Local Perspectives and Recommendations on Neonatal Abstinence Syndrome

**Neonatal Abstinence Syndrome (NAS)** -- a postnatal drug withdrawal syndrome of neonates -- is used to describe the constellation of symptoms experienced by newborns withdrawing from substances on which they have become physically dependent while in utero. Exposure of the fetus to opiates, cocaine, amphetamines, or antidepressants may result in NAS; however, the most common causes are maternal opiate use (e.g., heroin, methadone) and misuse of prescription painkillers (e.g., oxycodone). The neonate also may be poly-drug exposed to illicit and licit drugs, nicotine, and alcohol. NAS usually manifests between 2-7 days following birth, depending on the amount and type of substances used by the mother during pregnancy.

Infants diagnosed with NAS exhibit signs of drug withdrawal, including hyperirritability, hypersensitivity to light and sound, sleep-wake abnormalities, dysfunction of the respiratory system, vomiting, diarrhea, feeding difficulties, weight loss, and seizures. The mother-infant relationship (bonding) may also be disrupted. Several NAS scoring systems are available to assess the degree of withdrawal and parameters for treatment. Neonates with NAS often require extended hospitalization for neonatal complications and pharmacologic treatment for opioid dependence.

Recent peer review publications and news articles suggest that the United States is in the midst of an epidemic. Between 2000-2009, the incidence of NAS increased almost 3-fold (from 1.2 to 3.4 per 1000 hospital births per year).\(^1\) In addition, the antepartum maternal dependence on/misuse of opiate-based substances has increased nearly 5-fold (from 1.2 to 5.6 per 1000 hospital births per year).\(^1\)

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Over the past 18 months, CityMatCH, the national organization of urban MCH leaders, has been working with 6 local public health departments on preventing substance-exposed pregnancies. The core of this work has been the adaptation and institutionalization of screening and brief intervention methods for risky alcohol and other substance use in public health settings. Many CityMatCH member health departments have reported an increase in the misuse of prescription painkillers -- mostly oxycodone and oxycotin -- and a notable increase in the incidence of NAS in local hospital NICUs. As with other perinatal risk factor -- alcohol use, tobacco use, depression -- there is no standard best practice for screening, intervention, or referral to treatment in local public health settings for the risky use of opiates. Though the prescription drug crisis has no socio-economic barriers, occurring across all races, ethnicities and income levels, an epidemic of NAS is particularly relevant to local public health -- newborns with NAS are more likely to have respiratory complications and low birthweights, be covered by Medicaid, and reside in zip codes within the lowest income quartile.\(^1\)

To ascertain the nature of the current practices around screening and potential interventions for opiate misuse and NAS at the local level, CityMatCH conducted a survey of its urban member health departments.

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CityMatCH invited all of its member health departments (n=161) to complete an online survey titled “Local Perspectives on Prescription Opiate Abuse and Neonatal Abstinence Syndrome.” The overall response rate was 27%; however, 44% of the respondents were from Florida -- a state that is currently disproportionately affected by the prescription drug market and use. Other survey respondents hailed from member health departments in Ohio, California, Oregon, Wisconsin, Oklahoma, Massachusetts, Texas, Maryland, Illinois, Pennsylvania, New York, Nebraska, and Colorado. Seventy-four percent (74%) of respondents indicated that they had experienced NAS in their community, with 65% of the respondents indicating that NAS was a significant or very significant problem. Even though almost two-thirds of the respondents had significant NAS problems in their community, respondents were split with regard to the effectiveness of the strategies to address the problem of NAS (46% were sure of local strategy effectiveness and 49% were unsure of local strategy effectiveness).

When local health departments were asked what they most needed to intervene or effectively address the problem of NAS, respondents suggested the following:

- greater community participation and partnerships through the engagement of nontraditional public health partners such as pharmacies, treatment providers, clinicians and legislators,
- funding to support employee training, educational initiatives, capacity-building efforts, and comprehensive screening and intervention/treatment initiatives,
- stronger ordinances and laws to control prescription drugs,
- improved standards and communication protocols for hospitals, pharmacies, and clinicians to aid in the prevention, detection, and treatment of NAS,
- tools for the initial testing, treatment, and follow-up of NAS babies,
- mandated screening and reporting processes for hospitals to aid in the collection of NAS data, and
- funding to restore treatment programs for women of reproductive age who are at-risk for misuse or who are risky users of opiates, cocaine, amphetamines, antidepressants, or painkillers.

A review and analysis of states’ policies regarding prenatal exposure to alcohol and other drugs discovered considerable variations among states in both policy and practice around substance-exposed infants. However, the report established that there are five major timeframes when interventions can reduce the potential harm of prenatal substance exposure: pre-pregnancy, prenatal, birth, neonatal, and in childhood. Responses to the CityMatCH survey support this 5-point framework and dovetail with the best practice recommendations put forward by CityMatCH members. The respondents recommended consistent public messaging around the

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causes and consequences of NAS to support greater awareness; the implementation of universal maternal screening; standardized evaluation tools for the testing of newborns; and better protocols for the treatment and follow-up of NAS-diagnosed babies. Survey responses point to the need for more collaboration and prioritization around NAS, particularly at the local level, where workgroups and task forces have been increasingly overwhelmed by the lack of a mandated screening and reporting process for hospitals to aid in the collection and analysis of data. Stronger, standardized protocols are needed for hospitals, pharmacies, and clinicians to improve communication between providers and training for employees. Given the shrinking budgets of many local health departments, public policy and a nationwide call to action to prevent the misuse of prescription painkillers and the risky use of opiates and subsequent prevention of NAS is urgently needed.

For more information about CityMatCH’s work around substance-exposed pregnancies, please visit www.citymatch.org or contact Molly Schlife, MPH at mschlife@unmc.edu or 937-938-6471.