

Neonatal Abstinence Syndrome (NAS)

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Populations of Abuse

- Illegal drugs
- Prescription drugs
- Populations merge
 - People can illegally acquire prescription drugs
 - Start with prescription drugs and devolve to illegal drugs
 - Start with illegal drugs, and evolve to programs using prescription drugs
 - Methadone
 - Subutex/Suboxone (Buprenorphine)

What is NAS?

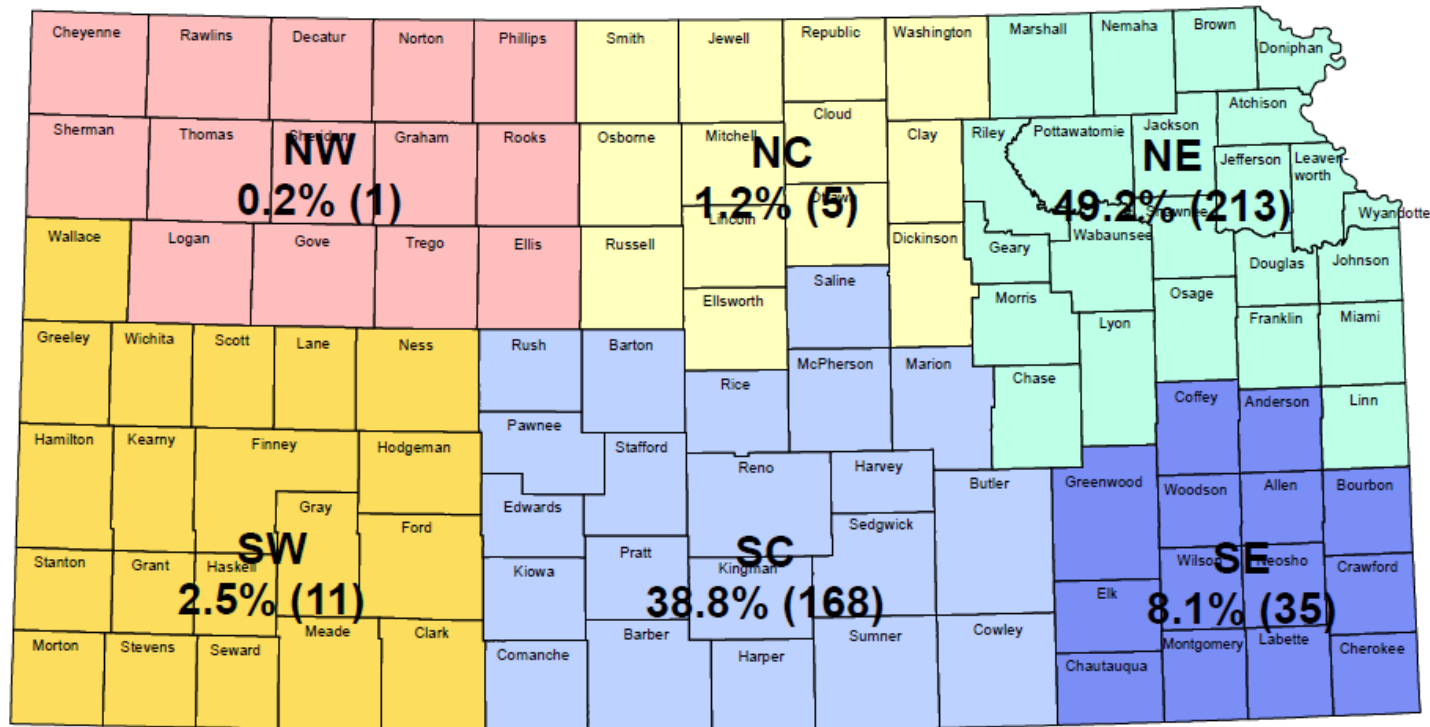
- Infants born to mothers taking some medications during pregnancy may develop symptoms after delivery upon cessation of exposure
- These symptoms (neurological, gastrointestinal, respiratory) are a complex known as Neonatal Abstinence Syndrome (NAS)
- Neonatal withdrawal symptoms have been noted to occur following prenatal exposure to several drug classes
 - Opioids
 - Benzodiazepines
 - Mood-stabilizing medications
 - Selective serotonin reuptake inhibitors
 - Nicotine

Is NAS a Real Problem?

- Over the last decade, there has been increasing public health, medical, and political attention paid to the parallel rise in 2 trends
 - 1) Increased prevalence of prescription opioid abuse
 - 2) Increased incidence of NAS
- Increase in the prevalence of NAS; varies by study and by state
 - 1.2 - 5.9 per 1000 hospital births; 2000-2012
 - Patick, SW et al. J Perinatol 2015; 35:350-355
 - 7 - 27 per 1000 NICU admissions; 2004-2013
 - Tolia VN et al. N Engl J Med 2015;372:2118-2126 addresses a study of 299 clinical sites (making up 33 states)
 - SMMC; 16 /1000 NICU admits, 2/1000 hospital admits; 80% up over 5 years
- National Average LOS for NAS requiring tx ~ 19 days

Distribution of Neonatal Abstinence Syndrome (NAS) Cases by Public Health Regions in Kansas, 2010 - 2014

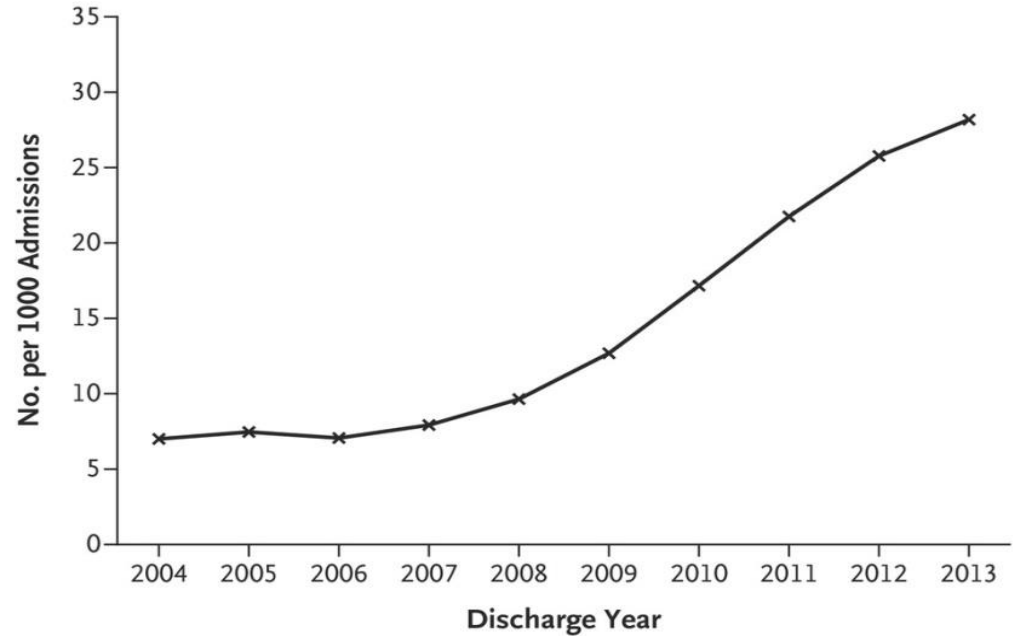
Total = 433 Cases



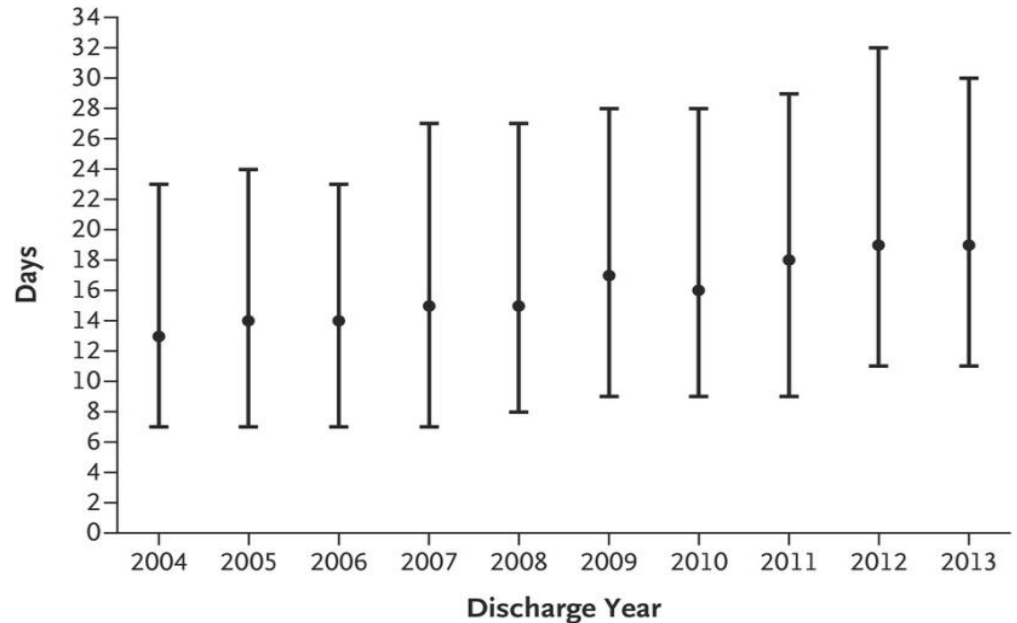
Source: Kansas Hospital Discharge Data, 2010-2014

Annualized Neonatal Intensive Care Unit (NICU) Admission Rates for Neonatal Abstinence Syndrome and Median Length of Stay, According to Year. I bars in Panel B represent interquartile ranges

A Admissions for the Neonatal Abstinence Syndrome



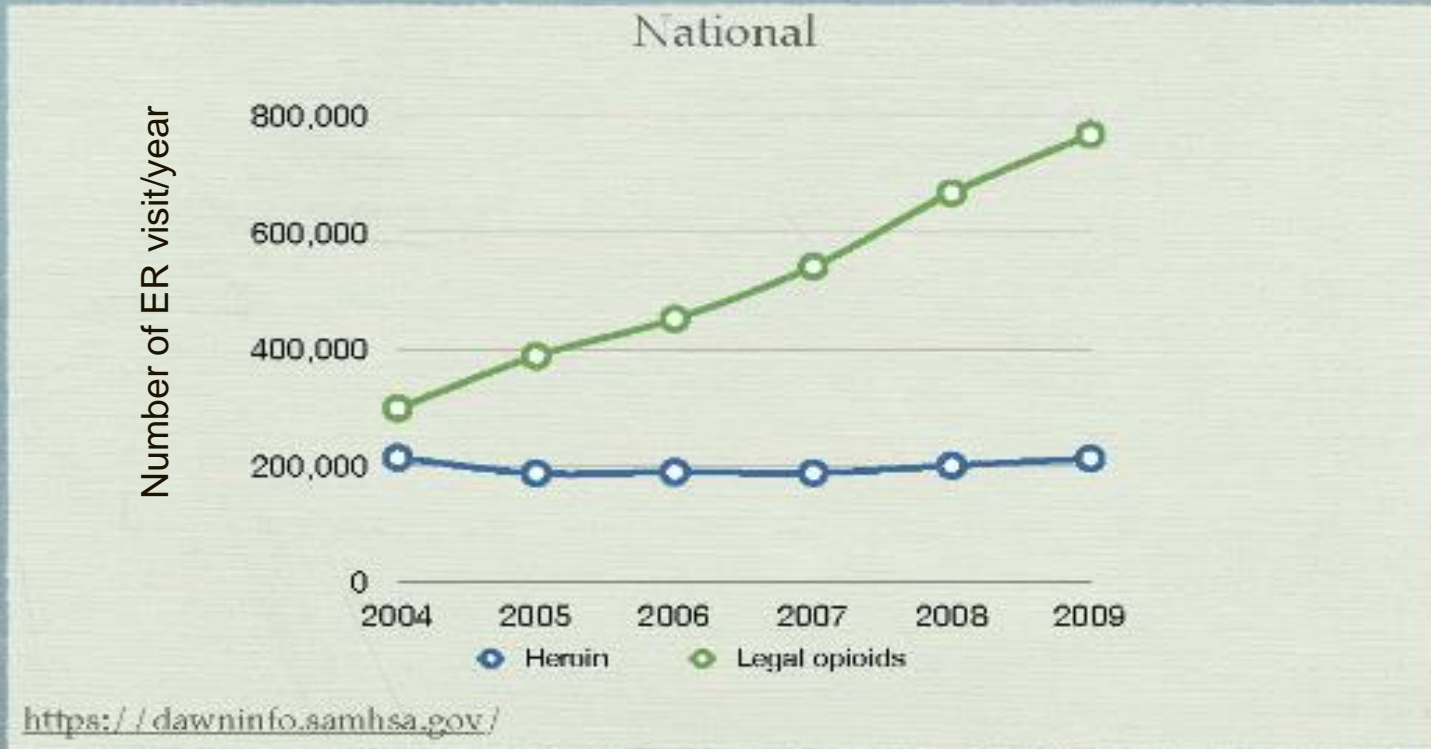
B Length of Stay



Abuse of Prescription Drugs

- Prescription drugs of abuse
 - Opioids
 - Stimulants
 - Central nervous system (CNS) depressants
- Factors contributing to severity of prescription drug crisis
 - Drastic increases in the number of prescriptions written
 - Greater social acceptability for using medications
 - Aggressive marketing by pharmaceutical companies

ED Visits, Legal vs Illegal Opioids



Monday, November 21, 2011

— legal vs illegal opioids, national

Gregory L. Kirk, MD Psychiatrist
addiction news, addiction opinion, and public health
RMPC

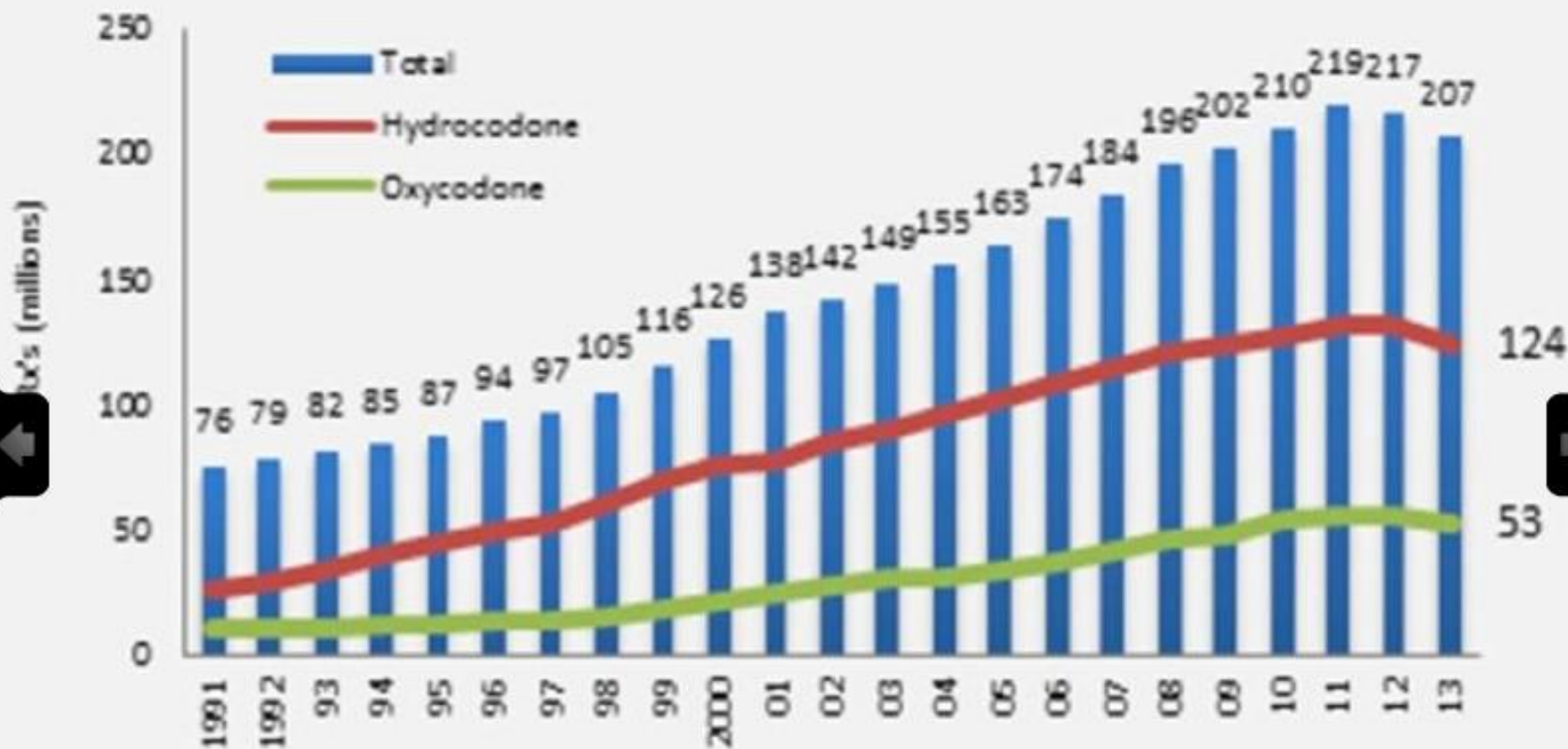


Figure 1 - Opioid Prescriptions Dispensed by US Retail Pharmacies IMS Health, Vector One: National, years 1991-1996, Data Extracted 2011. IMS Health, National Prescription Audit, years 1997-2013, Data Extracted 2014.

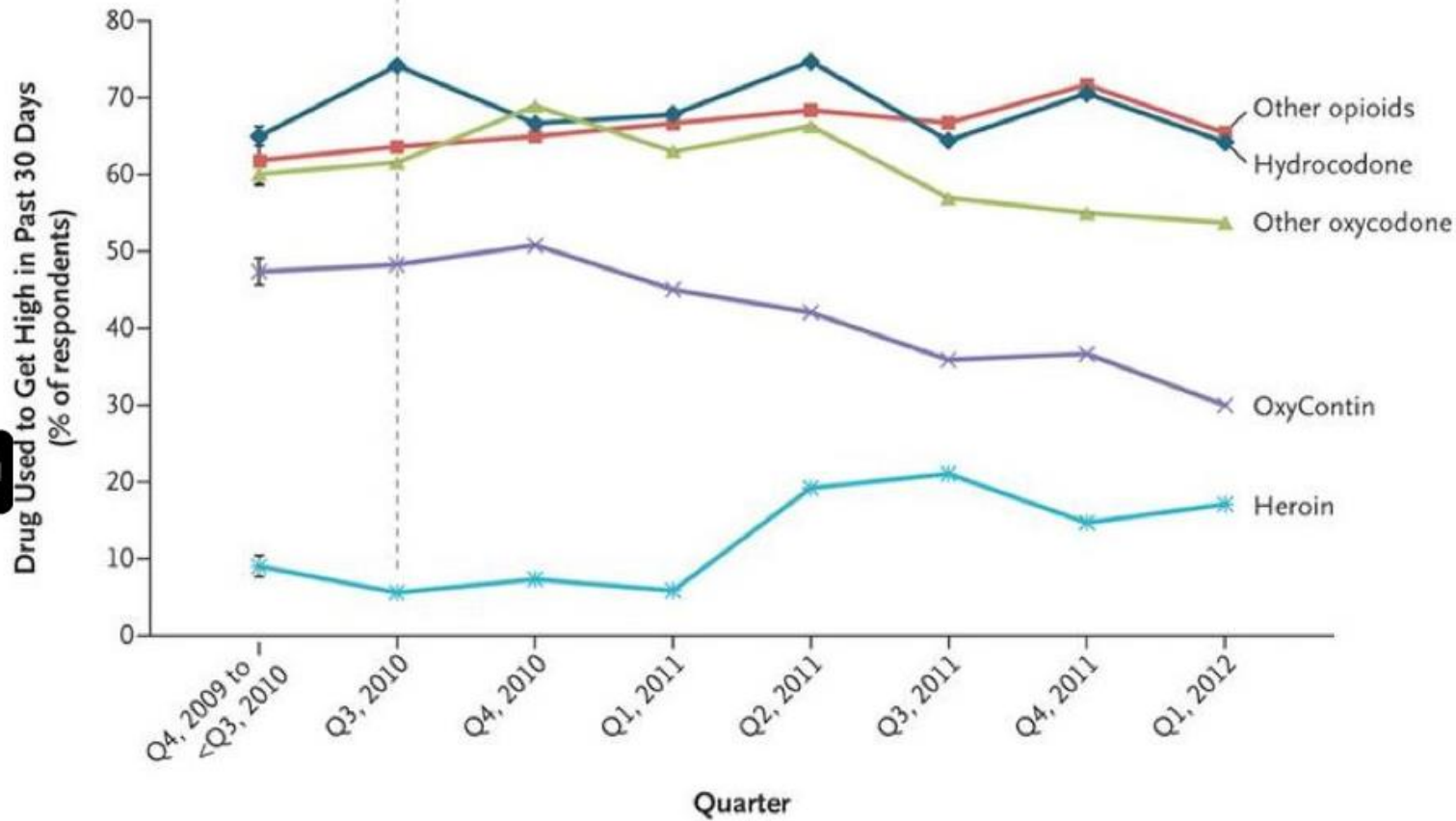


Figure 3 - Growing Evidence suggests that abusers of prescription opioids are shifting to heroin as prescription drugs become less available or harder to abuse. For example, a recent increase in heroin use accompanied a downward trend in OxyContin abuse following the...

America's Addiction to Opioids: Heroin and Prescription Drug Abuse

May 14, 2014; presented by Nora D. Volkow, M.D.; Senate Caucus on International Narcotics Control

- Relationship between Prescription Opioids & Heroin Abuse
- The recent trend of a switch from prescription opioids to heroin alerts us to the complex issues surrounding opioid addiction and the intrinsic difficulties in addressing it through any single measure
- Of particular concern has been the rise in new populations of heroin users, particularly young people.

NEONATAL ABSTINENCE SYNDROME

- 55 – 94% of opiate exposed infants will have NAS symptoms
- 30% avoid treatment with comfort measures
- 30 to 70% may require pharmacological tx
- Pharmacological tx goal: symptom relief
 - Weight gain
 - Avoid seizures

How to Support Babies

- There is wide variation in which babies exposed to medications in utero will have NAS. Many can be treated with “Comfort Measures” alone, others required treatment with medications.
- Key Factors in NAS Care
 - Consistent care
 - Comfort Care
 - Consistent Scoring
- Care giver education is essential, all members of care team

Supporting the Families Supports the Baby

- Family education during the pregnancy
- Collaboration between hospital care team and prenatal outpatient OB team prior to delivery is essential
- Family and provider education regarding non-narcotic treatment of pain before, during and after birth is crucial
- Support of mothers during pregnancy regarding drug rehab, or just a stable environment can be beneficial to both mom and baby, and may result in the best outcome for both

This Amazing Program via VON

This video was created as the first in a series of Virtual Video Visits by the Vermont Oxford Network (VON) for use in an internet-based quality improvement collaborative, iNICQ 2013, focused on neonatal abstinence syndrome.

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For more information, contact Pam Ford at pford@vtoxford.org or (802) 865-4814 x204.

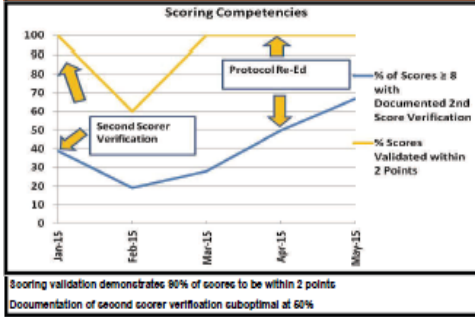
Key Factors in NAS Care

- NAS Protocol to Guide Consistent Care
- Nursing Education
- Family Education
- Comfort Care
- Consistent Timing of Scoring
- Scoring Consistency
- Consistency in Treatment
- **Education regarding non-narcotic methods of pain relief**
- **Family centered, trauma informed programming for women prior to giving birth, continuing in the post partum**

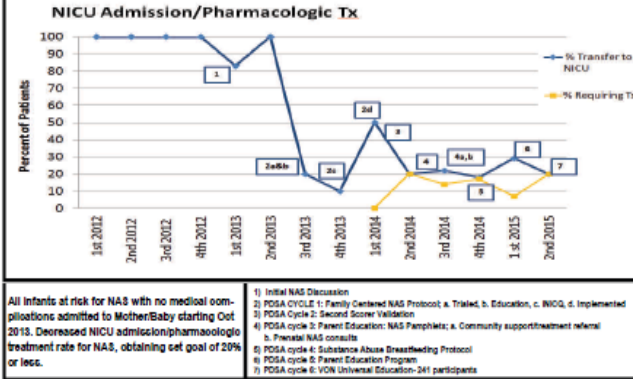
Aim

Develop an integrated process incorporating all key initiatives in the care of Neonatal Abstinence Syndrome (NAS) to decrease NICU admission and pharmacologic treatment from 25 to 20% or less in all infants at risk for NAS by December 2015; measured quarterly.

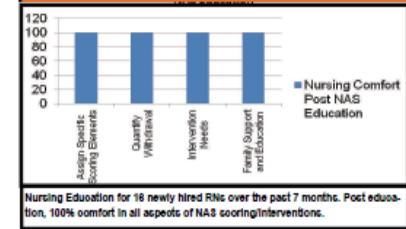
SCORING COMPETENCIES



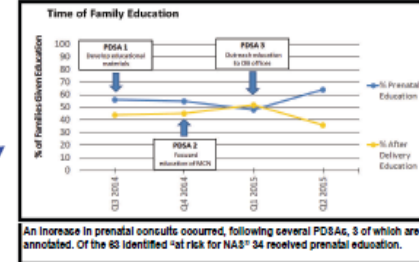
NAS FAMILY CENTERED PROTOCOL



NURSING EDUCATION

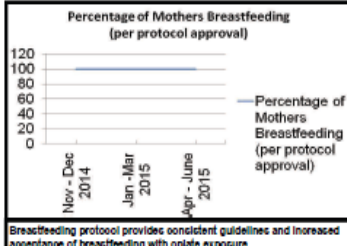


PARENT EDUCATION



NAS

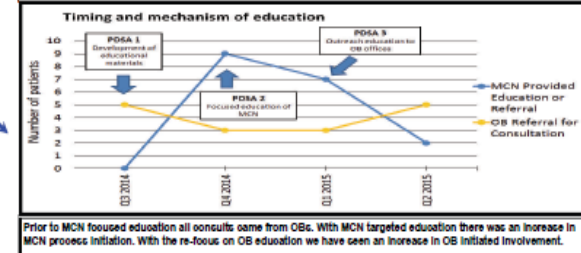
BREASTFEEDING POLICY



COMMUNITY SUPPORT

- NAS Taskforce: OB/Pediatrics/Neonatology
Community Resources:
- Health Departments: Olathe, Mission, Wyandotte
 - Follow-up Services for Infants
 - Kansas: TIES, Wyandotte County Connections, Parents as Teachers, Tiny-K Kansas Infant Toddler, CMH SCC
 - Missouri: TIES, First Steps, CMH SCC
 - Maternal Treatment:
 - Kansas: Heartland RADAC, Health Partnership Clinic Olathe/Paola
 - Missouri: First Call KC

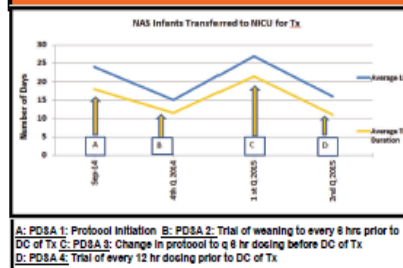
NAS PERINATAL CONSULTS



Methods

- The Plan Do Study Act (PDSA) standardized approach was utilized for implementation of key initiatives
- NICU multidisciplinary task force created to establish NAS Protocol, Nursing Education, competencies
- Maternal/Child NAS educational task force created to review data, develop education tools, implement projects
- PDSA cycle 1:** Family Centered NAS Protocol
 - Oct 2013
 - Systematic NAS Educational Program for all nurses
 - Oct 2013 - present
 - Scoring Competency and Consistency Monitoring
 - Dec 2013 - present
- PDSA cycle 2:** Second Scorer Validation
 - Jan 2014 - present
- PDSA cycle 3:** Parent Education: NAS Pamphlets
 - July 2014 - present
 - Community support/Drug treatment referral
 - Sept 2014 - present
 - Prenatal NAS consults
 - Sept 2014 - present
- PDSA cycle 4:** Substance Abuse Breastfeeding Protocol
 - Nov 2014
- PDSA cycle 5:** Parent Education: SSRI and Pain Management Pamphlets
 - April 2015 - present
 - Obstetrician (OB) Education/Referral Phone Line
 - May 2015 - present
- PDSA cycle 6:** VON Universal Education- 241 participants
 - May 2015 - present
- Quarterly monitoring of all initiatives per chart review allowed for assessment, change, and reimplementation
- NAS Nursing Education monitored post evaluation after each presentation

STANDARDIZED PHARMACOLOGICAL TREATMENT PROTOCOL

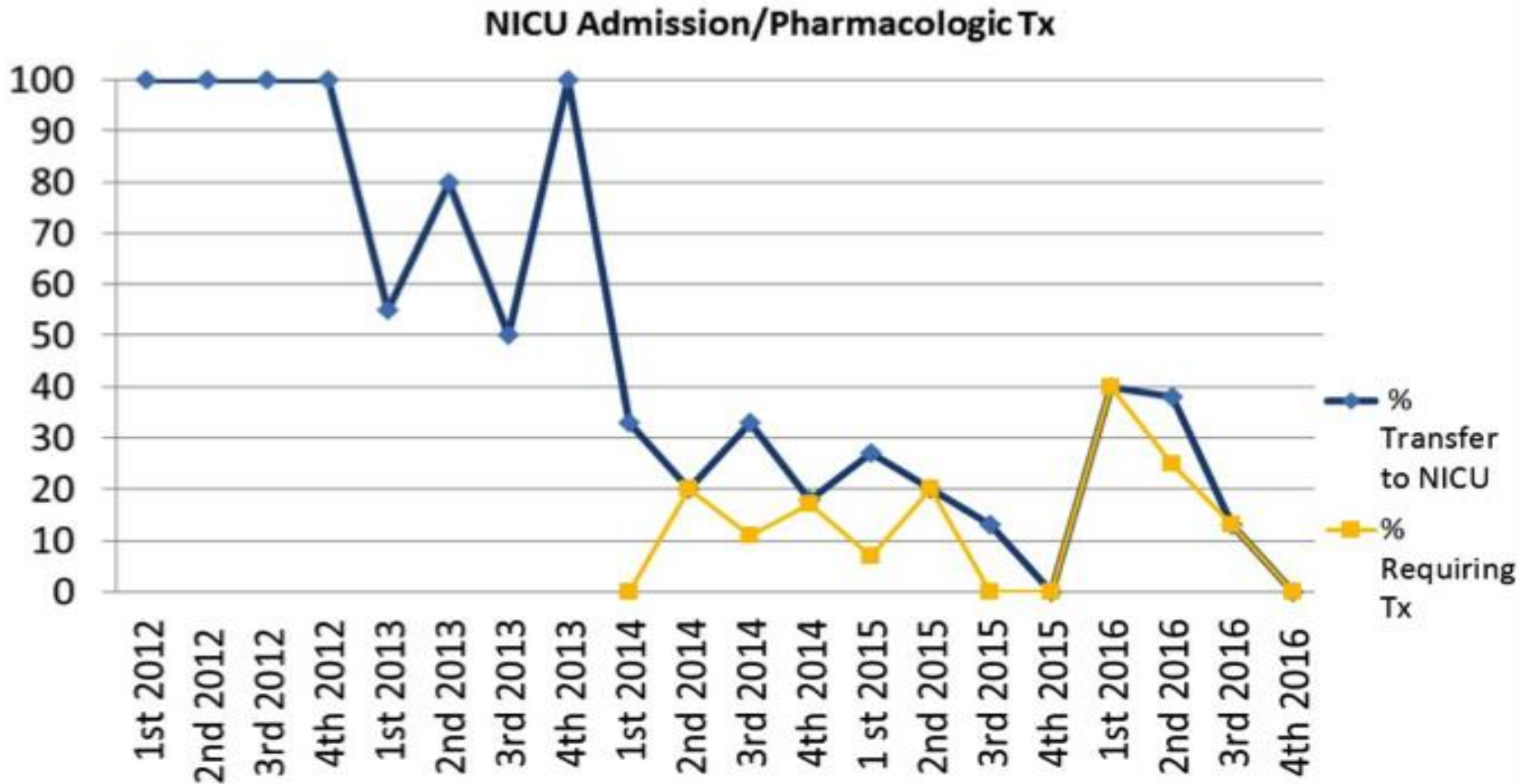


Discussion

- The first year of working on the NAS program this Center's focus was concentrated on individual initiatives with separate outcome measures
- The focus of the second year has been on integrating all of the NAS initiatives towards the ultimate goal of decreased NICU admissions and pharmacological treatment
- Through a multifaceted approach this center met its initial goal of decreased admission/pharmacologic treatment rates of 25% and is currently striving to consistently maintain the rate of 20% or less
- See other posters from this center for more information regarding medication protocol and family education

SMMC Data Showing the Benefits of the NAS Program

Decreased Treatment and NICU Admissions



Maternal and Infant Identification

- Infant Screening
 - Drug Screen Protocol
 - Based off Risk Factors vs “profiling”

Maternal Screening

Institute for Health and Recovery Integrated Screening Tool

Women's health can be affected by emotional problems, alcohol, tobacco, other drug use, and domestic violence. Women's health is also affected when those same problems are present in people close to us. By "alcohol," we mean beer, wine, wine coolers, or liquor.

Parents Did any of your parents have a problem with alcohol or other drug use?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Peers Do any of your friends have a problem with alcohol or other drug use?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Partner Does your partner have a problem with alcohol or other drug use?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Violence Are you feeling at all unsafe in any way in your relationship with your current partner?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Emotional Health Over the last few weeks, has worry, anxiety, depression, or sadness made it difficult for you to do your work, get along with people, or take care of things at home?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Past In the past, have you had difficulties in your life due to alcohol or other drugs, including prescription medications?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Present In the past month, have you drunk any alcohol or used other drugs? 1. How many days per month do you drink? _____ 2. How many drinks on any given day? _____ 3. How often did you have 4 or more drinks per day in the last month? _____	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Smoking Have you smoked any cigarettes in the past three months?	YES <input type="checkbox"/>	NO <input type="checkbox"/>

Review Risk	Review Domestic Violence Resources	Review Substance Use, Set Healthy Goals	Consider Mental Health Evaluation
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Advise for Brief Intervention

	Y	N	NA
Did you State your medical concerns?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did you Advise to abstain or reduce use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did you Check patient's reaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did you Refer for further assessment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

At Risk Drinking	
Non-Pregnant	Pregnant/ Planning Pregnancy
> 7 drinks / week	Any Use is Risky Drinking
> 3 drinks / day	

For the best health of mothers and babies, we strongly recommend that pregnant women, or those planning to become pregnant, do not use alcohol, illegal drugs or tobacco. Safe levels of usage have not been determined.

Date: _____
Language: _____
Race: _____
Ethnicity: _____

Maternal Screening

FIGURE 1: INTERVENTION POINTS TO PREVENT PRENATAL SUBSTANCE EXPOSURE AND AMELIORATE THE IMPACTS OF SUBSTANCE-EXPOSURE IN INFANCY

1 - PRECONCEPTION	<p>Promote awareness of effects of prenatal substance use by educating adolescent and adult women about the risks of unhealthy use. Encourage no use (including of tobacco and alcohol) when planning pregnancy and during pregnancy.</p> <p>Universal screening, brief intervention and referral to treatment during routine medical visits for all women of childbearing age.</p>
2 - DURING PREGNANCY	<p>Universally screen pregnant women for substance abuse and make referrals to treatment when appropriate.</p> <p>Provide enhanced prenatal services, including referrals to services in which coordination can occur with all relevant entities (hospitals, DCF, substance-abuse treatment providers, etc.) prior to birth.</p>
3 - AT BIRTH	<p>Use consistent and effective protocols for identification of substance-exposed newborns.</p> <p>Make referrals for developmental or child welfare services.</p>
4 - THROUGH INFANCY	<p>Provide developmental services.</p> <p>Ensure an environment safe from abuse and neglect.</p> <p>Respond to immediate needs of other family members, including treatment of the parent-child relationship.</p>
5 - THROUGH THE LIFE SPAN	<p>Identify and respond to needs of exposed child.</p> <p>Respond to needs of mother and other family members.</p> <p>Provide an appropriate education, screening, and support as exposed children approach adolescence and adulthood to prevent adoption of high-risk behaviors such as substance abuse.</p>

Maternal Screening

4 P's

Parents: Did any of your parents have a problem with alcohol or other drug use?

Partner: Does your partner have a problem with alcohol or drug use?

Past: In the past, have you had difficulties in your life because of alcohol or other drugs, including prescription medications?

Present: In the past month have you drunk any alcohol or used other drugs?

Scoring: Any "yes" should trigger further questions.

Ewing H. A practical guide to intervention in health and social services with pregnant and postpartum addicts and alcoholics: theoretical framework, brief screening tool, key interview questions, and strategies for referral to recovery resources. Martinez (CA): The Born Free Project, Contra Costa County Department of Health Services; 1990.

CRAFFT—Substance Abuse Screen for Adolescents and Young Adults

C Have you ever ridden in a CAR driven by someone (including yourself) who was high or had been using alcohol or drugs?

R Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?

A Do you ever use alcohol or drugs while you are by yourself or ALONE?

F Do you ever FORGET things you did while using alcohol or drugs?

F Do your FAMILY or friends ever tell you that you should cut down on your drinking or drug use?

T Have you ever gotten in TROUBLE while you were using alcohol or drugs?

Scoring: Two or more positive items indicate the need for further assessment.

Center for Adolescent Substance Abuse Research, Children's Hospital Boston. The CRAFFT screening interview. Boston (MA): CeASAR; 2009. Available at: http://www.ceasar.org/CRAFFT/pdf/CRAFFT_English.pdf. Retrieved February 10, 2012.

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Maternal Screening

- Other Screening Tools:
 - Substance Use Risk Profile-Pregnancy Scale
 - Prenatal Risk Overview
 - T-ACE
 - TWEAK
 - WIDUS
 - ❖ CDC funding 3 site, 5 screening tool trial



Neonatal Abstinence and Your Baby

An Overview of Care in the Hospital



WHAT TO EXPECT AFTER YOUR BABY IS BORN

When your baby is born, we make every attempt to keep you together but your baby may need extra attention. If your baby needs extra support in the first few minutes/ hours after delivery, he or she will be admitted to the NICU (Neonatal Intensive Care Unit) for monitoring. Otherwise, both you and your baby will be on the Mother & Baby unit for care.



WHAT IS WITHDRAWAL?

After birth, your baby is no longer being exposed to the medications/drugs in your blood stream. When this exposure suddenly stops and the effects of the medications/drugs wear off, your baby can have withdrawal.

Each baby will show withdrawal differently. It is difficult to know how quickly, how severely or how long your baby will be affected. Because of this, he or she may need to remain in the hospital for a week or more while being monitored or treated.

WHEN DOES WITHDRAWAL START?

Withdrawal will usually begin within two to three days after birth. However, some infants can show symptoms in a matter of hours while others may take a week or more. How and when a baby withdraws depends on many things, including:

- What type of drug was taken
- How often it was taken
- How long the drug was used during pregnancy.

WHAT ARE THE SYMPTOMS?

These are some common symptoms to watch for.

- Trembling or shaking; even when they are asleep
- Fussiness that is difficult to console
- Stuffy nose or a lot of sneezing
- Sensitive to noise and touch
- Diarrhea
- Excessive crying
- Diaper rash due to diarrhea
- Sweating
- Poor feeding
- Yawning
- Spitting up
- Fever
- Vigorous sucking but does not eat well
- Increased breathing rate

WHAT CAN I DO TO HELP MY BABY?

Your role in your baby's health care is very important. There are many things that you can do to help, including:

- Provide a quiet and calm environment – too many visitors, bright lights, loud noises and a lot of handling may be too much for your baby.
- Hold your baby swaddled in a blanket or skin-to-skin.
- Let your baby sleep, only waking when it is time to feed.
- Consider using a pacifier. Your baby may need a way to calm down.
- With the use of many medications, it is safe and even beneficial to breastfeed.
- With exposure to some drugs, breastfeeding may be harmful. Breastfeeding is not allowed if the baby will be exposed to cocaine, LSD, heroin or PCP due to severe risk to the baby. There is some concern with the use of marijuana. Recommendations continue to be updated about drugs/medications and the safety of breastfeeding. Be sure to discuss this with your baby's doctor.
- When you are ready to wean from breastfeeding, let your baby's doctor know. Withdrawal symptoms can become worse during this time.
- If you choose to formula feed, feeding smaller amounts more often may help.

 **Comfort Cares**



Comfort Care for Your Baby

Behavior	Calming Suggestions
Prolonged or high-pitched crying (crying that lasts a long time or is louder than normal)	<ul style="list-style-type: none"> • Slow, rhythmic swaying from head to toe while swaddled and held in the C position** • Vertical rocking: keep the C position and hold the baby upright against your chest, turned away from you. Slowly and rhythmically rock the baby up and down • Decrease loud noises, bright lights and any excessive handling ❖ The "C Position": Hold your baby firmly; curl head and legs into a C. Swaddle in the position**
Sleeplessness (problems falling asleep or staying asleep)	<ul style="list-style-type: none"> • Avoid loud noises, bright lights, patting or touching your baby too much • Limit visitors to allow baby to rest/sleep • Play soft, gentle music • Gently rock or sway your baby while humming or singing • Change your baby's diaper if dirty • Check for and treat diaper rash
Excessive sucking of fists	<ul style="list-style-type: none"> • Feed your baby when hungry and until content • Offer a pacifier or finger if your baby wants to suck but isn't hungry • Cover hands with sleeves if skin becomes reddened
Difficult or poor feeding	<ul style="list-style-type: none"> • Feed your baby when hungry and until content • If your baby is having problems with spitting up, feed smaller amounts more often • Feed in a calm and quiet area • Allow your baby to rest as much as possible between feedings
Sneezing/stuffy nose	<ul style="list-style-type: none"> • Keep baby's nose and mouth clean with a damp washcloth
Breathing troubles	<ul style="list-style-type: none"> • Avoid overdressing or wrapping your baby too tight • Always put your baby to sleep on his/her back • Call your baby's doctor if baby is having trouble breathing
Spitting up	<ul style="list-style-type: none"> • Burp your baby each time he/she has a long pause sucking during a feeding • Hold your baby upright for about 15-20 minutes after a feeding
Hyperactivity (inability to sleep or be calm)	<ul style="list-style-type: none"> • Use a soft, thin blanket or swaddle sack to wrap your baby • Swaddle and carry your baby, talk/sing soft, and gently sway • Slow, rhythmic swaying from head to toe while swaddled and held in the C position** • Offer a pacifier
Trembling/jitteriness	<ul style="list-style-type: none"> • Keep your baby swaddled in a light blanket or swaddle sack • Avoid overstimulation between care times • Keep your baby in a warm quiet room
Fever	<ul style="list-style-type: none"> • Do not overdress or over bundle you baby • Report a temperature greater than 100.4 degrees Fahrenheit, rectally, to your baby's doctor

****Your nurse will provide demonstration of cares.**

MEDICATIONS DURING PREGNANCY

When you are pregnant, the medications that you take get into your blood stream. They can be passed to your baby through the placenta, and the effects of the medication are felt by the baby. It is important to tell your doctor about any and all medications that you are taking during your pregnancy. This helps us to provide your baby with the best care possible.

This includes:

- Any prescription medications
- Over-the-counter medications
- Herbal supplements
- Alcohol
- Cigarettes
- Street drugs
- Marijuana

Please **DO NOT** change any medicine you are taking without talking to your doctor first. It is important that you stay healthy and take time to discuss the benefits of the medicine for you, as well as the risks there might be to your baby.

WHAT TO EXPECT AFTER YOUR BABY IS BORN

When your baby is born, we will try to keep you together on our Mother/Baby unit. However, sometimes a baby may need extra support after birth. If your baby needs extra attention, he/she will be admitted to the Neonatal Intensive Care Unit (NICU) to be observed.

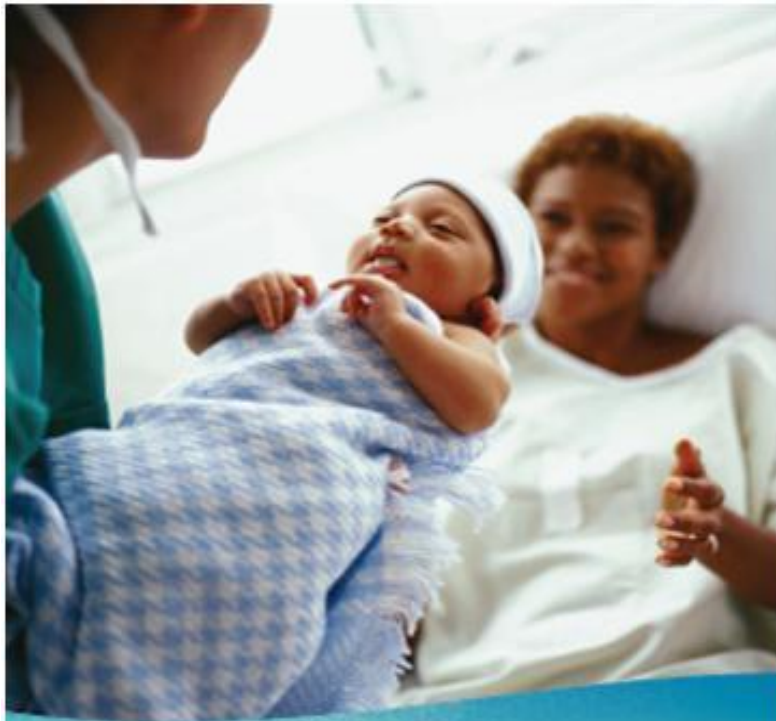


System	Sign	Score																
CNS	No CNS disturbance	0																
	Excessive high pitched cry	2																
	Continuous high pitched cry	3																
	Sleeps less than 1hr after feeding	3																
	Sleeps less than 2 hr after feeding	2																
	Sleeps less than 3 hours after feeding	1																
	Hyperactive Moro reflex	2																
	Markedly hyperactive Moro reflex	3																
	Mild tremors disturbed	1																
	Moderate-severe tremors disturbed	2																
	Mild tremors undisturbed	3																
	Moderate-severe tremors undisturbed	4																
	Increased muscle tone	2																
	Excoriation	1																
Myoclonic jerks	3																	
Generalized convulsions	5																	
Metabolic/ Vasomotor /Resp	No Metabolic/Vasomotor/Resp. disturbance	0																
	Sweating	1																
	Fever less than 101° F (99-100.8, 37.2-38.2 C)	1																
	Fever greater than 101° F (38.4C)	2																
	Frequent yawning (3-4x/exam period)	1																
	Mottling	1																
	Nasal stuffiness	1																
	Sneezing (3-4x/exam period)	1																
	Nasal flaring	2																
	RR > 60/min	1																
RR > 60/min with retractions	2																	
GI Disturbance	No GI disturbance	0																
	Excessive sucking	1																
	Poor feeding	2																
	Regurgitation	2																
	Projectile vomiting	3																
	Loose stools	2																
Watery stools	3																	

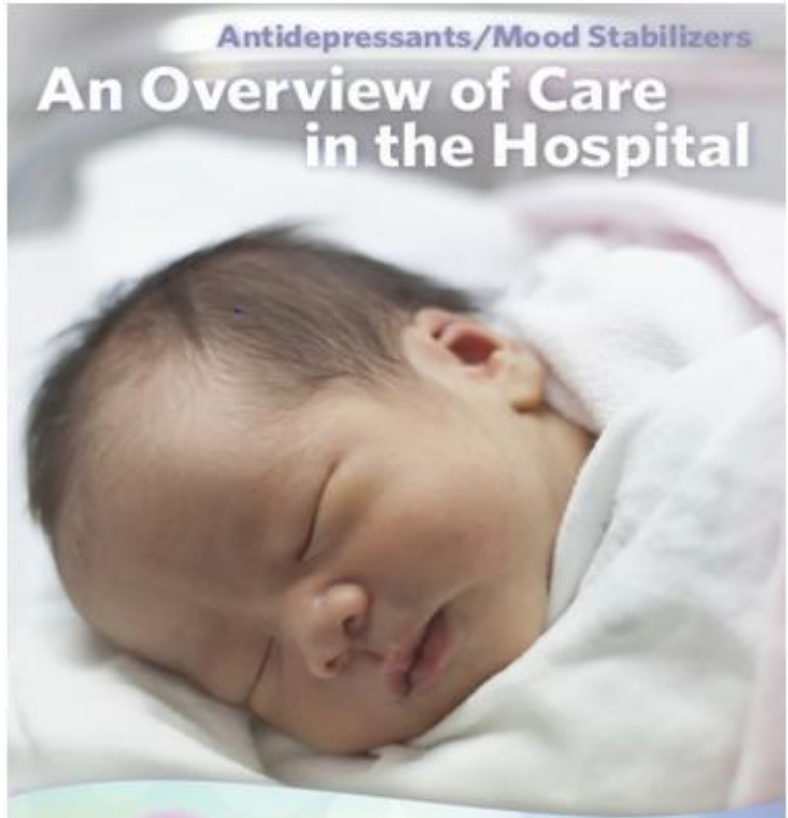
Adapted from L.P. Finnegan (1986)

Explanation of Signs

- Excoriation – score when presents, rescore only if it increases or appears in another area
- Poor Feeding – score if slow to feed or baby takes inadequate amounts
- Regurgitation – score if it occurs more frequently than usual in a newborn



Treatment of Pain with Pregnancy and Post-Partum



Antidepressants/Mood Stabilizers

An Overview of Care in the Hospital



Being pregnant and having a new baby can be a wonderful experience, but it is not always painless. Women may experience pain in different ways, ranging from mild discomfort to severe pain. While there are many medications to treat pain, the goal, especially when you are pregnant, is to keep you and your baby's exposure to medications and drugs as low as possible.

This booklet will provide you with tools to improve your comfort during and after pregnancy. Our goal is to decrease your need for medications and drugs that could affect the health of you and your baby.

Sciatica

Sciatica happens when a large nerve, which runs through the joint between the tail bone and the hip bone, is compressed. This can cause shooting pain down the leg and can happen on either side of your body. Sometimes, it may cause weakness and can get worse as pregnancy progresses. The following comfort measures may help you manage the pain:

- Apply ice to the joint in the low back, located at the dimples on either side of the spine.
- Try over-the-counter medications such as Acetaminophen (Tylenol) or Ibuprofen (**Advil/Motrin - only before 32 weeks and under your provider's orders**).
- Ask your provider for instructions for stretches called pelvic tilt exercises.
- To help prevent sciatica, use good posture and lower back support while sitting.
- Wear shoes with good arch support and try not to carry heavy bags on the same shoulder all of the time.



- Practice exercises that strengthen your core or stomach muscles, including yoga, swimming and pelvic tilt exercises.

If the pain does not resolve, seek help from your provider. Physical therapy, a Lidocaine patch or a TENS unit, a nerve stimulator, can be prescribed. You may also ask your provider if chiropractic care is right for you.

Pubic Bone Pain

This discomfort may range from a nagging ache to a sharp pain. It is located in the center of the pubic bone and may be worse when walking or lifting.

- Sleeping with a pillow between the legs can provide comfort.
- Ice can help for a short time along with rest.
- Acetaminophen (Tylenol)
- Ibuprofen (**Advil/ Motrin - only before 32 weeks and under your provider's orders**)

If the pain lasts more than 48 hours, talk to your provider about seeing a physical therapist.

Edema

Edema is the swelling of the skin of the legs and feet, which is common in late pregnancy. It can be worse if standing or sitting for long periods, eating salty foods or in the heat of summer.


- Rest on your side, on a bed or couch for 40 minutes, after work and before dinner.
- Avoid salty foods and drinks, such as Gatorade, unless your provider recommends them.
- Swimming, water aerobics or relaxing in a swimming pool may also help. Get in the water up to your neck for 30 minutes. This can help re-direct blood flow to your kidneys, increasing urine production and reducing swelling.

Note: Swelling of your face around your eyes and nose is **not** a normal pregnancy symptom. This may be a sign of preeclampsia or high blood pressure. Please call your provider's office if you notice swelling of your face.

Headache

- **Migraine:** If you have migraine headaches with your periods, they may become worse at the beginning of the pregnancy. This is when nausea and fatigue are common. They usually improve in the second trimester. If migraines continue or get worse in middle or late in the pregnancy, you may try:
 - Acetaminophen (Tylenol) along with a caffeine drink such as soda, tea or coffee.
 - Ibuprofen (**Advil/Motrin - only before 32 weeks and under your provider's orders**)
 - Resting in a dark room.

If these tips do not help, ask your provider about a non-narcotic medicine called Esgic. This medication, if taken early in a migraine, can help.



Mothers' Voices: Lessons Learned from Project NESST

Erica Asselin, Mentoring Mom

Amy Sommer, Clinical Coordinator

Center for Early Relationship Support
Jewish Family and Children's Service of
Greater Boston
October 31, 2014



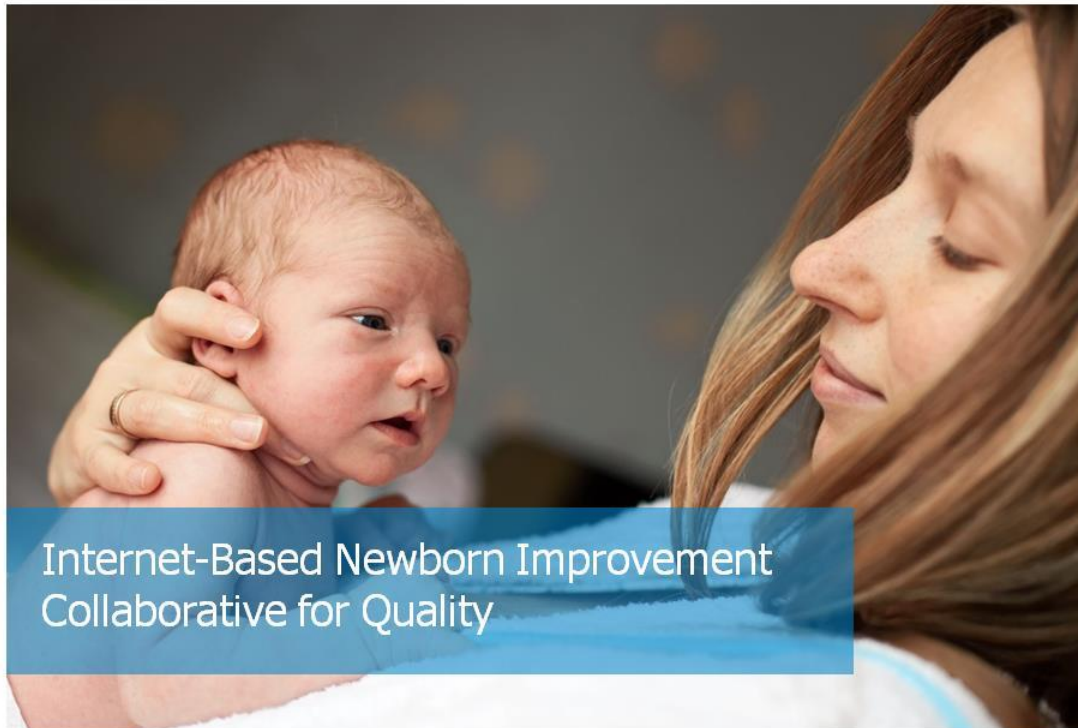
Imani's Story...

...

How the system was experienced
Wishes for care



A Universal Training Solution Aimed at Improving Outcomes for Infants and Families Affected by NAS



Internet-Based Newborn Improvement Collaborative for Quality

Vermont Oxford Network Launched in 1989

VISION

To build a worldwide community of practice dedicated to providing every newborn infant and family with the best possible and ever improving medical care.

Statewide Collaboratives and NAS Demonstration Projects

The Vermont Oxford Network has the privilege of partnering with a growing number of states, who are deeply invested in improving outcomes for infants and families affected by NAS.

The states have been successful in identifying and partnering with hospitals that provide all levels of care, to provide a coordinated and synchronized network of improvement. Additionally, they have partnered with their state public health departments, and third party payers, to design effective strategies specific to their local and regional context. In 2015, the VON partner states will adopt the Universal NAS Curriculum, and aim to train 85% of their healthcare providers who encounter substance-exposed infants and families.

The current list of state collaboratives includes:

- ▶ Alaska – Alaska State Collaborative
- ▶ Massachusetts – Neonatology Quality Improvement Collaborative (NeoQIC)
- ▶ Michigan – Michigan Collaborative Quality Initiative (MICQI)
- ▶ New Hampshire/Vermont – Northern New England Perinatal Quality Improvement Network (NNEPQIN)
- ▶ Wisconsin – Wisconsin Neonatal Perinatal Quality Collaborative (WINpqc)

If you are interested in joining the VON iNICQ collaborative, at a state level, please contact Pam@vtoxford.org for details and tips to support your statewide work.

A 20% discount applies to health systems and/or state QI collaboratives that register multiple NICUs. Special deeply discounted rates for Level 1 and 2 centers may apply when associated with participating statewide/regional quality improvement collaborative efforts. Please call for eligibility details. We also have modified fee schedules to coordinate with your budget cycle.

Related Links

[iNICQ 2015: A Universal Training Solution](#)

[Faculty and Steering Committee](#)

[Session Agendas](#)

[Critical Timelines](#)

[VON Universal Education Champion](#)

[For Statewide Collaboratives](#)

[Maintenance of Certification \(MOC\) Part 4](#)

[Continuing Education](#)

[Fees](#)

Vermont Oxford Network Launches New Online Learning Management System

We are pleased to announce an exciting new learning opportunity with the introduction of our online Learning Management System (LMS)

Learn About Our Other 2015 Quality Improvement Collaboratives

A Universal Training Solution: Improving Outcomes for Infants and Families Affected by Neonatal Abstinence Syndrome (NAS)

Substance use in pregnancy and the number of infants requiring management for NAS continue to escalate across the United States and beyond. In 2013 and 2014, over 200 leading teams from the Vermont Oxford Network focused on systematically implementing the AAP guidelines for the care of infants and families affected by NAS. Additionally, three states adopted the VON curriculum and addressed this challenge with comprehensive statewide efforts.

Working collaboratively these teams have made major strides in standardizing practice by adopting evidence-based policies. They have developed innovative service models for mothers and infants across the trajectory of care. However, given the complex nature of this epidemic, more work is needed.

In 2015, iNICQ centers and statewide collaboratives will focus on adopting a standardized universal interdisciplinary curriculum in an effort to deliver highly reliable care to every patient, every time! The VON designed and tested universal training curriculum will include content from 35 of the leading experts in NAS care, including the author of the AAP Guidelines, Dr. Mark Hudak.

iNICQ 2015: A Universal Training Solution

- ▶ Participate in three 90-minute Internet-based webinars, followed by 30-minute topical work sessions to assist your team in structuring success—no travel required!
- ▶ Learn from world-class faculty
- ▶ Measure progress using VON Day Quality Audits
- ▶ Compare your performance with participating centers worldwide
- ▶ Implement and test “potentially better practices” (PBPs)
- ▶ Structure your QI work using the VON Improvement Toolkits
- ▶ Spread the learning, using the 24/7 on-demand learning portal with access to session recordings, program materials, and pragmatic improvement stories
- ▶ Opportunity to be recognized as a “Center of Excellence” in NAS care.

Continuing Education Credits / Maintenance of Certification Part 4

VON is a Portfolio Provider for the American Board of Pediatrics (ABP) Maintenance of Certification Part 4. Individual physicians and physician groups can obtain source of MOC Part 4 credit for participation.

CME Approval Statement:

Faculty and Steering Committee

Session Agendas

Critical Timelines

VON Universal Education Champion

For Statewide Collaboratives

Maintenance of Certification (MOC) Part 4

Continuing Education

Fees

Vermont Oxford Network Launches New Online Learning Management System

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Learn About Our Other 2015 Quality Improvement Collaboratives

iNICQ 2015: Alarm Safety! Driving Outcomes with Evidence-based Oxygen Therapy and Safe Monitoring Practices
NICQ Next, with several new homerooms ready to launch in 2015.

For More Information

To learn more about our 2015 collaboratives, please contact Pam Ford, iNICQ Coordinator at 802.865.4814 ext 204 or email pford@vtoxford.org



Perinatal Health Program

- > [Subscribe to Perinatal News](#)
- > [What is perinatal health?](#)
- > [About the program](#)
- > [Priority activities](#)
- > [Alaska Infant Safe Sleep Project](#)
- > [Partners](#)
- > [Quality improvement](#)
- > [Electronic resources](#)
- > [Printed materials](#)
- > [Contact Us](#)

Quality improvement

Quality improvement for the perinatal health program is linked to three federal grants: Title V Maternal Child Health Block Grant, Maternal, Infant and Early Childhood Home Visiting Grant and the Healthy Start Grant.

Improvement in perinatal outcomes is evaluated by nine perinatal performance measures which are reported on each year. Data and activities are reviewed by staff, public stakeholders, and federal reviewers and a plan for the coming year is made to improve the program.

Women's, Children's and Family Health

- [Home](#)
- [Our Programs](#)
- [FAQ](#)
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- [Autism](#)
- [Birth Spacing](#)
- [Breast and Cervical Cancer Screening](#)
- [Children and Youth with Special Health Care Needs](#)
- [Family Planning](#)
- [Family Readiness](#)
- [Health and Disability](#)
- [Infant Mortality](#)
- [MCH Epidemiology](#)
- [MCH Title V Block Grant](#)
- [Newborn Hearing Screening](#)
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- [Women's Health](#)

Raise standards, together.

After completion of our highly successful iNICQ Universal Training focused on Neonatal Abstinence Syndrome (NAS), VON is now continuing the quest to improve care for substance-exposed infants and families, through the launch of two new resources.

NAS UNIVERSAL TRAINING PROGRAM

Providing high-reliability neonatal care requires developing standardized clinical processes and universal training programs. VON's Universal Training Program is presented by 35 world-class NAS experts and is available online 24/7. These resources include:

- 18 Micro-Lessons relevant to every care team member, with CME/CNE.
- A VON NAS Quality Improvement Toolkit.
- A 5-chapter *Virtual Video Visit and Facilitators Guide*, highlighting a center of excellence in NAS care and their trauma-informed approach.
- Sample policies, procedures, guidelines and family educational tools essential for NAS Care.
- Over 100 NAS-related quality improvement stories, and data—showing real-world examples of measurable improvement in length of stay, length of treatment and cost.

“Our paper, published in Pediatrics in 2016, reported that participating VON iNICQ centers reduced hospital length of stay by 2 days. If scaled nationally we estimate potential savings in hospital charges of \$170 million dollars.”

NAS STATEWIDE IMPLEMENTATION PACKAGE

The NAS Universal Training Program is now available to Statewide Perinatal Quality Improvement Collaboratives, health systems, and health centers, enabling these organizations to dramatically improve their patient outcomes on a system-wide basis, while reducing both the length of stay and the number of infants who are discharged on medication for NAS.

States and/or health systems may also elect to employ VON Day Quality Audits to measure ongoing improvement.

FEATURED FACULTY

See additional faculty members and bios on-line at vtxford.org



Mark Hudak
Wolfson Children's Hospital



Stephen W. Patrick
Vanderbilt University



Robert Schumacher
University of Michigan

LEVELS OF SUBSCRIPTION

NEW Statewide Perinatal Quality Improvement Collaboratives Subscription

Significant discounts available upon request. Call for price quote.

Health System Subscription

Provides universal training, unlimited access, CME/CNE for your entire health system.

State Perinatal Quality Collaboratives with NAS Programs*

State	Collaborative	Notes
Florida	Florida Perinatal Quality Collaborative http://health.usf.edu/publichealth/chiles/fpgc/index.htm	<ul style="list-style-type: none"> Promotes Florida Task Force on Prescription Drug Abuse and Newborns 2013 Final Report Started Florida's Born Drug Free campaign The Born Drug Free NAS Program is implemented through hospitals and is overseen by the Attorney General's office
Kentucky	Kentucky Perinatal Quality Collaborative Initiative http://kentuckyperinatal.com/KPQCI.htm	<ul style="list-style-type: none"> KY NAS Project is in the initial stages of data collection and site enrollment Seeks to determine best practices and standardize treatment in Kentucky Focuses on maternal-based, palliative care
Massachusetts	Neonatal Quality Improvement Collaborative of Massachusetts http://www.neogic.org/	<ul style="list-style-type: none"> NAS program launched in 2013 40 hospitals in the state have joined together to share practices, compare data, and develop local improvement projects Part of a national NAS program (VON's iNICQU)
Massachusetts	Massachusetts Perinatal Quality Collaborative http://www.mapqc.org/	<ul style="list-style-type: none"> NAS project in initial phases, with strategy developed in April 2014 Joint project with the Massachusetts Department of Children and Families (DCF) Collaborative site provides DCF NAS Fact Sheet
Michigan	MHA Keystone Center: Obstetrics http://www.mhakeystonecenter.org/collaboratives/ob.htm	<ul style="list-style-type: none"> Part of a national program (VON's iNICQ) that disseminates a standardized NAS toolkit to members of the Michigan collaborative Has identified NAS as a problem and receives regular programmatic audits to ensure participating centers are implementing best practices
New Hampshire & Vermont	Northern New England Perinatal Quality Improvement Network http://www.nnepgin.org/	<ul style="list-style-type: none"> Participates in national program to standardize NAS treatment (VON's iNICQ) Provides updated guidelines for screening and treating NAS to contributing health centers within the collaborative
North Carolina	Perinatal Quality Collaborative of North Carolina http://www.pqcnc.org/	<ul style="list-style-type: none"> Made NAS a "key issue in 2013 Initiated a quality improvement project collecting data to determine a standard of care, while also implementing current best practices 27 sites participate across the State RN-driven
Ohio	Ohio Perinatal Quality Collaborative https://opqc.net/	<ul style="list-style-type: none"> Well-established NAS Program Standard, evidence-informed treatments implemented in 40 facilities across the state Seeks to increase identification of and compassionate withdrawal treatment for full-term infants born with NAS Seeks to reduce the length of stay of NAS infants by 20% across participating sites by June 30, 2015

Tennessee	Tennessee Initiative for Perinatal Quality Care http://www.tipqc.org/	<ul style="list-style-type: none"> • NAS Project initiated in February 2013 • Quality improvement project to decrease NAS infants admitted to NICU • Infant-focused, lacking acknowledgement of maternal/fetal dyad
Vermont	Vermont Oxford Network https://public.vtoxford.org/	<ul style="list-style-type: none"> • VON is a national nonprofit voluntary collaboration of health care professionals working to improve neonatal care • NAS initiative (iNICQ) launched in 2013, partners with collaboratives in MA, MI and NH to help coordinate their states' NAS quality improvement project • Participating state collaboratives adopt VON NAS toolkit and curriculum • VON regularly monitors state-wide progress through audits of collaborative work
Washington	Washington State Perinatal Collaborative http://www.waperinatal.org/	<ul style="list-style-type: none"> • Serves as an information center for NAS treatment and screening guidelines • Primarily clinical information and protocol with little acknowledgement of maternal side of mother/infant dyad • No evidence of active dissemination of resources
West Virginia	West Virginia Perinatal Partnership http://www.wvperinatal.org/	<ul style="list-style-type: none"> • WV Perinatal Partnership initiated the Drug-Free Moms and Babies program (DFMB) in 2012 • DFMB offers funding for projects that provide comprehensive services for pregnant women • Seeks to identify programs that support healthy baby outcomes by providing prevention, early intervention, addiction treatment and recovery support services for pregnant and postpartum women • Provides RN-centered NAS Toolkit and model policy for substance screening of pregnant women
Wisconsin	Wisconsin Association for Perinatal Care http://www.perinatalweb.org/	<ul style="list-style-type: none"> • Published 2011 report on opioid dependence and pregnancy and developed Newborn Withdrawal Project Educational Toolkit • Collaborative website is an information hub for providers, offering a factsheet and checklist, and referring providers to the Toolkit • Offers detailed resources for patients, including compassionate FAQ for mothers

*This list is based on information available through each collaborative's website and *may not represent the full array of NAS programs*. [Click here](#) to find out if your state has a collaborative and check in with contacts there to see what work they may be doing on this emerging issue.




<http://www.acog.org/~media/Departments/Government%20Relations%20and%20Outreach/2014NASStateCollabChart.pdf>

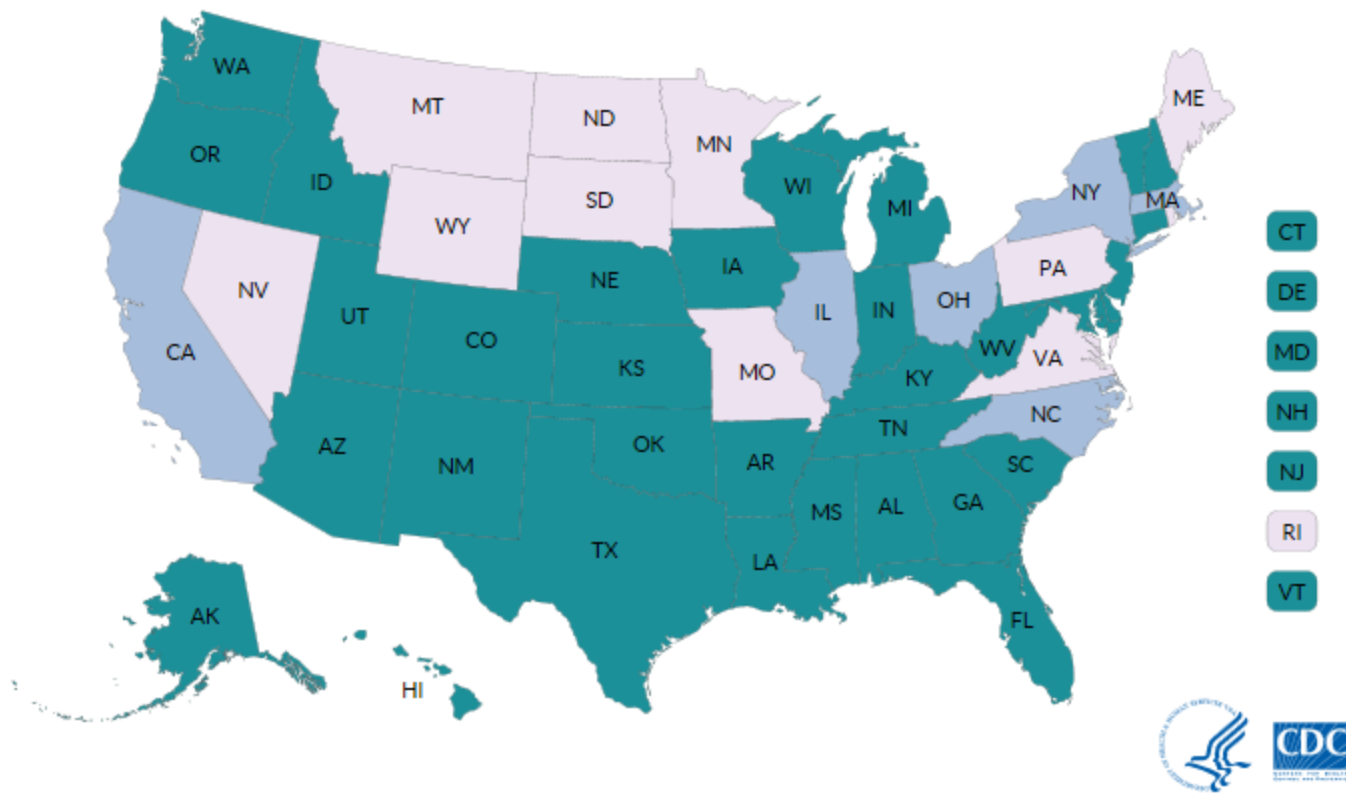
Updated September 2014

Click on a state in the map below to find the status and click through to their website

About This Map

PQC Status Per State

-  PQC Available
-  State with PQC and CDC DRH Funding
-  Unknown PQC Status



A Kansas NAS State Collaborative

- Would support woman and protect their unborn child
 - With informed health care
 - Knowledgeable state agents
- Bring Kansas to the National Stage
 - Issue of NAS
 - Perinatal Quality Collaborative
- First “TOP DOWN” strategy for full state involvement
 - Dedicates not just money, but shared ownership
 - May help with the final stage of implementation
 - Hospital and State collaboration on development of programs

Big Take Home

- Consistency of Care
- Education regarding non-narcotic methods of pain relief
- Family centered, trauma informed programming for women prior to giving birth, continuing in post partum and beyond

Need State's Help!!

“Treat the Woman, Treat the Child”

Stop the cycle of abuse, family separation, deprivation

**Use this magic window of time to Protect the Unborn child
and change the trajectory of the entire family unit**

- Respectful, supporting interactions --Responses may be surprising

Thank You

Questions?

SMMC NAS Team

- **Betsy Knappen, MSN, APRN (NAS Program Coordinator)**
- **Dr. Betsy Wickstrom (Perinatologist)**
- **Danielle Renyer, LMSW (NICU Social Worker)**
- **Kim Mason, RN, BSN (Discharge Planner)**
- **Dr. Julie Weiner (Neonatologist)**
- **Carrie Miner, MSN, RN, CCRN (Nursing Program Coordinator/Clinical Specialist)**

KPQC—beginning to work with state and VON to address maternal support state wide