

## *Gest Commentary*

During the last decade West Virginia has experienced high rates of substance abuse. The epidemic has not spared expectant mothers and has had devastating effects on their newborns. An umbilical cord tissue study conducted in 2009 found that 19% of babies born in West Virginia were exposed to drugs and alcohol in utero. Yet, efforts to determine statewide trends on the prevalence and costs associated with this exposure are seriously lacking. A new project of the West Virginia Perinatal Partnership will provide a better understanding of the extent of the problem and help determine effective interventions. With funding from the Claude W. Benedum Foundation, and in collaboration with the Department of Health and Human Resources, the Partnership is implementing a Quality Improvement initiative aimed at improving the identification, diagnosis and treatment of substance exposed infants.

Substance use in pregnancy can lead to multiple health and social problems for both mother and baby. Neonatal abstinence syndrome (NAS) results when in utero exposure to certain substances (such as opioids, benzodiazepines, barbiturates and alcohol) is abruptly discontinued at delivery. The infant's exposure to a neuroactive substance results in withdrawal. Effects are on the central and autonomic nervous systems, with gastrointestinal and respiratory symptoms. The affected babies may be born prematurely, have low birthweight, have feeding difficulties, irritability, seizures, and experience significantly longer hospital stays.

Although there are a number of initiatives in West Virginia to address substance use in pregnancy and to improve the care of affected newborns, measuring effectiveness has been difficult because of limited statewide data. Besides the 2009

umbilical cord tissue study, very little information about statewide prevalence of substance exposure in utero and NAS is available. It is believed that rates of NAS have risen at significantly higher rates in West Virginia compared to the three-fold increase seen nationally. For example, a recent study at Cabell Huntington Hospital found a 10 fold increase in the last ten years. Other West Virginia hospitals also report large increases in the numbers of babies exposed to neuroactive substances, many of those experience NAS. Yet, obtaining accurate information on statewide trends, prevalence, and costs has been elusive, and the data that is available is believed to be seriously underreported.

Several reasons for the lack of accurate and meaningful data to assess rates of substance exposure and NAS have been identified. Providers use different criteria for diagnosing NAS because of the varied constellation of signs and symptoms. The condition does not get coded and billed consistently. Furthermore, many babies who have been exposed in utero to substances are born with a host of other comorbidities. While these other conditions are typically documented, in utero exposure to substances and NAS often are not included, and may be coded incorrectly.

In the summer and fall of 2014, the West Virginia Perinatal Partnership hosted a series of meetings of neonatologists and pediatricians representing the tertiary care centers, Level II and Level I hospitals to discuss the problem of underreporting of substance exposure and NAS. The group felt that a standardized definition of NAS would be valuable in assisting pediatric providers in diagnosing NAS.

The group reached consensus on several important aspects

for identifying, diagnosing and documenting substance exposure in newborns and NAS. These include:

NAS is associated with withdrawal from many substances, not just opiates.

NAS diagnosis results from proof of in utero exposure and the presence of clinical withdrawal symptoms in the baby. This proof could be from maternal screening or biological specimens or newborn testing of urine, meconium or umbilical cord tissue/blood.

NAS diagnosis is not dependent on whether or not pharmacological treatment is required.

Documenting in utero exposure in the medical record is important for tracking what substances are being used in pregnancy and which are associated with NAS.

The West Virginia Perinatal Partnership is embarking on an outreach educational effort regarding this standardized approach to diagnosing and recording NAS. In collaboration with the pediatric provider community and medical coding specialists, it is hoped that the prevalence and costs associated with prenatal substance use will be more accurately recorded, so that we may attain the ultimate goal of reducing this epidemic and improving the health of our mothers and infants in West Virginia.

Submitted by the West Virginia Perinatal Partnership – Project Champions

*Sean Loudin, MD, Cabell Huntington Hospital*

*Stefan Maxwell, MD, CAMC Women and Children's Hospital*

*Sanjay Mitra, MD, WVU Children's Hospital*

*Janine Breyel, Project Director, West Virginia Perinatal Partnership*

If you would like to participate in this Quality Improvement initiative or for more information, please contact Janine Breyel at [jbreyel@hsc.wvu.edu](mailto:jbreyel@hsc.wvu.edu) or 304-216-3437.