Opioid Use Disorders and Pregnancy

HEALTH
UNIVERSITY OF UTAH

Marcela Smid, MD
Maternal-Fetal Medicine

OBJECTIVES

- Definitions
- Epidemiology
- Pharmacology
- Effects on pregnancy
- Screening
- Treatment

CARE FOR PREGNANT WOMEN WITH OUD

Opioid Use in Pregnancy, Neonatal Abstinence Syndrome, and Childhood Outcomes

Executive Summary of a Joint Workshop by the Eunice Kennedy Shriver *National Institute of Child Health and Human Development, American College of Obstetricians and Gynecologists, American Academy of Pediatrics, Society for Maternal-Fetal Medicine, Centers for Disease Control and Prevention, and the March of Dimes Foundation*

*Uma M. Reddy, MD, MPH, Jonathan M. Davis, MD, Zhaoxia Ren, MD, PhD, and Michael F. Greene, MD, for the Opioid Use in Pregnancy, Neonatal Abstinence Syndrome, and Childhood Outcomes Workshop Invited Speakers**

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

COMMITTEE OPINION

DEFINITIONS

- **Use** – Sporadic consumption without adverse consequences
- **Abuse** – Consumption with some adverse consequences
- **Physical Dependence** – State of adaptation manifested by a class-specific withdrawal syndrome produced by abrupt cessation or rapid dose reduction of the substance, or by administration of an antagonist
- **Psychological Dependence** – Subjective sense of a need for a specific psychoactive substance, either for its positive effects or to avoid negative effects associated with its abstinence

ASAM American Society of Addiction Medicine

www.asam.com (1)

DEFINITIONS

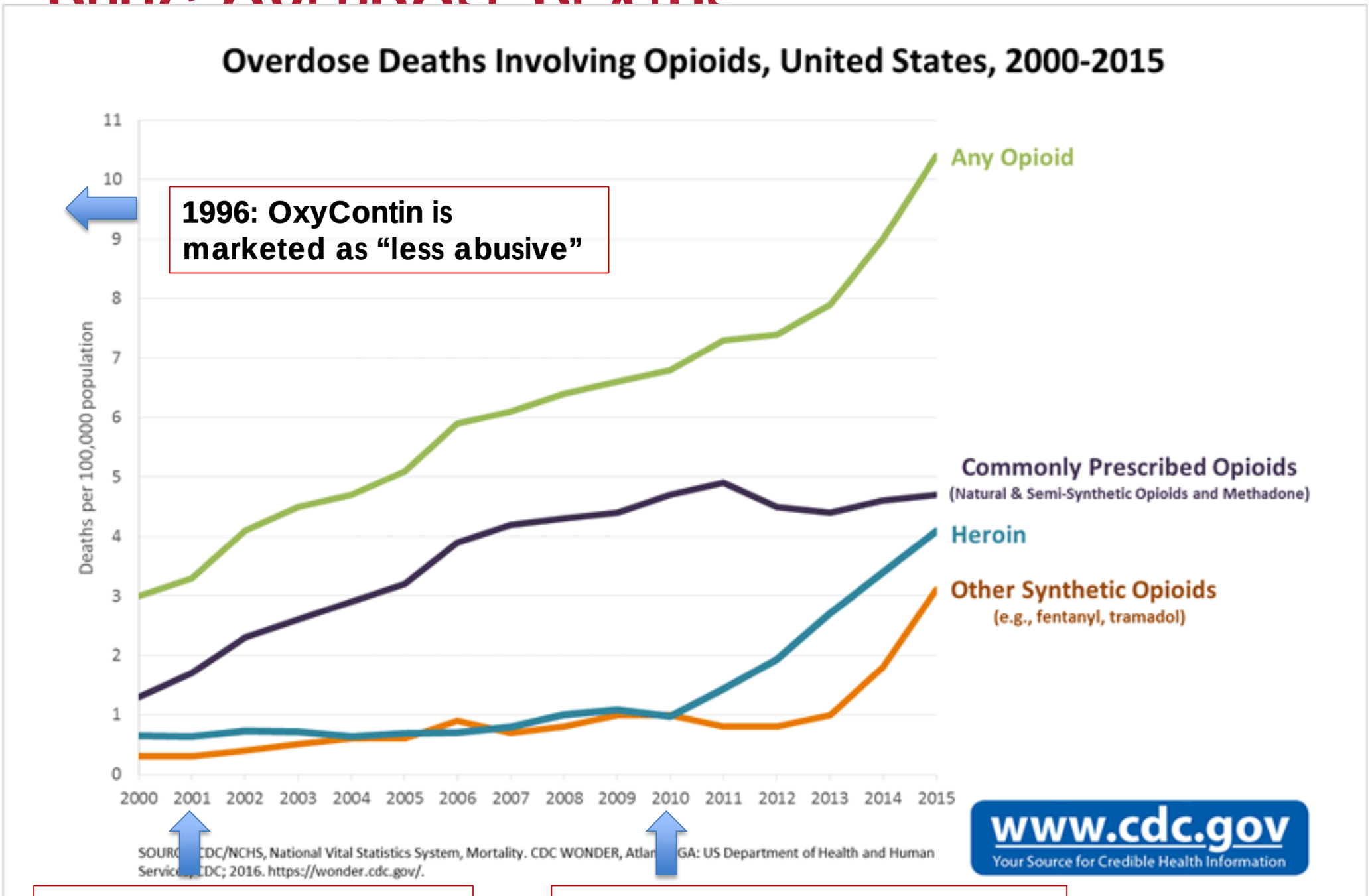
- **Addiction** – A primary, chronic disease of brain reward, motivation, memory, and related circuitry.
- **Opioid use disorder** is a pattern of opioid use characterized by tolerance, craving, inability to control use and continued use despite adverse consequences
- **Neonatal abstinence syndrome** – group of problems seen in neonates after prenatal drug exposure characterized by hyperactivity of central and autonomic nervous system

Society for Maternal-Fetal Medicine

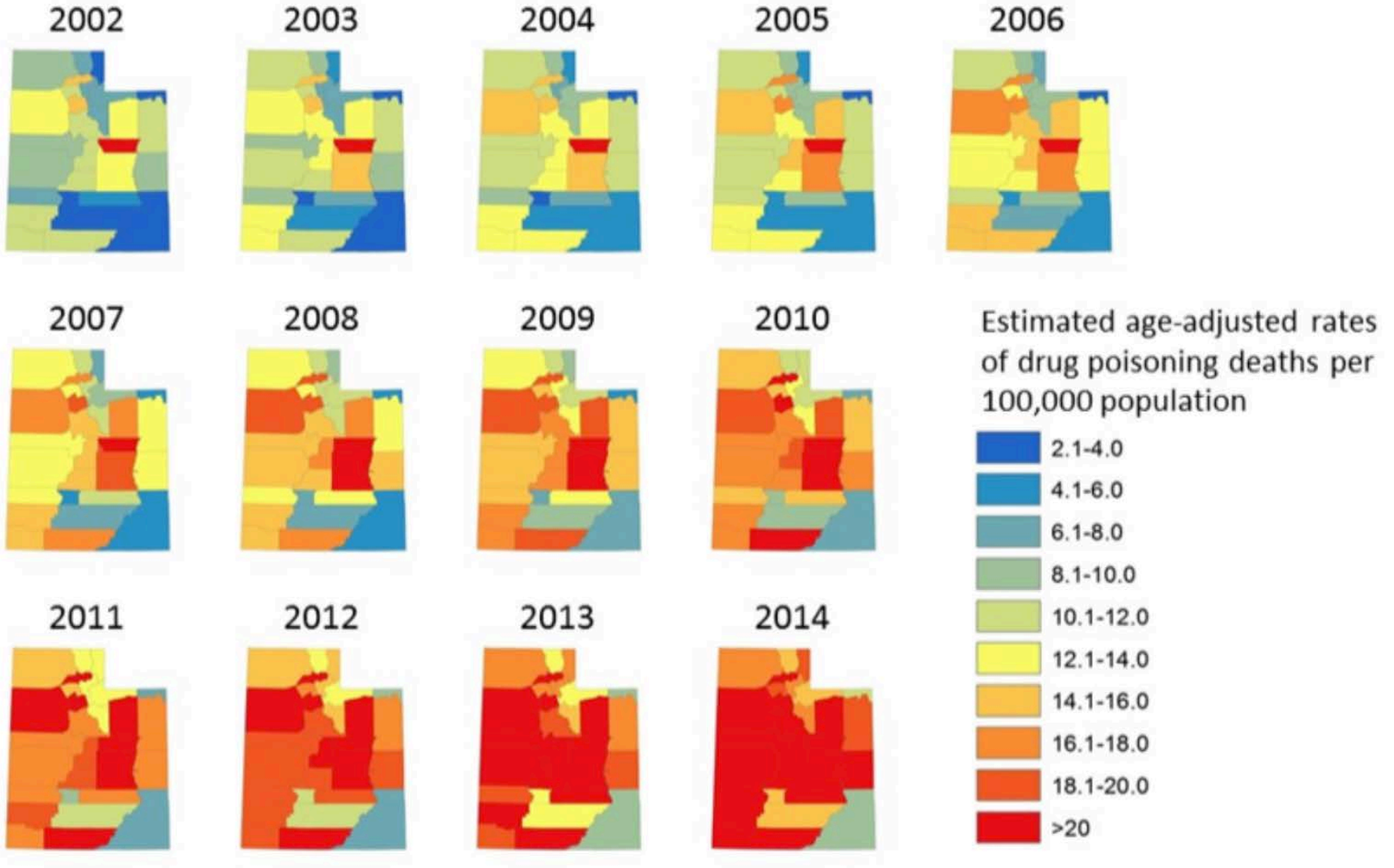
The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS
COMMITTEE OPINION

BABIES CANNOT HAVE AN ADDICTION

DRUG OVERDOSE DEATHS

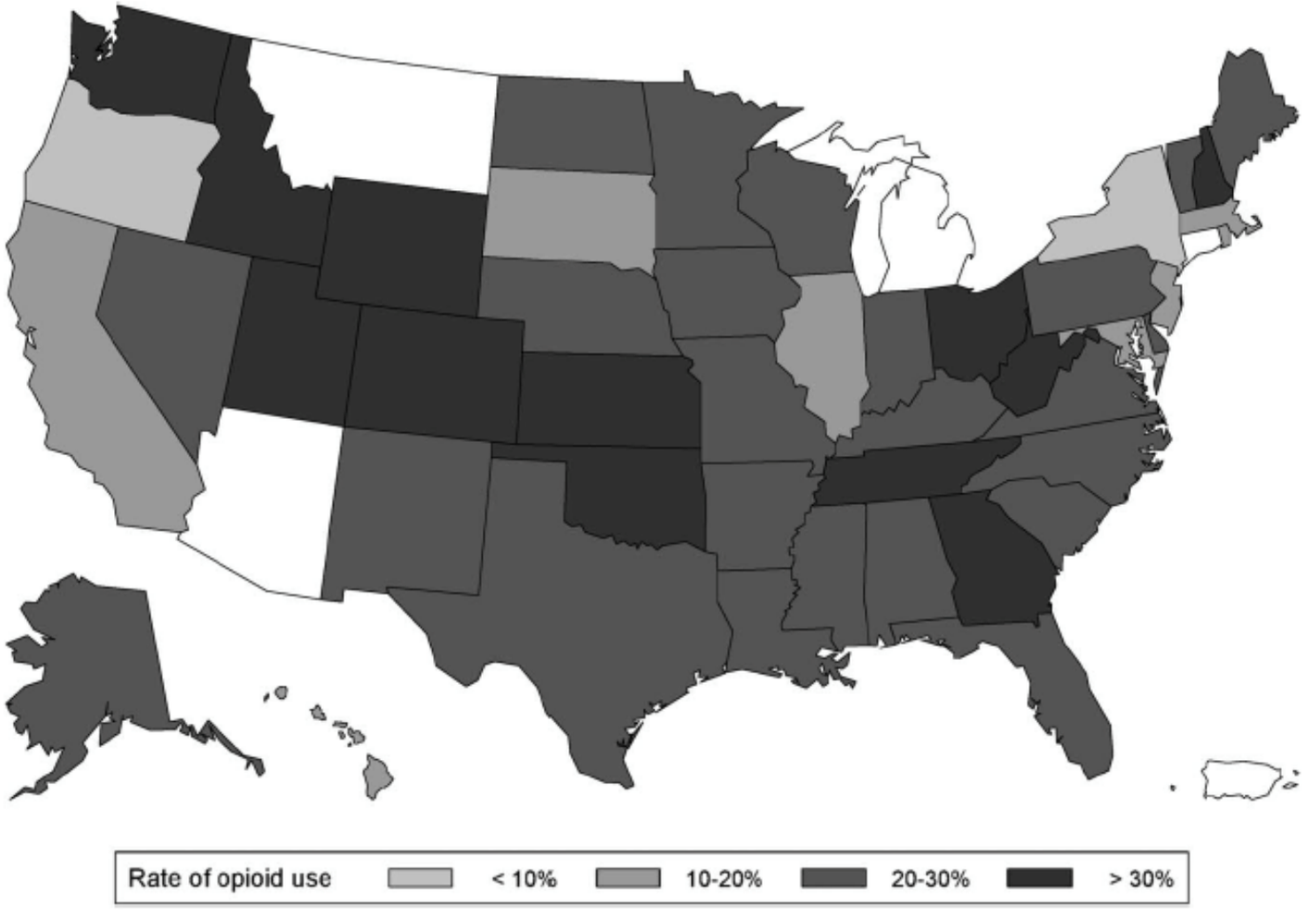


UTAH DRUG RELATED DEATHS



ate of Drug Poisoning Deaths per 100,000 Population by County, Utah 2002-2014 (age-adjusted); (CDC and UTDOH, 2016)

PREGNANCY AND OPIOID PRESCRIPTIONS



National 22%

Utah 42%

Idaho 36%

New Hampshire 34%

Wyoming 34%

Tennessee 34%

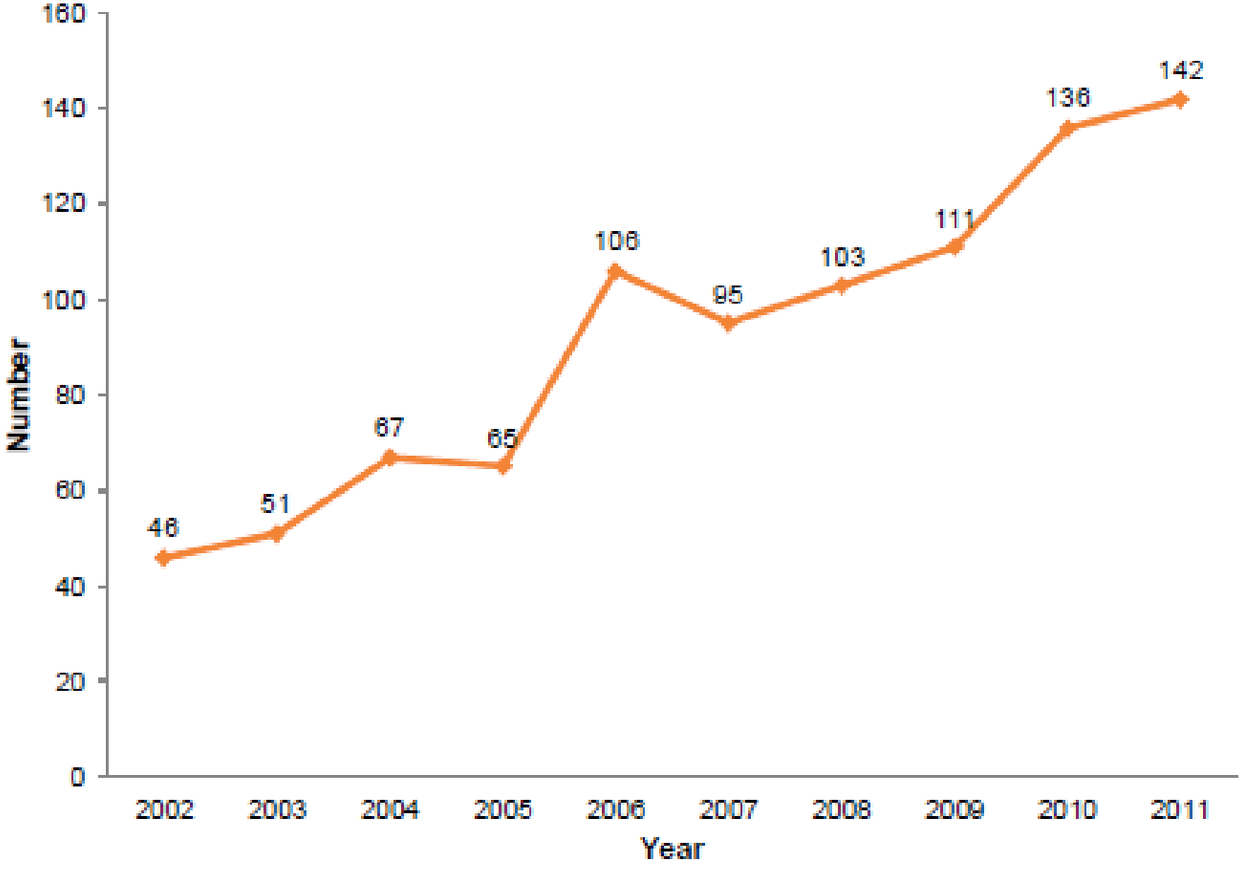
Fig. 1. Regional variation in the rates of prescription opioid dispensing during pregnancy, Medicaid 2000–2007. Arizona, Michigan, Montana, Connecticut, and Puerto Rico (*white*) are not represented in the cohort because of incomplete claims information.

Desai. Prescription Opioid Use Trend in Pregnancy. Obstet Gynecol 2014.

PREGNANCY AND DRUG DEPENDENCE

Complicated Pregnancies or Births due to a Mother's Drug Dependence

Figure 1. Number of hospital discharges as a result of complicated pregnancies or births due to a mother's drug dependence, Utah, 2002–2011

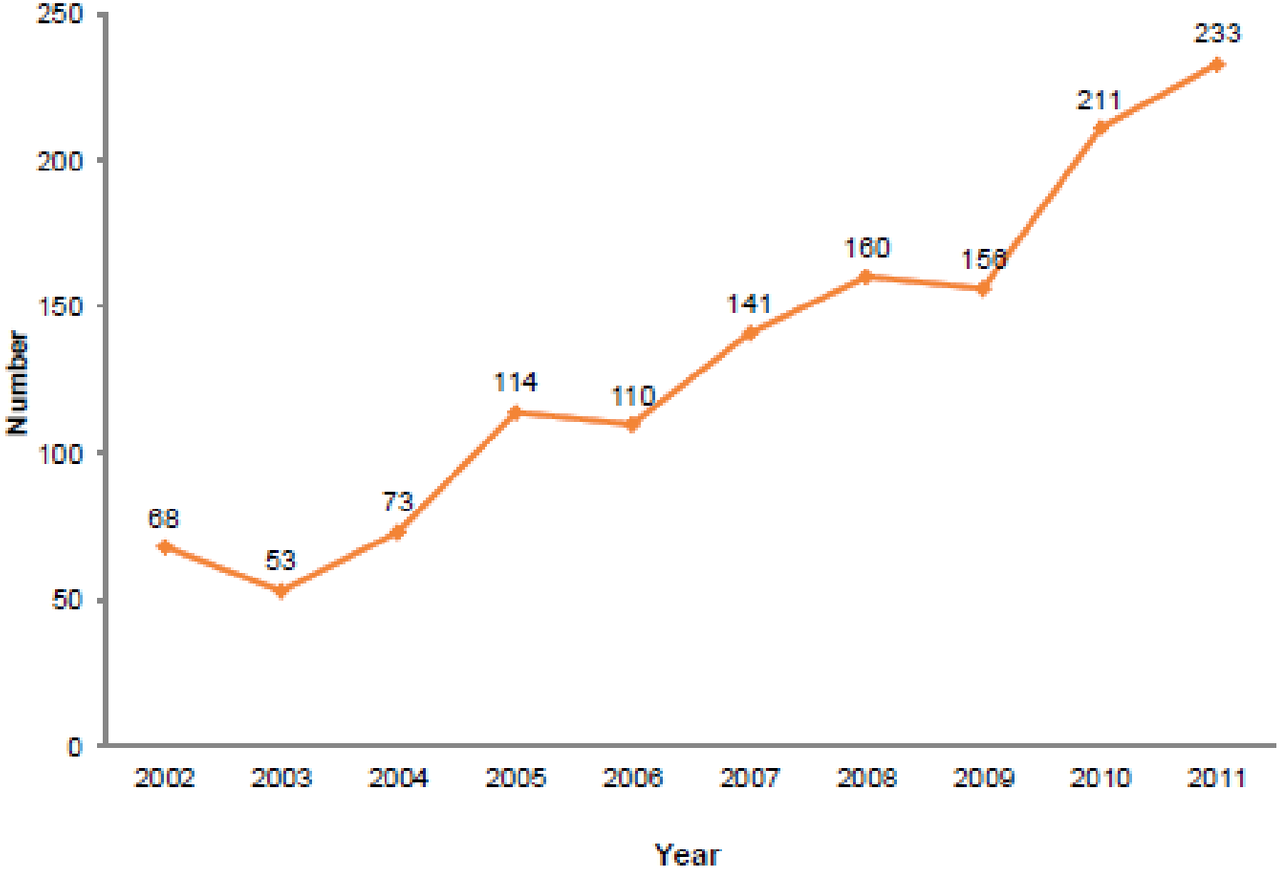


Source: Utah Hospital Discharge Data

NEONATAL ABSTINENCE SYNDROME IN UTAH

Newborns with Neonatal Abstinence Syndrome

Figure 2. Number of newborns (birth to 28 days) with NAS, Utah, 2002–2011

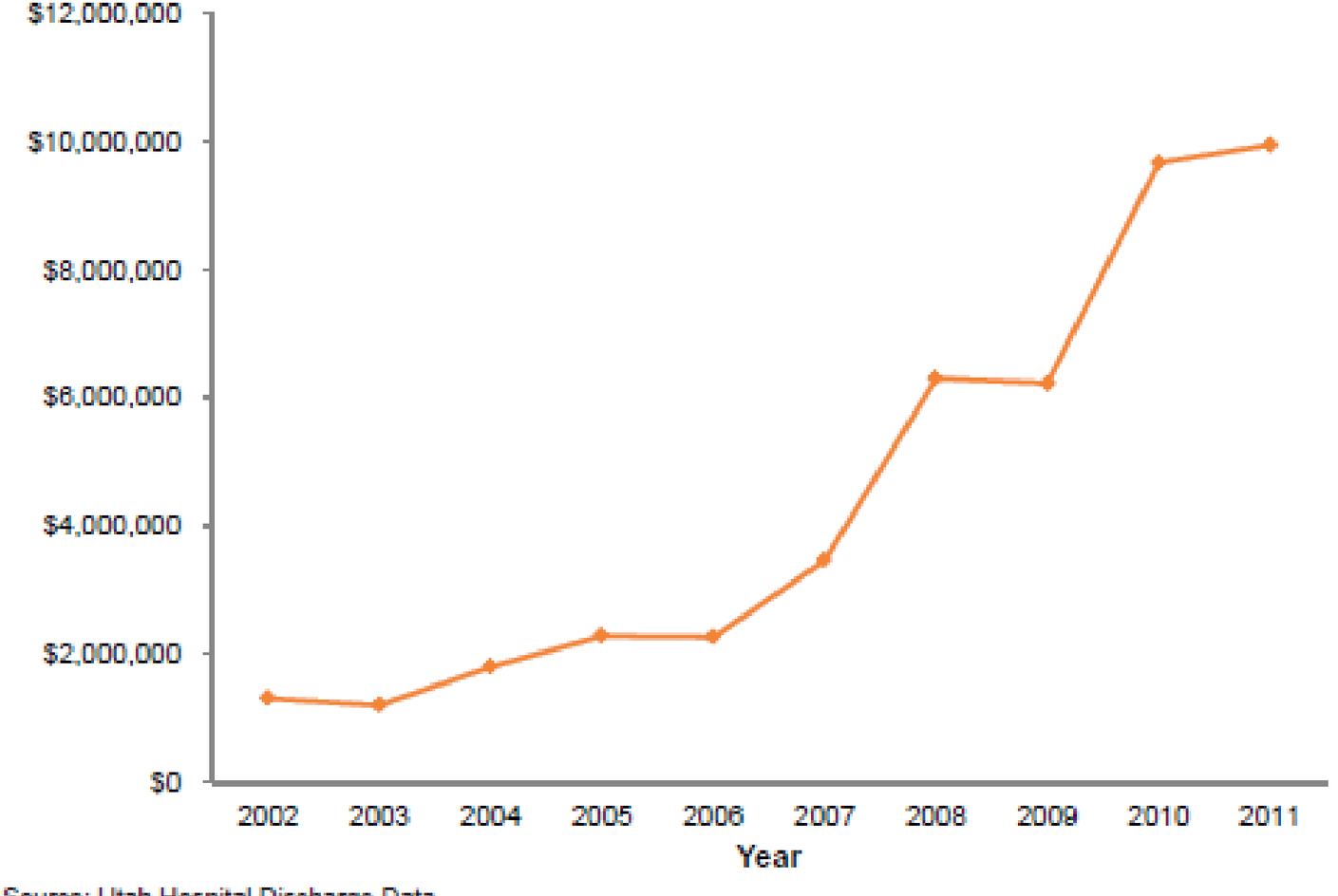


Source: Utah Hospital Discharge Data

NEONATAL ABSTINENCE SYNDROME IN UTAH

Charges for Newborns with Neonatal Abstinence Syndrome

Figure 3. Charges for newborns (birth to 28 days) with NAS, Utah, 2002–2011



Source: Utah Hospital Discharge Data

PREGNANCY AND OUD IN UTAH

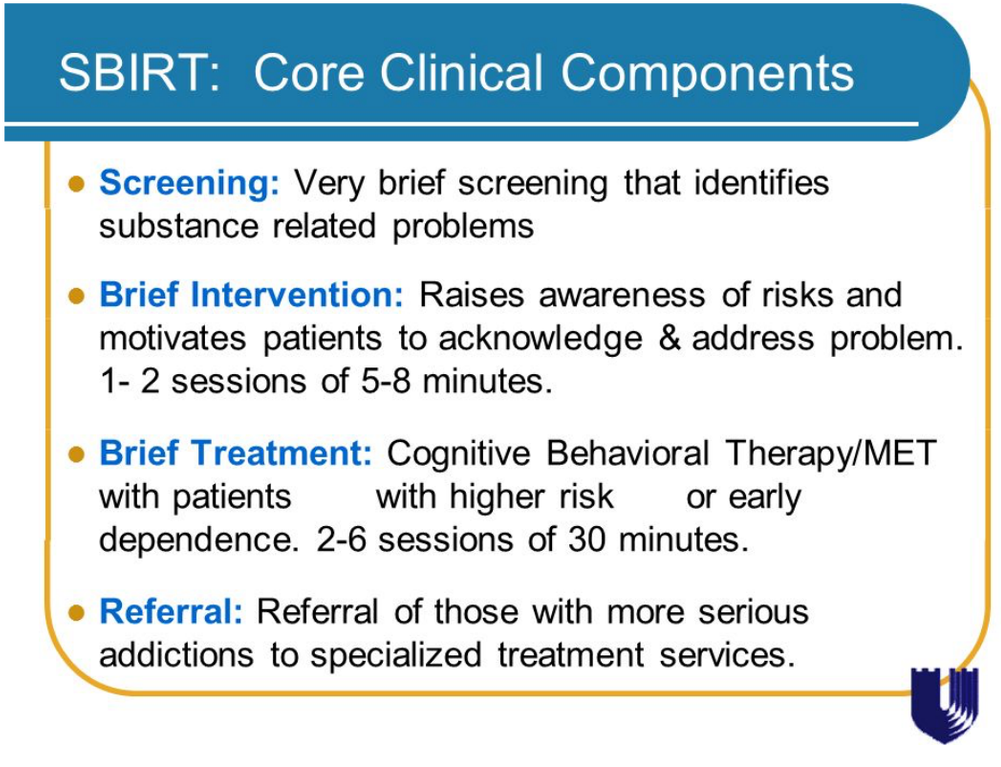
- 2010 National Survey on Drug Use and Health: 4.4% of pregnant women reported illicit drug use in last 4 days
- Utah: 5% of neonates are positive for drugs, most are opioids
- **One cause of maternal mortality in Utah is drug – related**

EFFECTS ON PREGNANCY

- **Birth defects**
  - Heart defects
  - Spina bifida
  - Gastroschisis
- **Intrauterine growth restriction**
- **Abruption**
- **Preterm delivery**
- **Sexually transmitted infections**
- **Stillbirth**
  - Fluctuating opioid concentrations in maternal blood may lead to fetal withdrawal or death
  - Narcotic withdrawal in pregnancy: Stillbirth incidence with a case report
  - Jose Luis Rementeria, MD
  - Am J Ob Gyn, 1973

SBIRT – SCREENING, BRIEF INTERVENTION, REFERRAL TO TREATMENT

- **EVERY** pregnant woman prenatally and throughout pregnancy
- **Utah HB 175** – REQUIRED training of physicians within nine years



SCREENING IN PREGNANCY

- 4 Ps
- NIDA Quick Screen
- CRAFFT

4 P's for Substance Abuse

1. Have you ever used drugs or alcohol during **P**regnancy?
2. Have you had a problem with drugs or alcohol in the **P**ast?
3. Does your **P**artner have a problem with drugs or alcohol?
4. Do you consider one of your **P**arents to be an addict or alcoholic?

Ewing H. Medical Director, Born Free Project. Contra Casta County, 111 Allen Street, Martinez, CA 94553. Phone: (510) 646-1165.

NIDA *Quick Screen* Question: In the past year, how often have you used the following?	Never	Once or Twice	Monthly	Weekly	Daily or Almost Daily
Alcohol • For men, 5 or more drinks a day • For women, 4 or more drinks a day					
Tobacco Products					
Prescription Drugs for Non-Medical Reasons					
Illegal Drugs					

TABLE 5 The CRAFFT questions

Two or more "Yes" answers suggest high risk of a serious substance-use problem or a substance-use disorder.

C Have you ever ridden in a **Car** driven by someone who was high or had been using drugs or alcohol?

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

A Do you ever use drugs or alcohol when you are **Alone**?

F Do you **Forget** things you did while using drugs or alcohol?

F Do your family and **Friends** ever tell you that you should cut down your drinking or drug use?

T Have you ever gotten into **Trouble** while using drugs or alcohol?

Abbreviation: CRAFFT, Car, Relax, Alone, Forget, Friends, Trouble.
Knight JR, et al.[23]

OUD TREATMENT IN PREGNANCY

- **Standard of care is opioid substitution** therapy with behavioral therapy
- Methadone or buprenorphine
  - Prevent complications of illicit opioid use and narcotic withdrawal
  - Encourage prenatal care
  - Reduce criminal activity
  - Harm reduction

OUD TREATMENT IN PREGNANCY

- Detoxification is **controversial and NOT well studied**

TABLE 1
Demographics, gestational age at the time of detoxification, neonatal intensive care unit admission, and pregnancy outcome of the opiate detox study population

Demographics	Group 1	Group 2	Group 3	Group 4	Total
Number	108	23	77	93	301
Mean maternal age, y	26.9 ± 3.7	26.4 ± 3.5	26.6 ± 3.6	27.2 ± 3.9	26.8 ± 3.7
Maternal age range, y	18–43	17–38	18–39	17–39	17–43
Maternal age <30 y	82 (76%)	18 (78%)	55 (71%)	67 (72%)	222 (74%)
Multiparity	94 (87%)	14 (61%)	54 (70%)	73 (78%)	235 (78%)
White	85 (79%)[a]	22 (96%)	74 (96%)	84 (90%)[a]	265 (88%)
African-American	22 (20%)	1 (4%)	3 (4%)	8 (9%)	34 (11%)
Gestational age at detoxification and NICU admission					
Detoxification first trimester, 5–13 wks gestation	10 (9%)	4 (17%)	12 (15%)	2 (2%)	28 (9%)
Detoxification second trimester, 14–27 wks gestation	65 (60%)	10 (43%)	36 (47%)	37 (40%)	148 (49%)
Detoxification third trimester, ≥28 wks gestation	33 (31%)	9 (39%)	29 (38%)	54 (58%)	125 (42%)
Preterm deliveries prior to 37 wks gestation	21 (19%)	3 (13%)	13 (17%)	16 (17%)	53 (17.6%)
Neonatal intensive care unit admission	32 (30%)	5 (22%)	60 (78%)	22 (24%)	119 (40%)
Pregnancy outcome					
Rate of NAS	20 (18.5%)	4 (17.4%)	54 (70.1%)	16 (17.2%)	94 (31%)
Rate of relapse[b]	25 (23.1%)	4 (17.4%)	57 (74.0%)	21 (22.5%)	107 (36%)

ADDICTION AS CHRONIC MEDICAL CONDITION

– Similar to diabetes management

METHADONE VERSUS BUPRENORPHINE

Neonatal Abstinence Syndrome after Methadone or Buprenorphine Exposure

Hendrée E. Jones, Ph.D., Karol Kaltenbach, Ph.D., Sarah H. Heil, Ph.D., Susan M. Stine, M.D., Ph.D., Mara G. Coyle, M.D., Amelia M. Arria, Ph.D., Kevin E. O'Grady, Ph.D., Peter Selby, M.B., B.S., Peter R. Martin, M.D., and Gabriele Fischer, M.D.

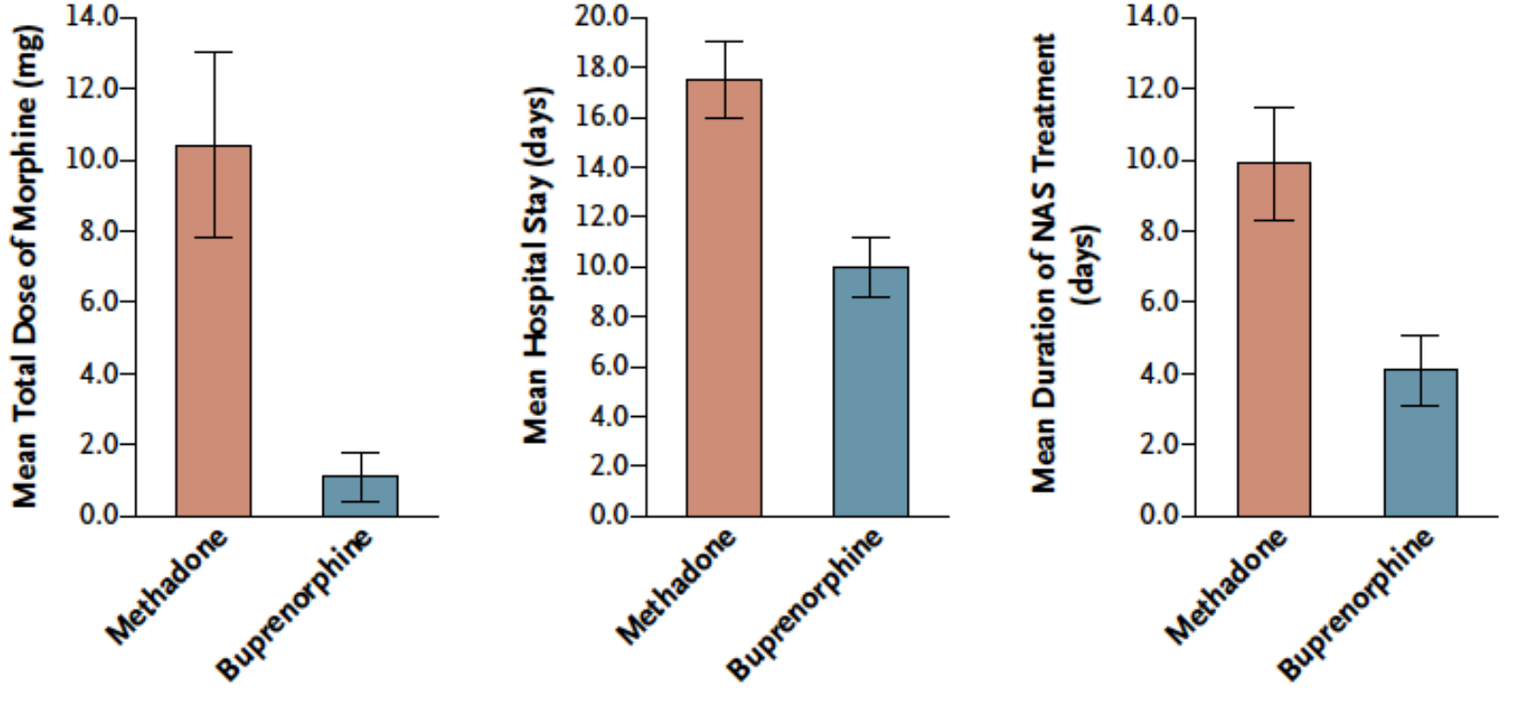


Figure 2. **Mean Neonatal Morphine Dose, Length of Neonatal Hospital Stay, and Duration of Treatment for Neonatal Abstinence Syndrome.**

NEONATAL ABSTINENCE SYNDROME (NAS)

Drug	Onset, hours	Incidence	Duration, days
Heroin	24-48	40-80%	8-10
Methadone	48-72	13-94%	Up to 30 or more
Buprenorphine	36-60	22-67%	Up to 28 or more
Prescription opioids	36-72	5-20%	10-30

Adapted from Kocherlakota, P *Pediatrics* 2014; 134(2):e547-561.

METHADONE VERSUS BUPRENORPHINE

Original Research

Buprenorphine and Naloxone Compared With Methadone Treatment in Pregnancy

Samantha L. Wiegand, MD, Elizabeth M. Stringer, MD, Alison M. Stuebe, MD, Hendree Jones, PhD, Carl Seashore, MD, and John Thorp, MD

Table 2. Neonatal Outcomes

Variable	Methadone (n=31)	Buprenorphine and Naloxone (n=31)	Adjusted OR (95% CI)*
Primary outcomes			
Treated for NAS	16 (51.6)	8 (25.1)	2.55 (1.31–4.98)
Morphine used (mg)	5.0±3.3‡	3.4±1.2	
Duration of NAS treatment (d)	11.4±3.4§	10.6±3.1	
Peak NAS score‖	10.7±3.7	9.0±4.4	
Secondary outcomes			
Head circumference (cm)	32.9±2.5	34.4±1.4	
Birth weight (gm)	2,885.9±691.2	3,174.6±532.8	
Length (cm)	47.9±4.0	50.1±2.5¶	
Preterm	5 (16.1)	1 (3.2)	5.00 (0.62–40.36)#
NICU admission	11 (35.5)	6 (19.4)	1.06 (0.75–1.50)
Length of hospitalization (d)**	9.8±7.4	5.6±5.0	
Apgar score			
1 min	8 (3–9)	8 (2–9)	
5 min	9 (7–10)	9 (7–9)	

POLYPHARMACY AND NAS

Risk of neonatal drug withdrawal after intrauterine co-exposure to opioids and psychotropic medications: cohort study

Krista F Huybrechts,[1] Brian T Bateman,[1,2] Rishi J Desai,[1] Sonia Hernandez-Diaz,[3] Kathryn Rough,[1,3] Helen Mogun,[1] Leslie S Kerzner,[4] Jonathan M Davis,[5] Megan Stover,[6] Devan Bartels,[7] Jennifer Cottral,[7] Elisabetta Patorno[1]

Table 2 | Absolute risk of neonatal drug withdrawal (neonatal abstinence syndrome) after intrauterine exposure to both opioids and psychotropic medications versus opioids alone. Medicaid Analytic eXtract, 2000-10

	Opioids + psychotropic medications		Opioids alone	
	Cases/total	Risk (/100) (95% CI)	Cases/total	Risk (/100) (95% CI)
Antidepressants	495/14 183	3.49 (3.19 to 3.79)	1743/173 841	1.00 (0.96 to 1.05)
Antipsychotics	67/993	6.75 (5.19 to 8.31)	2481/199 151	1.25 (1.20 to 1.29)
Benzodiazepines	413/5361	7.70 (6.99 to 8.42)	1989/191 863	1.04 (0.99 to 1.08)
Gabapentin	57/501	11.38 (8.60 to 14.16)	2509/200 204	1.25 (1.20 to 1.30)
Z drugs	229/10 105	2.27 (1.98 to 2.56)	2286/188 216	1.21 (1.17 to 1.26)
1 psychotropic*	612/16 524	3.70 (3.42 to 4.00)	1423/168 086	0.85 (0.80 to 0.89)
≥2 psychotropics*	172/1737	9.90 (8.56 to 11.37)	1423/168 086	0.85 (0.80 to 0.89)

*Antidepressants, benzodiazepines, gabapentin.

INTRAPARTUM MANAGEMENT

- Treat women with OUD in labor on **just like others**
  - Continue ethadone or buprenorphine
- **Avoid opioid antagonists** (butorphanol, nalbuphine, pentazocine) which can precipitate withdrawal
- Pediatric staff should be available
- **Awareness**
  - **More analgesia** during labor than non opioid-dependent patients
  - Neuraxial anesthesia is appropriate as needed

POSTPARTUM MANAGEMENT

- Increased pain
  - **increased opioid treatment** whether on methadone or buprenorphine
- **Breastfeeding** can be encouraged with methadone or buprenorphine
  - NOT if continuing to use heroin or HIV
  - Hepatitis B and C NOT a contraindication
- **Contraception**
- **Naloxone counseling**
- **Drug treatment**

UTAH LAWS

As Of September 1, 2017 | **State Laws And Policies**

GUTTMACHER INSTITUTE

GUTTMACHER CENTER FOR POPULATION RESEARCH INNOVATION AND DISSEMINATION

Substance Use During Pregnancy

State Policies On Substance Use During Pregnancy

STATE	SUBSTANCE USE DURING PREGNANCY CONSIDERED:		WHEN DRUG USE SUSPECTED, STATE REQUIRES:		DRUG TREATMENT FOR PREGNANT WOMEN		
	Child Abuse	Grounds For Civil Commitment	Reporting	Testing	Targeted Program Created	Pregnant Women Given Priority Access In General Programs	Pregnant Women Protected From Discrimination In Publicly Funded Programs
Utah	X		X			X	

Utah Code > Title 76 > Chapter 5 > Part 1 > § 76-5-112.5

Utah Code 76-5-112.5. Endangerment of a child or vulnerable adult

Current as of: 2016 | *Check for updates* | *Other versions*

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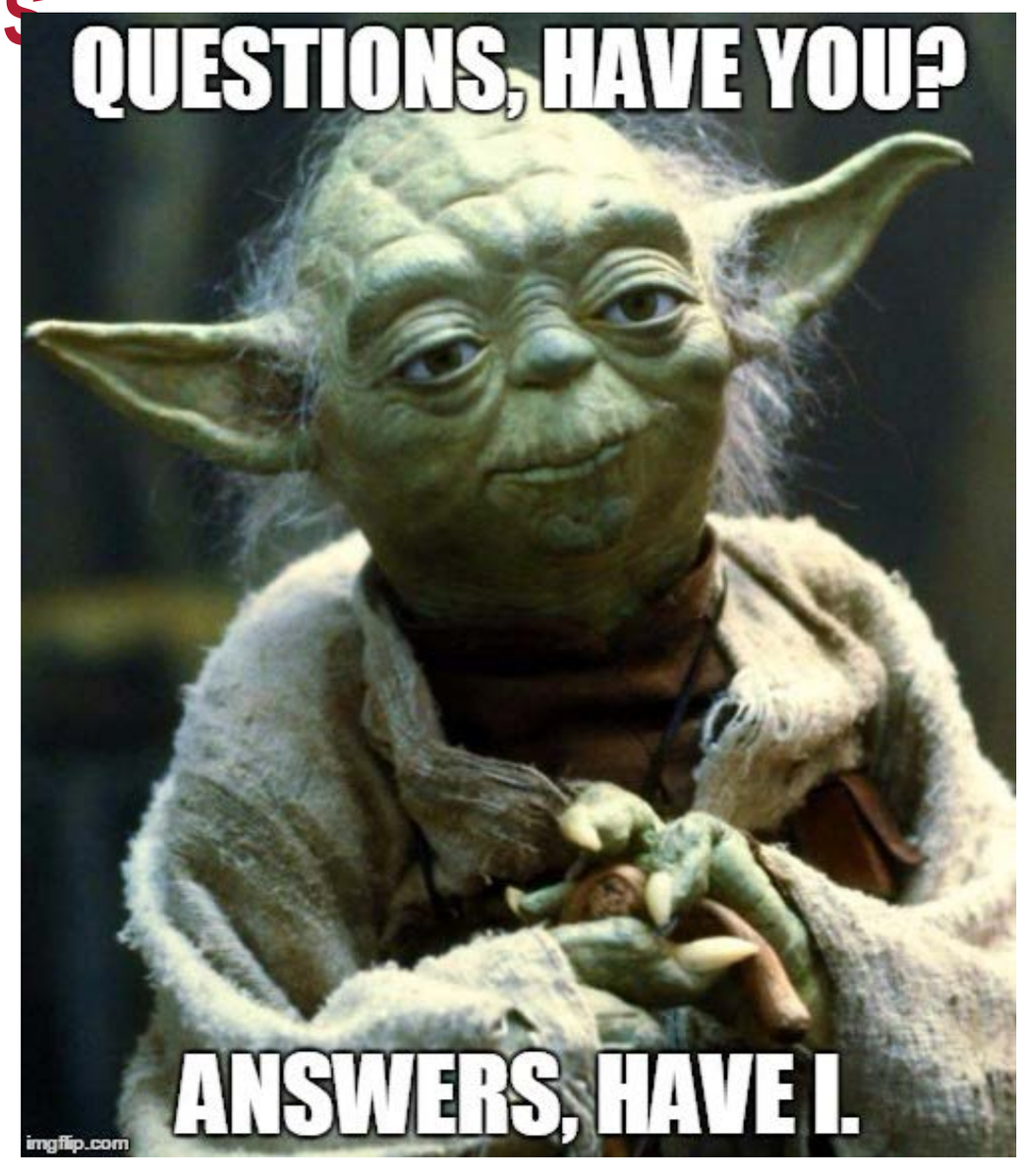
SUPERAD CLINIC – (SUBSTANCE USE IN PREGNANCY RECOVERY, ADDITION AND DEPENDENCE)

- South Jordan Health Center
- Monday afternoons
- Appointments (801) 581-8425

QUESTIONS



Well I might just have opinions…lots of opinions.

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