NEONATAL ABSTINENCE SYNDROME PILOT PROCESS

Neonatal Abstinence Syndrome (NAS) is a drug withdrawal syndrome that presents in newborns after birth when transfer of harmful substances from the mother to the fetus abruptly stops at the time of delivery. NAS most frequently is a result of opioid use in the mother but may also occur as a result of exposure to benzodiazepines and alcohol. Fetal exposure most frequently occurs for one of three reasons:

- The pregnant woman is dependent/addicted to opioids, either prescribed or illicit;
- The pregnant woman requires treatment with prescription opioids for another disease process; or
- The pregnant woman is receiving prescribed opiate replacement therapy.

The incidence of NAS has increased significantly over the last fifteen years. In 2000, the rate per 1,000 births was 1.2. In 2009, the rate was 3.39 per 1,000 births. Maternal opiate use has increased even more dramatically. In 2000, the rate was 1.19 per 1000 births per year and in 2009 the rate was 5.63 per 1,000 births per year. The cost of care for infants diagnosed with NAS has also increased from $190 million in 2000 to $720 million in 2009.[1]

In a report released by the Centers for Disease Control and Prevention (CDC),[2] prescribers wrote 82.5 Opioid Pain Reliever (OPR) prescriptions and 37.6 benzodiazepine prescriptions per 100 persons in the United States in 2012. The range nationally for OPR was a high of 142.9 per 100 persons for Alabama and a low of 57.0 per 100 persons for California. the range for benzodiazepine prescriptions was a high of 41.5 per 100 persons for Delaware and a low of 34.2 per 100 persons for Illinois. Only eight states had a higher prescribing rate for opioid pain relievers than Indiana's rate of 109.1 per 100 persons and 16 states had a higher prescribing rate for benzodiazepine than Indiana's rate of 42.9 per 100 persons.

[1] Patrick S, Schumacher R, Benneyworth B, *et al*. "Neonatal abstinence syndrome and associated health care expenditures: United States, 2000-2009." *JAMA.* 2012. 307(18):1934-40.

[2] http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6326a2.htm?s_cid=mm6326a2

In 2014, the 118th Indiana General Assembly passed Senate Bill 408 which added Section 244.8 to Indiana Code 16-18-2 stating:

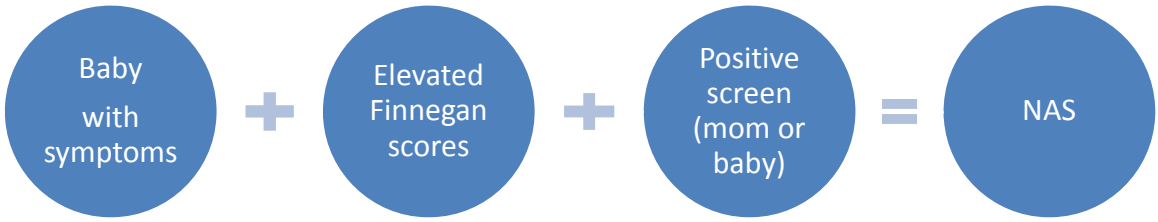
"Neonatal abstinence syndrome" and "NAS", for purposes of IC 16-19-16, refer to the various adverse effects that occur in a newborn infant who was exposed to addictive illegal or prescription drugs while in the mother's womb.

The legislation added IC 16-19-16 which required that the State Department of Health establish a task force that included, at a minimum, representatives from the Indiana Hospital Association, the Indiana Perinatal Network, the Indiana State Medical Association, the Indiana Chapter of the American Academy of Pediatrics, the Indiana Section of the American Congress of Obstetricians and Gynecologists, and the Indiana Chapter of the March of Dimes. The task force was charged with five deliverables:

> *(1) The appropriate standard clinical definition of "Neonatal Abstinence Syndrome";*
> *(2) The development of a uniform process of identifying Neonatal Abstinence Syndrome;*
> *(3) The estimated time and resources needed to educate hospital personnel in implementing an appropriate and uniform process for identifying Neonatal Abstinence Syndrome;*
> *(4) The identification and review of appropriate data reporting options available for the reporting of Neonatal Abstinence Syndrome data to the state department, including recommendations for reporting of Neonatal Abstinence Syndrome using existing data reporting options or new data reporting options; and*
> *(5) The identification of whether payment methodologies for identifying Neonatal Abstinence Syndrome and the reporting of Neonatal Abstinence Syndrome data are currently available or needed.*

The Task Force was convened in May 2014 with approximately 50 members who met monthly to accomplish the deliverables. The committee reviewed national guidelines, relevant literature and practices related to NAS developed by other states in order to fully inform the decision-making process. After completion of the review process and substantive discussion of the issues related to NAS, the Task Force recommended that the diagnosis of NAS should be applied to babies who meet the following criteria:

- Symptomatic;
- Have two or three consecutive Modified Finnegan scores equal to or greater than a total of 24; and
- Have one of the following:
    - A positive toxicology test, or
    - A maternal history with a positive verbal screen or toxicology test.



Additional recommendations[3] included an identification process for the pregnant woman and her newborn along with a discussion of screening tools, an educational agenda for hospital and other medical personnel, and data elements that need to be collected to document the prevalence of this diagnosis.

The task force completed their report to the General Assembly in October 2014. While the work described above was completed, the Senate bill had also requested that the State Department of Health establish one (1) or more pilot programs with volunteer hospitals to implement appropriate and effective models for Neonatal Abstinence Syndrome identification, data collection, and reporting. The goal of the pilot is to establish the prevalence of NAS in Indiana and to test the processes used for expansion to all delivering hospitals. Four hospitals agreed to pilot the final recommendations of the Task Force. The hospitals are:

- Schneck Hospital (Seymour)
- Hendricks Regional Hospital (Danville)
- Columbus Regional Hospital (Columbus)
- Community East Hospital (Indianapolis)

The hospitals will be testing the following components:

- A common definition of NAS;
- Comprehensive and uniform staff training in the use of the Finnegan Neonatal Abstinence Scoring Tool to determine the newborn's status;
- Universal screening of pregnant women at the first prenatal visit and when presenting for delivery;
- Screening of newborns whose mothers have had a positive screen or who have opted out of the screening protocol;
- Therapy protocol for providers for the treatment of pregnant women dealing with dependence/addiction
- Educational materials for patients and providers
- Referrals for behavioral health supports; and
- Collection of a common set of data.

[3] Appendix H

With the submission of the report to the General Assembly, the Task Force was re-established as a committee under the umbrella of the Indiana Perinatal Quality Improvement Collaborative (IPQIC) to continue to address the issues related to NAS. Five deliverables were identified for the committee:

- *Provide support to ISDH for implementation of the pilot process.*
- *Develop recommendations to ISDH regarding the drug screening panel and its cost to be used in the NAS identification process.*
- *Develop a therapy protocol for the treatment of pregnant women who are dealing with addiction.*
- *Develop recommendations for screening tools to be used with pregnant women.*
- *Collaborate with the IPQIC Education Committee in the development of materials for both medical caregivers and consumers.*

Three subcommittees have been established to address ongoing issues:

- Ethical/Legal Subcommittee - This subcommittee will be addressing issues of informed consent and implications related to child protective services;
- Treatment Protocol Subcommittee - This subcommittee is developing procedures and processes for healthcare professionals treating women with addiction issues; and
- Screening Protocol Subcommittee: This subcommittee has recommended standardized screening tools to be used by physicians with pregnant women during their prenatal care.

The NAS Committee is also working with the IPQIC Education Committee to develop educational materials for both consumers and health care providers.