The National Children’s Study 2014: Commentary on a Recent National Research Council/Institute of Medicine Report

Marie C. McCormick, MD, ScD; Dean B. Baker, MD, MPH; Paul P. Biemer, PhD; Barbara Lepidus Carlson, MA; Ana V. Diez Roux, MD, MPH; Virginia M. Lesser, DrPH; Sara S. McLanahan, PhD; George R. Saade, MD; S. Lynne Stokes, PhD; Leonardo Trasande, MD, MPP; Greg J. Duncan, PhD

From the Harvard School of Public Health, Boston, Mass (Dr McCormick); School of Medicine, University of California, Irvine, Calif (Dr Baker); RTI International, Research Triangle Park, NC (Dr Biemer); Mathematica Policy Inc, Boston, Mass (Ms Lepidus Carlson); Drexel University School of Public Health, Philadelphia, Pa (Dr Diez Roux); Oregon State University, Corvallis, Ore (Dr Lesser); Princeton University, Princeton, NJ (Dr McLanahan); University of Texas Medical Branch at Galveston, Galveston, Tex (Dr Saade); Southern Methodist University, Dallas, Tex (Dr Stokes); School of Medicine, New York University, New York, NY (Dr Trasande); and University of California, Irvine, Calif (Dr Duncan)

Much of this commentary is drawn from NRC/IOM (2014). Conflict of Interest: The authors declare that they have no conflict of interest.

The National Children’s Study 2014: Commentary on a Recent National Research Council/Institute of Medicine Report, The National Children’s Study 2014: An Assessment (NRC/IOM, 2014), on June 16, 2014. 3 The panel concluded that the National Children’s Study has the potential to add immeasurably to...
scientific knowledge about the impact of environmental exposures, broadly defined, on children’s health and development in the United States. The panel supported a number of elements of the proposed design for the NCS Main Study, including the following: the use of a national equal probability sample for a large cohort of births, the concept of the study as a data collection platform with a focus on health and development guided by exemplar scientific hypotheses, the inclusion of siblings born within the 4-year recruitment window, and the collection and storage of biological and environmental samples to permit subsequent analysis of archived specimens.

The panel did not endorse 2 other elements of the proposed design: first, the plan to recruit only half of the 90,000 births in the probability sample prenatally and the other half at the time of birth, and second, the plan to recruit a 10,000 birth convenience sample to study the preconception period and to be available for various less defined purposes. The panel concluded that almost all the sample births (excepting only when the mother does not seek prenatal care) should be recruited prenatally. This conclusion was based on the scientific consensus concerning the importance of prenatal exposures on child health and development. The panel’s cost analysis showed that it is feasible to have close to 100 percent prenatal recruitment by dropping the planned convenience samples, which the panel judged to add little scientific value.

The panel did not receive sufficiently detailed information from the program office to assess other aspects of the proposed design, including the choice of hospitals as primary sampling units instead of geographic areas as in the earlier pilot testing, the quality of available hospital sampling frames and whether they support the stratified sampling necessary for the study to adequately investigate health disparities, the details of the sampling and recruitment strategies, the scientific merit of the proposed exemplar hypotheses that are to guide data collection, the schedule and content of data collection in early waves, and the extent and impact of data collection burden on respondents.

Because of this lack of information and related reasons, the panel concluded that achieving a scientifically grounded and cost-effective design and implementation for the Main Study would require expansion of the scientific expertise in the program office, establishment of an authoritative multidisciplinary oversight structure to review the program office’s decisions, and regular independent outside reviews.

CONCLUSIONS
The NCS Main Study offers enormous potential, but it also presents a large number of conceptual, methodological, and administrative challenges. In addition, funding uncertainties make it difficult to plan a study of this magnitude and duration. Like the scientists associated with the study itself, the panel is eager for it to succeed. The panel presented their recommendations in the hope that as it goes forward the NCS will achieve its intended objective to examine the effects of environmental influences on the health and development of American children.

ACKNOWLEDGMENTS
The authors thank their expert cost analysis consultants, Randall Olsen of The Ohio State University and Lisa Schwartz of Mathematica Policy Research; and the staff of the Committee on National Statistics, particularly Constance Citro and Nancy Kirkendall.

REFERENCES