3-13-2015

Improving Tennessee Health Care Providers Understanding of Neonatal Abstinence Syndrome

Ivy Click
East Tennessee State University, click@etsu.edu

Nicholas E. Hagemeier
East Tennessee State University, hagemeier@etsu.edu

Improving Tennessee Health Care Providers Understanding of Neonatal Abstinence Syndrome

IMPROVING TENNESSEE HEALTH CARE PROVIDERS UNDERSTANDING OF NEONATAL ABSTINENCE SYNDROME

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

DISCLOSURES

- Drs. Click and Hagemeier **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

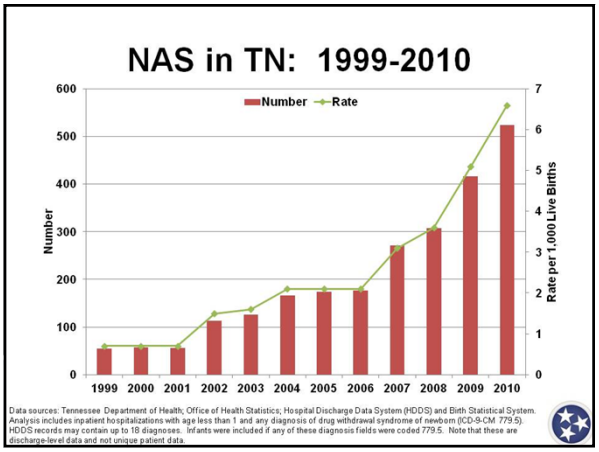
- Opioid withdrawal symptoms primarily related to:
  - **Central Nervous System**:
    - Seizures
    - Tremors
    - Hyperactivity
  - **Gastrointestinal System**:
    - Poor feeding
    - Vomiting
    - Poor weight gain
    - Diarrhea
    - Uncoordinated sucking

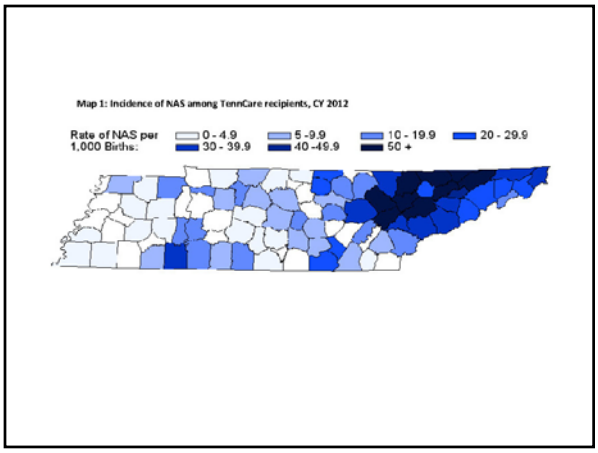
NAS SYMPTOMS

- 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.

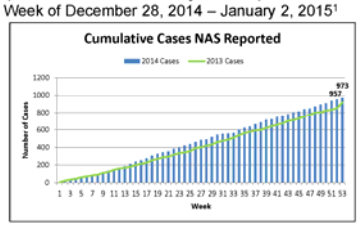




Drug Dependent Newborns (Neonatal Abstinence Syndrome)
Surveillance Summary For the Week of December 28, 2014 – January 2, 2015[1]

Reporting Summary (Year-to-date)
Cases Reported: 973
Male: 511
Female: 462
Unique Hospitals Reporting: 49

Maternal County of Residence (By Health Department Region)	# Cases	% Cases[2]
Davidson	55	5.7
East	264	27.1
Hamilton	12	1.2
Jackson/Madison	3	0.3
Knox	103	10.6
Mid-Cumberland	94	9.7
North East	140	14.4
Shelby	37	3.8
South Central	38	3.9
South East	20	2.1
Sullivan	76	7.8
Upper Cumberland	103	10.6
West	28	2.9
Total	**973**	**100.1**



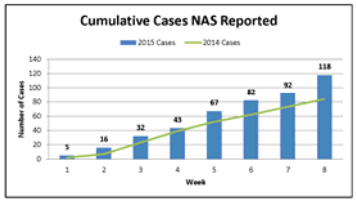
Source of Maternal Substance (if known)[2]	# Cases[3]	% Cases
Supervised replacement therapy	540	55.5
Supervised pain therapy	131	13.5
Therapy for psychiatric or neurological condition	68	7.0
Prescription substance obtained WITHOUT a prescription	370	38.0
Non-prescription substance	210	21.6
No known exposure but clinical signs consistent with NAS	3	0.3
No response	18	1.9

1. Summary reports are archived weekly at: http://health.tn.gov/MCH/NAS/NAS_Summary_Archive.shtml
2. Total percentage may not equal 100.0% due to rounding.
3. Multiple maternal substances may be reported, therefore the total number of cases in this table may not match the total number of cases reported.

Drug Dependent Newborns (Neonatal Abstinence Syndrome)
Surveillance Summary For the Week of February 22 – February 28, 2015[1]

Reporting Summary (Year-to-date)
Cases Reported: 118
Male: 69
Female: 49
Unique Hospitals Reporting: 23

Maternal County of Residence (By Health Department Region)	# Cases	% Cases[2]
Davidson	12	10.2
East	21	17.8
Hamilton	2	1.7
Jackson/Madison	0	0
Knox	10	8.5
Mid-Cumberland	14	11.9
North East	16	13.6
Shelby	6	5.1
South Central	5	4.2
South East	0	0
Sullivan	10	8.5
Upper Cumberland	20	17.0
West	2	1.7
Total	**118**	**100.2**



Source of Maternal Substance (if known)[2]	# Cases[3]	% Cases
Supervised replacement therapy	69	58.5
Supervised pain therapy	12	10.2
Therapy for psychiatric or neurological condition	5	4.2
Prescription substance obtained WITHOUT a prescription	40	33.9
Non-prescription substance	31	26.3
No known exposure but clinical signs consistent with NAS	2	1.7
No response	1	0.9

1. Summary reports are archived weekly at: http://health.tn.gov/MCH/NAS/NAS_Summary_Archive.shtml
2. Total percentage may not equal 100.0% due to rounding.
3. Multiple maternal substances may be reported, therefore the total number of cases in this table may not match the total number of cases reported.

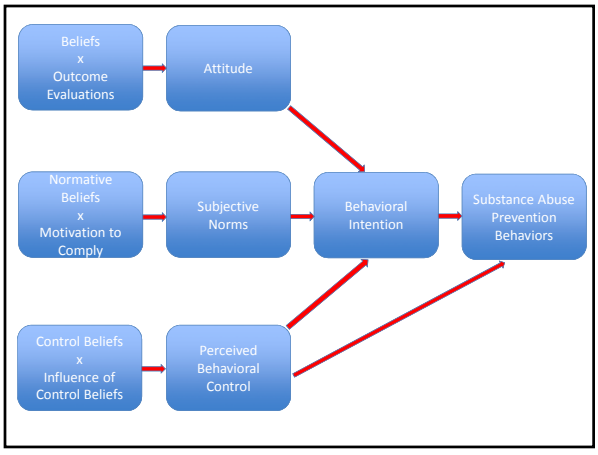
PREVENTION VS. TREATMENT

- Maternal substance use prevention
  - Appropriate use
  - Risk awareness
  - Contraception
- Maternal substance use treatment
  - 4.4% of pregnant women report past month illicit drug use (NSDUH, 2011)
  - Withdrawal during pregnancy is not recommended (ACOG, 2012)
  - Methadone had been gold standard, but recent evidence supports use of buprenorphine (Jones et al, NEJM 2010)
  - ~55% of NAS cases in TN report supervised replacement therapy as source of medication

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 of 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

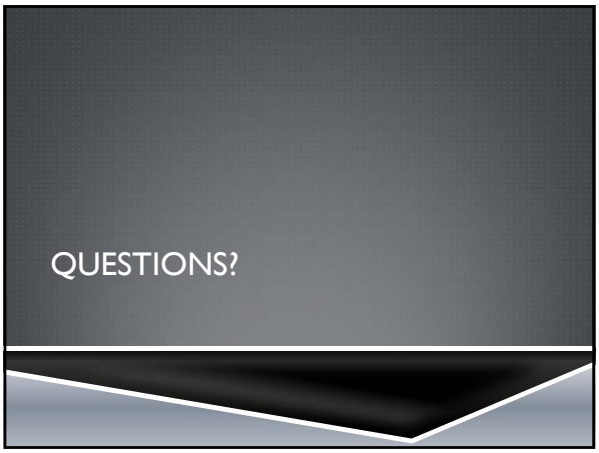
	Prescriber Category											
	PCPs			Bup. Prescribers			Pain Clinic Directors			Total		
	Mean	N	Std. Dev	Mean	N	Std. Dev	Mean	N	Std. Dev	Mean	N	Std. Dev
Discuss the risks of opioid use during pregnancy?	**5.80**	10	4.315	**8.50**	12	3.529	**9.06**	18	2.754	**8.08**	40	3.598
Discuss the patient's risk of physical dependence and addiction to opioids?	**8.90**	10	2.514	**9.58**	12	1.443	**9.71**	17	.686	**9.46**	39	1.553
Discuss the potential of physical dependence to and withdrawal from opioids in a newborn	**5.80**	10	4.315	**6.75**	12	4.808	**8.67**	18	3.144	**7.38**	40	4.081
Discuss the results of a controlled substance monitoring database query with the patient?	**5.50**	10	3.536	**6.82**	11	2.994	**9.38**	16	1.628	**7.57**	37	3.087
Discuss a birth control plan when opioids are initiated?	**5.70**	10	4.498	**8.08**	12	3.630	**7.61**	18	4.075	**7.28**	40	4.064
Recommend long-acting, reversible contraception (LARC) to patients on opioids?	**3.70**	10	4.244	**5.50**	12	4.079	**6.59**	16	4.022	**5.49**	38	4.157
Direct patients to community resources through which long-acting, reversible contraception (LARC) can be accessed?	**3.50**	10	4.601	**4.33**	12	3.725	**6.00**	17	4.637	**4.85**	39	4.386
Document the type of contraception used by the patient?	**6.73**	11	4.563	**8.36**	11	3.107	**8.33**	15	3.619	**7.86**	37	3.758
Discuss the patient's pregnancy status at each visit if on long-term opioids?	**5.27**	11	4.519	**7.92**	12	3.343	**8.33**	18	3.361	**7.39**	41	3.833
Discuss the expectation that hte patient inform you if she becomes, or plans to become, pregnant?	**6.80**	10	4.104	**9.83**	12	.577	**9.33**	18	1.782	**8.85**	40	2.617
Administer a pregnancy test prior to the initiation of opioid therapy?	**4.60**	10	4.402	**7.33**	12	3.750	**7.35**	17	4.372	**6.64**	39	4.264
Obtain a patient's personal history of drug abuse prior to initiating therapy?	**8.91**	11	2.212	**10.00**	12	.000	**9.83**	18	.707	**9.63**	41	1.280
Conduct a drug abuse risk assessment prior to prescribing an opioid medication?	**8.20**	10	2.741	**8.33**	12	2.462	**9.94**	18	.236	**9.03**	40	2.044
Discuss your concern with a patient regarding her drug-taking behaviors warranted?	**8.91**	11	1.973	**10.00**	12	.000	**9.56**	18	1.338	**9.51**	41	1.381
Verbally refer a patient for drug abuse treatment when warranted?	**8.64**	11	3.233	**9.09**	11	3.015	**9.29**	17	2.257	**9.05**	39	2.714

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, reersible 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.


QUESTIONS?