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Optimizing Perinatal and Maternal Outcomes for Women with OUD: What Obstetric Providers Need to Know

MACS for MOMs Webinar

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Maryland Addiction Consultation Service for Maternal Opioid Misuse (MACS for MOMs)

Provides support to maternal health providers and their practices in addressing the needs of their pregnant and postpartum patients with substance use disorders (SUD), particularly opioid use disorder (OUD).

All Services are FREE

- Phone consultation for clinical questions
- Education and training opportunities related to substance use disorders and pregnancy
- Assistance with addiction and behavioral health resources and referrals
- MACS for MOMs TeleECHO Clinics: collaborative medical education through didactic presentations and case-based learning

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Why should we as Providers of Prenatal Care focus on screening and treating Opioid Use Disorders (and other Substance Use Disorders)

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Scope of the Problem

- 16.2% of pregnant teens and 7.4% of pregnant women ages 18-25 use illicit drugs.
- Opioid-related death have been increasing nationwide
    - Overdose deaths have increased 29.4% in 2020 to 93,331.
    - Opioid-related deaths have been a leading cause of maternal mortality in the US over past 12 years, including in Maryland
        - Many of these deaths occur postpartum

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Scope of the Problem

- Many women who quit during pregnancy resume postpartum.
- Rates of Neonatal Opioid Withdrawal Syndrome (NOWS) drug withdrawal in the newborn, have exponentially increased over the past 20 years.

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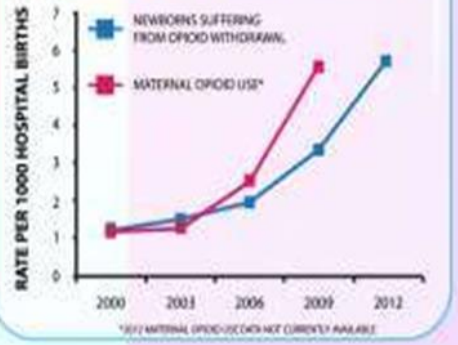
DRAMATIC INCREASES IN MATERNAL OPIOID USE AND NEONATAL ABSTINENCE SYNDROME

THE USE OF OPIOIDS DURING PREGNANCY CAN RESULT IN A DRUG WITHDRAWAL SYNDROME IN NEWBORNS CALLED **NEONATAL ABSTINENCE SYNDROME** (NAS), WHICH CAUSES **LENGTHY** AND **COSTLY** HOSPITAL STAYS. ACCORDING TO A NEW STUDY, AN ESTIMATED **21,732 BABIES** WERE BORN WITH THIS SYNDROME IN THE UNITED STATES IN 2012, A **5-FOLD INCREASE** SINCE 2000.

EVERY 25 MINUTES, A BABY IS BORN SUFFERING FROM OPIOID WITHDRAWAL.

AVERAGE LENGTH OR COST OF HOSPITAL STAY

NAS AND MATERNAL OPIOID USE ON THE RISE



NIH National Institute on Drug Abuse

Source: Patrick et. Al. JAMA 2012, Patrick et. Al. Journal of Perinatology 2015

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Scope of the Problem: Tobacco

- Nationally,
  22.7% of pregnant women, ages 18-25 &
  11.8% of pregnant women, ages 26-44,
  continue to smoke throughout pregnancy

- In the presence of substance abuse, tobacco use in pregnancy is 88-93%
- Evidence that in utero tobacco exposure negatively impacts NOWS.
- Most pregnant smokers will decrease number of cigarettes during pregnancy, but increase postpartum.

Fetal/Infant Drug Effects

- Schematic summary of effects of distinct drug classes on offspring development.
- A wide variety of significant structural and neurobehavioral deficits are induced by fetal exposures to abused substances.
- The drug class, timing, dose, and pattern of intake all substantially determine the long-term effects on the developing child.

(Neuropsychoparmacology. 2015 Jan; 40(1): 61-87.)

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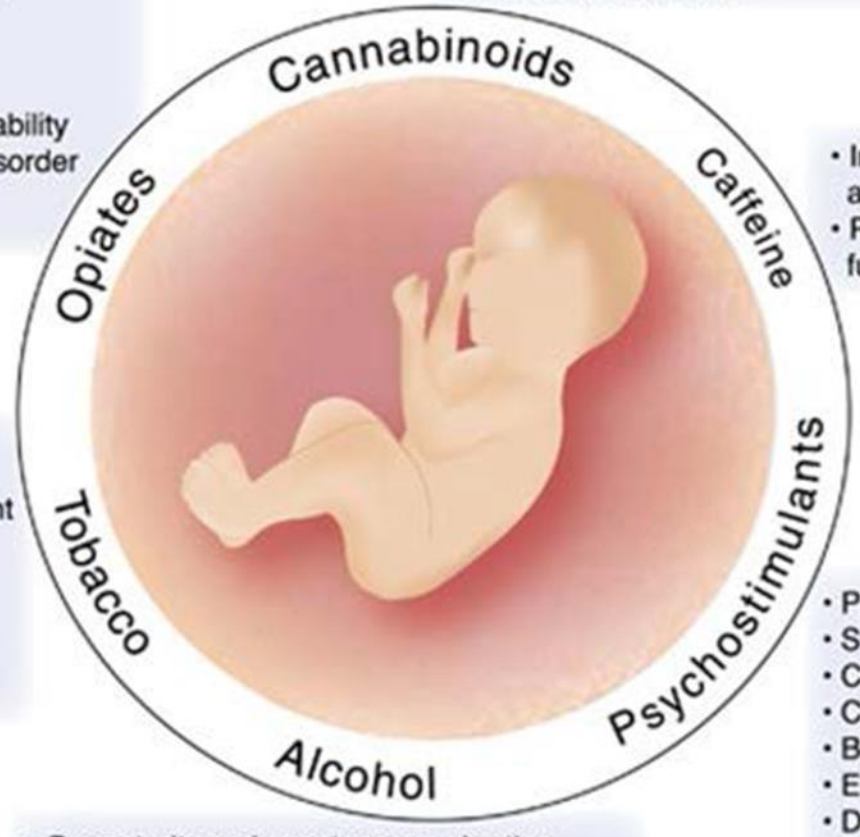
- Decreased growth
- Deficits in attention
- Increased impulsivity
- Long-term deficits in executive function
- Depression diagnosis
- Future substance use

- Neonatal abstinence syndrome
- Preterm birth and obstetric complications
- Attenuated myelination in infants
- Respiratory insufficiency
- Heart defects
- Reduced growth
- Deficits in cognitive and motor ability
- Attention deficit hyperactivity disorder
- Lower IQ
- Behavioral problems



- Increased risk of growth restriction and prematurity (at high levels)
- Possible decrease in executive function at school age

- Decreased birthweight
- Altered response to stimuli
- Poorer academic achievement
- Poorer cognition
- Attention deficits and hyperactivity
- Adolescent aggression
- Oppositional defiance issues

- Preterm labor
- Short- and long-term growth defecits
- Cardiac and cardiovascular anomalies
- Cranial and brain abnormalities
- Behavior problems
- Emotional and social effects
- Deficits in attention, memory and motivation
- Anxious/depressed behaviors and symptoms
- Aggression and delinquent behavior

- Prematurity and spontaneous abortion
- Limb and facial development
- Reduced growth
- Cognitive delays and impairments
- Reduced brain volumes
- Abnormalities in the corpus callosum
- Deficits in attention, memory, verbal fluency, executive functioning, reaction times, and motor learning

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Back to Pregnancy

- Pregnancy is a unique time in which young adults engage with the health care system.
- Pregnant women usually look beyond their own needs and problems in order to achieve the best outcome for the developing fetus.
  - A new level of responsibilty
- So all care needs to consider the mother/infant dyad.

- Consider Pregnancy as a Public Health Platform.
  - A time to improve the health of women with chronic disease, including Opioid Use Disorder.

- Goals:
  - To optimize perinatal outcome.
  - To make healthcare/lifestyle changes that will enable the woman to maintain health in order to raise the child.

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- So, there is often **increased motivation** for pregnant women to address their Opioid Use Disorder during pregnancy.

- There are more resources for treatment and support during pregnancy and for the year postpartum.

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Definition of Addiction

"Addiction is a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experiences. People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences.

Prevention efforts and treatment approaches for addiction are generally as successful as those for other chronic diseases."

(American Society of Addiction Medicine, 10/2019)

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Approaching Patients with Substance Use Disorder (SUDS)

- General Guidelines
  - All these women feel guilty about the in-utero exposure, regardless of their affect, and have low self-esteem.
  - Most pregnant women will stop behaviors that are perceived to be harmful to the fetus because they want the best perinatal outcome.
  - When opioid, alcohol and/or other drug use continues in pregnancy, the woman has a Substance Use Disorder and, usually, cannot stop without intervention.

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Screening

Many options:

- SBIRT
  - (Screening, Brief Intervention, Referral to Treatment)
- Urine toxicology
- Questionaire
- Incorporated into new patient interview
- Asking about tobacco use

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Screening

- Should be universal, not by patient profiling.
- Consider repeating every trimester
- Non-judgmental
- Stated goal to support the patient and optimize pregnancy outcome

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Brief Intervention

- 5-10 minutes which are “billable.”
- Provider reviews harmful effects of particular drug or alcohol use and encourages patient to stop.
- Shown to produce lasting changes and savings

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Counseling Patients with Fetal Drug Exposure

- Look for underlying causes and associations
  - 40-59% have history of emotional, physical, and/or sexual abuse
  - Many have a Psychiatric Disorder
  - Several have history of severe trauma unrelated to abuse.
- In order to have lasting recovery, these issues need to be identified and addressed.
- Women self-medicate frequently with alcohol and drugs and need to be referred to more constructive therapy.

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Management for OUD in pregnancy

- Opioid detoxification – not recommended
- Medication Assisted Therapy (MAT)
  - Methadone
  - Buprenorphine
- Non-pharmacology programs.
- Referral for Social Services
  - To deal with financial, housing, transportation, and food insecurities

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Management for OUD in pregnancy

Levels of care

- Outpatient MAT with counseling
- Intensive Outpatient Program (IOP)
- IOP with housing
- 28 day residential treatment program
- Long-term (up to 1 year) residential program
  - Mother-baby programs
- Support groups (NA, etc.)

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Opiate Withdrawal

- May be done in inpatient or outpatient setting
  - Methadone taper over 6 days.
  - Buprenorphine taper over 5 days.
- High failure rate.
- May be entry for patient hesitant to start MAT.

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Methadone Maintenance

- Pharmacologically similar to morphine
- Pharmacologic half-life is 24-36 hours.

- Goals of Methadone Maintenance during Pregnancy:
  - Cessation of Illicit Drug Use
  - Stabilization of Intrauterine Environment
  - Stabilization of patient's environment
  - Increased compliance with Prenatal Care
  - Enhanced Pregnancy Outcomes

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Methadone Maintenance

- For many years, Methadone Maintenance (MM) was the gold standard for treatment of opiate-dependent pregnant women.

- Still has a place in treatment:
- Women stable on MM
- Women who don't tolerate buprenorphine
- Women for whom buprenorphine has not been effective.

- Average dose is 60mgs.
  - Range 30 – 140mgs.

Methadone Maintenance

- Methadone is metabolized through the CYP2B6 and CYP3A4 pathways in the liver
  - Drug-drug interactions with other drugs metabolized through same pathways (HAART)
  - Slow metabolizers
  - Rapid metabolizers

Buprenorphine

Pharmacology:

- An opiate-based injectable medication
- A derivative of thebaine
- A partial mu opioid agonist
- A weak kappa antagonist

- Effects mostly at mu receptor – similar to those of full agonists:
  - Morphine
  - methadone

Buprenorphine

At higher doses, agonist effects plateau, and antagonist effects are seen - "ceiling effect".

Results:

- A high safety profile clinically
- Low level of physical dependence
- Only mild withdrawal symptoms upon cessation after prolonged administration

Also, slow dissociation from its receptors

→ Long duration of action

→ Varying dosing schedules
(several times/day -> several times/week)

Buprenorphine

- Oral route:
- Not well-absorbed
- Destroyed in the liver
- Sublingual route:
- Well-absorbed
- 60-70% of plasma concentration of parenteral route

Peak plasma conc. 90 minutes
Half-life: 4-5 hours
Metabolites excreted mainly via fecal route

The MOTHER Study

- Doubleblind, double-dummy, flexible dosing, randomized, controlled study.
- 175 patients.
- 8 international sites

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The MOTHER Study

131 Neonates followed post-delivery.

- Requiring NAS treatment
  - 27 (47%) vs. 41 (57%) P=0.26
- Mean dose of morphine needed:
  - 1.1mg (B) vs. 10.4mg (M) P<0.0091
- Mean hospital stay:
  - 10.0 days (B) vs. 17.5 (M) P,0.0091
- Duration of treatment:
  - 4.1days (B) vs. 9.9 days (M) P<0.003125

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The MOTHER Study

- Buprenorphine may be advantageous for pregnant women with opiate dependency who are not already on methadone maintenance.
- Some advantage for Neonates in regard to Neonatal Abstinence Syndrome.

- Conclusion:
- Use of Buprenorphine is an acceptable treatment for Opioid dependence in pregnant women.

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Buprenorphine + Naloxone

Suboxone

- Probably safe in pregnancy
- Small amount of Naloxone does not appear to have a fetal effect
- Trials are ongoing.

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Medication-Assisted Therapy (MAT)

- Is not a “substitute” for opioid abuse
- Methadone is provided through Opioid treatment programs according to strict state regulation.
- Buprenorphine is provided by waivered providers – office-based.
- Buprenorphine may be provided through Opioid treatment programs as well.

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Prenatal Care

- Usual prenatal care.
- May consider more frequent visits
  - Esp. after a recommendation or change in plan
- Fetal testing is not indicated unless other reason exists.
- Consider 37 week delivery if active drug use.

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Obstetrical Services

- Obstetrical ultrasounds done:
  - Dating
  - Fetal anatomy screen
  - Third trimester fetal growth
- Referral for genetic counseling and procedures, as indicated.
  - Advanced maternal age
  - Abnormal genetic screen
  - Abnormal finding on ultrasound

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Obstetrical Services

- Emphasis on sexually-transmitted diseases
  - GC/CT probes done at intake; after lapse in care; and at 36 weeks
  - Screening done for Hepatitis C, Hepatitis B, and HIV
  - Hepatitis B vaccination offered and encouraged for patients that are non-immune and not carriers.

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Obstetrical Services

- If HIV positive, patient should be referred to ID to initiate HAART as soon as possible
  - Obtain HIV viral load, CD4 count, HIV genotype (for resistance).

- If Hepatitis C positive,
  - viral load (RNA) and hepatic functional labs are followed every trimester
  - Referral to Gastroenterologist or ID postpartum.

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Medical Complications

- The presence of extensive medical complications resulting directly from drug abuse
    - Cellulitis / Abscesses
    - Bacteremia
    - Endocarditis
    - HIV/AIDS

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Medical Complications

- Pre-existing medical conditions
  - Often presenting in poor control

  - Diabetes
  - Hypertension and heart disease
  - Seizure Disorder
  - Severe asthma

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Obstetrical Complications

Obstetrical complications associated with drug abuse

- Intra-uterine growth restriction / low birthweight
- Preterm labor / Preterm rupture of membranes
- Preterm delivery
- Abruptio placenta
- Meconium staining
- Chorioamnionitis
- Maternal hypertension
- Spontaneous abortion

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Counseling Patients with Fetal Drug Exposure

General Guidelines to reduce stigma

- These women need HOPE and encouragement.
- They do not need judgment and degradation.
- All have had some negative interactions with the health care system in the past.
- They are very astute at detecting non-verbal cues.

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Counseling Patients with Fetal Opioid Exposure

- Medication-Assisted Treatment (MAT) is the mainstay of Opioid treatment during pregnancy
  - Buprenorphine or methadone
- Pregnant women on MAT need education on Neonatal Abstinence Syndrome (NAS) and reassurance that it is a temporary condition that has no to minimal lasting effects when identified and treated appropriately.
- The majority of studies do not show an association between MAT dose and severity of NAS.

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LAWS AND REGULATIONS

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New Requirement of HHS on each State

- Title 1 of the Child Abuse Prevention and Treatment Act (CAPTA), as amended by Public Law 114-198m, the Comprehensive Addiction and Recovery Act of 2016 (CARA)
- Issued 08/26/2016

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New Requirement of HHS on each State

- Failure to comply would result in loss of federal funding of **$400,000 - $450,000** yearly for the county health departments in the state of Maryland

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Changes to CAPTA in 2018

- Modifies the CAPTA state plan requirement for the state to apply the policies and procedures to address the needs of infants born with and identified as being affected by all substance use (not just illegal substance abuse as was previous requirement).
  - Includes women prescribed scheduled drugs
  - Includes women stable on MAT
    - Methadone / Buprenorphine

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Changes to CAPTA

- Requires plans of safe care for infants born and identified
  - As being affected by substance abuse (positive maternal or newborn tox screen; positive prenatal screen?)
  - Having withdrawal symptoms
  - Having Fetal Alcohol Spectrum Disorder

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Problems with Changes to CAPTA

- Mandates reporting but not screening
- Requires report of plans of safe care for infants affected by all substance abuse
- Who obtains info?
  - County Child Welfare case workers
  - Hospital Social Workers

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Multi-disciplinary Approach to Care

- Care of the pregnant women with Opioid Use Disorder is a multi-disciplinary effort to optimize perinatal outcome!
  - Prenatal care
  - Evaluation and treatment for co-morbidities
    - Psychiatric, medical
  - Substance abuse treatment
  - Social service involvement

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Coordinating Prenatal Care and Substance Abuse Treatment

- Integrated approach is best with interaction between providers of the obstetrical care and substance abuse treatment (Conferences, phone, written communicaton)
- Including Psychiatry, when significant Psychiatric conditions are present.
- Cannot optimize obstetrical/medical care unless substance abuse issues are stabilized, and vice versa.

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Confidentiality Forms

- There is a particular release form for OUD treatment programs.
- Preferably obtain at time of initial prenatal visit or at time of referral.

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Thank you!

- **Thursday, September 30th** *12 – 4:15 pm*: Half and Half Waiver Training*
  - *Register at*: https://bit.ly/3yhaWOh
- **Monday, October 11th** *12 – 1 pm*: First ECHO session*
  - Held on the 2nd Monday of each month from October - March
  - *Register at:* https://redcap.link/dcnip2d7

Send any questions to:
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