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Improving the Health of Children: Landmark NIH Research to Include More Kids from St. Louis Area

SLU School of Public Health Leads \$26 Million Collaborative Research

ST. LOUIS — The National Children’s Study, the largest study ever conducted to learn about the health and development of children, is expanding its footprint in the region.

Children from Jefferson County in Missouri and Johnson, Union and Williamson counties in southern Illinois will be among 100,000 children across the nation whom researchers will follow from before birth to age 21 to learn more about environmental and genetic influences on diseases.

As the lead study site, Saint Louis University School of Public Health received a \$26.3 million contract from the National Institutes of Health, the Centers for Disease Control and Prevention (CDC) and the U.S. Environmental Protection Agency.

“Families in Jefferson County and southern Illinois will have an opportunity to be on the forefront of landmark research into child and maternal health,” says Terry Leet, Ph.D., lead investigator of the Jefferson, Johnson, Union and Williamson counties study sites and chairman of the department of community health at Saint Louis University School of Public Health.

“Ultimately, what we find will benefit all Americans because we will gain information to help develop strategies to prevent disease, design health and safety guidelines and possibly find new treatments and cures for diseases.”

The new contract is in addition to last year’s \$26.8 million, five-year contract to Saint Louis University School of Public Health to follow the health of children from the St. Louis City and Macoupin County in Illinois. Researchers plan to begin enrolling participants from those areas in 2010.

Leet, who is lead investigator of both sets of study sites, recently was appointed to serve on the executive steering committee of the National Children’s Study. The position will give him added insight into the research and recognizes his national expertise in maternal and child health.

The four Missouri and Illinois sites form the region’s Gateway Study Center. Partnering institutions are Saint Louis University School of Medicine; Southern Illinois University Edwardsville School of Nursing; Southern Illinois University School of Medicine; Washington University School of Medicine; Southern Illinois University Carbondale’s Center for Rural Health and Social Service Development; and Battelle Memorial Institute.

The study will begin tracking factors that influence a child's health before the child is born. Researchers will recruit women who are pregnant or likely to soon become pregnant to gather information about the mother-to-be's diet, exposure to chemicals and other substances in the environment and emotional stress.

“Recruiting mothers before conception, or in very early pregnancy, means we can measure environmental influences when the fetus is first forming. We have limited knowledge currently but we know that early exposures can have lifelong effects on metabolism and risk of chronic disease in adulthood,” said Louise Flick, DrPH, co-principal investigator and professor of nursing from Southern Illinois University Edwardsville School of Nursing.

Once the child is born, researchers will collect air, water and environmental samples from where children spend most of their time. They will analyze fingernail, hair, blood and urine samples and screen for birth defects, injury susceptibility, physical and mental disorders, asthma, diabetes and obesity, among other conditions.

From that wealth of data, scientists can look at how certain factors – alone or with others – affect the outcomes of pregnancy, development and health of children and the likelihood of adults developing certain diseases.

“Our research will give scientists access to a vault of information that could ensure a healthier future for generations to come,” Leet says. “What we find could have huge implications for the health of our children and their children's children.”

Competition to become a study center was keen. Locations were selected from across the country to represent a total study population that is ethnically, racially, economically, religiously, geographically and socially diverse. In addition, the NIH placed heavy weight on the proven ability for researchers and institutions in a community to collaborate.

“Large population-based studies are best suited by institutions with overlapping, yet distinct skills,” said Allison King, M.D., assistant professor of pediatrics and of occupational therapy at Washington University School of Medicine in St. Louis and co-principal investigator of the study. “We are lucky enough to have several strong institutions in the area that complement each other.”

The National Children's Study will be conducted in 105 locations across the country. During the last two years, Congress has appropriated a total of \$179.9 million to support the project.

Saint Louis University School of Public Health is the only accredited school of public health in Missouri. It is one of 40 fully accredited public health schools in the U.S. and the only accredited Jesuit school in the nation.