

3-13-2015

# Improving Tennessee Health Care Providers Understanding of Neonatal Abstinence Syndrome

Ivy Click

*East Tennessee State University, click@etsu.edu*

Nicholas E. Hagemeyer

*East Tennessee State University, hagemeyer@etsu.edu*

Follow this and additional works at: <https://dc.etsu.edu/etsu-works>



Part of the [Appalachian Studies Commons](#), and the [Substance Abuse and Addiction Commons](#)

---

## Citation Information

Click, Ivy; and Hagemeyer, Nicholas E.. 2015. Improving Tennessee Health Care Providers Understanding of Neonatal Abstinence Syndrome. Podium presentation. *5th Annual AppNET Conference*, Johnson City, TN. [https://drive.google.com/drive/folders/0B4gQRfHvsW\\_pc21WbU0zOWhrYVU](https://drive.google.com/drive/folders/0B4gQRfHvsW_pc21WbU0zOWhrYVU)

This Presentation is brought to you for free and open access by the Faculty Works at Digital Commons @ East Tennessee State University. It has been accepted for inclusion in ETSU Faculty Works by an authorized administrator of Digital Commons @ East Tennessee State University. For more information, please contact [digilib@etsu.edu](mailto:digilib@etsu.edu).

---

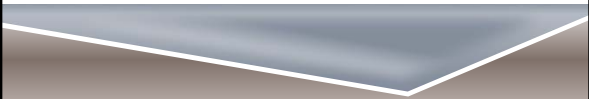
# Improving Tennessee Health Care Providers Understanding of Neonatal Abstinence Syndrome

## **Copyright Statement**

This document was originally published by the *5th Annual AppNET Conference*.

**IMPROVING TENNESSEE HEALTH CARE PROVIDERS UNDERSTANDING OF NEONATAL ABSTINENCE SYNDROME**

Ivy Click, EdD & Nick Hagemeyer, PharmD, PhD  
AppNET Conference  
March 13, 2015



---

---

---

---

---


---

---

---

**DISCLOSURES**

▶ Drs. Click and Hagemeyer **DO NOT** have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.



---

---

---

---

---


---

---

---

**OBJECTIVES**

- ▶ Describe Neonatal Abstinence Syndrome (NAS) trends in Tennessee
- ▶ Explain the applicability of the Theory of Planned Behavior to prescriber and dispenser substance use prevention behaviors
- ▶ Describe preliminary study outcomes



---

---

---

---

---

---

---

---

### NEONATAL ABSTINENCE SYNDROME

- ▶ Neonatal Abstinence Syndrome (NAS) is a **withdrawal syndrome that occurs when a baby is born dependent upon substances taken by the mother during pregnancy.**
- ▶ NAS can be associated with:
  - ▶ Prescription drugs obtained with prescription
    - ▶ Includes women on pain therapy or replacement therapy
  - ▶ Prescription drugs obtained without prescription
  - ▶ Illicit drugs

---

---

---

---

---

---

---

---

### NAS SYMPTOMS

- ▶ Opioid withdrawal symptoms primarily related to:
  - ▶ **Central Nervous System:**
    - ▶ Seizures
    - ▶ Tremors
    - ▶ Hyperactivity
  - ▶ **Gastrointestinal System:**
    - ▶ Poor feeding
    - ▶ Vomiting
    - ▶ Poor weight gain
    - ▶ Diarrhea
    - ▶ Uncoordinated sucking

---

---

---

---

---

---

---

---

### NAS SYMPTOMS

- ▶ Opioid withdrawal symptoms:
  - ▶ May appear as early as within the first 24 hours
  - ▶ May take as many as 4-5 days to appear
  - ▶ Occur in 55-94% of exposed infants

---

---

---

---

---

---

---

---

## NAS IN TENNESSEE

- ▶ The incidence of NAS has increased by more than 10-fold during the last decade in Tennessee
- ▶ NAS incidence highest in **East TN**
- ▶ The substance of exposure is typically an **opioid**, which may or may not have been prescribed to the mother.
- ▶ Babies with NAS have significantly longer hospital stays than otherwise healthy infants and may be at risk for developmental delays or other health concerns as they grow.
  - ▶ The average cost to Medicaid (TennCare) for caring for an affected infant is over **\$66,000**.
- ▶ Infants with NAS are more likely to enter state custody, placing an additional toll on the state's child welfare system.

---

---

---

---

---

---

---

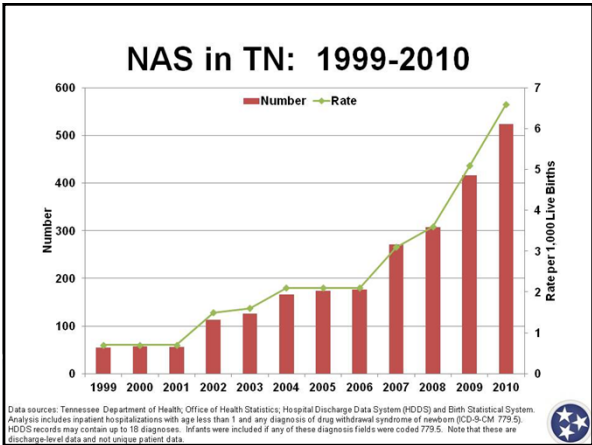
---

---

---

---

---




---

---

---

---

---

---

---

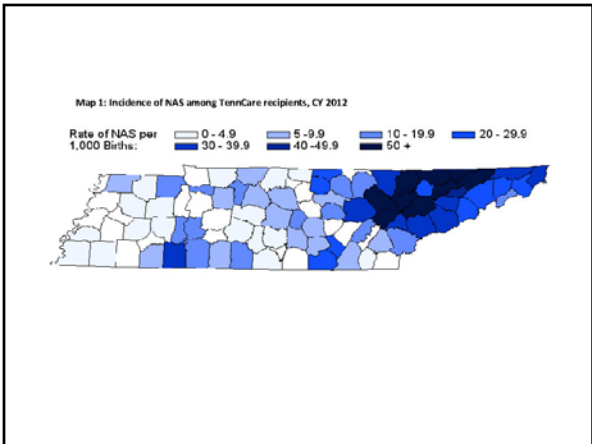
---

---

---

---

---




---

---

---

---

---

---

---

---

---

---

---

---



## PREVENTION BEHAVIORS ARE ESSENTIALLY UNEXPLORED

---

---

---

---

---

---

---

---

## STUDY RESEARCH QUESTIONS

- ▶ What are the attitudes, beliefs, and behaviors of Tennessee prescribers and dispensers specific to substance use in pregnancy and NAS primary prevention?
  - ▶ How do prescriber/dispenser perceptions and behaviors regarding substance use in pregnancy and NAS prevention differ across prescriber/dispenser characteristics?
- ▶ What is the impact of a pilot NAS primary prevention academic detailing intervention with AppNET prescribers and buprenorphine prescribers on NAS primary prevention attitudes, beliefs, and behaviors?

---

---

---

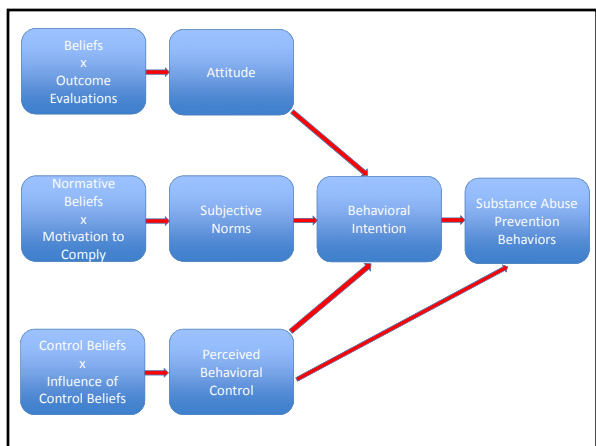
---

---

---

---

---



---

---

---

---

---

---

---

---

**METHODS**

- ▶ TPB instruments constructed
- ▶ Stratified random samples selected (N=100 each)
  - ▶ Buprenorphine "in-office" treatment authorized
  - ▶ Pain management clinic directors
  - ▶ Community pharmacists
  - ▶ Primary care physicians
  - ▶ Primary care NPs/PAs
- ▶ Pre-notification → Mailing #1 → Reminder → Mailing #2 → Telephone follow-up

---

---

---

---

---

---

---

---

---

---

**SMALL GROUP ACTIVITY**

---

---

---

---

---

---

---

---

---

---

**PRELIMINARY RESULTS**

---

---

---

---

---

---

---

---

---

---



## PRESCRIBERS

	Prescriber Category							
	PCPs		Bup. Prescribers		Pain Clinic Directors		Total	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Discuss the risks of opioid use during pregnancy?	5.80	10.4315	8.50	3.529	9.06	18.2754	8.08	40.3598
Discuss the patient's risk of physical dependence and addiction to opioids?	8.90	10.2514	9.58	1.443	9.71	17.686	9.46	39.1553
Discuss the potential of physical dependence to and withdrawal from opioids in a newborn.	5.80	10.4315	6.75	12.4808	8.47	18.3144	7.38	40.4081
Discuss the results of a controlled substance monitoring database query with the patient?	5.50	10.3536	6.82	11.2994	9.38	16.1628	7.57	37.3087
Discuss a birth control plan when opioids are initiated?	5.70	10.4498	8.08	12.3630	7.61	18.4075	7.28	40.4064
Recommend long-acting, reversible contraception (LARC) to patients on opioids?	3.70	10.4244	5.50	12.4079	6.59	16.4032	5.49	38.4157
Direct patients to community resources through which long-acting reversible contraception (LARC) can be accessed?	3.50	10.4601	4.33	12.3725	6.00	17.4637	4.85	39.4396
Document the type of contraception used by the patient?	6.73	11.4563	8.36	11.3107	8.33	15.3619	7.86	37.3758
Discuss the patient's pregnancy status at each visit if on long-term opioids?	5.27	11.4519	7.92	12.3343	8.33	18.3361	7.39	41.3833
Discuss the expectation that the patient inform you if she becomes, or plans to become, pregnant?	6.80	10.4104	9.83	12.577	9.33	18.1782	8.85	40.2617
Administer a pregnancy test prior to the initiation of opioid therapy?	4.60	10.4402	7.33	12.3750	7.35	17.4372	6.64	39.4264
Obtain a patient's personal history of drug abuse prior to initiating therapy?	8.91	11.2212	10.00	12.000	9.83	18.707	9.63	41.1280
Conduct a drug abuse risk assessment prior to prescribing an opioid medication?	8.20	10.2741	8.33	12.2462	9.94	18.236	9.03	40.2044
Discuss your concern with a patient regarding her drug-taking behaviors warranted?	8.91	11.1973	10.00	12.000	9.56	18.1388	9.51	41.1381
Verbally refer a patient for drug abuse treatment when warranted?	8.64	11.3223	9.09	11.3015	9.29	17.2257	9.05	39.2714

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

## DISPENSERS

	N	Mean	Std. Deviation
Counsel on the indication for the prescribed medication?	15	7.93	2.712
Ask about pregnancy status?	15	3.80	4.427
Document pregnancy status in the patient's medication profile?	15	2.80	4.127
Discuss the risks of prescription opioid use during pregnancy?	14	4.86	4.185
Discuss the risk of physical dependence and addiction to opioids?	15	6.27	3.882
Counsel on the importance of long-acting, reversible contraception (LARC)?	15	2.07	3.218
Ask if the patient has questions about the prescribed medication?	15	9.87	516
Conduct a risk assessment or drug abuse screening prior to dispensing?	14	3.50	4.363
Conduct a controlled substance monitoring database (CSMD) query prior to dispensing?	15	8.27	2.815
Direct to community resources through which long-acting, reversible contraception (LARC) can be accessed?	15	1.60	3.066
Document the type of contraception to be used while taking the prescription opioid?	15	1.73	3.150
Communicate with the patient's prescriber's office to verify the prescription opioid is appropriate therapy?	15	3.27	4.284
Discuss the need to notify the prescriber if the patient becomes, or plans to become, pregnant?	15	4.13	4.274
Discuss your concern regarding the patient's drug taking behaviors when warranted?	15	4.73	4.399
Verbally refer for drug abuse treatment when warranted?	14	4.00	4.368

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

## NEXT STEPS

- ▶ Pilot intervention:
  - ▶ Trained academic detailers will provide an educational outreach program to ~50% of survey respondents from PCP and buprenorphine prescriber cohorts.
  - ▶ Detailers will provide face-to-face presentations within participants' clinic settings.
- ▶ Post-Intervention Survey Administration & Data Analysis
  - ▶ Repeat survey with all respondents in PCP and buprenorphine prescriber cohorts.
  - ▶ Evaluate change in perceptions and behaviors between pre/post
  - ▶ Differences in perceptions and behavior across cohorts.

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

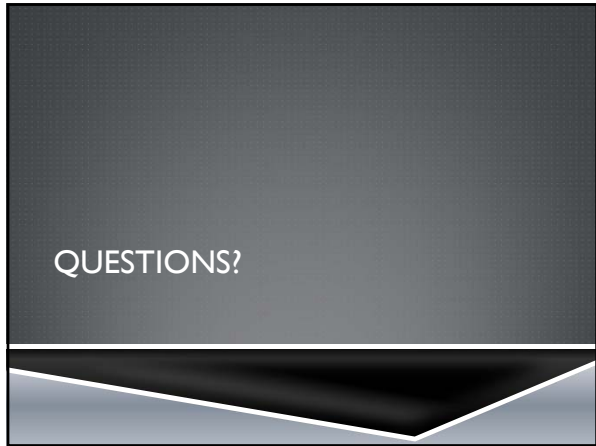
---

---

---

---

---



---

---

---

---

---

---

---

---