National Heart, Lung, and Blood Institute (NHLBI)
http://www.nhlbi.nih.gov

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NHLBI Media Availability: NHLBI renews support for Bench to Bassinet Program to understand the causes of heart problems in children

Efforts aim to move laboratory results into clinical practice

WHAT: As part of its continuing commitment to healthy hearts — even the tiniest — the National Heart, Lung, and Blood Institute (NHLBI) has renewed its support for the Bench to Bassinet Program. The program was developed to learn why children are born with heart problems and to find effective treatments for them.

The program's main focus is congenital heart disease (CHD), the most common type of birth defect in the U.S., and one of the leading causes of infant death. Nearly 40,000 children are born with CHD each year in this country, and experts estimate that approximately 1 to 2 million adults and 800,000 children in the U.S. currently live with the disease.

The Bench to Bassinet Program aims to accelerate the translation of scientific research discoveries into clinical practice through collaborations of basic, translational, and clinical researchers. Recently, the NHLBI renewed its support for two of the three components of the program: the Cardiovascular Development Consortium and Pediatric Cardiac Genomics Consortium.

The Cardiovascular Development Consortium conducts basic research using animal models and other research resources to discover which genes are turned on and off during heart development and study how these genes direct or influence cardiovascular development. This group includes the University of Utah, Salt Lake City; Harvard Medical School, Cambridge, Mass.; J. David Gladstone Institutes, San Francisco; and University of California, San Diego.

The Pediatric Cardiac Genomics Consortium uses genetic data from thousands of individuals born with CHD to uncover genes that may cause the disease, and how those genes influence clinical outcome. The members of this group are the Icahn School of Medicine at Mount Sinai, New York; Children's Hospital Corporation of Boston; Yale University, New Haven, Conn.; University of Utah, and the J. David Gladstone Institutes.

The Bench to Bassinet's other flagship program, the Pediatric Heart Network, is a group of academic institutions in the U.S. and Canada conducting research to determine optimal therapies for children with congenital and acquired heart disease.

Current achievements of the Bench to Bassinet Program include:

- Recruitment of nearly 10,000 individuals with CHD and over 13,000 of their relatives, including complete trios (individual plus mother and father) for a majority of the enrollees;

- Discovery that about 10 percent of CHD cases are due to new genetic mutations in the individual, rather than inheritance of a disease-causing version of a gene from the mother or father;
- Discovery that many of the mutations that cause CHD affect cilia — structures on some cell surfaces that move fluids over the surface of a cell and carry signals from outside the cell to inside.

With its renewed funding, the Bench to Bassinet Program will build upon its successes and seek to understand more about what leads to the development of a healthy heart, and identify potential treatments for children and adults with CHD.

The Cardiovascular Development Consortium is funded through the following grants: UM1 HL098160, UM1 HL098166, UM1 HL098179, and UM1 HL128773. The Pediatric Cardiac Genomics Consortium is funded through: UM1 HL098123, UM1 HL098147, UM1 HL098162, UM1 HL128711, and UM1 HL128761.

WHO: Charlene A. Schramm, Ph.D., and Jonathan R. Kaltman, M.D, program administrators of NHLBI's Bench to Bassinet Program, are available to comment on the program and the implications of its research. Additional information about the program is available on its website: www.benchtobassinet.org.

CONTACT: For more information or to schedule an interview, please contact the NHLBI Office of Science Policy, Engagement, Education, and Communications at 301-496-5449 or nhlbi_news@nhlbi.nih.gov (link sends e-mail).

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