A Mixed Bag of National Birth Defects Prevention Study (NBDPS) Highlights
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This scientific session will describe four ongoing research projects that use NBDPS data: one project examines study incentives, one the classification of heart defects, and two analyses examine selected maternal exposures and birth defects.

- Peter Langlois (TX) will summarize the incentives pilot project conducted by Texas, Iowa, and New York. Cases and controls were sequentially assigned to receive a fourth $20 incentive, to receive a Walmart/Target card instead of a money order/check, to receive both, or to receive neither. Impact on interview and biologics participation rates will be presented.

- Charlotte Hobbs (AR). Conotruncal heart defects are associated with maternal folate intake and metabolites in folate-related pathways. Using DNA samples from the NBDPS, we investigated the association between conotruncal heart defects and 1536 common variants in maternal and infant genes in folate-related pathways. Findings suggest an important role of common variants in maternal genes that encode regulating DNA methylation and antioxidant capacity.

- Sarah Tinker (CDC) will present the work lead by CA on differences in weight gain and birth defects. Weight changes over the course of the entire pregnancy have been observed previously to be associated with NTDs. Such alterations may be a consequence of carrying an affected fetus or a marker for an underlying etiologic factor. Our preliminary observations in NBDPS data show an association between lowered weight gain and anencephaly, and higher weight gain and gastroschisis. Although unknown, whatever mechanisms influence weight gain may also influence the development of NTD and gastroschisis, but in opposite directions.

- Michele Herdt-Losavio (NY) will describe maternal occupational exposure to pesticides, including insecticides, herbicides, and fungicides and selected musculoskeletal birth defects (transverse limb deficiencies, craniosynostosis, gastroschisis, or diaphragmatic hernia). Results of this analysis show that combined pesticide exposure was positively associated with gastroschisis in mothers age 20 and older, but negatively associated with gastroschisis in mothers under age 20. Future research will assess other exposure measures in this cohort, including cumulative exposure and exposure frequency and intensity.

More information on NBDPS and its methods can be found on pages 3-4.