



# MATERNAL MARIJUANA MATTERS; Weeding Through the Issues of Marijuana Legalization

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# OBJECTIVES

- Explain the background of marijuana; its current pharmacology, and the legalization of it at the state level
- Identify perinatal issues created by the legalization of marijuana at the state level
- Discuss current state and future opportunities regarding marijuana use in the childbearing family



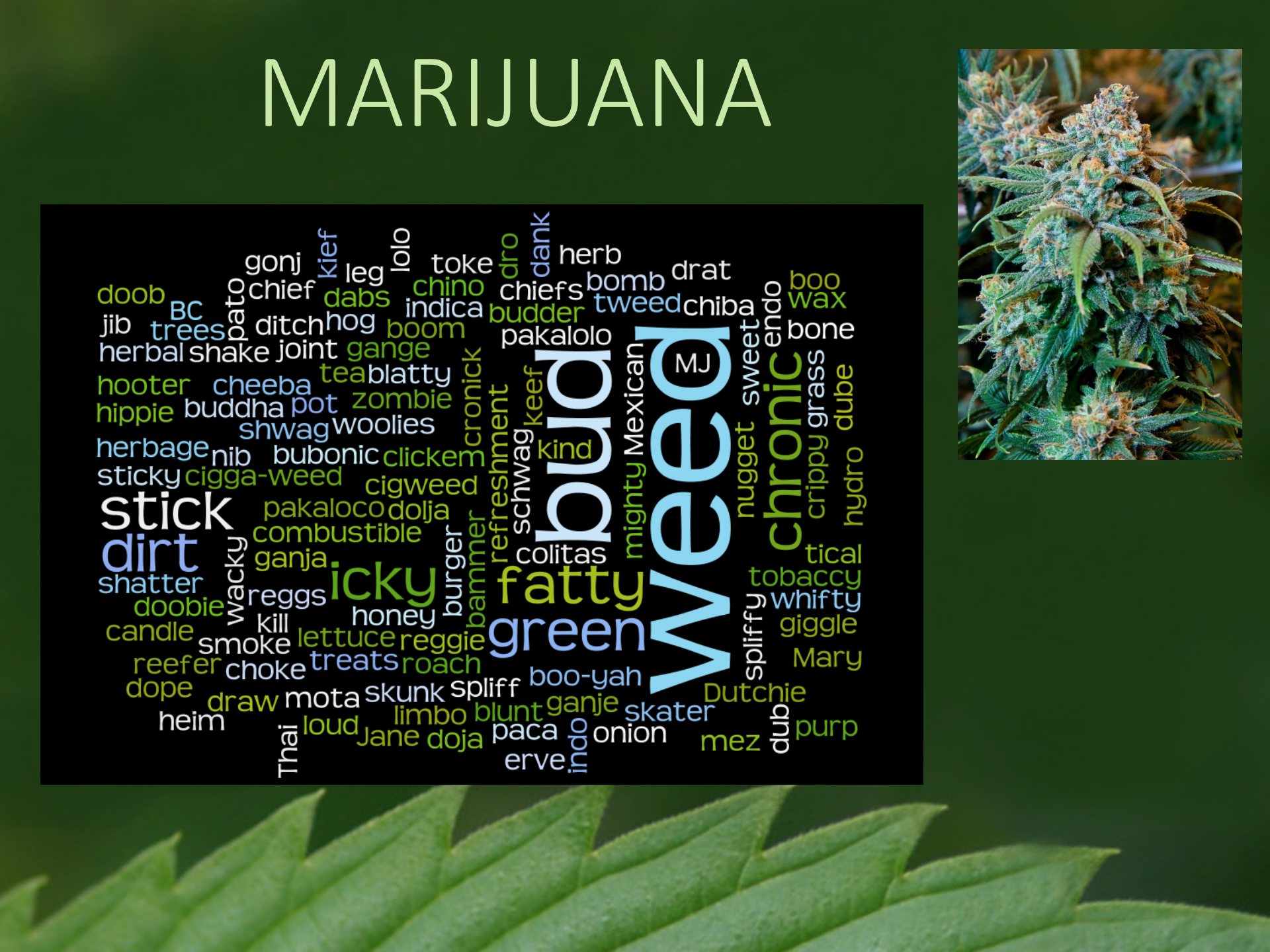
# PLEASE!



- Suspend own narrative, biases....
- Approach this time not as a conversation regarding opinions, but a professional dialogue about our patients
- Bring your curiosity and open mindedness

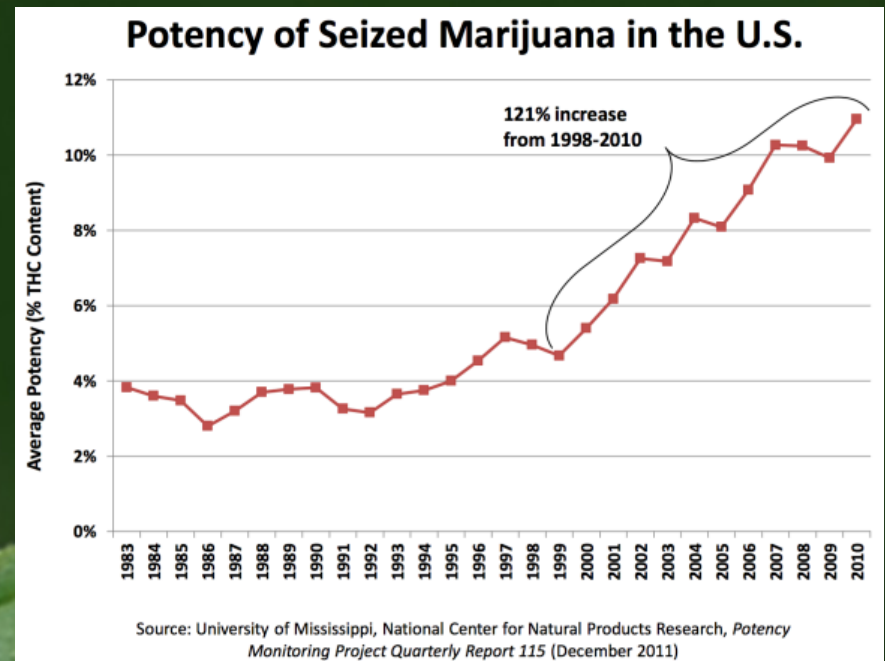




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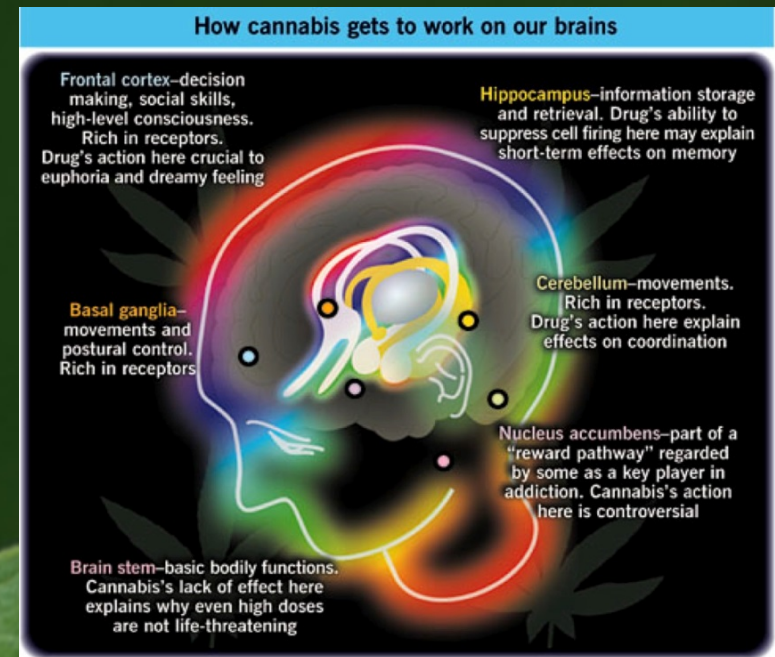
# MARIJUANA

- Crude drug derived from Cannabis plants
- Most widely cultivated, consumed illicit drug in the world
- Cultivated indoors and outdoors with varying potency and concentrations
- Psychoactive chemical: delta 9 tetrahydrocannabinol (THC)
- Upward trend in mean THC content



# THC

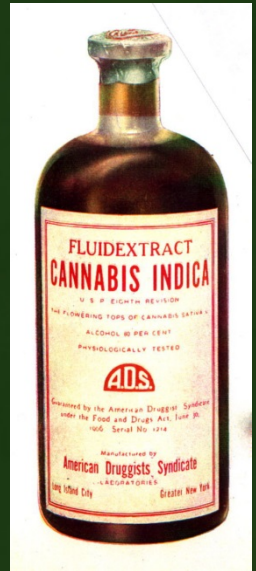
- THC similar to endogenous cannabinoids, acts through cannabinoid receptors
  - Neurotransmitters
  - Stimulates dopamine release
  - Influences pleasure, memory, thinking, concentration, movement, coordination, sensory and time perception





# HISTORY

- Earliest recorded use 3<sup>rd</sup> millennium BC
- Cannabis regulation began as early as 1619
- Prohibition began in 1920's, mid-1930's regulated in every state



**Beware!** Young and Old—People in All Walks of Life!

This  may be handed you  by the friendly stranger. It contains the Killer Drug "Marihuana"—a powerful narcotic in which lurks **Murder! Insanity! Death!**

**WARNING!**  
Dope peddlers are shrewd! They may put some of this drug in the  or in the  or in the tobacco cigarette.

WRITE FOR DETAILED INFORMATION, ENCLLOSING 12 CENTS IN POSTAGE—MAILING COST

**Address: THE INTER-STATE NARCOTIC ASSOCIATION**  
(Incorporated not for profit)  
**53 W. Jackson Blvd. Chicago, Illinois, U. S. A.**

Copyrighted Material. See also How to Buy or Sell.

1930

# HISTORY

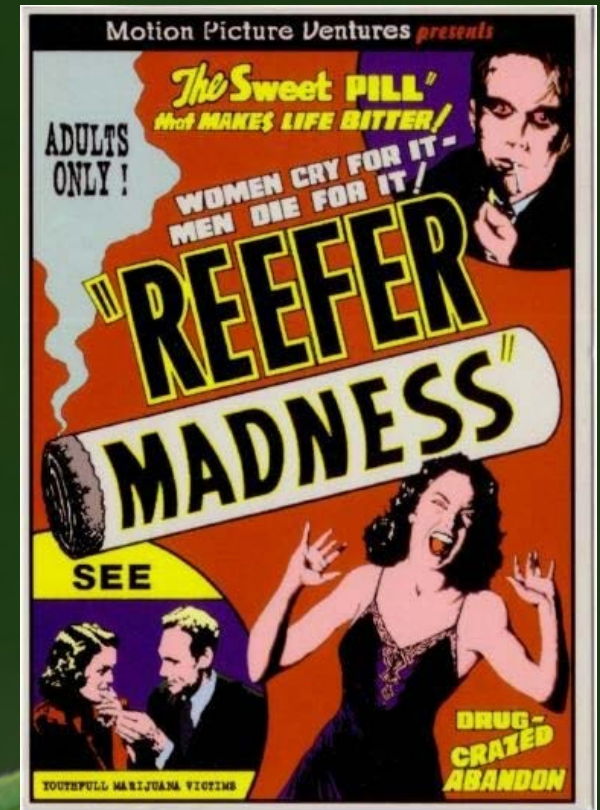
- 1936- Antimarijuana propaganda film
- 1937- Marijuana Tax Act of 1937
- 1970- Controlled Substances Act
- 1970s → current day

States' efforts to decriminalize

States' efforts to legalize:

Medical use

Recreational use

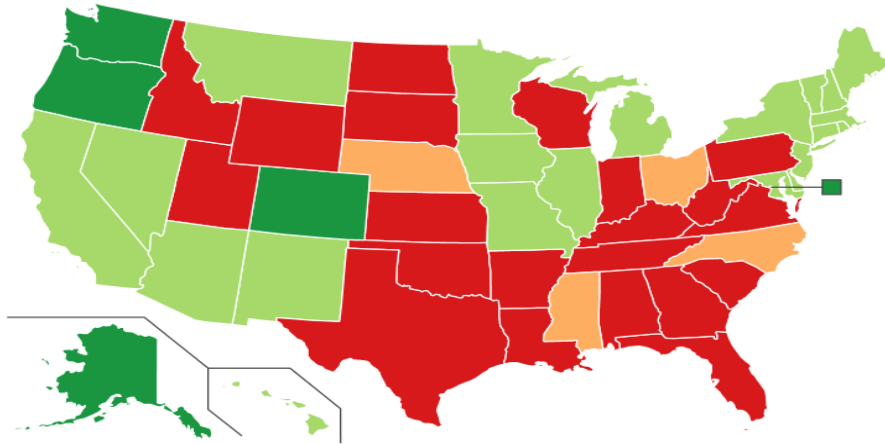




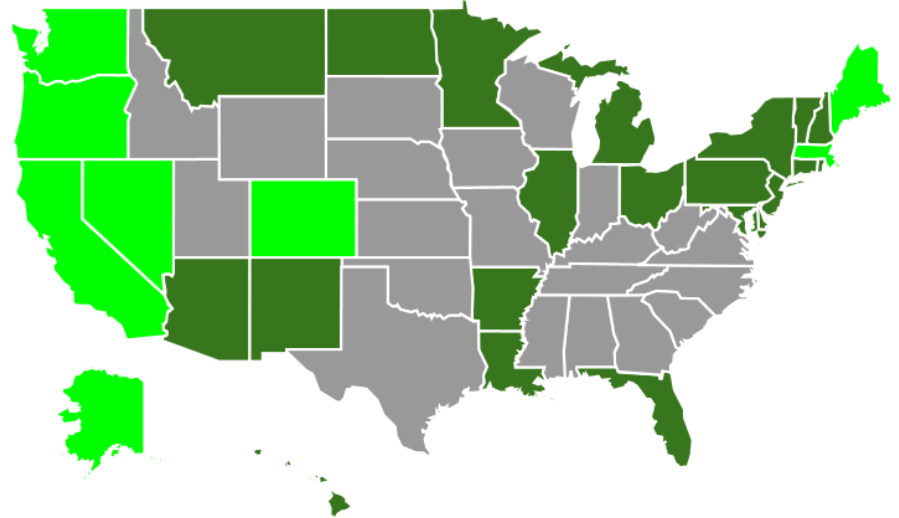
# STATE OF THE UNION

## Legal status

As of January 20th 2015



Source: *The Economist*

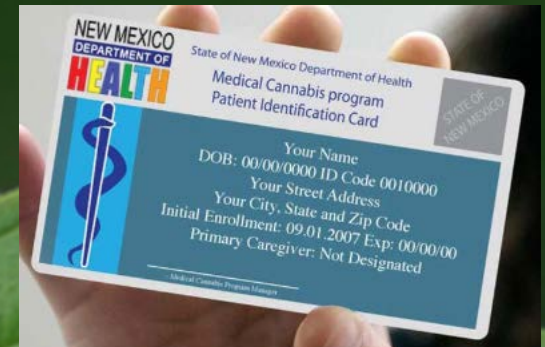


## Marijuana Legalization Status

- Medical marijuana legalized
- Marijuana legalized for recreational use
- No laws legalizing marijuana

# MEDICAL MARIJUANA

- First state to legalize: California, 1996
- Currently legal in 23 states and DC
- Legalized in NM in 2007 – 50K users
  - Epilepsy, cancer, HIV/AIDS, ALS, PTSD, severe chronic pain, severe anorexia, intractable nausea, glaucoma, hepatitis C, painful peripheral neuropathy, Crohn's disease, multiple sclerosis, inflammatory autoimmune mediated arthritis, intractable spasticity, \*hospice
  - 6 oz and 16 plants
  - Medical cards don't protect from civil prosecution



# RECREATIONAL MARIJUANA

- Legal in CO, OR, WA, AK, CA, MA, ME, NV, and DC
- Who will legalize next? NY, VT, MN, CT, MD, RI, DE
- Legalized in CO in 2014: Amendment 64
  - Licensing of agencies
  - Colorado residents over 21
  - Non-residents over 21





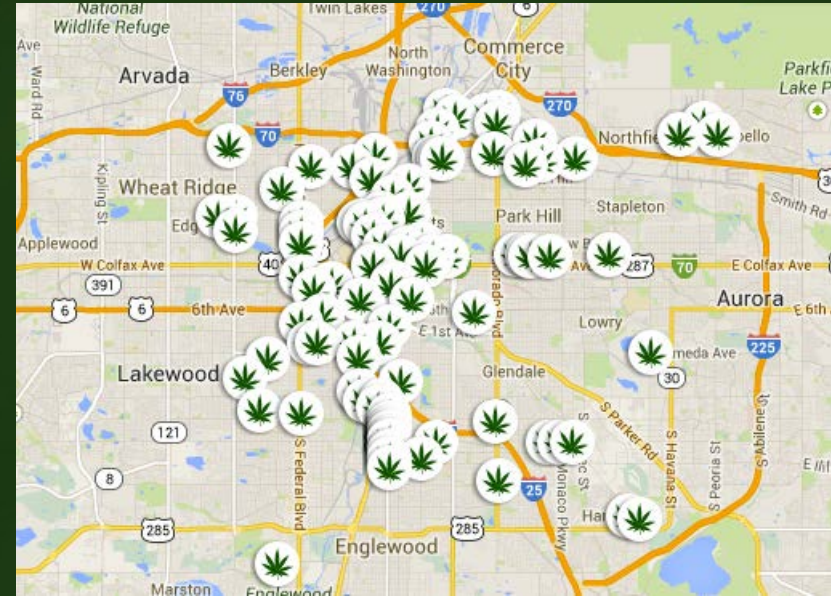
# RECREATIONAL MARIJUANA IN NEW MEXICO



- Illegal but decriminalized (2015)
  - If <1 oz: \$50-100 or up to 15 days jail
  - If >1 oz or 2<sup>nd</sup> offense: \$1000 or up to 1 year prison
- Cultivation and distribution: hefty fines and up to 18 years in prison



# COLORADO





# EDIBLES





# DRUG SCHEDULING

- Controlled Substances Act (Nixon, 1970) prescribes US drug policy
- Allowed for creation of 5 drug classifications or schedules
- Allowed for the DEA and the FDA to determine drugs to be added and removed
- Congress has previously scheduled other drugs via legislation



# DRUG SCHEDULING

DEA SCHEDULE	ABUSE POTENTIAL	EXAMPLES OF DRUGS COVERED	SOME OF THE EFFECTS	MEDICAL USE
I	Highest	Heroin, Marijuana, LSD, designer drugs	Unpredictable, severe psych/physical dependence or death	No accepted use, some legal for limited research
II	High	Morphine, Cocaine, Demerol Methadone	May lead to severe psych/physical dependence	Accepted use w/ restrictions
III	Medium	Anabolic steroids, some Amphetamines	May lead to moderate-low physical, high psych dependence	Accepted use
IV	Low	Darvon, Phenobarbital, Diazepam, Ambien	May lead to limited physical and psych dependence	Accepted use
V	Lowest	OTC or prescription, compounds with Codeine, Robitussin, Lomotil	Lead to limited physical or psychological dependence	Accepted use <a href="http://www.druglibrary.org">www.druglibrary.org</a>

# LEGAL RATIONALE

- Marijuana **MAY BE** legal in states if grown, sold, used and taxed within the state **WITHOUT** using federal resources or means of commerce
- Federal Department of Justice, 2014
  - Marijuana is a dangerous drug that remains illegal under federal law
  - Federal government has ‘bigger fish to fry’ –will not pursue legal challenges against jurisdictions that authorize marijuana
  - State and local governments should maintain strict regulatory and enforcement controls



# WHAT DOES IT ALL MEAN?

- Marijuana: Schedule 1, illegal under federal law
- Federal law trumps state law
- Despite federal law, states have legislated to decriminalize & legalize medical & recreational
- Contradiction between federal & state law has raised legal and ethical questions for many professions: Banking, legal, health care, behavioral health & human services....



# CHILD PROTECTION

- Mandatory reporting
  - 2003: Keeping Children and Families Safe Act
    - Substance AFFECTED newborns
  - 2010: Act was re-authorized and expanded
    - Substance EXPOSED newborns
    - Newborns who test + for Schedule I or non-prescribed substances of abuse



Colorado State Methamphetamine Task Force, 2012

- Women are criminally protected by state, but no protection from child abuse/dependency and neglect prosecution in civil court



# USE DURING PREGNANCY AND BREASTFEEDING

- Most commonly used drug during pregnancy
  - Self reported use: 2-5%
  - Use increases to 15-28% among young, urban, socioeconomically disadvantaged
  - 48-60% of marijuana users will continue use during pregnancy
- No known studies regarding rate of use in breastfeeding women





# CANNIBUS EXPOSURE IN PREGNANCY

- Endocannabinoid system plays role in fetal brain maturation
  - Higher number of receptors
  - Role of endocannabinoid system in several developmental events
- Cannabis may disrupt developing fetal neurotransmitter systems



# MATERNAL TRANSFER TO INFANT

- Readily crosses the placenta
- Fat soluble
- Stored in brain and organs
- Transferred to milk in moderate amounts
- One Study (milk/plasma ratios):

	Mom A	Mom B
Amount of Use	Smoked 1x/ day	Smoked 7x/day
Effect on Breast Milk	THC barely detectable	THC level 8x that of MOC's blood level
Infant's Drug Test	NEG Urine test	+ stool sample

# BREASTFEEDING CONCERNS

- Sedation
- Poor growth
- Reduced muscle tone
- Poor sucking
- Delayed motor and neuro-development

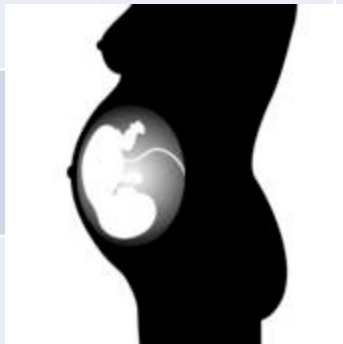


Liston J, 1998

- AAP: Women who use marijuana should not breastfeed



# THE EVIDENCE

Substantial Evidence	Moderate Evidence	Limited Evidence	Insufficient Evidence	Mixed Evidence
	Decreased Growth	Stillbirth	s/s of Psychosis in Adolescence	Preterm Delivery
	Decreased IQ Scores in Young Children	SIDS (evidence of no association)	Initiation of Adolescent Use	Low Birth Weight, SGA, Decreased Birth Weight
	Decreased Cognitive Function	Increase s/s of Depression		Newborn Behavior Issues
	Attentional Problems	Delinquent Behavior		Birth Defects (NTD/gastroschisis)
		Isolated Simple Ventricular Septal Defects		Frequency of Use - Adolescence
			Breastfeeding and SIDS	Breastfeeding and Motor Development



# THE EVIDENCE

- 2015, Metz & Stickrath
  - Possible ↑ risks of stillbirth, PTB, IUGR, adverse effects on child neurodevelopment
  - Mixed perinatal outcomes
- 2016, Connor & Bedell
  - Not an independent risk factor for adverse neonatal outcomes
- 2017, Nat'l Academy of Sciences ('99-'17)
  - Substantial evidence of a statistical association for lower birth weight



# THE EVIDENCE

- 2018, Dickson, Mansfield, et al, Green Journal  
Recommendations From Cannabis Dispensaries About First-Trimester Cannabis Use
  - 400 dispensaries contacted
  - 69% recommended rx of morning sickness with cannabis products (person opinion)
  - 36% stated cannabis is safe in pregnancy
- 2018, Baker, Datta, et al (Hale), Green Journal  
Transfer of inhaled Cannabis Into Human Breast Milk
  - 8 patients
  - Infant dose: 2.5% maternal dose
  - Peaks in 1 hour, almost non-detectable in 4 hours



# PUBLIC HEALTH STATEMENTS

- There is no known safe amount of marijuana during pregnancy
- THC can pass from mother to the unborn child through the placenta
- The unborn child is exposed to THC used by the mother
- Maternal use during pregnancy is associated with negative effects in exposed children that may not appear until adolescence
- There are negative effects use during pregnancy regardless of when used during pregnancy

# GAPS IN RESEARCH

- Reasons for use during pregnancy, breastfeeding
- Effects of edibles, vaping
- Effect on miscarriage
- Effects on developing fetus
- THC levels in breast milk
- Effects on newborn via breast milk exposure



This is where it gets a little messy!  
Ethical and moral  
considerations



# PERINATAL ISSUES

- Uninformed public
- No SOC for healthcare community
  - Screening
  - Prenatal testing, retesting
  - Education
  - Breastfeeding
  - Newborn testing
  - Breast milk in NICU
  - Reporting
- Polarization



# CASE STUDY





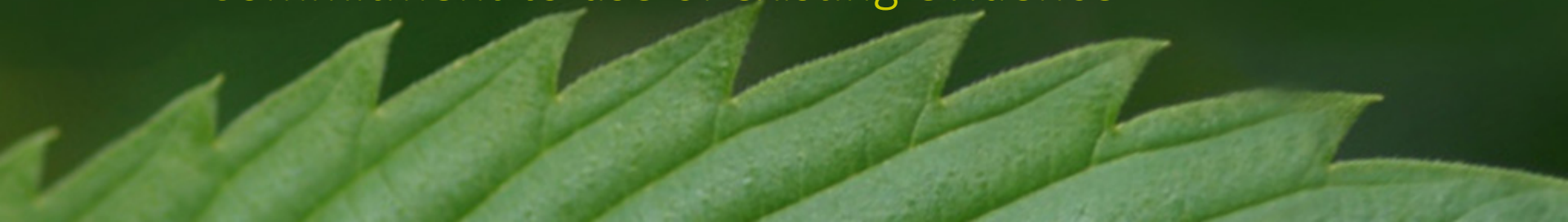
# ETHICAL CONCERNS

- FIDELITY: Provider/patient relationships (ACOG Comm. Opin, 473, 2011)
- SOCIAL JUSTICE: Discriminatory testing (Landmark study- Chasnoff, 1990)
- RESOURCE UTILIZATION: Mandatory reporting to overloaded CPS system (AZ Division of ES, Children, Youth and Families, 2008)
- ROLE TRANSITION/ATTACHMENT: Negative psychosocial impact from humiliating, punitive, or legal intervention (AZ Division of ES, Children, Youth and Families, 2008)
- BREAST MILK: Risk of THC in breast milk vs benefits of human breast milk (Kaiser Neonatology Journal Club Statement, 2014)
- CYCLE OF POVERTY



# FINDING COMMON GROUND

- Who are the stake holders and interested parties and who is not represented?
- How is their perspective unique, and what is their experience?
- What could be agreed on concretely?
  - A moral obligation exists for a woman to protect her developing baby
  - Our ideal role is to play a part in reducing harm to mom, baby and family, focusing on education
  - Commitment to use of existing evidence



# INTERESTED PARTIES

- Maternal care team: OB, RN, MFM, lactation, CNM, resident (family practice vs OB)
- Newborn care team: Peds, RN, neonatology, NICU RN
- Community services: Child protective services, early intervention services, guardian's ad litem
- The patient: Some well informed, some very ill informed





# SOLUTIONS, RESOURCES

- State

- CDPHE

- Literature reviews

- Focus groups

- Public/patient/provider education



# CO. DEPT. OF PUBLIC HEALTH

- Retail Marijuana Public Health Advisory Committee Duties:

- Review the scientific literature currently available on health effects of marijuana use.
- Judge and openly discuss the science using expert medical opinion.
- Come to consensus on population health effects of marijuana use based on current science.
- Come to consensus on translation of the science into public health messages.
- Recommend public health related policies based on the current science and expert medical discussion.
- Recommend public health surveillance activities to address any gaps in knowledge discovered.
- Identify and prioritize gaps in science important to public health.



- Marijuana and Your Baby
- Marijuana Pregnancy Breastfeeding Guidance for Colorado Health Care Providers
  - Screening
  - Prenatal visits
  - Delivery
  - Talking to patients
  - Reporting
  - Breastfeeding
  - Parenting
  - Safe storage
  - Second hand smoke
  - Driving



# SOLUTIONS, RESOURCES

- Facility/System

- Multidisciplinary workgroups, education

- Kaiser Neonatology Journal Club

- Depending on family circumstances, the benefits of breast feeding, even with continued cannabis use, may outweigh the negative side-effects, especially in infrequent users
      - Institutions should work toward a policy of ensuring best practices for their particular population of cannabis users.

- Evidence-based guidelines

- Screening and testing
    - Breastfeeding, lactation support

CO - Good Samaritan Medical Center, CO - Saint Joseph Hospital

Site Department / Single Discipline Policy: Guidelines for Lactation Support and Breast Milk Use When Cannabis Use Is Identified - GSMC and SJH	
Department(s) Affected: Childbirth & Maternal Services (inc. Neonatal)	
Document Owner: Eileen Melsner (Mgr-Family Educ & Support)	
Effective Date: Not Approved Yet	Next Review Date: No Review Date
Executive Approver(s): Lee Stigler (Physician), Teresa Francisco (Dir-Nursing Services (EGSMC))	Approval Date: Not Approved Yet

**Purpose:**

To provide education and support that reduces the risks posed to neonates by breast milk that comes from mothers whose urine tests and/ or urine, meconium or umbilical cord drug tests of their infants are positive for THC.

To encourage the provision of breast milk and promote marijuana abstinence for mothers who breastfeed

**Scope:**

This policy applies to specific roles/functions including Medical Providers, LIPs, Lactation Consultants, Registered Nurses, Care Managers.

This guideline does not apply when there are other substances of abuse identified.



# WORK IN PROGRESS!!!

- Commitment to ongoing:
  - Literature review, guideline updates
  - Legal, statute review
  - Education
  - Standardized, reasonable approach
  - Patient advocacy





# QUESTIONS?

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