



## **Scientists Report on New Findings from Research Funded by the National Children's Study**

July 5, 2012, Reston, VA—Scientists from all over the globe attended the 52<sup>nd</sup> Annual Meeting of the Teratology Society and heard more than 25 presentations on exciting new findings from formative research projects funded by the National Children's Study (NCS). The NCS is the largest long-term study of children's health and development ever conducted in the US and was initiated in response to the Children's Health Act of 2000.

A series of presentations on the human placenta highlighted the many investigative aspects that will be part of this longitudinal research. Dr. Thomas H. Darrah, an NCS investigator from Duke University along with colleagues from the University of Rochester, Medical College of Wisconsin, University of California, Davis, and University of Massachusetts presented remarkable initial findings of rare earth metals present in the placenta. Of particular interest was the reported observation of lanthanides such as Gadolinium in the placenta. Gadolinium is a metal contained in imaging contrast fluids, and is used when individuals undergo imaging such as MRI in a clinical setting. Environmental sources of this metal, when found in individuals that are not known to be exposed clinically will be a focus of further evaluation. Ongoing investigations are determining both the origins of these elevated levels and their health implications.

Another presentation featured the use of digital photography in addition to physical assessment as a means to document and assesses human physical variations as part of the NCS research. Known as a dysmorphology assessment tool, this work was presented by Dr. John Carey, an NCS investigator from the University of Utah. This work represented collective efforts by the University of Utah, the University of Mississippi, University of South Dakota, University of Washington, and University of California, San Diego. Such efforts to develop standardized means of measurements are important as the NCS moves forward toward implementation in the field.

Still another presentation showcased the development of a "short form" version of what is considered the gold standard measure of choice for children's developmental assessment, the Bayley Scales of Infant and Toddler Development. This work, presented by Dr. Carol Andreassen and led by Dr. Louise O'Donnell, both NCS investigators from the University of Texas, represented collaborative efforts by the University of Texas, Children's Hospital of Philadelphia, the University of Washington, and Westat, Inc. This

work is significant because, unlike the long version of the developmental assessment tool, which had been difficult to implement in the field, the short form fills a major gap in early child assessment and makes use in the field possible for looking at the earliest times of development as part of the NCS research.

The National Children's Study is led by a consortium of agencies that include the US Department of Health and Human Services, the National Institute of Child Health and Human Development, the National Institute of Environmental Health Sciences of the National Institutes of Health, the Centers for Disease Control and Prevention, and the US Environmental Protection Agency. The study's hypothesis incorporates the following main categories – pregnancy outcomes, neurodevelopment and behavior, asthma, obesity, and growth, injury, and reproductive development. The goal of the research is to ultimately reduce the public health burden of childhood chronic diseases and disorders including not only pain and suffering, but also missed school days, health care expense, and other costs to children, their families, and the society at large.

The Teratology Society —focused on the causes, mechanisms, treatment and prevention of abnormal development and birth defects —served this week as an important conduit for publicly conveying these initial findings of the NCS formative research efforts. The Teratology Society is the premier source for cutting-edge research and authoritative information related to birth defects and other disorders of developmental origin.

For more information about the Conference or the NCS presentations, contact Martha Lindauer at [Martha@toxicology.org](mailto:Martha@toxicology.org). (703) 438-3115.