



NIHCM  
FOUNDATION

# Fact Sheet



## Women, Children & Adolescents

### Reducing Neonatal Abstinence Syndrome in Tennessee

November 2015

Rising prescription painkiller abuse and the simultaneous increase in heroin dependence have led to an alarming growth in the number of infants born with neonatal abstinence syndrome (NAS) since 2000.<sup>1</sup> These infants can suffer intense withdrawal symptoms, including vomiting, weight loss, hypersensitivity to light and sound, and seizures, and are often admitted to neonatal intensive care units (NICUs). Average hospital charges for infants born with NAS are five times higher than those for non-NAS hospital births, and the total hospital charges associated with caring for these babies has nearly doubled from \$732 million in 2009 to \$1.5 billion in 2012, with 80 percent of charges paid by Medicaid (Figure 1).<sup>2</sup>

There is significant geographic variation in the incidence of NAS, with the highest rates concentrated in the East South Central region of the country.<sup>3</sup> In Tennessee (TN) incidence of NAS has increased sixteen-fold since 2000,<sup>4</sup> far exceeding the five-fold national increase.<sup>5</sup> In 2014, there were 973 reported cases of NAS in TN, with 60 percent of the cases concentrated in East Tennessee.<sup>6</sup> BlueCross BlueShield of Tennessee Health Foundation (THF), recognizing the increasing incidence of NAS and its associated cost, committed to improve access to substance abuse services for pregnant women and new mothers struggling with opiate addiction and access to treatment for NAS babies. This fact sheet highlights several of THF's partnerships to address the NAS epidemic.

#### MOTHERS AND INFANTS SOBER TOGETHER

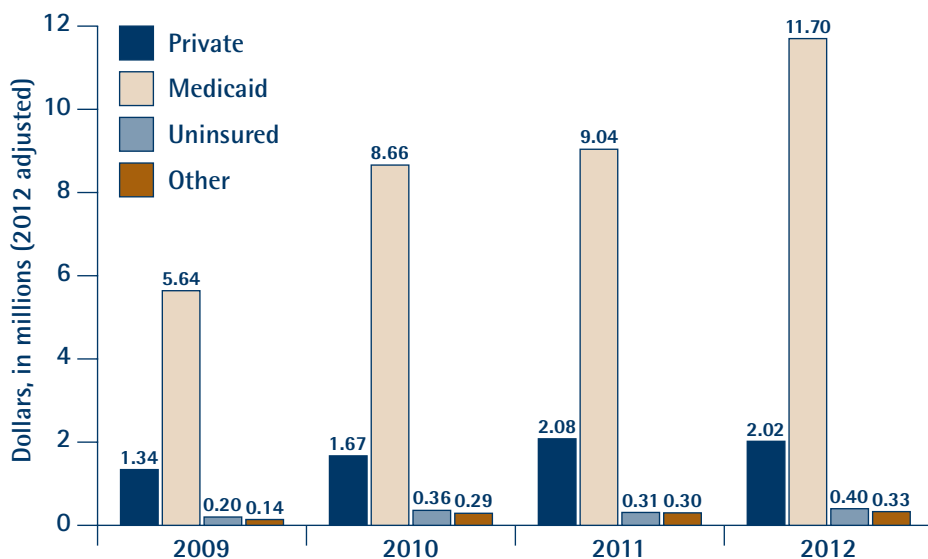
The town of Jellico in East Tennessee has the highest rate of NAS births in the state. It has very few health care providers and only one prenatal provider. This sole provider of prenatal care illustrates the region's NAS epidemic and its ties to opiate addiction: out of the 2,034 female patients that he saw with opioid prescriptions in 2013, nearly 50 percent were women of childbearing age.

To address this problem and increase access to substance abuse services for pregnant women, THF provided a two-

year grant in 2013 for an expansion of the Mothers and Infants Sober Together (MIST) at Jellico Community Hospital, in conjunction with Ridgeview Behavioral Health Center, Dayspring Family Health Center and the local health department.

MIST is designed to assist mothers with substance abuse problems and ensure a drug-free and safe home for their newborns. Mothers qualify for the MIST program through a referral from a prenatal care provider and are assigned a program team consisting of a case manager, counselor

FIGURE 1: AGGREGATE HOSPITAL CHARGES BY PRIMARY PAYER FOR NAS, 2009-2012



Source: graphic created using data from Patrick SW, Davis MM, Lehman CU, Cooper WO. "Increasing Incidence and Geographic Distribution of Neonatal Abstinence Syndrome: United States 2009 to 2012." *Journal of Perinatology*. Published online April 30, 2015

## SERVICES PROVIDED THROUGH MIST INCLUDE:

- Home visits
- Mental health counseling
- Weekly support groups
- Individual therapy
- Substance abuse treatment
- Relapse prevention
- Parenting education
- Supervised visits for mothers without custody of their children
- Case management

Source: MIST: Mothers and Infants Sober Together (2015). Rural Assistance Center. Retrieved from <https://www.raconline.org/success/project-examples/380>

and program coordinator. Women can participate in the six-month long program anytime during their pregnancy through one-year postpartum.

At the end of the THF grant in 2015, MIST staff reflected that the program had been well received in the community and had allowed for the creation of strong partnerships with other community programs and referring agencies. While it was difficult to engage pregnant women in the program, the women who did participate reported they gained support for their recovery process through the weekly support group and the interaction with providers. THF shared that one of the barriers encountered was a lack of access to inpatient detoxification (detox) treatment services for those women in need of support beyond what was offered through the MIST program. THF is now supporting a new program focused on inpatient treatment options for women of childbearing age battling opiate addiction and research on the effectiveness of these treatment options.

## WELLSPRING CENTER FOR ADDICTION HELP AND RESOURCES

THF recently awarded the Wellspring Center for Addiction Help and Resources a \$400,000 grant to provide start-up costs for a 6-bed, regional detox center for women addicted to prescription drugs. This center will be housed at a local hospital and will be available to pregnant women or women up to one-year postpartum. Its multi-pronged approach is designed to address the diverse needs of women in the target population. Planned services include:

- consultations to assist women in navigating treatment options,
- aftercare to help women get back on their feet and stay sober,

- a hotline to provide women in crisis with accurate information,
- definitive birth control to assist these women with future family planning, and
- partner care and detox to support significant others in their recovery.

With this comprehensive approach to treat addiction in pregnancy through a detox program, the center hopes to yield both significant community health benefits and save millions of dollars in NAS treatment costs.

## UNIVERSITY OF TENNESSEE MEDICAL CENTER

THF has partnered with the University of Tennessee Medical Center and Dr. Craig Towers to study the effectiveness of detox from opiate drugs during pregnancy, and the long-term effect of detox treatment on NAS rates in TN. The four-year grant will focus on four research objectives:

1. analyze the impact of detox during pregnancy on NAS rates and pregnancy outcomes
2. continue Dr. Towers' previous research to determine if fetal harm, such as smaller head circumference, occurs with maternal opiate addiction
3. develop optimal methods for the treatment of NAS in early neonatal period that promote maternal/infant bonding
4. discover best practice methods to keep women with a history of opiate addiction drug-free in the postpartum period

This research could help establish standard treatment protocol for mothers and women of childbearing age facing addiction or abuse of prescription drugs, reduce the occurrence of NAS, and improve treatment for NAS babies.

## EAST TENNESSEE CHILDREN'S HOSPITAL

In 2010 East Tennessee Children's Hospital (ETCH) established an NAS treatment process in response to the large number of NAS babies receiving treatment at ETCH. The hospital developed protocols and utilized evaluation scales to score symptoms and determine the optimal way to wean the infants off of drugs. Nurses are now receiving additional training in behavioral health, addiction and treatments. Under this process, over 1,051 babies born with NAS have been weaned off of drugs, with the average length of NICU stay for these babies reduced from 40 to 20 days. According to ETCH, these reductions can be attributed to increased experience and efficiency, changing standards of care, and technological improvements and innovations.

Recognizing a need for a dedicated space to treat NAS babies separate from the NICU, THF awarded a \$1 million grant for the construction of a new NAS treatment unit at ETCH as part of the hospital's \$75 million expansion. The new NAS Unit is slated to open in September 2017 and will include quiet, low-light spaces where trained volunteer "cuddlers" can comfort and hold babies born with NAS.

## FUTURE PLANS

Tennessee remains the first, and only, state in the nation to criminalize women whose babies test positive for narcotics used illegally. As TN's rate of drug-dependent births continues to climb for the 14th year in a row, it is unclear if the law is having any effect on reducing NAS across the state. THF plans to continue its financial support for programs aimed at decreasing NAS in East Tennessee, including evaluations of its funded programs to assess engagement rates, permanency, reduction of NAS and reoccurrence of NAS and maternal drug and alcohol abstinence. In addition to the programs supported by THF, employees from BlueCross BlueShield of Tennessee's Medicaid subsidiary, BlueCare Tennessee, also work closely with this population and their providers. By continuing this multi-faceted strategy to reduce prescription drug abuse and help both addicted mothers and their babies, THF and BlueCross BlueShield of Tennessee hope to stem rising NAS rates in TN and reduce the associated health care cost burden.

## ENDNOTES

1. Examining Public Health Legislation: H.R. 2820, H.R. 1344, and H.R. 1462.: Hearings before the Energy and Commerce Subcommittee on Health, House, 114th Cong. 1 (2015) (Testimony of Stephen Patrick, MD, MPH, MS). Available at: <http://tinyurl.com/qf25hsk>
2. Patrick SW, Davis MM, Lehman CU, Cooper WO. "Increasing Incidence and Geographic Distribution of Neonatal Abstinence Syndrome: United States 2009 to 2012." *Journal of Perinatology*. Published online April 30, 2015.
3. Ibid.
4. Warren MD, Miller AM, Traylor J, Bauer A, Patrick SW. Implementation of a Statewide Surveillance System for Neonatal Abstinence Syndrome - Tennessee, 2013. *MMWR Morbidity and Mortality Weekly Report*. Feb 13 2015;64(5):125-128. Available at: <http://tinyurl.com/o9r3fah>
5. Patrick SW, et al. 2015.
6. Tennessee Department of Health. Drug Dependent Newborns (Neonatal Abstinence Syndrome). December Update (Data through 1/2/2015). Available at: <http://tinyurl.com/ob88fta>