

West Virginia's Project WATCH Tool Allows for Real-Time Neonatal Abstinence Syndrome Surveillance

State Highlights from the Opioid Use Disorder, Maternal Outcomes, Neonatal Abstinence Syndrome Initiative Learning Community

Introduction

[Neonatal abstinence syndrome](#) (NAS) is a growing concern in the United States and one that has mirrored the rise in opioid misuse and addiction. To better understand the true incidence of NAS at the state level, the West Virginia Bureau of Public Health's (WV BPH) office of maternal, child and family health, in collaboration with West Virginia University's (WVU) department of pediatrics, is using the state's mandated public health surveillance tool, known as Project WATCH, to track NAS cases in real time. One component of this tool, the West Virginia [Birth Score](#), determines infants at higher risk for infant mortality and has been used in all the birthing hospitals in the state for over 20 years. The West Virginia Department of Health and Human Resources has [legislative authority](#) over Project WATCH and requires all hospitals, birthing facilities, and physicians or other birth facility staff to complete the surveillance items in the tool for every live newborn.

WV BPH, in collaboration with the [West Virginia Perinatal Partnership](#), decided to use this existing tool under Project WATCH to capture real-time NAS surveillance for several reasons, outlined below:

- The tool captures nearly 98 percent of statewide birth data daily upon a newborn's discharge from the hospital and links directly to vital statistics data.
- Other data processes can take upwards of six months to a year for results to be generated, whereas data from Project WATCH can be analyzed immediately.
- Due to its wide implementation in birthing facilities across the state, using Project WATCH would not incur additional financial burden.

Steps Taken

Before adding questions about NAS and substance use during pregnancy to Project WATCH, WV BPH and the WV Perinatal Partnership sought buy in from several key entities within the state. The WV Perinatal Partnership convened neonatologists from the state's three Level III NICUs, pediatricians from the state's Level II and Level I hospitals, pediatric and obstetric nurses, and representatives from the health department and the state's behavioral health agency to develop a statewide [definition of NAS](#).

Stakeholders recognized that in order to get accurate data, a universal definition and standardized screening protocols needed to be in place that could be effectively rolled out in all birthing facilities. It was imperative to have all healthcare providers who work with newborns and postpartum mothers at the table to create the NAS definition and screening protocols. During 2015 and 2016, the WV Perinatal Partnership, through support from the Claude Worthington Benedum Foundation, conducted outreach education to every delivery hospital on the standardized definition for diagnosing NAS. The trainings included critical information on screening, diagnosing, and coding to identify at-risk infants.

Once the definition and screening protocols were in place, WV BPH and Project WATCH contacted the Newborn Screening Advisory Council, a state-based council that oversees all infant anomalies listed on the Birth Score. The team wanted the advisory council's approval to add additional questions to Project

WATCH and come to a consensus on how the questions would be used. The advisory council agreed with the need for additional questions and provided a recommendation to then-state health commissioner, Rahul Gupta. With a legislative mandate in place, the health commissioner can add reportable conditions as part of the agency's data collection authority. Gupta knew NAS was a significant issue, requiring new questions to capture NAS incidence in the state.

As soon as statewide leadership provided approval, the NAS-related questions were added to the Birth Score and additional statewide training was initiated with nursing staff responsible for completing the Birth Score form. Ongoing education through Grand Rounds at hospitals and statewide and regional conferences are conducted as part of a continuous improvement process. WVU worked to move Project WATCH onto an online platform for all hospitals and built it into the electronic medical record (EMR) for eight hospitals owned by WVU. The Birth Score data file is shared with the health department's office of maternal, child and family health. Making the Birth Score electronic allowed hospital staff to easily input the data for each infant upon discharge. This data is then collected by Project WATCH at WVU daily to allow for real-time surveillance to take place. The updated Birth Score tool was rolled out statewide to provide NAS surveillance on Oct. 1, 2016.

Lessons Learned

- Buy-in from physicians, hospital staff, and hospital administration is critical to implementation.
- Project WATCH shares aggregated data with hospitals, ensuring hospitals understand the data they are providing.
- Partnerships with key stakeholders, including state perinatal quality collaboratives and academic institutions, helped tremendously. The partnerships increased capacity to train providers on the standard NAS definition and how to use the new NAS surveillance questions.
- Changes to the tool require updates to the EMR platform. This necessitates new and ongoing training for providers.
- The West Virginia team decided to keep the NAS-related questions succinct to solely track the incidence within the state, e.g., NAS is diagnosed when a baby has intrauterine exposure to a neuroactive substance and exhibits clinical signs and/or symptoms of withdrawal, regardless of whether pharmacological treatment is required.
- Next steps include using data collected from the tool to provide wraparound care for the mother-infant dyad, such as early childhood intervention programs through the Children with Special Health Care Needs Program at WV BPH. Furthermore, the state is exploring opportunities to expand questions around a woman's use of substances during pregnancy to better understand what types of substances are being used during the prenatal period. This will also help the team identify if a woman began medication-assisted treatment regimen during her pregnancy.

The team is now moving forward with revising the current NAS and substance use during pregnancy questions in Project WATCH rolling out Phase II, which includes working toward creating wraparound services for infants diagnosed with NAS and their families. The team also recognizes that, as they move past the surveillance phase, they have an opportunity to better understand what substances are being used by women of reproductive age to improve public health programming to this population.

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