IDENTIFICATION AND MANAGEMENT OF PERINATAL SUBSTANCE ABUSE

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PREVALENCE AND INCIDENCE

- 3.6 Million Americans dependent on illicit drugs:
  - 50% have a co-morbid medical condition
- 19,000 drug addiction deaths occur annually
- $4.5 Billion in health expenditures
  - 10% used for addiction treatment
- $44 Billion productivity loss

www.acog.org/from_home/department/underserved/dependenceinwomen.ppt
SCIENCE OF ADDICTIONS

• 1930s-addictions = moral flaw and lack of willpower
• emphasis on punitive rather than preventative and therapeutic actions.
• addiction is a disease that affects both brain and behavior
• effective prevention and treatment reduces the toll drug abuse takes on individuals, families, and communities
CHILDREN IN SUBSTANCE ABUSING HOMES

- 8.3% (11% of U.S. Children) live with at least one parent who is alcoholic or in need of substance abuse treatment
  - 3.8 million-alcohol
  - 2.1 million-illicit drugs
  - 2.4 million-combination

- National Household survey on Drug Abuse 1996
CHILDREN IN SUBSTANCE ABUSING HOMES

- Children whose parents use drugs and alcohol are
  - 3x more likely to be abused
  - 4x more likely to be neglected
- Substance Abuse causes or exacerbates 7 out of 10 cases of child abuse and neglect

- National Household survey on Drug Abuse 1996
NIMBY SYNDROME

- Not In My Back Yard
- It doesn’t happen in our community, hospital, home
- Money Magazine:
  - 2007 #1 place to live
  - 2008 #2 place to live
IN OUR BACKYARD

Child protection Services stated that of all children eventually removed from their homes that admitted to substance abuse during their pregnancy, we identified < 1/3 during their hospitalization.

We were given reports that it was a “common” occurrence to have substance abusing new mothers to “brag” they were not identified in the hospital.
NIMBY---YES IT IS
PERINATAL SUBSTANCE ABUSE ADVISORY PANEL

Purpose:
2006

Identify women at risk for substance abuse and provide a supportive, nonjudgmental approach that increases the health and safety of newborns and their families.
COLLECTIVE IMPACT

• 5 Key Goals
• Common Agenda
• Shared Measurement (Data collection)
• Mutually Reinforcing Activities
  • Differential responses
• Continued Communication
  • Quarterly Advisory Panel Meetings
• Backbone support
  • PVHS/UCH and Larimer DHHS
GOALS & ACCOMPLISHMENTS

- Review of literature/evidenced based healthcare
- Policy Development including Maternal-Newborn Risk Screener
- Provided education to
  - RN’s, physicians and other health care providers
- Implemented practice guidelines
- Reassessment and revisions
SERVICE LINE POLICY: OUTLINE

- Purpose: Nonjudgmental identification
- Background: Benefits of maternal and neonatal toxicology screening
- Maternal screening process:
  - Each prenatal and L&D visit
  - Maternal risk factors
- Neonatal screening process:
  - Neonatal factors prompting screening
  - Process for meconium and urine sample collection
BENEFITS OF UNIVERSAL SCREENING OF PREGNANT WOMEN

- Ideally **EARLY** Identification occurs

- Caring health care provider during their pregnancy reported by women as #1 motivator for change
EARLY IDENTIFICATION-
IMPROVED OUTCOMES

• Abstained from alcohol by third trimester
  • Improved outcomes at birth
• Reduced cocaine by third trimester
  • Decreased preterm labor
  • Decreased IUGR
EARLY IDENTIFICATION- IMPROVED OUTCOMES

- Overall decreased morbidity Large Kaiser Study:
  - **Even one intervention during pregnancy**
    - Decreased LBW
    - Decreased incidence of prematurity
    - Decreased need for mechanical ventilation
  - More comprehensive review of data in 2008 supported these findings as well as
    - decreased Placental abruptions
    - decreased IUFD
EARLY MATERNAL IDENTIFICATION CAN MAKE A DIFFERENCE

Even a single brief caring intervention
IDENTIFICATION STRATEGIES
SCREENING VS. TESTING

- Universal **Testing** of pregnant women
  - Urine sampling
  - Universal **Screening** of Pregnant Women
  - Comprehensive review of maternal history
  - Assessment and evaluation of neonate

- Universal **Testing** of Neonates
  - Urine or Meconium Testing

- Universal **Screening** of Neonates
  - Comprehensive review of maternal history
  - Assessment and evaluation of neonate
UNIVERSAL TESTING OF PREGNANT WOMEN

- Consent needed
- Financial Implications
- Lack of Reliable test
- Controversial
- **Not** called for by any major organization
  
i.e. ACOG, AAP, CDC, AMA etc.

We do **not** perform
UNIVERSAL SCREENING OF PREGNANT WOMEN

Use of an Interview/assessment tool
Rarely occurs in prenatal settings

Screening:
- ACOG-Ethics 2008- calls for universal screening
- Screening DOES improve accurate identification of substance abusing patients in primary care
- Complicated by limited tools developed and validated for use with pregnant women
  - Self-report: Historically inaccurate
4P’S PLUS SCREENING TOOL

- Designed by Ira Chasnoff
- Identifies women in need of in-depth assessment for perinatal substance abuse
- Identifies women at risk for any level of use of alcohol or illicit drugs
- Ideally, utilized early to allow early intervention and reduce risks for pregnancy
MATERNAL NEWBORN RISK SCREENER

- Meets state of Colorado requirements for birth certificate information on tobacco and alcohol use
- Screens for depression and prompts referrals
- Serves as newborn developmental high-risk screener
# HIGH RISK SCREENER

<table>
<thead>
<tr>
<th>PREGNATAL</th>
<th>Obstetric RN</th>
<th>Triage RN</th>
<th>Maternal Infusion RN</th>
<th>Neonatal RN</th>
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<tbody>
<tr>
<td>Family history of teratogenic disorders, female or male</td>
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<td>Family history of congenital anomalies (heart, cleft lip, etc.)</td>
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<td>Maternal history of depression, anxiety, or mood disorder</td>
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</table>
| Maternal history of previous therapeutic abortion or misc
POSITIVE RESULT INITIATES ONE OR MORE FOLLOWING INTERVENTIONS:

- Referral for hospital based counseling
  - Consistent counselors
  - Consistent documentation in infant chart
- Urine test on the mother
- Urine or meconium test on the newborn
- Consistent process for referral to DHS/CPS possible based on above findings
ALCOHOL CONSUMPTION DURING PREGNANCY: TO TEST OR NOT TO TEST?

- Fetal Alcohol Syndrome
- Fetal Alcohol Spectrum Disorders
- No known safe level for alcohol consumption during pregnancy
  - CDC
  - AAP
  - ACOG
  - NANN
## Past Month Alcohol Consumption During Pregnancy

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Alcohol Consumption During Pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than High School</td>
<td>8.9%</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>8.3%</td>
</tr>
<tr>
<td><strong>College Graduate</strong></td>
<td><strong>15.8%</strong></td>
</tr>
<tr>
<td>15-17 years old</td>
<td>15.8%</td>
</tr>
<tr>
<td>18-25 years old</td>
<td>9.8%</td>
</tr>
<tr>
<td><strong>24-44 years old</strong></td>
<td><strong>12.5%</strong></td>
</tr>
<tr>
<td>Income &lt; $20,000</td>
<td>11.7%</td>
</tr>
<tr>
<td>$20,000 to 74, 999</td>
<td>9.35%</td>
</tr>
<tr>
<td><strong>$75,000 or greater</strong></td>
<td><strong>16.3%</strong></td>
</tr>
</tbody>
</table>
IS FORT COLLINS THE NAPA VALLEY OF MICROBREWS?
ALCOHOL: HOW MUCH IS TOO MUCH?

• No safe level known
• Concern when FAEE levels in Meconium are over 10,000
• Increased risk when:
  • Consumption >3 drinks per occasion
  • Or 7 drinks per week

---

FAEE Population Quartile Data

<table>
<thead>
<tr>
<th>Quartile #1</th>
<th>Quartile #2</th>
<th>Quartile #3</th>
<th>Quartile #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,059 ng/Gram</td>
<td>5,115 ng/Gram</td>
<td>6,628 ng/Gram</td>
<td>62,115 ng/Gram</td>
</tr>
</tbody>
</table>

Meconium specimens from 438 consecutive births were analyzed for Fatty Acid Ethyl Esters (FAEE’s). 73 specimens were found with FAEE’s of carbon length C16 to C20. The range of concentrations was from 350 ng/gram to 550,000 ng/gram.

The data, when expressed in quartiles, showed a discontinuity between the first three quartiles and the fourth quartile.

USDTL believes that FAEE levels that fall in the fourth quartile are associated with higher risk. Red flag or critical levels of 10,000 ng/gram or higher indicate probable at-risk newborns.
CONSENSUS

• Education of staff and providers regarding fetal and neonatal implications
• Education regarding available testing
• Reinforcement of nonjudgmental approach
• Revision of tool to not address alcohol consumption in first 3 months of pregnancy based on feedback
• Continued controversy
LOOKING CLOSER

- Implementation
- Staff and provider perceptions
- Data Collection
- Data Analysis
OPPORTUNITIES AND CHALLENGES

- Perceptions of healthcare team
- Motivational Interviewing Techniques
- Focus on non-judgmental approach
- Keeping mother/families informed
- Early intervention in the hospital
  - through family conferencing
- Community education
COMMUNITY EDUCATION

- Community Education
- To hospital staff
- Regional health care providers
  - Regarding our policy goals and strategies
  - Regarding prescription drug abuse
    - Prescription drug abuse-added to screening panel
FOCUS GROUPS

• Focus Groups
• Resistance from providers
• Role confusion hospital based vs community based
• Towards a mutual trust
# Health Status Indicators

<table>
<thead>
<tr>
<th>Indicator: activity during pregnancy</th>
<th>Larimer County</th>
<th>Colorado</th>
<th>United States</th>
<th>Healthy People 2020 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cigarette smoking</td>
<td>91.3% abstained</td>
<td>88% abstained</td>
<td>84% abstained</td>
<td>98.6% abstinence</td>
</tr>
<tr>
<td>Alcohol consumption</td>
<td>89.3% abstained</td>
<td>88.4% abstained</td>
<td>89.2% abstained</td>
<td>98.3% abstinence</td>
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<tr>
<td>Binge drinking</td>
<td>N/A</td>
<td>N/A</td>
<td>96.3% abstained</td>
<td>100% abstinence</td>
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<tr>
<td>Illicit drug use</td>
<td>N/A</td>
<td>N/A</td>
<td>95.6% abstained</td>
<td>100% abstinence</td>
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PVH MECSTAT DATA PRE AND POST STANDARDIZED SCREENING

<table>
<thead>
<tr>
<th>Data</th>
<th>18 months PRE screening</th>
<th>18 months POST screening</th>
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</thead>
<tbody>
<tr>
<td>Total deliveries</td>
<td>4,093</td>
<td>3,854</td>
</tr>
<tr>
<td>Total # mecSTAT sent</td>
<td>161</td>
<td>447</td>
</tr>
<tr>
<td>% deliveries mecSTAT sent on</td>
<td>3.9%</td>
<td>11.5%</td>
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<tr>
<td>Total # positive</td>
<td>37</td>
<td>205</td>
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<tr>
<td>% positive of those sent</td>
<td>23%</td>
<td>45.8%</td>
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<tr>
<td>% positive of all deliveries</td>
<td>0.9%</td>
<td>5.3%</td>
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<tr>
<td><strong>EXCLUDING ALCOHOL</strong></td>
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<tr>
<td>Total # Positive</td>
<td>34</td>
<td>63</td>
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<tr>
<td>% Positive of those sent</td>
<td>21%</td>
<td>14%</td>
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<tr>
<td>% Positive of all deliveries</td>
<td>0.8%</td>
<td>1.6%</td>
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</table>
# PVH DATA FOR FATTY ACID ETHYL ESTERS (FAEE) IN MECONIUM

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<tr>
<th>FAEE Result</th>
<th>PVH percent positive of all deliveries 2010</th>
<th>PVH percent positive of all deliveries 2012</th>
<th>National Reported Incidence of Alcohol Consumption during pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAEE level &lt;10,000 (consistent with some alcohol consumption)</td>
<td>2.4%</td>
<td>2.6%</td>
<td></td>
</tr>
<tr>
<td>FAEE level &gt; 10,000 (consistent with heavy or binge drinking)</td>
<td>1.2%</td>
<td>1.1%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Total percentage of all positive</td>
<td>3.6%</td>
<td>3.7%</td>
<td>10.8%</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>2011</td>
<td>2012 (screening all opiate use)</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------</td>
<td>-------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Total # deliveries</td>
<td>2,396</td>
<td>2,457</td>
<td>2,490</td>
</tr>
<tr>
<td>Total # MecStat sent</td>
<td>461</td>
<td>516</td>
<td>568</td>
</tr>
<tr>
<td>% of deliveries MecStat sent</td>
<td>19.14%</td>
<td>21%</td>
<td>22.8%</td>
</tr>
<tr>
<td>Absolute number MecStat positive</td>
<td>161 (includes some positive multiple substances)</td>
<td>146 (multiple substances in 25 samples 121 = absolute number)</td>
<td>182</td>
</tr>
<tr>
<td>% positive of all sent</td>
<td>35%</td>
<td>28%</td>
<td>23%</td>
</tr>
<tr>
<td>% positive of all deliveries</td>
<td>6.7%</td>
<td>5%</td>
<td>7.3%</td>
</tr>
</tbody>
</table>
PARENT LETTER

- Goal to give every mother identified as at risk for perinatal substance abuse
- Given during hospitalization of infant’s birth
- Non-judgmental explanation of approach to urine and meconium testing
- Explains follow up options.
COMMUNITY EDUCATIONAL BROCHURE

Women & Family Care
for a lifetime.
COMMUNITY TRANSITIONS

- Data collection and analysis on community impact
- Department of Human Services collaborative approach
TOTAL POSITIVE MEC STATS  (122) 2012

CPS Referral

- Referred (66) - 54%
- Not Referred (56) - 46%
REFERRAL DISPOSITION (66)

Referrals to CPS

- Assigned for Assessment (44)
- Filed for Future Reference (10)
- Other County (9)
- Family Visitor (3)
TOTAL POSITIVE MEC STATS (44)

CPS Referrals Assigned as Assessment

- Family Assessment Response (34)
- Unsubstantiated (6)
- Substantiated (2)
- Inconclusive (2)

Note: 10 of the 44 assigned for assessment were high risk assessments (IR track), and thus a finding is indicated above.
TOTAL POSITIVE MECSTATS (44)

Assessment Disposition

- No Services (24) - 55%
- Services (20) - 45%
RE-ASSESSMENTS ON 66 TOTAL MECSTAT REFERRALS (11*)

Re-Assessments

- Investigative Response (8) - 73%
- Family Assessment Response (3) - 27%

*Number is approximate, does not include all re-referrals (which may have been FFR’d or assigned a family visitor), and is based on data available at time of analysis.
• Re-assessments have dropped 80%
• Supports infant and maternal screening process
• Supports safety of practice with enhanced interagency relationships
REVISIONS

• Local and national data on increased opiate use
• Decision to include ALL opiate use with exception of labor medications as indication for further testing/screening (6/2012)
Proposed Benefits:

- Availability
  - Easy – quick collection
  - Tissue sample
  - Reliable
  - May have different sensitivities than meconium
PROCLAMATION

WHEREAS, drug endangered children are at a higher risk for abuse and neglect; and
WHEREAS, it is estimated that more than 130,000 Colorado children live in homes where alcohol or other drugs are abused, and it is estimated that a minimum of 15,000 Colorado infants are born prematurely exposed to substances every year; and
WHEREAS, in FY11, prenatal substance abuse was the leading removal reason for children placed in out of home placements; and
WHEREAS, children whose parents or caregivers use drugs are at a higher risk to use drugs themselves; and
WHEREAS, all expectant parents need to receive information about the effects that drugs and other substances have on their unborn babies and on their judgment and parenting abilities; and
WHEREAS, there is a need to establish a plan that will support their role as a parent and take into consideration their children’s needs in the process.

Therefore, I, John Hickenlooper, Governor of the State of Colorado, do hereby proclaim April 23, 2012, as DRUG ENDANGERED CHILDREN AWARENESS DAY.

in the State of Colorado.

GIVEN under my hand and the Seal of the State of Colorado, this three thousand day of
March, 2012.

John Hickenlooper
Governor
COLORADO HOUSE BILL 12-1100

- Acknowledges Substance use during pregnancy is widespread and concerning problem in Colorado
- **Pregnant** women 15-44 years old reported:
  - 4.4% illicit drug use
  - 10.8% current alcohol use
  - 14.5% use alcohol during third trimester of pregnancy

Prenatal substance exposure can have a devastating impact on a developing fetus
COLORADO HOUSE BILL 12-1100

- Pregnancy can be an increased time of motivation for women to address their addictions

- Few pregnant women participate in treatment programs despite availability- often due to fear of prosecution
COLORADO HOUSE BILL 12-1100

- A court shall not admit in a criminal proceeding information relating to substance use not otherwise required to be reported.
- Screening tests in provision of prenatal care for a pregnant women shall not be admitted.
- i.e. Protection for women to seek appropriate treatment for addictions during pregnancy.
COLORADO STATEWIDE INITIATIVE

- Universal Screening
- Supportive and non-judgmental approach
- Collaborative approach between disciplines
- Similar to our program
- Initial stages of education
OPPORTUNITIES AND CHALLENGES

• Ongoing reevaluation regarding best practices
• Legalization of Marijuana
  • No approved indication for use during pregnancy
  • Breastfeeding decisions
• Evaluation of Umbilical Cord “Cord STAT“
Implementing a Perinatal Substance Abuse Screening Tool

David M. Malwear, MS, RN-BC, NIC, Patricia Smith, MS, RNC, Karen Monea, MS, RNC, CNS

ABSTRACT

Substance use during pregnancy is a significant public health issue that has far-reaching consequences for the child, the family, and the community. Women and children who abuse substances experience adverse perinatal outcomes, including preterm birth, low birthweight infants, neonatal abstinence syndrome, and substance use disorders. Parents of infants born with substance use disorders (SUDs) are at increased risk for substance use, substance use disorders, and relapse. Substance use during pregnancy can lead to fetal alcohol spectrum disorders, fetal alcohol syndrome, and other SUDs in the unborn infant. Therefore, the identification, evaluation, and treatment of women with SUDs are critical to improve maternal and child outcomes. The purpose of this article is to describe the perinatal substance abuse assessment tool used in a local hospital system to screen and identify women with SUDs during pregnancy. The tool is based on the belief that early identification of SUDs is essential to ensure timely intervention and treatment. The tool includes a comprehensive assessment of the woman's substance use history, medical history, family history, and social history. The assessment is followed by a risk assessment to determine the level of care required. The tool is designed to be used by nurses and other healthcare providers to identify women with SUDs and to ensure they receive appropriate care throughout their pregnancy.
REFERENCES

- Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services, and RTI Internation. (2011). Results from the 2010 national survey on drug use and health: Summary of national findings. Retrieved from samhsa.gov website: http://www.samhsa.gov/data/NSDUH/2k10NSDUH/2k10Results.htm#2.6
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