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MOD PRC Ohio Collaborative Testimony: Louis J. Muglia, MD, PhD

For more than 75 years, the March of Dimes has been a powerful force for improving the health of infants, children and their families.

Identifying the fundamental causes and the solutions to the problem of premature birth is now the main research priority for the March of Dimes. We are not looking merely for incremental advancements, either, but rather breakthrough research discoveries that will do for prematurity what the vaccine research we funded did for the eradication of polio. We are enthusiastic about applying everything we are capable of to support scientific inquiry into this effort.

In Ohio alone, more than 139,200 babies are born every year, and the work of the March of Dimes touches each one of them, whether they are born healthy, prematurely, with a birth defect or other health complications. In our state, 14,300 babies are born preterm — that's 1 in 10 babies born too soon making premature birth the leading cause of death in children under 5. 4,220 babies are born with a birth defect and 1,019 babies die before reaching their first birthday. Nearly half a million babies are affected in the U.S. annually and premature birth costs society more than \$26 billion a year according to the Institute of Medicine. For Ohio this means the medical and societal cost of preterm birth is \$737 million PER YEAR. We must take action! Premature birth often leads to a lifetime of significant health challenges, including hearing/vision loss, mental retardation and cerebral palsy. The consequences of preterm birth—including health care costs and impaired quality of life— extend to the entire family. This all adds up to even more costs to our citizens and this society.

To reach our goal of solving the mystery of premature birth, the March of Dimes set about building the infrastructure that would facilitate the dynamic environment transdisciplinary research demands. This infrastructure would be comprised of existing centers of excellence in their own right, but when integrated with others, forms a framework for collaboration and discovery on a large scale. This strategy of discrete research centers working together for a single goal represents the most focused, and the most diverse mobilization of scientific expertise ever brought to bear on the elimination of prematurity, combining experts in various fields—not just pediatricians, obstetricians and gynecologists, but physiologists, informaticians, sociologists, data analysts, internists, physicists, geneticists, engineers and technologists, many of whom had never even considered working on premature birth before.

In 2013, the March of Dimes teamed with the leading medical and teaching institutions throughout the state of Ohio to establish the March of Dimes Prematurity Research Center Ohio Collaborative, the nation's second transdisciplinary research center dedicated solely to examining, identifying and preventing the causes of premature birth.



The March of Dimes Prematurity Research Center Ohio Collaborative is a robust, integrated cross-institutional facility. Its goal is to develop fundamental new insights into the biology of human pregnancy and the disease mechanisms of premature birth in order to decrease the rate of prematurity and its associated complications.

The institutions within the Ohio Collaborative represent the major metropolitan cities of Cleveland, Columbus and Cincinnati and play a leading role in driving the extraordinary scientific and technologic innovation that exists across the state of Ohio. Research themes must meet a set of essential criteria:

- Address a research target that is likely to be crucial to the prevention of preterm birth.
- Generate or refine new technologies that could lead to important new discoveries regarding preterm birth.
- Leverage the expertise and resources available across all the Ohio Collaborative medical centers, hospitals and universities.
- Provide a strong foundation for transdisciplinary collaboration.

This unique research enterprise of leading medical and teaching institutions includes program directors, co-investigators and collaborating faculty across Cincinnati Children's Hospital Medical Center, University of Cincinnati, The Ohio State University, Nationwide Children's Hospital, Mount Carmel Health System, Case Western Reserve University, University MacDonald Women's Hospital and Rainbow Babies & Children's Hospital, and the MetroHealth System.

Already the Ohio Collaborative is finding that there are important genetic and environmental contributors to preterm birth than yield new targets and strategies for intervention. We have come far but there is much still to do. We are also conducting studies as to why progesterone works to aid in pregnancy and how racial disparities play into preterm birth.

Premature birth cuts across races, nationalities, cultures, ages, income and education levels, and geographies. It has multiple causes and they probably interact in a yet to be determined number of ways. We will finally know, not just what causes premature birth, but normal births, too. That knowledge will translate to advances in nutrition, education, health care and an improved standard of living because a better start for some babies and their families means a better start for us all. So help us give every baby a fighting chance. Please join us in our cause to eliminate non-medically indicated premature birth. We at the March of Dimes, and millions of babies around the world and in our state about to be born too soon, are counting on you.

Sincerely,

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