

Maternal and Child Health Research



At RTI International, our experts in health research recognize that mothers and children have special health needs. For more than 15 years, we have been working intensively to find effective ways to meet those needs.

The goal of every RTI study is to yield the objective results necessary to support sound research and policy. Our work supports decision making not only by the federal agencies that develop and implement health care programs, but also by foundations, commercial organizations, insurers, employers, and individuals.



Understanding Health Issues Affecting Mothers, Children, and Adolescents

RTI researchers study pressing issues that influence the physical, social, and emotional well-being of women, children, and families, including the following:

- Social, economic, and institutional barriers to health care services
- Health disparities and minority health issues
- Sexual and reproductive health and fertility/infertility
- Management of pregnancy, labor, delivery, and the postpartum period
- Reduction of maternal and infant mortality and morbidity
- Stillbirths, birth defects, and developmental disabilities
- Neonatal care and newborn screening
- Prevention of childhood diseases
- Management of chronic conditions in children
- Adolescent health and risk behaviors
- Gender-based violence and domestic violence
- Health care strengthening
- Environmental health

Based on our in-depth understanding of these issues, RTI can design studies that produce quality data using proven

RTI Data Coordinating Center Services

- Providing study design and statistical leadership
- Helping develop primary and secondary study protocols
- Designing and implementing data entry systems
- Training study investigators and field staff
- Developing PC- and Web-based data management systems that allow authorized users to communicate and access up-to-date information
- Designing, implementing, and monitoring quality control procedures
- Conducting routine and ad hoc reporting and data analysis
- Preparing journal articles and other publications to communicate study results
- Organizing and facilitating meetings and site visits

management procedures, efficient scientific methods, and a large network of researchers. We have the skills and knowledge needed to support research in emerging areas.

Broad Expertise and Record of Success

RTI conducts many types of research and program implementation projects including: program evaluation data coordination and management, survey design and implementation, systematic evidence reviews, and obstetric and pediatric health services and pharmacoepidemiologic studies. The intellectual talents of experts in more than 130 disciplines form effective teams to bring creative ideas and cost-effective solutions to serve client needs. Examples of RTI's project experience follows.

Cross-site Evaluation of the Merck Childhood Asthma Network (MCAN)

RTI is conducting a cross-site evaluation of the MCAN initiative that addresses current challenges in childhood asthma management in five disparate sites. MCAN supports a community-based approach that is tailored to the specific needs of each site, allowing sites to pick from a menu of evidence-based interventions. RTI is leading efforts to identify and create consensus around common evaluation goals; develop and implement standardized protocols and analysis plans; and evaluate the fidelity, translation, and effectiveness of these evidence-based interventions.

Neonatal Research Network (NRN)

Funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), the NRN conducts multicenter clinical trials and observational studies in neonatal medicine, with a view toward evaluating the safety and efficacy of treatment and management strategies for newborns. We have provided statistical and data leadership on 22 different types of primary studies and more than 50 secondary studies and analyses.

Obstetric-Fetal Pharmacology Research Units (OPRU) Network—Data Coordination and Analysis Center

This NICHD network identifies, characterizes, and studies drugs that are of therapeutic value during pregnancy and whose clinical pharmacology (both pharmacokinetics [PK] and pharmacodynamics [PD]) is potentially altered by the pregnant state in normal or abnormal pregnancies.



Currently, four clinical research sites and a data coordination and analysis center headed by RTI are funded to develop coordinated research on basic questions in pharmacology during pregnancy. Two clinical trials are being conducted under this project—one evaluating the PK and PD parameters of glyburide, metformin, and their combination used for treatment of gestational diabetes and the other determining the safety and PK parameters of pravastatin used for the prevention of preeclampsia in high-risk women.

Global Network for Women's and Children's Health Research

Since 2001, RTI has served as the data coordination center (DCC) for NICHD's international effort to reduce premature morbidity and mortality among reproductive-age women and young children in developing countries. Under this effort, RTI has supported study protocols for the prevention and treatment of neonatal sepsis, preeclampsia, birth defects such as oral clefts, postpartum hemorrhage, and perinatal asphyxia. We coordinate and monitor seven project sites in countries in Asia, Central and South America, and Africa.

Preterm Birth in Nulliparous Women

For NICHD, RTI serves as the DCC and works with the Nulliparous Research Network to study women whose current pregnancy will lead to their first delivery. Because there is little or no information from previous pregnancy outcomes to guide assignment of risk or mitigating interventions,

adverse pregnancy outcomes in nulliparas are especially unpredictable. The network is enrolling a prospective cohort of a racially/ethnically/geographically diverse population of nulliparous women with singleton gestations to undergo intensive research assessments during their pregnancies to study prediction and prevention of adverse pregnancy outcomes such as preterm birth, preeclampsia, fetal growth restriction, and stillbirth.

Stillbirth Collaborative Research Network

RTI is serving as the data collection and analysis center for NICHD's study of stillbirth in the United States. In this role, we help network investigators at five university-affiliated clinical sites design studies to determine the causes of stillbirth. We are also supporting efforts to develop research guidelines for reporting and investigating stillbirths, including a standardized postmortem exam.

Woman-Focused HIV Prevention in Western Cape, South Africa

This multimethod study will conduct a randomized controlled trial with repeated measures, qualitative methods, and biological testing to determine the effectiveness of a woman-focused intervention in increasing knowledge and skills to reduce substance abuse, sexual risk behaviors, and victimization. Former pilot study participants indigenous to the target communities will be trained as outreach workers to screen, recruit, and track female study participants. This 5-year study is funded by NICHD.

Maternal and Neonatal Directed Assessment of Technology (MANDATE) (Gates)

The Bill & Melinda Gates Foundation has funded a framework that will enable the global community to compare the potential of a portfolio of maternal and neonatal technologies to save lives in low-resource settings. MANDATE is creating a model that will have broad appeal to inventors, investors, donors, and researchers aspiring to use technology to maximize maternal and neonatal lives saved. Specifically, MANDATE is developing a framework to enable the global community to compare the potential of new and existing technologies to save lives in these settings and to provide informed product profiles that address conditions of high potential impact and reflect user preferences, operating environment, and other parameters to guide development.

RTI Survey Services

- Sample design and selection
- Instrument development and evaluation
- Recruitment, training, and supervision of data collectors
- Subject recruitment and retention strategies
- Pretests and pilot studies
- Mail, telephone, and face-to-face field surveys
- Focus groups and cognitive interviews
- Records abstraction
- Collection of biological specimens
- Data processing and management, and database construction
- Health registries
- Study design and implementation

Children's Health after the Storms (CHATS)

In 2005, Hurricanes Katrina and Rita caused major damage along the Gulf Coast. As a result, numerous families needed shelter and were issued temporary housing units by the Federal Emergency Management Administration. Concerns were voiced regarding potential adverse health effects among the children who lived in these trailers. This Centers for Disease Control and Prevention (CDC)-funded longitudinal study will assess the short- and long-term health effects and possible sensitization to current exposures among children 3 to 15 years old. Interviews with parents/guardians, physical assessments of the children, air and dust sampling in the home, personal exposure monitoring of children (using RTI's MicroPEM™), neighborhood ambient monitoring, and assays for contaminant metabolites in blood and urine are being conducted. Each child will be followed for 51 months.

Co-occurrence of Spouse Abuse, Child Abuse and Substance Abuse among Army Families

For this Department of Defense grant, RTI is investigating the co-occurrence of spouse, child, and substance abuse among Army families to determine if they are connected and to assess coordination levels among service providers in military settings. Study findings could reduce mortality and morbidity among military personnel and family members and may suggest enhanced strategies for nonmilitary service delivery systems. RTI analyzed 5 years of data on substantiated child and spouse abuse and identified substance use, abuse, and treatment among Army personnel and their families. RTI will conduct an Internet-based survey (with telephone follow-up) of all 700 Army service providers and directors to determine the extent to which they coordinate services. To ascertain barriers to service delivery and impediments to providers when coordinating services, RTI will also conduct case studies of six Army installations.

Pregnancy Risk Assessment Monitoring System (PRAMS)

For CDC, RTI is supporting surveillance of maternal and child health in the United States by improving PRAMS. We are developing systems for state-based data collection and online data dissemination and analysis. These efforts will enable states to collect and disseminate data more efficiently, reduce the time required to produce new questionnaires, and lower states' support and maintenance costs.

Comprehensive Technical Scientific Research and Public Health Support

RTI was awarded a 10-year master task order contract to provide support for epidemiology, surveillance, prevention, intervention, and laboratory programs to the CDC's National Center on Birth Defects and Developmental Disabilities. The mission is to promote the health of babies, children, and adults and to enhance the potential for full productive living. Our work includes identifying the causes of birth defects and developmental disabilities, including autism, helping children to develop and reach their full potential, promoting health and well-being among people of all ages, and protecting the health of people with hereditary blood disorders.

More information

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