

Neonatal Abstinence Syndrome (NAS) Surveillance System

Update Hospital for Webinars
June 9, 2014

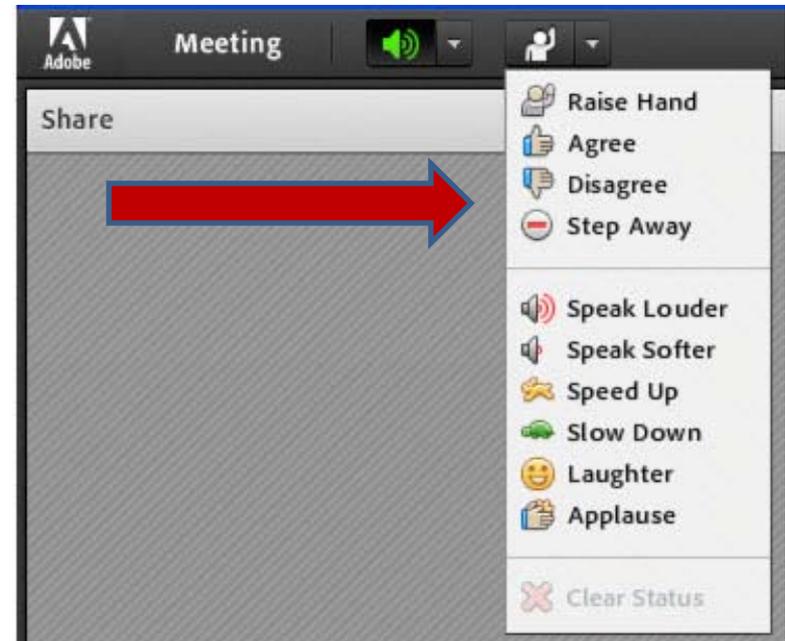
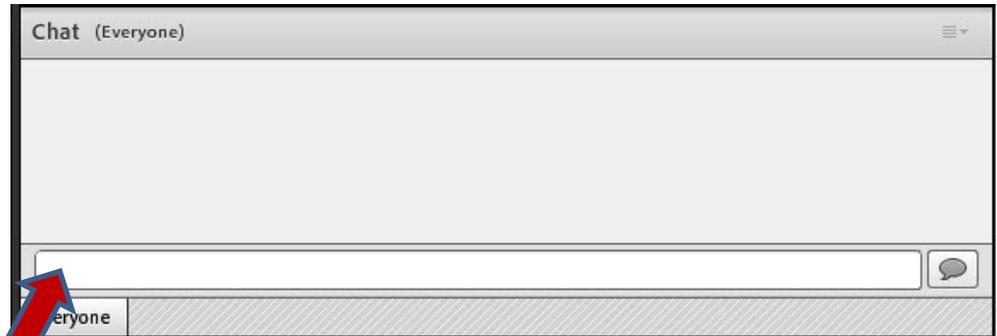




Quick Overview

How to Use Web Technology

- All lines will be muted during the presentation and unmuted at the end during the Q&A session. **Do not put your phone on hold!**
- Asking a Question
 - You can type your questions into the chat box (shown right)
 - Raise your hand. Using the icon at the top of your screen (example shown right)
- Your active participation will make sure today's presentation a success!



Overview of Today's Webinar

- **Introduction & Background**
 - *Michael Warren, MD MPH*
- **Highlights from the First Year of NAS Surveillance**
 - *Angela Miller, PhD, MSPH*
- **Results of Hospital Contact Survey**
 - *Julie Traylor, MPH, CLC*
- **Updates and Next Steps**
 - *Angela Miller and Julie Traylor*
- **Question & Answer Session**
 - *All*

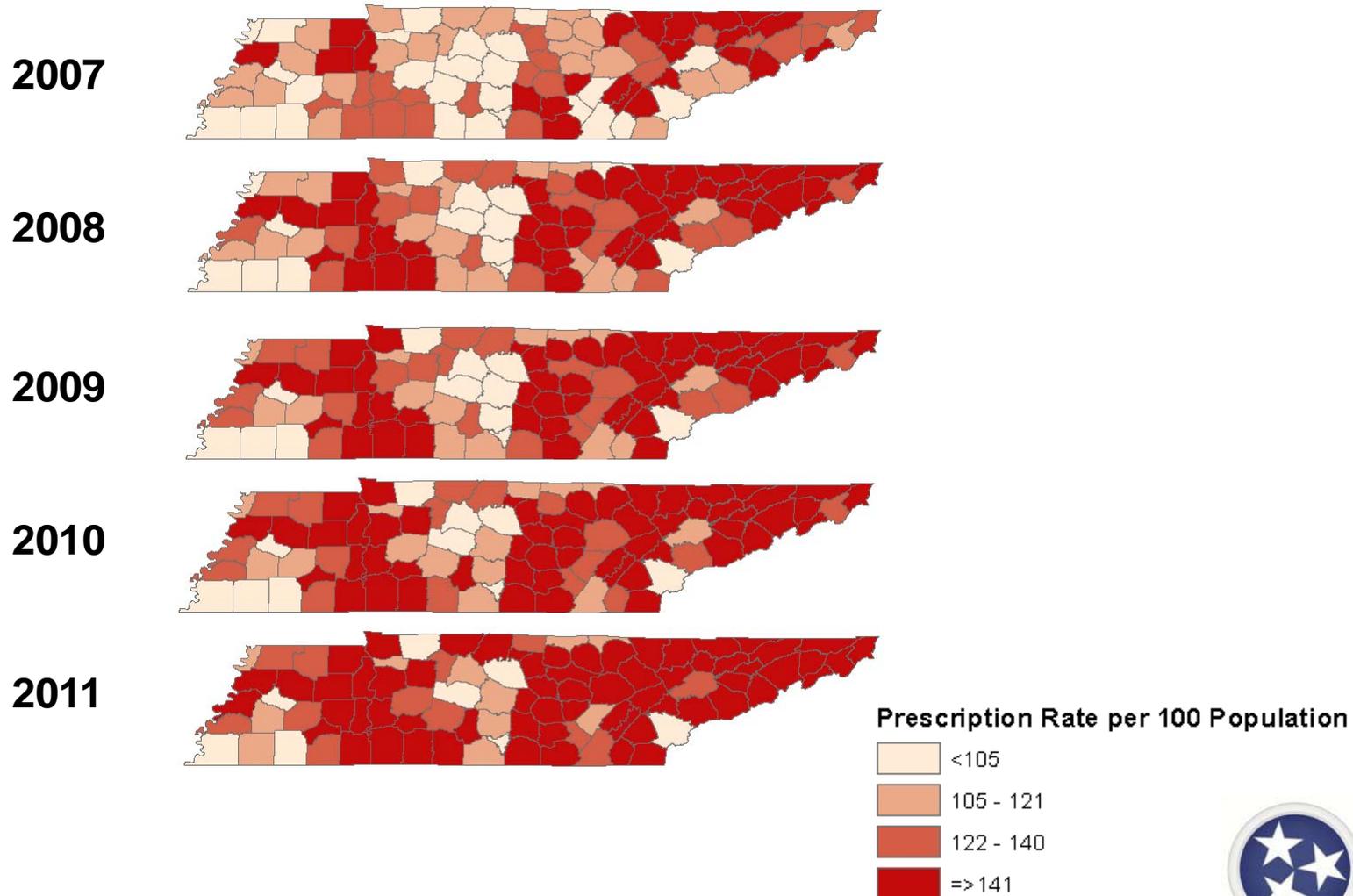


Introduction & Background

Michael Warren, MD MPH

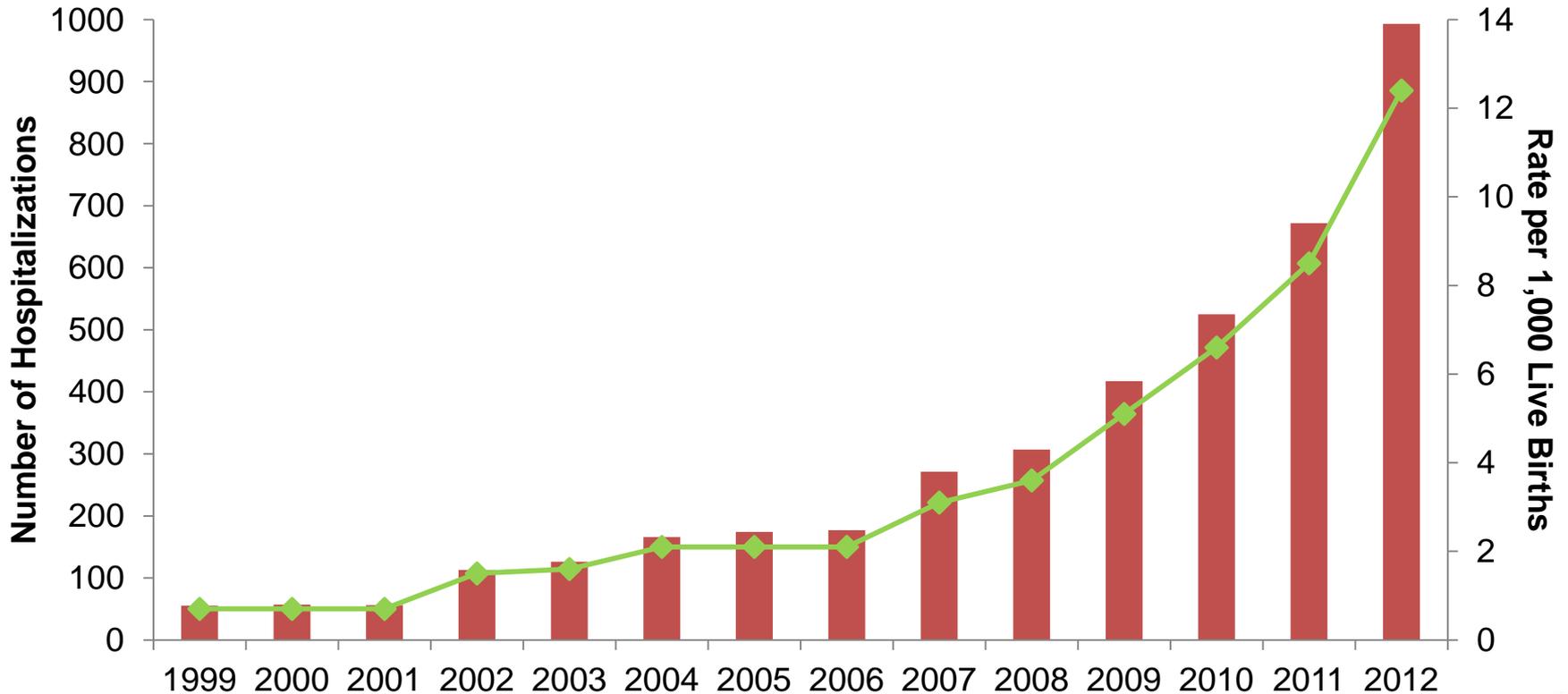


Opioid Prescription Rates by County—TN, 2007-2011



NAS Hospitalizations in TN: 1999-2012

■ Number ◆ Rate



Data sources: Tennessee Department of Health; Office of Health Statistics; Hospital Discharge Data System (HDDS) and Birth Statistical System. Analysis includes inpatient hospitalizations with age less than 1 and any diagnosis of drug withdrawal syndrome of newborn (ICD-9-CM 779.5). HDDS records may contain up to 18 diagnoses. Infants were included if any of these diagnosis fields were coded 779.5.



Public Health Surveillance for NAS

- TN became first state in the nation to make NAS a reportable condition in 2013
 - Smooth rollout
 - Model for other states
- Reporting for public health surveillance
 - Mandatory
 - No individual information shared with other agencies
 - Used to inform program and policy efforts



Using the NAS Surveillance Data

- Legislative testimony
- Media reports and presentations
- Pilot projects
 - SBIRT (Screening, Brief Intervention, and Referral to Treatment)
 - Families Free (wraparound/recovery support)
- NAS Research Projects
- Updates to Controlled Substance Monitoring Database (CSMD)
- Focusing mental health treatment resources



Recent NAS-Related Legislation

- Public Chapter 820 (2014)
 - Allows mother to be charged with misdemeanor if she *illegally* uses narcotic during pregnancy and *if baby is harmed as a result (ex. NAS)*
 - Does not require health care providers or hospitals to report to law enforcement
 - Does not change requirement to report NAS cases to the Tennessee Department of Health



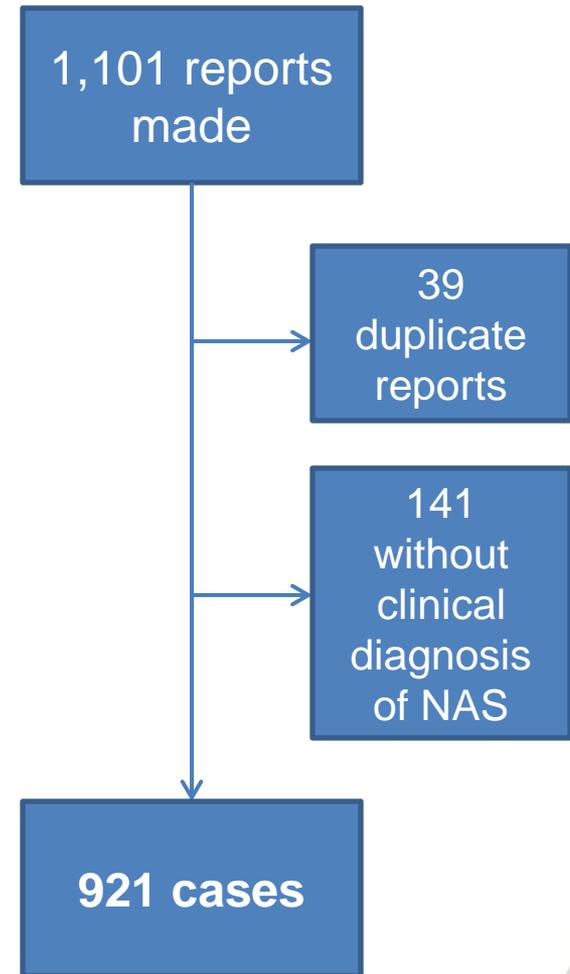
Highlights from the First Year of NAS Surveillance

Angela Miller, PhD, MSPH



Cases Reported

- 1101 reports made to portal
 - 39 Duplicate reports, excluded
 - 141 Without clinical diagnosis of NAS, excluded
- 921 cases born in 2013 included in report
 - 66 cases were reported in January 2014
 - Several more after Jan. 1, 2014
- Included cases were from 51 unique reporting hospitals



Reporting Hospital Characteristics

| | | N | % |
|---------------|-------------|-----|------|
| Hospital Type | Birth | 775 | 84.2 |
| | Transfer | 142 | 15.4 |
| | Outpatient | 2 | 0.2 |
| | Readmission | 2 | 0.2 |

- Average time from birth to reporting was 23.1 (± 34.5) days, with a range of 1 to 264 days.
- The median reporting time was 8.0 days.

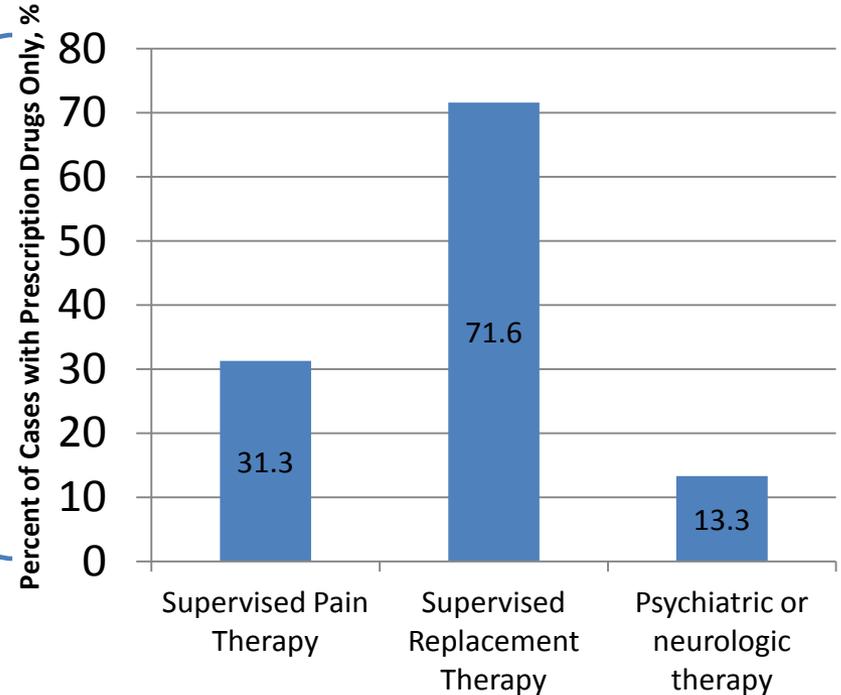


Source of Exposure

Mutually Exclusive Sources of Exposure

| Source | Cases | Percent, % |
|--------------------------------|-------|------------|
| Prescription Drugs Only | 384 | 41.7 |
| Illicit/Diverted Drugs Only | 306 | 33.2 |
| Prescription and Illicit Drugs | 199 | 21.6 |
| Unknown | 32 | 3.5 |

Class of Prescription Drug* Among Cases Exposed Only to Prescription Drugs*



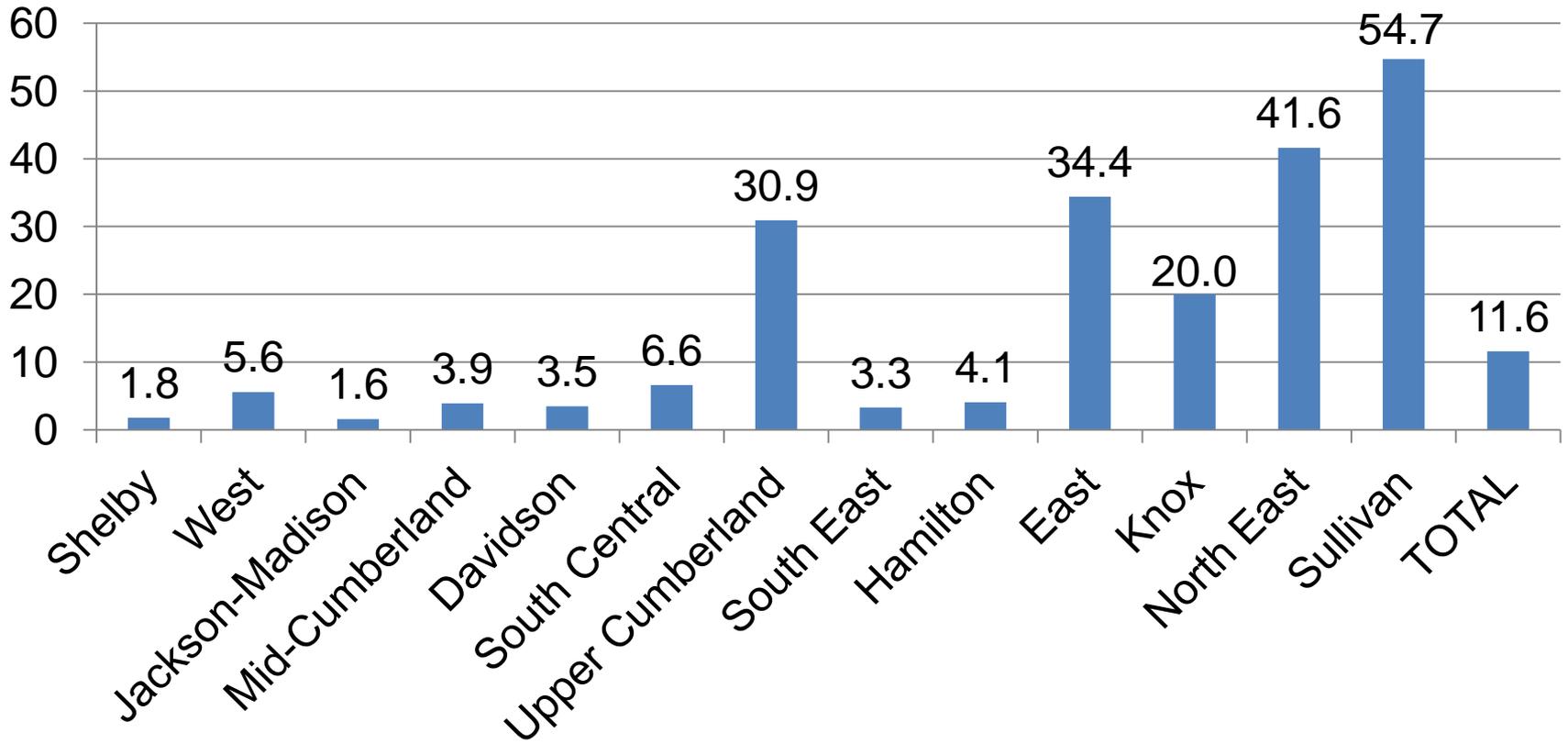
63.3% exposed to at least one prescription drug

**Percentages may not equal 100% as women may be exposed to drugs from more than one class*



Annual Rate, by Region

Rate per 1,000 live births



NAS Hospital Contact Survey

Julie Traylor, MPH, CLC



NAS Reporting Feedback Survey

- Part of the comprehensive surveillance system evaluation
- Thank you for completing the survey!
 - 36 respondents
 - 40% response rate
 - Overall the response was positive



Survey Highlights

- **Simplicity**
 - 96% found the portal to be user friendly
- **Completeness**
 - 89% felt that at least 90% of the cases diagnosed at their hospital were being reported
- **Accuracy**
 - 100% felt confident or very confident that the information reported was accurate

Survey Highlights

- Burden
 - 96% felt the time spend reporting was reasonable
 - 92% felt the benefits of real-time reporting outweighed the burden
- Privacy and Confidentiality
 - 100% felt patients' privacy and confidentiality was maintained

Survey Highlights

- Dissemination
 - 53% do not know where to find the weekly reports
 - 61% have not viewed the weekly reports
- Usefulness
 - 61% find the information to be useful to their practice
 - 53% do not know how the State uses the data

Actions Based on Your Feedback

- Pushing out weekly reports via email
- Describing where to find the reports online
- Explaining how the State uses this data

NAS Weekly Reports

Drug Dependent Newborns (Neonatal Abstinence Syndrome) Surveillance Summary For the Week of May 25 – May 31, 2014¹

Reporting Summary (Year-to-date)

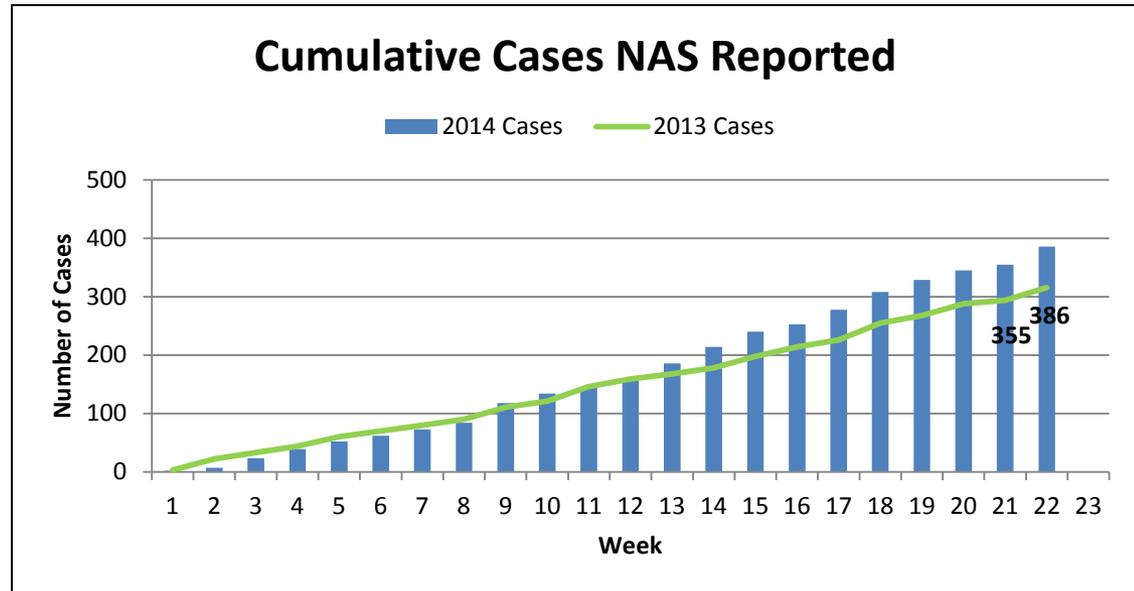
Cases Reported: 386

Male: 204

Female: 182

Unique Hospitals Reporting: 42

| Maternal County of Residence (By Health Department Region) | # Cases | % Cases ² |
|---|------------|----------------------|
| Davidson | 21 | 5.4 |
| East | 106 | 27.5 |
| Hamilton | 5 | 1.3 |
| Jackson/Madison | 1 | 0.3 |
| Knox | 47 | 12.2 |
| Mid-Cumberland | 38 | 9.8 |
| North East | 49 | 12.7 |
| Shelby | 17 | 4.4 |
| South Central | 12 | 3.1 |
| South East | 5 | 1.3 |
| Sullivan | 20 | 5.2 |
| Upper Cumberland | 51 | 13.2 |
| West | 14 | 3.6 |
| Total | 386 | 100.0% |



| Source of Maternal Substance (if known) ² | # Cases ³ | % Cases |
|--|----------------------|---------|
| Supervised replacement therapy | 200 | 51.8 |
| Supervised pain therapy | 60 | 15.5 |
| Therapy for psychiatric or neurological condition | 21 | 5.4 |
| Prescription substance obtained WITHOUT a prescription | 162 | 42.0 |
| Non-prescription substance | 92 | 23.8 |
| No known exposure but clinical signs consistent with NAS | 1 | 0.3 |
| No response | 6 | 1.6 |

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.

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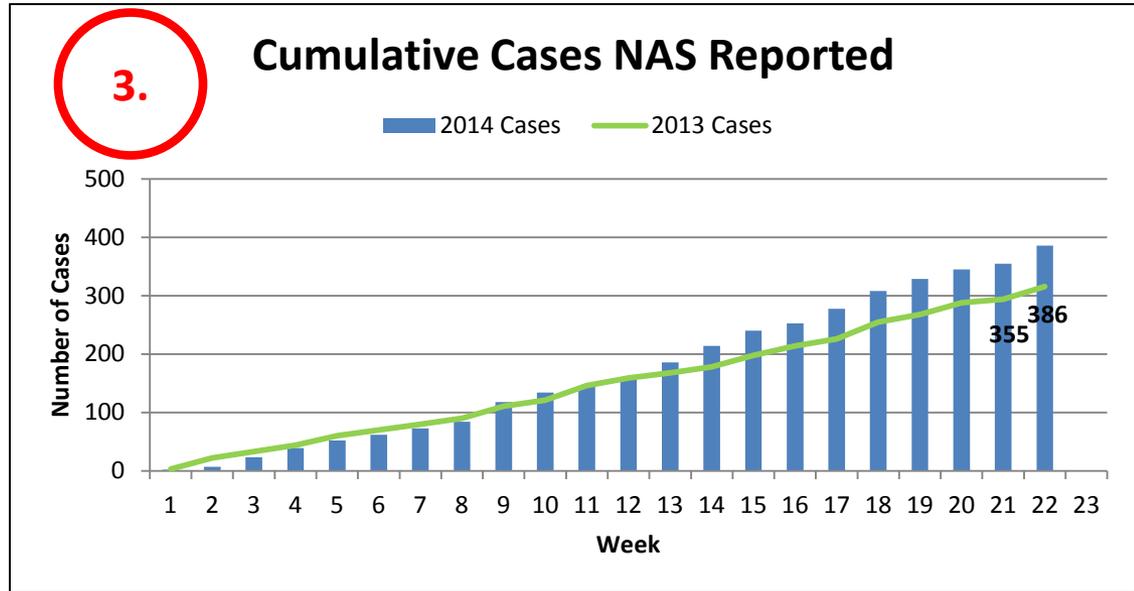
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NAS Monthly Report

Weekly vs Monthly NAS Reports

Weekly (1 page report)

- Distribution by sex
- Cumulative case count
- # Cases by Region
- Source of Exposure

Monthly (2 page report)

- Cumulative case count
- # Cases by Region
- Rate by Region
- Source of Exposure
 - All sources
 - Mutually exclusive categories of exposure
- Prevention Highlights and Opportunities

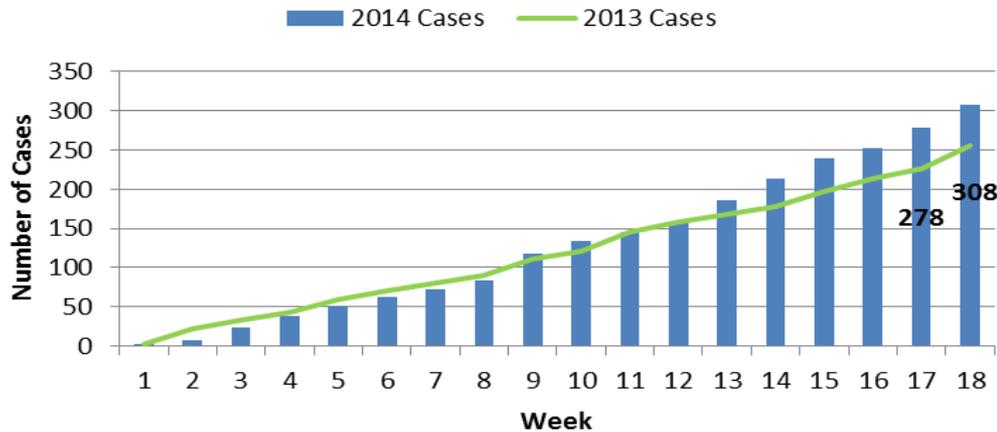


Drug Dependent Newborns (Neonatal Abstinence Syndrome)

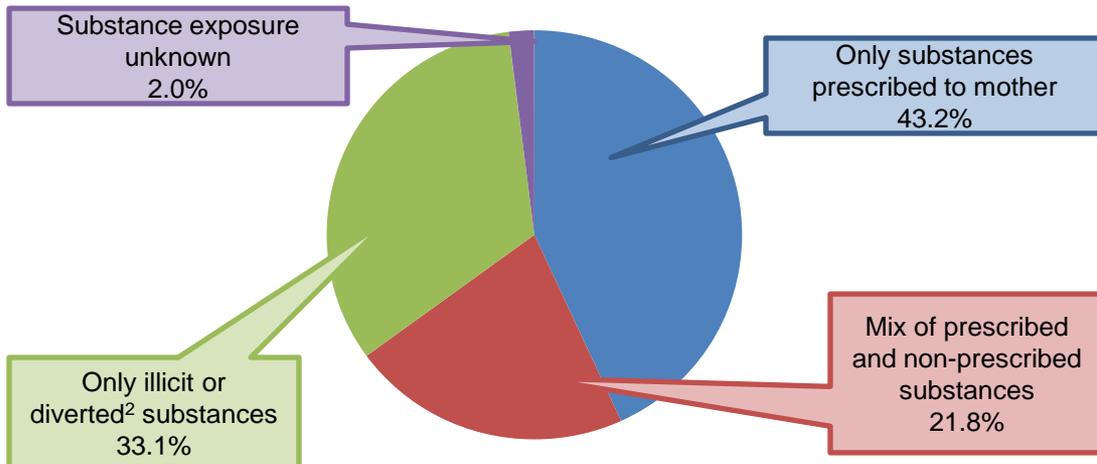
April Update (Data through 05/03/2014)



Cumulative NAS Cases Reported



Maternal Source of Exposure



Quick Facts: NAS in Tennessee

- **308 cases** of Neonatal Abstinence Syndrome (NAS) have been reported since January 1, 2014
- In the majority of NAS cases (**65.0%**), at least one of the substances causing NAS was **prescribed to the mother by a health care provider.**
- The highest rates of NAS in 2014 have occurred in Sullivan County and the East, Northeast, and Upper Cumberland Regions.

NAS Prevention Highlight

Effective October 1, 2013 under a new Tennessee law, prescriptions for opioid pain medicines and benzodiazepine medicines may not be dispensed in Tennessee in quantities exceeding a 30-day supply. The new limits apply to all dispensers of these medications, including pharmacies, dispensaries and mail-order programs located either in or out of Tennessee. "The law to limit the dispensing of some medications, which went into effect Oct. 1, is part of a statewide effort to reduce problems associated with misuse of these powerful drugs," said TDH Chief Medical Officer David Reagan, MD, PhD. Read more in this [release from the Tennessee Department of Health](#).

Additional Detail for Maternal Sources of Exposure

| Source of Maternal Substance (if known) ³ | # Cases ³ | % Cases |
|--|----------------------|---------|
| Supervised replacement therapy | 154 | 50.0 |
| Supervised pain therapy | 50 | 16.2 |
| Therapy for psychiatric or neurological condition | 19 | 6.2 |
| Prescription substance obtained WITHOUT a prescription | 130 | 42.2 |
| Non-prescription substance | 72 | 23.4 |
| No known exposure but clinical signs consistent with NAS | 0 | 0 |
| No response | 6 | 2.0 |

NAS Cases by County/Region

| Maternal County of Residence (By Health Department Region) | # Cases | Rate per 1,000 births |
|--|------------|-----------------------|
| Davidson | 18 | 5.6 |
| East | 79 | 31.5 |
| Hamilton | 3 | 2.2 |
| Jackson/Madison | 0 | 0 |
| Knox | 40 | 23.7 |
| Mid-Cumberland | 31 | 6.6 |
| North East | 40 | 36.9 |
| Shelby | 14 | 3.2 |
| South Central | 11 | 7.7 |
| South East | 5 | 4.2 |
| Sullivan | 18 | 35.0 |
| Upper Cumberland | 37 | 30.9 |
| West | 12 | 6.5 |
| Total | 308 | 12.1 |

NAS Prevention Opportunities

Women of Childbearing Age

- If you need help with alcohol or drug addiction, search for local treatment resources using the [SAMHSA Substance Abuse Treatment Facility Locator](#).
- If you are not ready to become pregnant, learn more about [effective ways to prevent an unintended pregnancy](#).

Health Care Providers

- Learn more about safe and effective practices for prescribing opioids. Take this [free online CME program](#) developed by the American College of Physicians and Pri-Med. CME credit is available, as well as a Safe Opioid Prescribing Certificate upon completion of 6 webcasts.

Everyone

- Dispose of unwanted or outdated medications at your nearest drop-off location. Find yours at: http://tn.gov/environment/sustainable-practices_unwanted-prescriptions.shtml

Notes

1. Individual weekly summary reports are archived at: http://health.tn.gov/MCH/NAS/NAS_Summary_Archive.shtml
2. "Illicit" means drugs which are illegal or prohibited. "Diverted" means using legal/prescribed drugs for illegal purposes. For example, using a prescription drug purchased from someone else or using a prescription drug that was prescribed for someone else.
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.

For questions or additional information, contact Dr. Michael Warren at michael.d.warren@tn.gov.

Updates & Next Steps

Angela Miller, PhD, MSPH
Julie Traylor, MPH, CLC



NAS Quarterly Reports

Hospital Reports

Neonatal Abstinence Syndrome Surveillance

Quarterly Report,

Hospital Name

January 1-March 31, 2014

Listing of Reported Cases

The report covers all cases reported in this time frame

Reporting Hospital=

Hospital Name

| Last 4 Digits of Chart Number | Date of birth | Note |
|--------------------------------------|----------------------|-------------|
| 6957 | 11/27/2013 | * |
| 4693 | 01/04/2014 | |
| 6010 | 01/07/2014 | |
| 4806 | 01/15/2014 | |
| 8795 | 01/21/2014 | |
| 472 | 02/06/2014 | |
| 9374 | 02/08/2014 | |
| 687 | 02/11/2014 | |



Neonatal Abstinence Syndrome Surveillance
Quarterly Report, [Hospital Name]
January 1-March 31, 2014
Listing of Reported Cases

Reporting Hospital: [Hospital Name]

Lists every case reported by this hospital in the time frame:

- Last 4 digits of chart number
- Date of birth

| Last 4 Digits of Chart Number | Date of birth | Note |
|-------------------------------|---------------|------|
| 6957 | 11/27/2013 | * |
| 4693 | 01/04/2014 | |
| 6010 | 01/07/2014 | |
| 4806 | 01/15/2014 | |
| 8795 | 01/21/2014 | |
| 472 | 02/06/2014 | |
| 9374 | 02/08/2014 | |
| 687 | 02/11/2014 | |

← If an asterisk, report was made more than 30 days after birth



Neonatal Abstinence Syndrome Surveillance
Quarterly Report, [Hospital Name]
January 1-March 31, 2014
Mean reporting time, days

The MEANS Procedure

| Analysis Variable : report_time | | | | |
|---------------------------------|----------|------|---------|---------|
| Reporting Hospital | N Obs | Mean | Minimum | Maximum |
| <i>Hospital Name</i> | 14 | 9.1 | 1.0 | 46.0 |



Neonatal Abstinence Syndrome Surveillance
Quarterly Report, [Hospital Name]
January 1-March 31, 2014
Mean reporting time, days

The MEANS Procedure

| Analysis Variable : report_time | | | | |
|---------------------------------|-------|------|---------|---------|
| Reporting Hospital | N Obs | Mean | Minimum | Maximum |
| [Hospital Name] | 14 | 9.1 | 1.0 | 16.0 |

N Obs = Number of cases reported
Report_time = Number of days between date of birth to report date
Mean = Average report_time
Minimum = Shortest report_time
Maximum = Longest report_time



Neonatal Abstinence Syndrome Surveillance
Quarterly Report, [Hospital Name]
January 1-March 31, 2014
Mean reporting time, days

The MEANS Procedure

| Analysis Variable : report_time | | | | |
|---------------------------------|----------|------|---------|---------|
| Reporting Hospital | N Obs | Mean | Minimum | Maximum |
| [Hospital Name] | 14 | 9.1 | 1.0 | 46.0 |

This hospital reported 14 cases in the time frame. On average, it took 9.1 days before a case was reported, and ranged from 1 day to 46 days.



Action Steps – Hospital Reports

- By statute, cases to be reported **within 30 days of diagnosis**
 - Limitation: Date of diagnosis not reported. Reporting time is estimated from date of birth
- If average report time, minimum and maximum **are all less than 30 days:**
 - (*From page 2 of hospital report*) No action needed
- If average report time is **less than 30 days** and maximum time is **greater than 30 days:**
 - The occasional case may be slipping through the cracks, no action other than staying on track of reporting
- If average report time is **greater than 30 days:**
 - Majority of cases at hospital are being reported after 30 days. Reporting process needs to be modified to be more timely
 - May want to check DOB. If entered incorrectly (i.e., wrong year), would yield increased reporting time



Additions to NAS Portal

NAS Births from Other States

- Currently, only TN resident births reported
- Interest from border states about their infants born in TN
 - NAS and drug use/abuse is multistate problem, crosses borders
- **Effective July 1, 2014:** Report ALL NAS cases to TDH; TDH will inform other states
 - One additional question in reporting portal
 - Expect <60 additional NAS cases per year, statewide



Additional States in NAS Portal

Neonatal Abstinence Syndrome--Reporting Portal - copy 05-20-2014 AMM

State Selection

7. Please select the state in which the mother resides. If she does not reside in one of the listed states, please select 'Other'.

-- Please Select --

- Please Select --
- Tennessee
- Alabama
- Arkansas
- Georgia
- Mississippi
- Missouri
- North Carolina
- Kentucky
- Virginia
- Other

Back Next

15%

Interest is only in TN and those states listed which share a border with TN.



Additional States in NAS Portal

Neonatal Abstinence Syndrome--Reporting Portal - copy 05-20-2014 AMM

Alabama Counties

8. Please select the ALABAMA county in which the mother resides. *

Baldwin

-- Please Select --

- Autauga
- Baldwin
- Barbour
- Bibb
- Blount
- Bullock
- Butler
- Calhoun
- Chambers
- Cherokee
- Chilton
- Choctaw
- Clarke
- Clay
- Cleburne
- Coffee
- Colbert
- Conecuh
- Coosa

Back

Next

25%

Once the appropriate state is selected, click Next, and you will be given the list of counties in that state.



Additional States in NAS Portal

- Special Cases: Virginia and Missouri
 - Counties plus “Independent Cities”
- Missouri: only one Independent City
 - Select St. Louis (City), St. Louis (County)
- Virginia:
 - 95 counties, 40 independent cities
 - May have same name, but no relationship
 - Ex.: Fairfax is a county and independent city
 - Dropdown menu separated by subheadings. Will need to scroll through list



For Further Assistance

- Contact:
 - Dr. Angela M. Miller
 - angela.m.miller@tn.gov



Links to Reports

Links to Reports

- **Main NAS Page**

<http://health.state.tn.us/MCH/NAS/>

- **Reporting Portal**

<http://www.surveygizmo.com/s3/1317225/TDH-NAS-REPORT>

- **Weekly Report**

http://health.state.tn.us/MCH/NAS/NAS_Summary_Archive.shtml

- **Monthly Report**

http://health.state.tn.us/MCH/NAS/NAS_Update_Archive.shtml

- **Yearly Report for 2013**

<http://health.state.tn.us/MCH/PDFs/NAS/NAS%20Annual%20Report%202013%20FINAL%20APPROVED%2004.15.2014%201048.pdf>

- **NAS and Maternal Substance Abuse in Tennessee, 1999-2011**

<http://health.state.tn.us/MCH/PDFs/NAS/NAS%20Annual%20Report%202013%20FINAL%20APPROVED%2004.15.2014%201048.pdf>

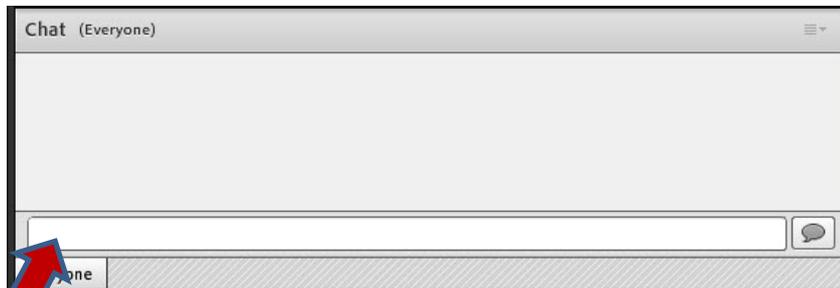


Question & Answer Session

- Phone lines are now unmuted
- Two ways to ask a question:

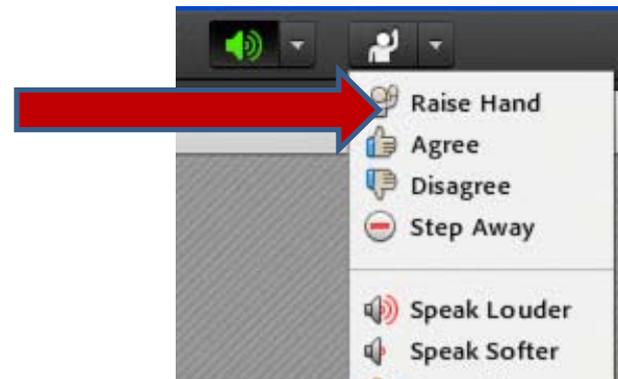
1

Type a question in the chat window and we will read it aloud and answer it.



2

Use the “Raise Hand” function and we will call on you to ask your question over the phone.



**Thank you for participating in
today's webinar!**

For More Information:

Visit <http://health.tn.gov/mch/nas>

