

Press Release

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SAFE Glen Cove Coalition: National Institutes of Health Research Study on Early Childhood Exposure to Opioid Use and Brain Development

Research demonstrates the brain continues to grow throughout childhood and into the mid-20s. During this period of development, the brain is very changeable, especially during the early years of rapid development. Such flexibility makes it possible for a child to adapt quickly to the world – learning to walk, talk, read, and think through problems. The rapidly growing brain is exposed to various factors that build resilience and vulnerability, which collectively shape overall health. Access to good nutrition and strong family and social support systems contribute to healthier outcomes, while prenatal exposure to opioids or other substances and various environmental influences like pollution, poverty, and violence may increase risks for adverse outcomes. Harmful effects on the brain can result in immediate health problems like low birth weight and neonatal withdrawal symptoms, but also increased susceptibility to behavioral problems in childhood and adolescence. These include difficulties with thinking and emotional control, attention-deficit/hyperactivity disorder, early drug use, and depression.

The developing brain is shaped by both genetics and the environment, but the details remain unclear. Researchers from the National Institutes of Health have embarked upon a study to determine what happens to the developing brain after pre- or postnatal exposure to substances like opioids, alcohol, tobacco and other drugs. The [HEALthy Brain and Child Development](#) (HBCD) Study will begin recruiting approximately 7,500 pregnant women in their second trimester from 25 states across the country, many of which have been heavily affected by the nationwide opioid crisis. The research will follow these women and their children throughout early childhood. The HBCD Study has put a special focus on rural recruitment, including historically disenfranchised communities in the southern United States, to ensure that the research findings reflect the true diversity of the United States.

Supported by the NIH HEAL Initiative and 10 NIH Institutes, Centers, and Offices, this study will help address the lack of understanding of how opioid exposure during pregnancy affects a child's long-term development and health, including vulnerability to drug use and addiction later in life. The HBCD research project is an observational study, meaning that the researchers are not testing any treatments or interventions, but rather collecting information over time. Data will be broadly shared on an annual basis and made available for researchers to analyze, as well as generate new ideas for research.

At several timepoints throughout childhood, HBCD researchers will document detailed medical and family histories; conduct cognitive and behavioral testing; collect limited maternal and child biospecimens (blood, saliva, and urine); and monitor each child's exposures by interviewing caregivers. The scientists will also record electrical activity of the brain using electroencephalograms and brain imaging scans shortly after birth, once between 3 and 12 months, and every 2 years after that. Wearable devices known as biosensors will enable real-time collection of data from infants in their home environments.

The researchers will study not only the substances and experiences a child is exposed to, but also how much and how often they are exposed. For example, positive factors like supportive parents, food security, and frequent physical activity may have beneficial effects. Conversely, the effects of occasional substance use may be very different from frequent use – or from use of multiple substances, which is increasingly common in the United States. In addition to monitoring use of substances like opioids, tobacco, alcohol, and marijuana, the study will also ask about prescription and over-the-counter medications, vitamin supplements, herbal products and vaccines. In addition, recognizing that substance use may harm their baby, some pregnant women with a substance use disorder may take steps toward recovery, such as taking medications to treat opioid use disorder or other types of addiction. The long-term effects of these medications remain largely unknown.

Over time, knowledge gained by the HBCD Study can be used by researchers, within and outside of the HBCD Study. A main study goal is to learn about protective factors that can chart development of interventions to promote resilience and recovery. By tracking positive influences on the developing brain, the results will also map a strategy for defining the roots of resilience and a healthy future for all children.

National Institutes of Health (NIH): NIH, is the nation's medical research agency, includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. NIH is the primary federal agency conducting and supporting basic, clinical, and translational medical research, and is investigating the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit www.nih.gov.

The SAFE Glen Cove Coalition is conducting an opioid prevention awareness campaign entitled. "Keeping Glen Cove SAFE," in order to educate and update the community regarding opioid use and its consequences. To learn more about the SAFE Glen Cove Coalition please follow us on www.facebook.com/safeglencovecoalition or visit SAFE's website to learn more about the Opioid Epidemic at www.safeglencove.org.