer cases in your cohort**

0-1 years: _____
1-2 years: _____
2-5 years: _____
5-10 years: _____
10-15 years: _____
15-18 years: _____
(or other, convenient, age categories)

- **Are genotoxicity markers measured in your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

Details?

C5. Childhood growth and obesity, sexual maturation, other outcomes

- **Is information on childhood growth, obesity, sexual maturation, or other metabolic and endocrine disorders, collected for your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no, please go to section D

- **Which of the following outcomes were assessed in the children:**

☐ childhood growth and obesity
☐ indicators of metabolic syndrome
☐ diabetes
☐ sexual maturation
☐ other:_____

- **Details of childhood growth and obesity assessments** (give number/% completed or planned)

Measure of growth/ body composition	**Type of assessment (self-report, medical record, measurement, etc)**	**Birth**	**Post natal (give months/years of age)**			
			e.g. 14 months			
Weight			N=			
Height			N=			
Waist circumference						
Arm circumference						
Wrist circumference						
Fat/fat free mass by bioimpedance						
Other measure of body composition:						

- **Details of metabolic syndrome indicator assessments in children** (give number/% completed or planned)

Indicator	**Type of assessment (include whether fasting samples...)**	**Birth**	**Post natal (give months/years of age)**			
			e.g. 14 months			
Blood pressure			N=			
Cholesterol (total)			N=			
Cholesterol (HDL)						
Triglycerides						
Glucose						
Insulin						
Other:						

- **Details of sexual maturation assessments** (give number/% completed or planned)

Measure	**Type of assessment (self-reported child/mother, evaluated by doctor,...)**	**Birth**	**Post natal (give years of age)**			
Tanner stage			N=			
Puberal Development Stage						
Age at menarche			N=			
Age at voice change						
Gonadal axis hormones						
Other:						

- **Other outcome assessments, including other biomarkers of effect** (e.g. thyroid hormones, CRP, etc)

Measure	**Type of assessment**	**Prenatal (mother)**	**At birth**	**Post natal (give months/years of age)**				
				e.g. 14 months				
				N=				

D. Other information – including genetic and important covariates - all please comment

D1. Genotyping:

- **Have genetic analyses been performed**

☐ yes, GWAS
☐ yes, specific genes:
_____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

D2. Residential history and time-activity (tick which are available)

- **Home addresses available:**

☐ only once:
  ☐ during pregnancy
  ☐ at birth
  ☐ during follow-up: week/month:_____
☐ residential history

- **Work addresses of mother during pregnancy:**

☐ yes
☐ no

- **School/daycare addresses of child**

☐ yes
☐ no

- **Were these addresses geocoded?**

☐ yes, specify which _____
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no

D3. Time activity patterms

- **Was information on time-activity patterns collected:**

☐ for child
  ☐ questionnaire, specify when _____
  ☐ diary, specify when _____
☐ for mother
  ☐ questionnaire, specify when _____
  ☐ diary, specify when _____

D4. Sociodemographic variables

☐ mother's social class (coded from occupation), specify coding system _____
☐ father's social class (coded from occupation), specify coding system _____
☐ household income
☐ mother's education
☐ father's education
☐ mother's ethnic origin/country of birth
☐ father's ethnic origin/country of birth

☐ maternal age
☐ paternal age
☐ parity
☐ birth order
☐ child's sex

D5. Breastfeeding
☐ weeks of breastfeeding
☐ weeks of exclusive breastfeeding

D6. Diet and physical exercise
- **Dietary assessments**

☐ yes:
☐ FFQ
☐ 24 hour recall
☐ other: _____
person (child/mother):
_____
timing (e.g. stage of pregnancy, age of child):
_____
☐ no

- **Assessment of physical exercise:**

☐ yes:
☐ questionnaire
☐ measurements
person (child/mother):
_____
timing: _____
☐ no

D7. Medical history
- **Is the following information collected for the parents?**

☐ family history
☐ pre-pregnancy medical history of mother
☐ pregnancy complications
☐ blood pressure measurements
☐ maternal hypertension
☐ preeclampsia
☐ maternal allergic history
☐ paternal allergic history

D8. Parental anthropometry
☐ maternal pre-pregnancy weight, height
☐ maternal pregnancy weight, height
☐ paternal weight/height

D9. Other/Comments