



Developing a Child Cohort Research Strategy for Europe

CHICOS newsletter

February 2011 – Issue 1



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A word from the coordinator

Birth cohorts have been established in many European countries over the past decade. These cohorts follow mothers during pregnancy and their children during childhood, adolescence and into adulthood. They are important for the study of long-term health effects of intrauterine and early life.

There is a need for improved coordination to facilitate exchange of knowledge and collaboration between cohorts, researchers, and policymakers. CHICOS aims to develop an integrated strategy for birth cohort research and coordination in Europe for the next 15 years. CHICOS is a coordination action, funded by the European Union's Seventh Framework Programme (FP7).

The project was launched in January 2010 and the kick-off meeting was held at the Centre for Research in Environmental Epidemiology (CREAL) in Barcelona, Spain. The CHICOS team can look back on an eventful year, during which a solid foundation for the project has been created and active engagements with the wider scientific and public health policy community have been established. We are developing a questionnaire so that all birth cohorts can update their information on the <http://www.birthcohorts.net/> inventory¹. Working groups on the development of research priorities for childhood diseases and child health determinants have started reviewing existing information in the cohorts. In some areas, case studies will be conducted to gain insight into the values and pitfalls of combining data across cohorts.

Likewise, the policy “branch” of the project has commenced the recruitment of experts for a Delphi consultation. This consultation is exploring the information needs of stakeholders concerning child health research and child health policy development, and will help develop recommendations to improve the policy impact of the birth cohorts.

We are now looking forward to a high-profile project workshop (in April 2011), during which international birth cohort and policy experts will convene to review current achievements and to provide advice regarding the direction of our work. Most importantly, this workshop will be an occasion for all European birth cohorts to meet and share experiences.

With this newsletter, we intend to introduce you to the faces behind CHICOS and our ongoing activities. If you are interested in following our project, either visit our website or contact us directly for more information.

Martine Vrijheid, CHICOS Coordinator

<http://www.chicosproject.eu/>

¹ Register your Birth Cohort at <http://www.birthcohorts.net/usr/>

What is being done by CHICOS?

The work has been organized into different work packages² (WPs) lead by partner institutions, each corresponding to one of the main objectives of the project:

Work package 1:

Description of mother-child cohorts and registries in Europe

In 2010, WP1 identified what researchers, who want to take advantage of data from existing birth cohorts in child health studies, need to know about each birth cohort. WP1 has prepared the database structure for making such information accessible. In the first half of 2011 WP1 will collect information from all identified birth cohorts. Please visit the inventory website <http://www.birthcohorts.net/> to register your cohort and update its details.

In parallel, WP1 started the identification of existing pan-European register data that can be used for identification and investigation of prevailing child health problems in Europe.

Work package 2 + 3:

Research priorities for childhood diseases and child health determinants

The aims are to review the contribution of cohorts to current knowledge on specific topics and to evaluate existing cohort data. These topics include perinatal outcomes; asthma, respiratory health and allergies; obesity, vascular and metabolic health; neuro-cognitive and behavioural development; accidents and injuries; infectious diseases; childhood cancer; social and cultural conditions and inequalities; nutrition and physical activity; life-style and substance exposures (smoking, alcohol, illicit drugs); other environmental exposures (tobacco smoke, air pollution, radiations); biological and genetic materials and interactions between multiple child health determinants.

Since the start of CHICOS, WP2 and WP3 have defined cohort inclusion criteria and designed workplans for review by the WG's. Also, proposals for case studies have been written and case studies will start in 2011.

Finally, WP2 and WP3 hope to identify priorities for European cohort research by topic area, to evaluate links to routine registries, to identify gaps in knowledge and to make recommendations for a general strategy for cohort research in Europe.

Work package 4:

Improving the contribution of mother-child cohorts to European child health policy

WP4 will develop recommendations to improve the contribution of mother-child cohort research to policy at the European level. A review of EU policy for child health is underway, within which we will look at the relationship between current legislation and research evidence from cohorts. WP4 are

² <http://www.chicosproject.eu/work-packages/>

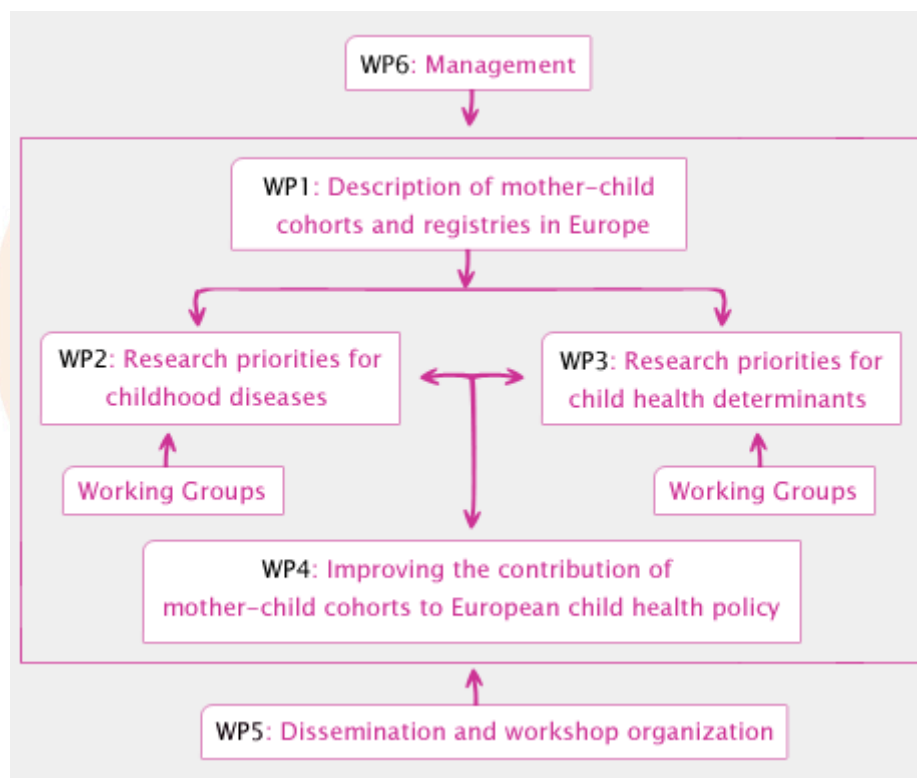
currently recruiting birth-cohort researchers and policy makers for interviews which will help us understand how and when these groups work together.

Work package 5: Dissemination and workshop organization

WP5 is responsible for communication and dissemination with stakeholders (scientists, public health community, policy makers, and the general public) in order to raise awareness about the ongoing project and its results at each level. We set up a number of tools for communication, including the CHICOS website and information material. Website news, newsletters and workshops organized at key stages of the project will help researchers and lay people to keep up-to-date with the developments of the project.

Work package 6: Management

WP6 is responsible for the overall management and coordination of the project.





The CHICOS website provides news on the project, including regular updates and results, with the aim to be a gateway to other relevant studies involving the same topics. It shares information among project partners as well as with the outside world, including international organizations, scientific societies, researchers, decision makers, etc.

Visit the CHICOS website at <http://www.chicosproject.eu/> to:

- Keep updated with the projects developments
- Browse the news about the project and see selected news from the partner cohorts³
- Register to the newsletter⁴
- Download information material⁵
- Read and comment CHICOS documents⁶

³ <http://www.chicosproject.eu/news/>

⁴ <http://www.chicosproject.eu/communication/newsletter/>

⁵ <http://www.chicosproject.eu/communication/information-material/>

⁶ <http://www.chicosproject.eu/pubs-docs/>

Kick-off meeting

The CHICOS kick-off meeting was organized on 26-27 April 2010 at CREAL, Barcelona, Spain.

The CHICOS kick-off meeting held in April 2010. Special guests were Dr. *Antoni Plasencia Taradach*, Public Health Director of the Health Department of the Generalitat de Catalunya, and Dr. *Marco Martuzzi* of WHO-Europe. They introduced the meeting with views of local and international needs of health policy makers and the role of child cohort research, followed by a panel discussion on the policy-research interface.

This first meeting brought together all project partners, evaluated research priorities, work package (WP) and working group (WG) protocols, case study ideas, cohort inventory and collaboration with other projects (such as ENRIECO or EARNEST).



The CHICOS project team during the kick-off meeting in Barcelona

External CHICOS Dissemination Activities During 2010

Oral Presentations

A-M. Nybo Andersen. *Studies of social determinants of health in early life using routinely collected register data*. Statistics Denmark, Copenhagen, 8th March 2010

M. Nieuwenhuijsen. *CHICOS “Developing a Child Cohort Research Strategy for Europe”*, Ministerial meeting in Parma, Italy, 10-12th March 2010

EARly Genetics and Lifecourse Epidemiology (EAGLE) Consortium/Cohorts meeting, Presentations addressing; *Research in cardiovascular outcomes, Research in behaviour; Research in Birth outcomes, Research on lifestyle habits (alcohol/smoking) and Scientific challenges and opportunities*, Oslo, Norway, 15-17th June 2010.

J. Porcel Carbonell. *CHICOS “Developing a Child Cohort Research Strategy for Europe”*, ERA-ENVHEALTH Project Workshop, The Hague, Netherlands, 15th September 2010

A-M. Nybo Andersen. *Birth cohort studies in Europe*. Danish Epidemiological Society, Copenhagen, Denmark, 5th October 2010.

M. Vrijheid. *CHICOS “Developing a Child Cohort Research Strategy for Europe”*. 5th Conference of Epidemiological Longitudinal Studies in Europe (CELSE 2010), Paphos, Cyprus 13-15th October 2010.

M. Vrijheid. *CHICOS “Developing a Child Cohort Research Strategy for Europe”*. INMA (Infancia y Medio Ambiente) Annual Scientific Meeting, Valencia, Spain, 25-26th October 2010.

Poster Presentations

CHICOS “Developing a Child Cohort Research Strategy for Europe”, ESOF2010 (EuroScience Open Forum) conference, Turin, Italy, 2-7 July 2010.

CHICOS “Developing a Child Cohort Research Strategy for Europe” General overview poster submitted to the European Commission for internal exhibition purpose.

Upcoming events

Workshop

“Towards improved coordination of birth cohort research in Europe”

Barcelona, Spain, 11-12th April 2011

This workshop is organized within the framework of the FP7-funded CHICOS project, which overall aim is to develop an integrated strategy for mother-child cohort research in Europe. All European birth cohorts² are invited to participate and present posters of new results. Important stakeholders will also be invited to participate.

Keynote speakers include Prof. *Linda Richter* (senior specialist from the COHORT collaboration of cohorts in low and middle income countries), Prof. *Debby Lawlor* and European Cohort Project Coordinators Dr. *Thomas Keil* (GA²LEN) and Prof. *Mark Nieuwenhuijsen* (ENRIECO).

CHICOS workshop AGENDA

Day 1, 11 April 2011

- 09:00-09:30 Welcome and introduction
CHICOS aims and objectives – *Martine Vrijheid*
- 09:30-10:00 Data for child health research in European birth cohorts and pan-European registers – *Anne-Marie Nybo Andersen*
- 10:00-11:00 Keynote Lecture 1. Birth cohort research in low- and middle-income countries: The COHORTS collaboration – *Linda Richter*
- 11:00-11:30 Coffee break (posters)
- 11:30-13:00 European birth cohort work on child health outcomes – *Camilla Stoltenberg*
Overview and discussion of specific topics:
 - Perinatal outcomes
 - Asthma and respiratory health; allergies
 - Obesity: vascular and metabolic health
 - Neuro-cognitive and behavioural development
 - Accidents and injuries
 - Infectious diseases
 - Childhood Cancer
- 13:00-14:00 Lunch (posters)

² For this purpose defined as a cohort that: *a)* focuses on child health as the main study outcome; *b)* started enrolment of mothers into the cohort during pregnancy or at birth; *c)* includes at least one follow-up point after birth with direct contact with mothers and children; *d)* is located in a European Member State. This does not include clinical trial with follow-up, studies that obtain health outcome data only through registry linkage, etc.

- 14:00-15:30 European birth cohort work on child health determinants – *Vincent Jaddoe*
Overview and discussion of specific topics:
 - Social and cultural conditions and inequalities
 - Nutrition and physical activity
 - Life-style and substance exposures
 - Environmental exposures
 - Genetic materials
- 15:30-16:00 Coffee break (posters)
- 16:00-18:00 Birth cohort research – EU research strategy and policy
How birth cohorts fit into EU research strategy – *Kevin McCarthy*
Linking birth cohort research to EU policy – *Patricia Lucas*
Panel discussion
- 20:30 Dinner

DAY 2, 12 April 2010

- 9:00-10:00 Keynote lecture 2. Childhood obesity: the role of birth cohorts in policy relevant research – *Debbie Lawlor*
- 10:00-11:00 Proposals for case studies to pool birth cohort data
Pooling birth cohort data: the experience of ENRIECO and GA²LEN – *Thomas Keil* and *Mark Nieuwenhuijsen*
Proposals for CHICOS case-studies
- 11:00-11:30 Coffee break (posters)
- 11:30-12:30 Proposals for case studies to pool birth cohort data – Continued
- 12:30-13.00 Conclusions – End meeting
- 14:00-18:30 CHICOS project meeting (for CHICOS partners)

For more information, please contact *Diana van Gent*, Project Manager, dvangent@creal.cat.

CHICOS Partners⁸

Partner 1 and Coordinator: Centre for Research in Environmental Epidemiology (CREAL) representing INMA “Childhood and Environment” cohort study

Principal Investigator: *Martine Vrijheid*

Researchers: *Maribel Casas, Mark Nieuwenhuijsen, Jordi Sunyer*

INMA is a research network of several Spanish groups which objective is to study the most relevant environmental pollutants in air, water and diet during the pregnancy and beginning of life, and their effects in the growth and development. The project includes data of 3873 children collected between 1997 and 2008.

Partner 3: University of Crete (UoC) representing the RHEA study

Principal Investigator: *Leda Chatzi*

Researcher: *Vicky Lebentakou, Chara Chatzigeorgiou, Katerina Sarri, Maria Vassilaki*

The RHEA study commenced data collection in February 2007 amongst female residents of Heraklion, Greece, including epidemiological data and biological materials. RHEA’s objective is to evaluate early life exposures in relation to reproductive outcomes and outcomes in later life.

Partner 4: Università degli studi di Torino (UNITO) representing the NINFEA study

Principal Investigator: *Franco Merletti*

Researchers: *Lorenzo Richiardi, Emanuele Pivetta, Milena Maule, Claudia Galassi*

NINFEA is an internet-based multi-purpose mother-child cohort set up to investigate the effects of exposures acting during pre-natal and early post-natal life on infant, child and adult health. Italian women with access to the internet were recruited during pregnancy and completed questionnaires during the pregnancy at, six and 18 months after delivery. Topics include several exposures and some outcomes. Follow-up starting at age 4 is being conducted every 2 years via ad-hoc short online questionnaires, in addition to linkage to population registries.

Partner 5: Erasmus Universitair Medisch Centrum Rotterdam (Erasmus MC) representing Generation R

Principal investigators: *Vincent Jaddoe, Hein Raat*

Researchers: *Liesbeth Duijts, J de Jongste, Ilse Flink, Esther Hafkamp, Albert Hofman, Eric Steegers, Mirjam Struijk, Ineke Vogel, Anne Wijtzes*

The Generation R study is a prospective cohort study from fetal life until young adulthood in a multi-ethnic urban population. The study is designed to identify early environmental and genetic causes of normal and abnormal growth, development and health from fetal life until young adulthood. In total, 9778 mothers with a delivery date from April 2002 until January 2006 were enrolled in the study. Of all eligible children at birth, 61% participate in the study. A large part of this study cohort consists of

⁸ <http://www.chicosproject.eu/the-project/partners/>

ethnic minorities. Follow-up happens at age five through a visit to the research centre. Currently, data collection through questionnaires and visits to a well-equipped research centre are ongoing and will be repeated every 3 years.

Partner 6: Norwegian Institute of Public Health (NIPH) representing the Norwegian mother and child cohort study (MoBa)

Principal Investigator: *Camilla Stoltenberg*

Researchers: *Per Magnus, Elisabeth Hagen, Merete Eggesbo*

MoBa is an ongoing pregnancy cohort study that has recruited more than 100.000 pregnant women in the period 1999-2008. The study is based on questionnaires to the mother and father, with biological specimens being collected from mother, father and child. The main purpose of the study is to find causes of serious diseases in mothers and children. The questions cover environmental factors, such as medication, nutrition, infection and work exposure. Genetic factors and the interplay between genes and the environment will be studied, for which paternal blood samples are being collected to enable association studies between genes and diseases.

Partner 7: University of Bristol (UNIVBRIS) representing The Avon Longitudinal Study of Parents and Children (ALSPAC)

Principal Investigators: *Debbie Lamlor, Patricia Lucas*

Researchers: *George Davies-Smith, Jean Golding, John Henderson, Katerina Koutra, Sumaiya Patel, Swantje Schmidt*

ALSPAC – also known as Children of the 90s – is a long-term health research project. More than 14,000 mothers enrolled during pregnancy in 1991 and 1992, and the health and development of their children has been followed in great detail ever since. More than 14,000 pregnant women were recruited with estimated dates of delivery between April 1991 and December 1992. These women, the children arising from the index pregnancy and the women's partners have been followed up since then and detailed genetic and environmental data collected throughout childhood. ALSPAC is a two-generational resource available to study the genetic and environmental determinants of development and health.

Partner 8: National School of Public Health (NSPH) representing RHEA

Principal Investigator: *Manolis Kogevinas*

Lead of the Crete-based RHEA study and co-founder of <http://www.birthcohorts.net/>.

Partner 9: University of Copenhagen (UCPH) representing the Danish National Birth Cohort (DNBC)

Principal Investigator: *Anne-Marie Nybo Andersen*

Researchers: *Mette Jubl, Mads Kamper-Jorgensen, Laust Hvas Mortensen, Katrine Strandberg-Larsen*

The DNBC was established to investigate the long-lasting impact of exposures at time of conception, which influence fetal growth, cell divisions and organ functioning, on health and disease susceptibility. Data collection started in 1996 and the project covered all regions in Denmark in 1999. In October 2002, the goal of 100.000 recruitments was achieved. The cohort expanded its initial data collection with a 7-year follow-up, which was completed in August 2010. At the same time the 11-year follow up was launched.



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CHICOS project Contact us!⁹

⁹ <http://www.chicosproject.eu/contacts/>