

Table 1 ENRIECO Work Packages (WP) & Working Groups

WP	Working Group	Responsible Person	Participants	Email	Cohort
WP 2 - Exposures		Bert Brunekreef		<u>b.brunekreef@iras.uu.nl</u>	
	Air Pollution	Ulrike Gehring u.gehring@uu.nl	Frank Pierik Vicky Patelarou Kinga Polanska Ferran Ballester Ann Colles	Frank.pierik@tno.nl patelarou@edu.med.uoc.gr kinga@imp.lodz.pl Ballester_fer@gva.es ann.colles@vito.be	GenerationR INMA REPRO_PL INMA, Valencia FLEHS
	Water Contamination	Mark Nieuwenhuijsen mnieuwenhuijsen@creal.cat	Sylvaine Cordier Vicky Patelarou Maribel Casas Jeremy Botton	sylvaine.cordier@univ-rennes1.fr patelarou@edu.med.uoc.gr mcasas@creal.cat jbotton@creal.cat	PÉLAGIE RHEA INMA, Sabadell INMA, Sabadell
	Allergens/Biological organisms	Joachim Heinrich joachim.heinrich@helmoltz-muenchen.de	Ulrike Gehring Chih-Mei Chen Constantine Vardavas	u.gehring@uu.nl chih-mei.chen@helmoltz-muenchen.de vardavas@edu.med.uoc.gr	PIAMA LISA/GINI RHEA
	Metals	Jordi Sunyer jsunyer@creal.cat	Ferran Ballester Kinga Polanska Constantine Vardavas Michael Wilhelm Maribel Casas	Ballester_fer@gva.es kinga@imp.lodz.pl vardavas@edu.med.uoc.gr wilhelm@hygiene.rub.de mcasas@creal.cat	INMA, Valencia REPRO_PL RHEA Duisburg INMA, Sabadell
	Pesticides	Cecile Chevrier cecile.chevrier@rennes.inserm.fr	Frank Pierik Stephanie Vandentorren Sylvaine Cordier	Frank.pierik@tno.nl stephanie.vandentorren@ined.fr sylvaine.cordier@univ-rennes1.fr	Generation R ELFE PÉLAGIE
	Emerging Exposures (phthalates, BPA, PFCs, brominated flame retardants)	Martine Vrijheid mvrijheid@creal.cat	Elly Den Hond Jorn Olsen Frank Pierik Marieta Fernandez Gunnar Vase Toft Maribel Casas	EllyDenHond@vito.be jo@ucla.edu Frank.pierik@tno.nl marieta@urg.es gunnarto@rm.dk mcasas@creal.cat	FLEHS DNBC Generation R INMA, Granada INUENDO INMA, Sabadell

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WP	Working Group	Responsible Person	Participants	Email	Cohort
	Radiations: EMF/UV/ionising	Martine Vrijheid mvrijheid@creal.cat	Mark Nieuwenhuijsen Elisabeth Cardis Payam Dadvand Maribel Casas	mnieuwenhuijsen@creal.cat ecardis@creal.cat pdadvand@creal.cat mcasas@creal.cat	INMA, Sabadell CREAL CREAL INMA, Sabadell
	Second Hand Tobacco Smoke (SHS)	Magnus Wickman magnus.wickman@ki.se	Constantine Vardavas John Henderson Sofia Correia	vardavas@edu.med.uoc.gr a.j.henderson@bris.ac.uk scorreia@med.up.pt	RHEA ALSPAC Generation X
	Noise	Thomas Keil thomas.keil@charite.de	Cynthia Hohmann Maria Pia Fantini Lorenza Luciano Henk Miedema	cynthia.hohmann@charite.de mariapia@fantini.gmail.com lorenza.luciano@libero.it henk.miedema@tno.nl	MAS CONER CONER Generation R
	Persistent organic pollutants (POPs)	Jens Peter Bonde jpb@bbh.regionh.dk	Gunnar Toft Remy Slama Michael Wilhelm Greet Schoeters Vicky Patelarou Stephanie Vandentorren Kiviranta Hannu Merete Eggesbo	gunntoft@rm.dk remy.slama@ujf-grenoble.fr Wilhelm@hygiene.rub.de greet.schoeters@vito.be patelarou@edu.med.uoc.gr stephanie.vandentorren@ined.fr hannu.kiviranta@thl.fi merete.eggesbo@fhi.no	INUENDO EDEN DUISBURG FLEHS RHEA PÉLAGIE LUKAS HUMIS
Case Study	Occupational Exposures during pregnancy	Sylvaine Cordier sylvaine.cordier@univ- rennes1.fr	Jens Peter Bonde Frank Pierik Vicky Patelarou Kiviranta Hannu Merete Eggesbo Tanja Vrijkotte Mark Nieuwenhuijsen Alex Burdorf Claudia Snijder Martine Vrijheid	jpb@bbh.regionh.dk Frank.pierik@tno.nl patelarou@edu.med.uoc.gr hannu.kiviranta@thl.fi merete.eggesbo@fhi.no t.vrijkotte@amc.uva.nl mnieuwenhuijsen@creal.cat a.burdorf@erasmusmc.nl c.snijder@erasmusmc.nl mvrijheid@creal.cat	INUENDO Generation R RHEA LUKAS HUMIS ABCD BIB Generation R Generation R INMA, Sabadell

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WP	Working Group	Responsible Person	Participants	Email	Cohort
WP 3 - Outcomes		Remy Slama		remy.slama@ujf-grenoble.fr	
	Birth Outcomes	Remy Slama remy.slama@ujf-grenoble.fr	Jens Peter Bonde Gunnar Toft Sylvaine Cordier Frank Pierik Michael Wilhelm Anne Marie Nybo Andersen Greet Schoeters Constantine Vardavas Stephanie Vandentorren Merete Eggesbo Kinga Polanska Manon Van Eijsden Ferran Ballester	jpb@bbh.regionh.dk gunntoft@rm.dk sylvaine.cordier@univ-rennes1.fr Frank.pierik@tno.nl Wilhelm@hygiene.rub.de amny@sund.ku.dk greet.schoeters@vito.be vardavas@edu.med.uoc.gr stephanie.vandentorren@ined.fr merete.eggesbo@fhi.no kinga@imp.lodz.pl mveijsden@ggd.amsterdam.nl Ballester_fer@gva.es	INUENDO INUENDO PÉLAGIE Generation R DUISBURG DNBC FLEHS RHEA PÉLAGIE HUMIS REPRO_PL ABCD INMA, Valencia
	Allergies/Asthma/Respiratory Disease (RD)	Thomas Keil thomas.keil@charite.de	Joachim Heinrich John Henderson Constantine Vardavas Cynthia Hohmann Claudia Galassi Carel Thijs	joachim.heinrich@helmoltz-muenchen.de a.j.henderson@bris.ac.uk vardavas@edu.med.uoc.gr cynthia.hohmann@charite.de Claudia.galassi@cpo.it C.Thijs@EPID.unimaas.nl	LISA/GINI ALSPAC RHEA MAS NINFEA KOALA
	Neurobehaviour	Jordi Sunyer jsunyer@creal.cat	Sylvaine Cordier Henning Tiemeier Kinga Polanska Cynthia Hohmann Manon Van Eijsden Viaene, Mineke Joan Fornes	sylvaine.cordier@univ-rennes1.fr h.tiemeier@erasmusmc.nl kinga@imp.lodz.pl cynthia.hohmann@charite.de mveijsden@ggd.amsterdam.nl mineke.viaene@opzgeel.be jfornes@creal.cat	PÉLAGIE Generation R REPRO_PL MAS INMA, Valencia FLEHS INMA, Sabadell
	Cancer	Manolis Kogevinas kogevinas@creal.cat	Milena Maule	Milena.maule@unito.it	NINFEA

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WP	Working Group	Responsible Person	Participants	Email	Cohort
	Child Growth / Endocrine & Metabolic Disorders	Marie Aline Charles marie-aline.charles@inserm.fr	Greet Schoeters Martine Vrijheid Sylvaine Cordier	greet.schoeters@vito.be mvrijheid@creal.cat sylvaine.cordier@univ-rennes1.fr	FLEHS INMA PÉLAGIE
Case Study	POPs	Jens Peter Bonde jpb@bbh.regionh.dk	Jens Peter Bonde Gunnar Toft Remy Slama Michael Wilhelm Greet Schoeters Vicky Patelarou Stephanie Vandentorren Kiviranta Hannu Merete Eggesbo	jpb@bbh.regionh.dk gunntoft@rm.dk remy.slama@ujf-grenoble.fr Wilhelm@hygiene.rub.de greet.schoeters@vito.be patelarou@edu.med.uoc.gr stephanie.vandentorren@ined.fr hannu.kiviranta@thl.fi merete.eggesbo@fhi.no	INUENDO INUENDO EDEN DUISBURG FLEHS RHEA ELFE LUKAS HUMIS
WP 4 – Exposure-Response		Joachim Heinrich		joachim.heinrich@helmholtz-muenchen.de	
	Air pollution and Birth outcomes	Manolis Kogevinas kogevinas@creal.cat	Ulrike Gehring Frank Pierik Anne Marie Nybo Andersen Remy Slama Kinga Polanska Ferran Ballester Koppen Gudrun	u.gehring@uu.nl Frank.pierik@tno.nl anandersen@health.sdu.dk remy.slama@ujf-grenoble.fr kinga@imp.lodz.pl Ballester_fer@gva.es Gudrun.koppen@vito.be	PIAMA Generation R DNBC EDEN REPRO_PL INMA, Valencia FLEHS
	Air pollution and Allergy/Asthma/RD	Bert Brunekreef b.brunekreef@iras.uu.nl Ulrike Gehring u.gehring@uu.nl	Joachim Heinrich Ulrike Gehring John Henderson Maties Torrent Karolien Bloemen	joachim.heinrich@helmoltz-muenchen.de u.gehring@uu.nl a.j.henderson@bris.ac.uk maties.torrent@hgmo.es Karolien.bloemen@vito.be	LISA/GINI PIAMA ALSPAC INMA, Menorca FLEHS
	Allergens/biological organism and Allergy/Asthma	Joachim Heinrich joachim.heinrich@helmoltz-muenchen.de	Chih-Mei Chen Ulrike Gehring Maties Torrent Constantine Vardavas	chih-mei.chen@helmoltz-muenchen.de u.gehring@uu.nl maties.torrent@hgmo.es vardavas@edu.med.uoc.gr	LISA/GINI PIAMA INMA, Menorca RHEA

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WP	Working Group	Responsible Person	Participants	Email	Cohort
	SHS and Birth outcomes	Constantine Vardavas vardavas@edu.med.uoc.gr	Kinga Polanska Francesa Bravi	kinga@imp.lodz.pl f.bravi@unibo.it	REPRO_PL CONER
	Pesticides and Birth outcomes	Cecile Chevrier cecile.chevrier@rennes.inserm.fr	Jens Peter Bonde Frank Pierik Stephanie Vandentorren Sylvaine Cordier	jpb@bbh.regionh.dk Frank.pierik@tno.nl stephanie.vandentorren@ined.fr sylvaine.cordier@univ-rennes1.fr	INUENDO Generation R ELFE PÉLAGIE
	Water contaminants and birth outcomes	Mark Nieuwenhuijsen mnieuwenhuijsen@creal.cat	Sylvaine Cordier Maribel Casas Jeremy Botton	sylvaine.cordier@univ-rennes1.fr mcasas@creal.cat jbotton@creal.cat	PÉLAGIE INMA, Sabadell INMA, Sabadell
	Occupation and Birth outcomes	Martine Vrijheid mvrijheid@creal.cat	Jens Peter Bonde Sylvaine Cordier Remy Slama Frank Pierik MP Fantini Lorenza Luciano Kinga Polanska Anne-Marie Nybo Andersen Maribel Casas	jpb@bbh.regionh.dk sylvaine.cordier@univ-rennes1.fr remy.slama@ujf-grenoble.fr Frank.pierik@tno.nl mariapia@fantini.gmail.com lorenza.luciano@libero.it kinga@imp.lodz.pl amny@sund.ku.dk mcasas@creal.cat	INUENDO PÉLAGIE EDEN Generation R CONER CONER REPRO_PL DNBC INMA, Sabadell
	Metals and Birth outcomes	Jordi Sunyer jsunyer@creal.cat	Constantine Vardavas Kinga Polanska Ferran Ballester Vicky Patelarou Maribel Casas	vardavas@edu.med.uoc.gr kinga@imp.lodz.pl Ballester_fer@gva.es patelarou@edu.med.uoc.gr mcasas@creal.cat	RHEA REPRO_PL INMA, Valencia RHEA INMA, Sabadell
	Metals and Neurobehaviour	Jordi Sunyer jsunyer@creal.cat	Constantine Vardavas Vicky Patelarou Maribel Casas	vardavas@edu.med.uoc.gr patelarou@edu.med.uoc.gr mcasas@creal.cat	RHEA RHEA INMA, Sabadell

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WP	Working Group	Responsible Person	Participants	Email	Cohort
	POPs and birth outcomes	Jens Peter Bonde jpb@bbh.regionh.dk jpbon@as.aaa.dk	Sylvaine Cordier Pál Weihe Stephanie Vandentorren Ferran Ballester	sylvaine.cordier@univ-rennes1.fr pal@health.fo stephanie.vandentorren@ined.fr Ballester_fer@gva.es	PÉLAGIE FAROES DNBC INMA, Valencia
	POPS and Neurobehaviour	Jordi Sunyer jsunyer@creal.cat	Sylvaine Cordier Gunnar Toft Joan Fornes Philippe Grandjean	sylvaine.cordier@univ-rennes1.fr gunntoft@rm.dk jfornes@creal.cat pgrand@hsph.harvard.edu	PÉLAGIE INUENDO INMA, Sabadell FAROES
	Noise and Asthma/Birth outcomes	Thomas Keil thomas.keil@charite.de	Yvonne de Kluizenaar Cynthia Hohmann Maria Pia Fantini Lorenza Luciano	yvonne.dekluizenaar@tno.nl cynthia.hohmann@charite.de mariapia@fantini.gmail.com lorenza.luciano@libero.it	Generation R MAS CONER CONER
WP 5 – Database building		Thomas Keil			
Case Study	Allergy/Respiratory diseases and ETS/Damp/Mold	Joachim Heinrich joachim.heinrich@helmoltz-muenchen.de Magnus Wickman magnus.wickman@ki.se Thomas Keil thomas.keil@charite.de	Edith vd Hooven Chih-Mei Chen Cynthia Hohmann Constantine Vardavas	e.vandenhooven@erasmusmc.nl chih-mei.chen@helmoltz-muenchen.de cynthia.hohmann@charite.de vardavas@edu.med.uoc.gr	Generation R GINI MAS RHEA

Figure 1 Demography of ENRIECO birth cohorts

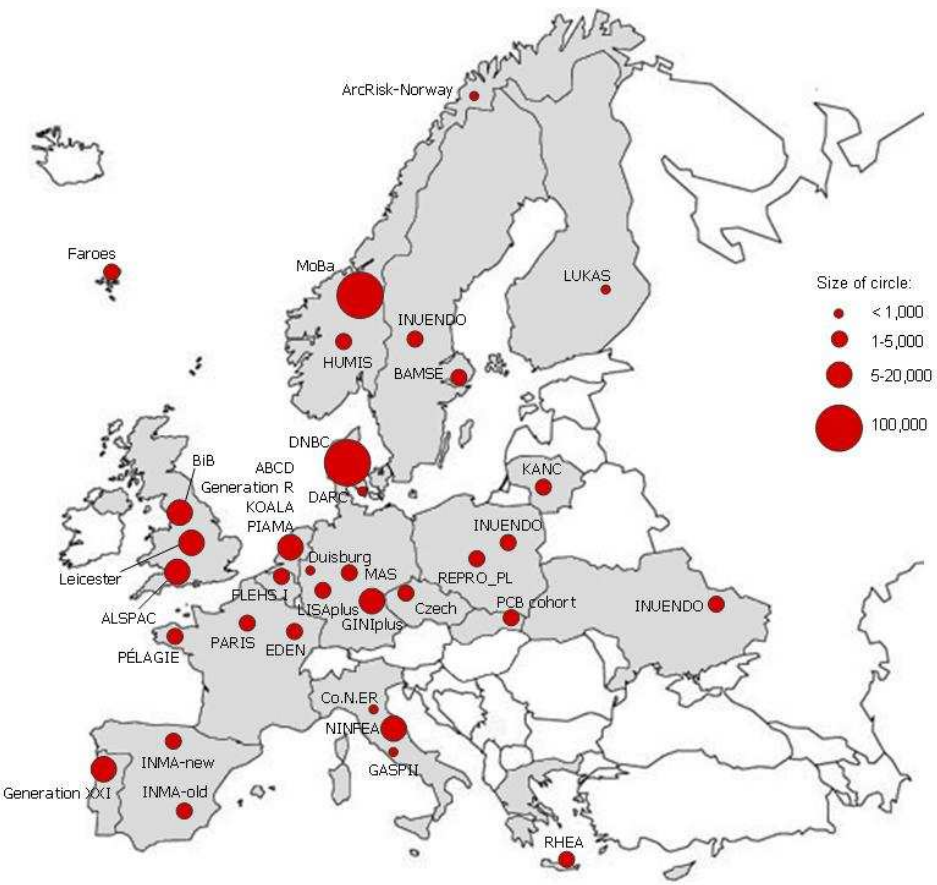


Figure 2 ENRIECO birth cohorts: start of enrolment and time points of follow-up* (vertical bars)

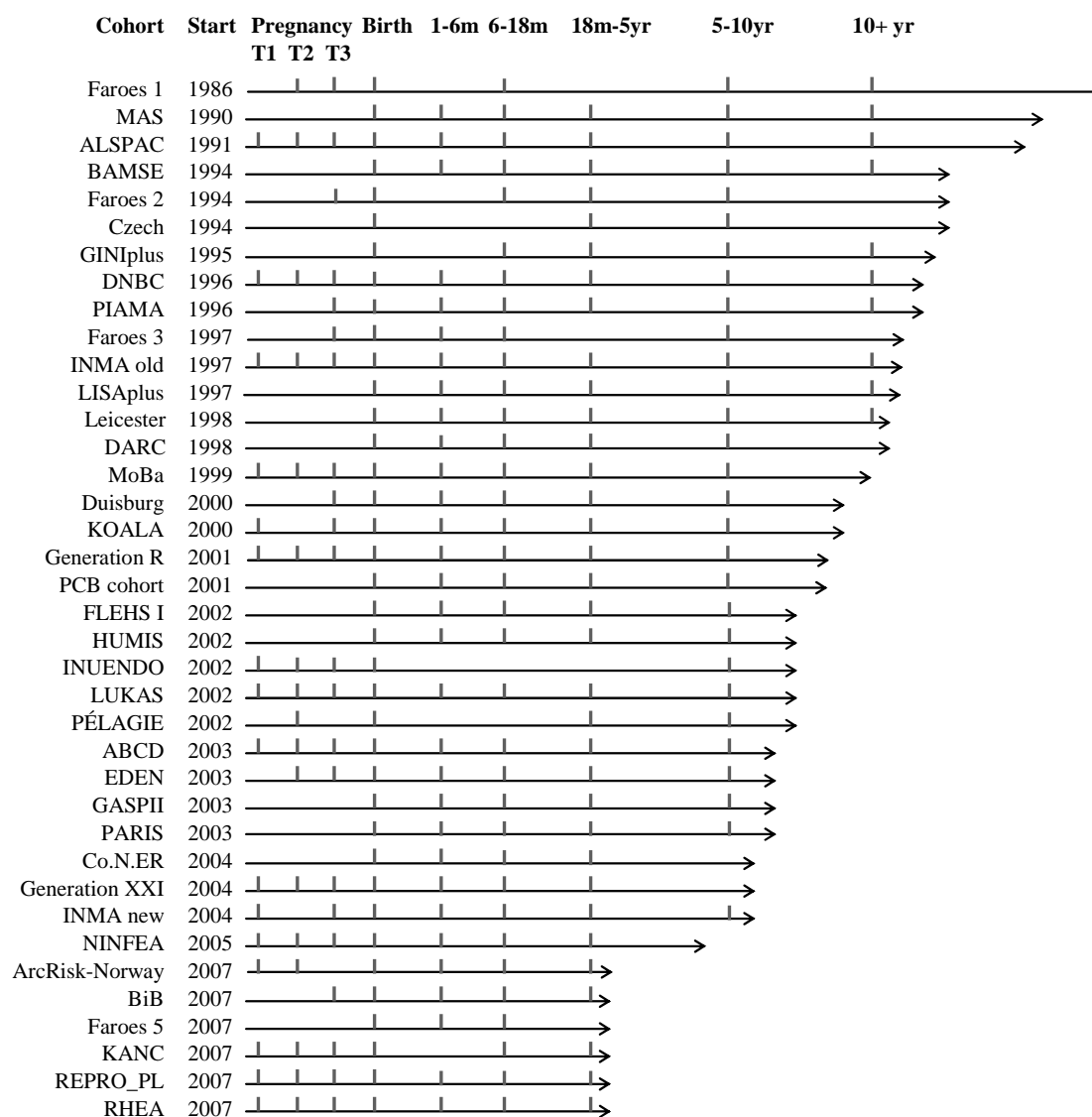
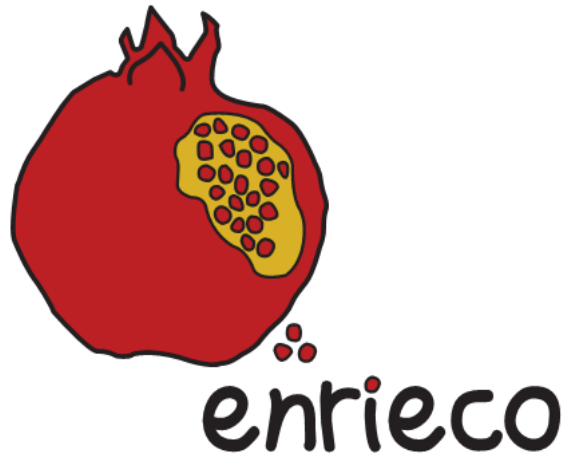


Table 2 Available number of subject for specific exposure-health analyses in European birth cohorts

Outcomes\ Exposures		Air pollution Outdoor (dispersion and/or LUR)		Water contamin ation	Allergens & biological organisms		Metals		Pesticides		POPs		Other chemicals		Radiations		Smoking	Noise		Occupation	
		NO ₂ /NO _x	PM _{2.5}	DBPs	Pets	House dust mite	Hg	Pb	House home use	Occupational exposure	PCBs	DDT/ DDE	BPA	Phthal ates	EMF	Ionizing		Object ive	Subject ive	History	Exposures
Birth outcomes	Time to pregnancy	55569	49454	18286	152541	2731	12638	7370	17797	10598	4777	4776	2358	2605	71438	144869	176453		72838	182211	9692
	Congenital malfo.	79046	70432	4010	164745	?	7208	7208	16179	10478	2179	2179	1597	1096	102641	196308	221500		100719	232570	10871
	Fetal loss (≥ 26 weeks)	78448	68021	6527	150766	0	3941	3320	5493	12866	4105	3648	1597	1696	104517	199702	204164		109002	216872	6511
	Preterm birth	62362	42935	22904	177893	376	10759	9416	18055	20644	6433	4954	1488	1187	103913	205080	234338		109491	263690	19511
	Premature rupture of membranes	58399	34972	14880	100863	858	10438	9416	23445	20050	5269	2250	1698	981	1883	103050	143067		11329	141262	16533
	Birth weight	91836	30448	44988	120120	5765	8767	10692	27055	22144	6771	7278	3917	3696	104517	119408	168340		110367	182447	19913
Neuro development	Intelligence quotient	1520	?	220	985	482	861	378	1324	635	1322	1122	760	482	?	?	3747	0	220	4047	1111
	Attention deficit and hyperactivity	4453	3233	220	13165	482	1502	680	1171	482	1764	1764	482	482	?	6750	16074	?	9470	12841	7232
Asthma/ Allergy	Wheeze (0-3 years)	45879	43748	220	89443	5806	582	100	1857	855	1155	1155	482	852	0	7125	134787	1899	5504	117355	9107
	Asthma (7-10 years)	28800	28799	?	84445	4788	1035	580	8700	?	1035	1035	0	?	0	0	122349	1398	12939	108217	0
	Spirometry (6-10 years)	5859	5639	220	9199	2115	482	0	5482	482	355	355	482	482	0	?	11121	80	5220	7937	482
	Eczema (2-5 years)	43724	41904	880	107825	5879	2308	680	18913	855	2801	2855	1080	1402	?	7125	149964	1979	25811	127976	14131
	Allergic rhinitis (6-10 years)	12746	29823	?	141366	5465	1150	680	15000	250	1641	1599	104	386	0	0	170837	80	16700	164284	1136
	Allergic sensitization (6-10 years)	5759	5759	?	11498	2929	90	90	7176	176	90	90	90	266	0	?	13455	0	7520	10186	90
Child growth and puberty	BMI (2-5 years)	50227	46892	2220	130599	4729	1650	810	3954	280	1610	2133	864	966	?	6750	175176	600	11570	159317	16391
	Waist circum. (2-5 years)	5594	5000	594	6294	?	500	0	594	0	200	?	480	350	?	0	7594	0	594	8394	6094
	Puberty	23962	23742	?	52333	2983	900	580	?	?	900	900	?	0	0	0	55900	0	700	53300	0

**The ENRIECO Project:
ENVIRONMENTAL HEALTH RISKS IN EUROPEAN BIRTH
COHORTS**



Work Package 6

**Annex II - Dissemination
With Final Project Report**

**Department of Social Medicine,
University of Crete, Heraklion, Crete, Greece**

A project conducted within the
European Union's 7th Framework Programme -
Theme 6, Environment
FP7-226285



Figure 1 Potential Project Logos.



Figure 2 The ENRIECO Logo chosen

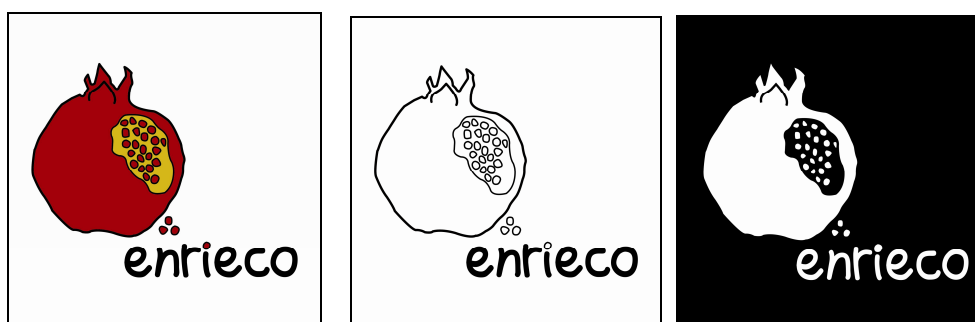


Figure 3 ENRIECO website, www.enrieco.org



Figure 4 ENRIECO Brochure



The brochure is divided into several sections:

- 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, *Blueprint 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 Nieuwenhuisen, Dr Marlene Vrijsen)
 - Institut National de la Santé et de la Recherche Médicale, Paris, France (Dr Sylvain Caubet, 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 Heerich)
 - University of Crete, Heraklion, Greece (Prof Manolis Kogevinas)
 - Lundholm Institute, Stockholm, Sweden (Prof Magnus Wickman)
 - Charité University Medical Center Berlin, Berlin, Germany (Dr Thomas Koll)
 - Aarhus University Hospital, Aarhus, Denmark (Prof Lone Low Hansen)
 - Aarhus University Hospital, Aarhus, Denmark (Dr Lone Low Hansen)
- Project details:**
 - Grant agreement no: 226285
 - Start date: 01/10/2009
 - Duration in months: 34
 - Total budget: 1,111,924 Euros
 - European Union contribution: 958,422 Euros
 - Project Co-ordinator: Prof. M. J. Nieuwenhuisen (PI)
 - Center for Research in Environmental Epidemiology (CREE), Parc de Recerca Biomèdica de Barcelona, PRBB, office 183.05, C. Doctor Aiguader, 88 08035 Barcelona, SPAIN. Tel: (+34) 932147337. Fax: (+34) 932147381. Email: mnieuw@cree.es
 - Communication and Dissemination: Prof. M. J. Nieuwenhuisen (PI), Department of Social Medicine, Medical School, University of Crete, Heraklion, Crete, Greece. Email: mnieuw@cree.es
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 - EC Project Officers: Tamas Tanczos, European Commission - DG Research, Unit 1.5 "Climate Change and Environmental Risk" Office Rue de la Loi 17, 1049, Brussels, Belgium. Tel: +32 2 29 47428 E-mail: Tamas.Tanczos@ec.europa.eu
- 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 adults. 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 hazards such as ambient air pollution, water contaminants, allergens/biological organisms, environmental tobacco smoke (ETS), noise pollution, pesticides, radiation, toxic waste, and ultraviolet (UV) light may lead to serious health problems including premature birth, congenital anomalies, low birth weight, respiratory diseases, cancer, learning disabilities, behavioral problems, and may affect health in later life.
- Specific objectives:**

Make inventories of birth cohorts across Europe and interplay validate exposure, health and exposure-response data; obtain data across birth cohorts and conduct analyses; make recommendations for data collection in the future to improve environmental health linkage; 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 environmental 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.
 - Conduct 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 environmental 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.
- Project Methodology (continued):**
 - WP 1: To make inventories of existing cohorts (health data, exposure data, biological samples, exposure-response functions, exposure-response relationships).
 - WP 2: To evaluate existing environmental exposure information, methods and tools, including assessment of quality and interplay, and data across and validation, and make recommendations.
 - WP 3: To evaluate existing health information, methods and tools, including assessment of quality and interplay, and data across and validation, and make recommendations.
 - WP 4: To evaluate existing health information, methods and tools, including assessment of quality and interplay, and data across and validation, and make recommendations.
 - WP 5: To evaluate existing health information, methods and tools, including assessment of quality and interplay, and data across and validation, and make recommendations.
 - WP 6: To evaluate existing health information, methods and tools, including assessment of quality and interplay, and data across and validation, and make recommendations.
 - WP 7: To manage the overall project.

Figure 5 ENRIECO Newsletter Issue 1



The newsletter features the following content:

- Environmental Health Risks in European Birth Cohorts:** A project conducted within the European Union's 7th Framework Programme - Theme 6, Environment.
- 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**
- enrieco NEWSLETTER**
- This is the first issue of the ENRIECO Newsletter.** ENRIECO is a coordination action aiming to bring together cohorts with environment and health information, share resources, expertise and experience in this area, extract environmental exposure-response relationships, where available, and evaluate the information and build common databases to explore environmental exposure-response relationships, where possible and needed.
- www.enrieco.org**
- Contents:**
 - Message from the Coordinator (p.2) / The Enrieco Project (p.3) / Enrieco Work Packages (p.4) / Enrieco Working Groups and Case Studies (p.5) / Participating Birth Cohorts (p.6-9) / Enrieco Participating Birth Cohorts (Table) (p.10) / Exposures Ascertained by the Enrieco Participating Birth Cohorts (p.11) / Enrieco Kick-off meeting (p.12) / Upcoming Events (p.13) / Project Partners (PIs and WP Leaders) (p.14)

Figure 6 Supplement to the ENRIECO Newsletter Issue 1



Figure 7 The ENRIECO Newsletter Issue 2

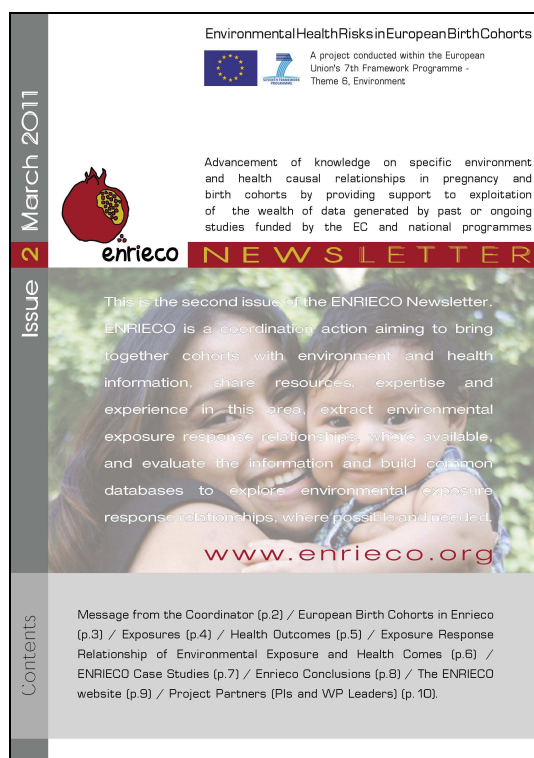


Figure 8 ENRIECO Dissemination Message in The Parliament Magazine



Figure 9 ENRIECO Summary Poster



Figure 10 ENRIECO Dissemination material



**Environmental Health Risks
in European Birth Cohorts**

www.enrieco.org
Coordination and Support Action: FP7-ENV-2008-226285

TECHNICAL LEAFLET

Project acronym: ENRIECO
Full title of Project: Environmental Health Risks in European Birth Cohorts
Grant agreement no: 226285
Start date: 01/03/2009
Duration in months: 24
Website: www.enrieco.org

Management:
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A project conducted within the European
Union 7th Framework Programme
Theme 6: Environment

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 brought together information on 36 cohorts and more than 250,000 newborns, infants and children in Europe.

Project aims and objectives
The overall aim of ENRIECO was to advance our knowledge on specific environment and health causal relationships in European 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. Specific objectives were to make inventories of birth cohorts, assure quality and interoperability of exposure, health and exposure-response data, obtain data access, build databases, conduct analysis, make recommendations for data collection in the future to improve environment-health linkages and information, and disseminate the information.

ENRIECO Conclusions
There are many pregnancy and birth cohorts in Europe with information on environmental exposures and health outcomes, with a fairly good cover of Europe, except Eastern Europe. Cohorts have provided important environmental exposure, health and environmental exposure-response data although the amount and detail of information provided by cohorts on environment and health differs considerably. There is considerable expertise and experience associated with the cohorts, and a great effort goes into them. However, 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

Cohorts tend to report individually, but recent initiatives have tried to combine data from various cohorts to increase e.g. power (overall and subgroups). Existing European birth and mother-child cohorts provide a real potential for combined analyses on pregnancy-related outcomes and child health outcomes in relation to environmental exposures, as combining information from different cohorts appears to be beneficial and increase the value of the cohorts and resulting information. Such combining data from various cohorts requires careful consideration of the aims, protocols, data, ethical issues, analyses and management, it is time and labour intensive with currently limited resources to combine existing studies/data but potential fruitful.

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

Dissemination:
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Scientific Publications in preparation per WP

WP1

European Birth Cohorts for Environmental Health Research. Martine Vrijheid, Maribel Casas, et al. Submitted to Env. Health Perspect. (April 2011)

WP2

Measurement of pre and postnatal exposure to emerging environmental contaminants in European birth cohorts: an inventory and recommendations (provisional title), Maribel Casas, Elly Den Hond, Ilias Kavouras, Frank Pierik, Stephanie Vandentorren, Gunnar Vase Toft, Michael Wilhelm, Martine Vrijheid. Intended journal: Environmental Health.

Environmental exposure information in European birth cohorts: results from the ENRIECO project. Ulrike Gehring et al.

WP3

Pulmonary function tests in European births cohorts. Grabenhenrich L, Hohmann C, Slama R, Lau S, Wickman M, Heinrich J, Carlsen KH, Lodrup-Carlsen KC, Keil T
To be submitted to European Pulmonary Journal

Birth weight according to maternal serum levels of PCB-153 and p,p-DDE: a meta-analysis of eleven European birth cohort studies. The ENRIECO pop-case study group chaired by Jens Peter Bonde (DK) and Greet Schoeters (BE).

Fetal exposure to polychlorinated biphenyls (PCB) and dichlorodiphenyldichloroethylene (DDE) and birth weight: a meta-analysis within 12 European and Inuit birth cohorts. Eva Govarts, et al and OBELIX/ENRIECO. Submitted to Environmental Health Perspective.

WP4

Association of Asthma and Allergy with Domestic Mould and Mould Components in Children: A Systematic Review. Christina Tischer, Chih-Mei Chen, and Joachim Heinrich. Accepted by the European Respiratory Journal.

A systematic review and critical appraisal of the association between SHS exposure during pregnancy and fetal growth: Are we assessing exposure correctly? (Tobacco Control). Vardavas et al.

Association between Air Pollution and Asthma and Allergy. Gehring et al. Publication in progress

Dissemination Annex with Final Project Report

The impact of chronic noise on birth and paediatric health outcomes: a systematic review. Hohmann et al. Planned to be submitted to International Journal of Environmental Health

Association between Water Contaminants and Birth Outcomes. Nieuwenhuijsen et al. Publication in progress (in collaboration with WG 2)

WP5

Meta-Analysis of mould exposure in 8 European birth cohorts on asthma and allergies: an ENRIECO initiative. Christina Tischer, Cynthia Hohmann, Chih-Mei Chen, (cohort references), Thomas Keil and Joachim Heinrich.

Prenatal Second Hand Smoke Exposure and Wheeze or Asthma at Four to Six Years of Age – meta-analyses with individual participant data from European birth cohort. Åsa Neuman, Cynthia Hohmann, Anna Bergström, Eva Hallner, Nicola Orsini, ... two slots per cohorts...Thomas Keil, Magnus Wickman. Anticipated submission and/or publication date: March 2011

Exposure to Second Hand Smoke and Wheezing from Birth to Two Years of Age. Constantine Vardavas, Cynthia Hohmann, Evridiki Patelarou, Vassilaki M, (cohort references), Mark Nieuwenhuijsen, Thomas Keil, Manolis Kogevinas. Anticipated submission and/or publication date: May 2011

Different Approaches of Combined Data Analyses of European Birth Cohorts. Cynthia Hohmann, Eva Govarts, (WG and cohort references), Thomas Keil, Jens-Peter Bonde. Anticipated submission and/or publication date: May 2011