



Fetal Alcohol Spectrum Disorders, The Facts, the Misconceptions and the Community

**Sara Paton, Ph.D.
Associate Professor**

Virginia Commonwealth University

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Center for Global Health

Fetal Alcohol Spectrum Disorders (FASD)

OVERVIEW:

- ❖ FASD Facts
- ❖ Community Impact
- ❖ Prevention
- ❖ Resources, Question & answers

Fetal Alcohol Spectrum Disorders

The Facts

Fetal Alcohol Spectrum Disorders (FASD)

❖ Umbrella term describing the range of effects that can occur in an individual whose mother drank alcohol during pregnancy

❖ May include physical, mental, behavioral, and/or learning disabilities with possible lifelong implications



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FASD HAS 4 MAJOR COMPONENTS

1. A characteristic pattern of facial abnormalities - small eye openings, indistinct or flat mid face, thin upper lip
2. Growth deficiencies - such as low birth weight
3. Brain damage - such as small skull at birth, structural defects, and neurological signs, including impaired fine motor skills, poor eye-hand coordination, and tremors
4. Cognitive difficulties - Behavioral or cognitive problems may include mental retardation, learning disabilities, attention deficits, hyperactivity, poor impulse control, social, language and memory deficits.

Fetal Alcohol Spectrum Disorders (FASD)

❖ FASD not a diagnosis

❖ Terms:

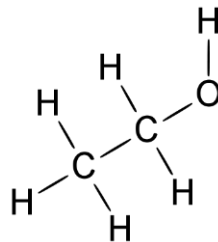
- ❖ FAS - fetal alcohol syndrome
- ❖ pFAS - partial fetal alcohol syndrome
- ❖ ARND - alcohol related neurodevelopmental disorder
- ❖ ARBD - alcohol related birth defects
- ❖ FAE – fetal alcohol effects; older term



Fetal Alcohol Spectrum Disorders

What is the leading known cause of mental retardation in the United States?

**PRENATAL EXPOSURE TO
ALCOHOL**



Misconception: Only women who abuse alcohol or who are addicted to alcohol will have children affected by alcohol.

- ❖ FASD can affect any child exposed to alcohol
- ❖ Can occur anytime pregnant women drink
- ❖ Damage varies from one child to another due to a variety of factors



Misconception: Only women who abuse alcohol or who are addicted to alcohol will have children affected by alcohol.

- ❖ Not caused on purpose
- ❖ $\approx 50\%$ of pregnancies are unplanned
- ❖ Many women do not realize they are pregnant for several weeks



Cause of FASD

- ❖ The sole cause of FASD is women drinking alcoholic beverages during pregnancy.
- ❖ Not caused by biologic father's alcohol use
- ❖ Alcohol is a teratogen.

“Of all the substances of abuse (including cocaine, heroin, and marijuana), alcohol produces by far the most serious neurobehavioral effects in the fetus.”

—IOM Report to Congress, 1996

Chart of Teratogenic Effects:

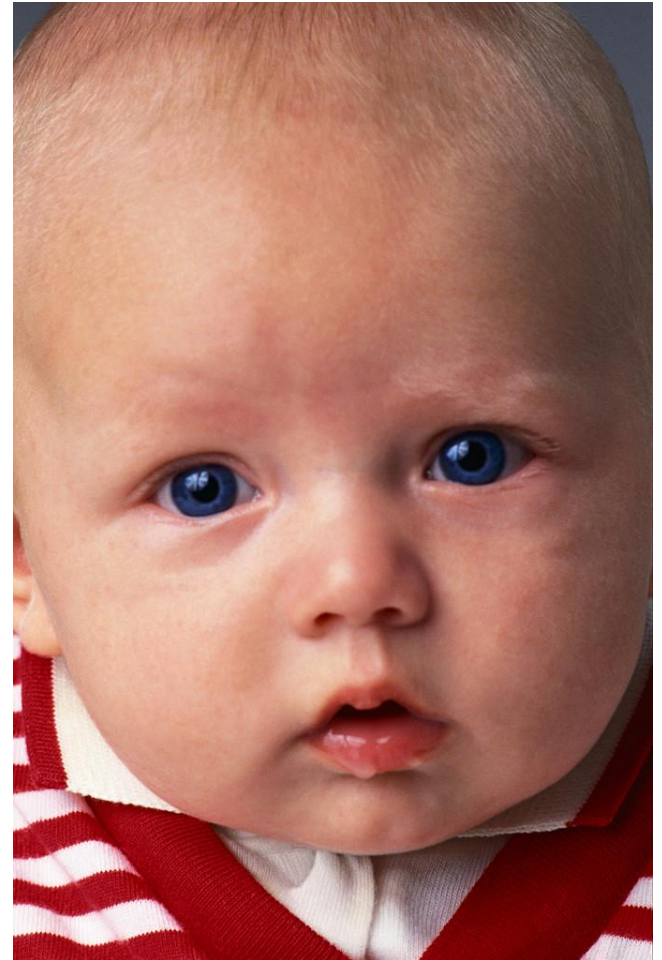
Institute of Medicine's 1996 Report to Congress

	Alcohol	Heroin	Marijuana	Tobacco	Cocaine
Subnormal IQ	X				
Developmental delays	X		X	X	
Sensory deficits	X			X	
Fine motor deficits	X				
Attention deficits	X		X	X	
Hyperactivity	X			X	
Gross brain damage	X				
Neonatal withdrawal	X	X		X	X
Prematurity	X				X

Fetal Alcohol Spectrum Disorders

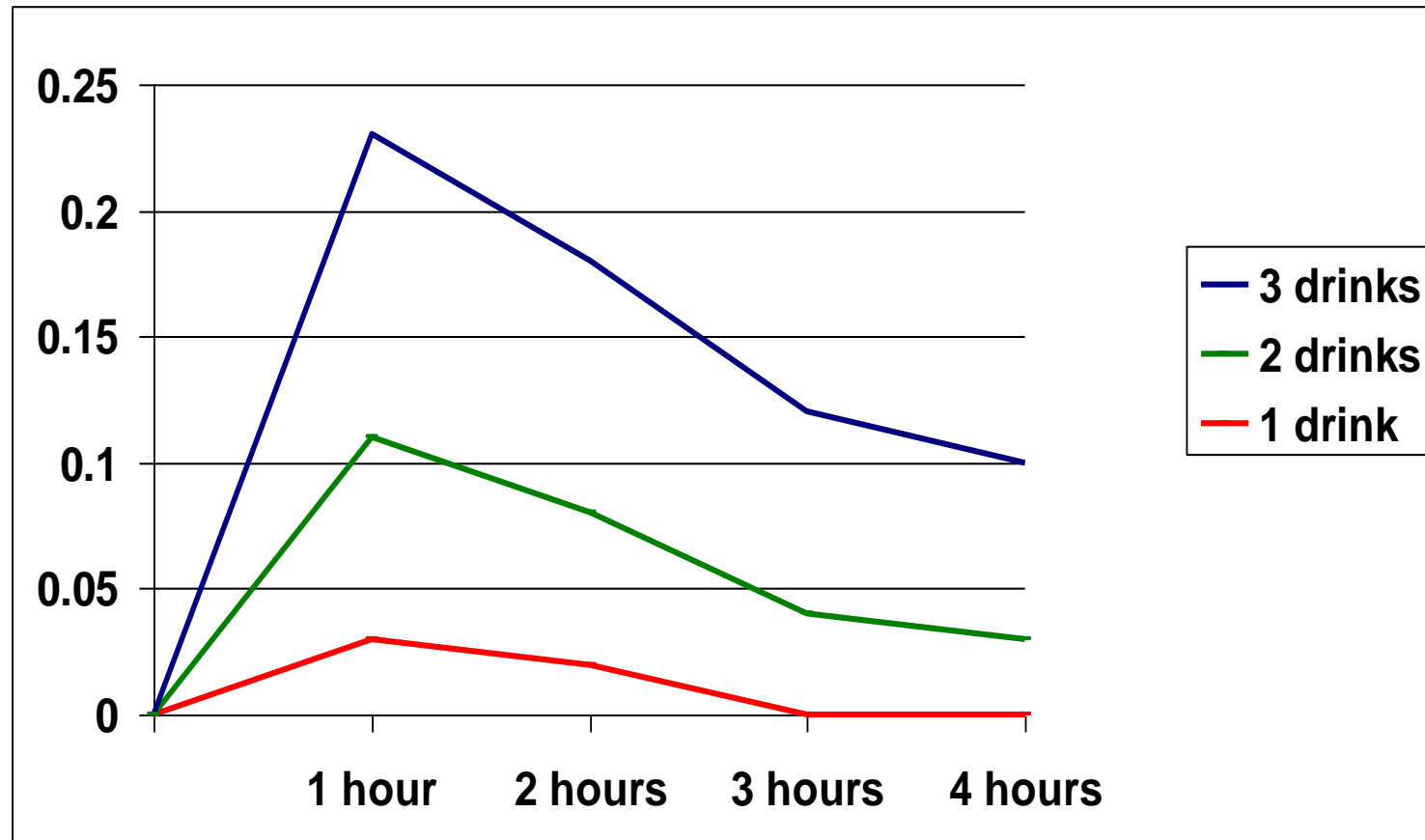
CAUSE OF FASD:

When a pregnant woman drinks, the alcohol crosses the placenta into the fetal blood system. Thus, alcohol reaches the fetus, its developing tissues, and organs.



Fetal Alcohol Spectrum Disorders

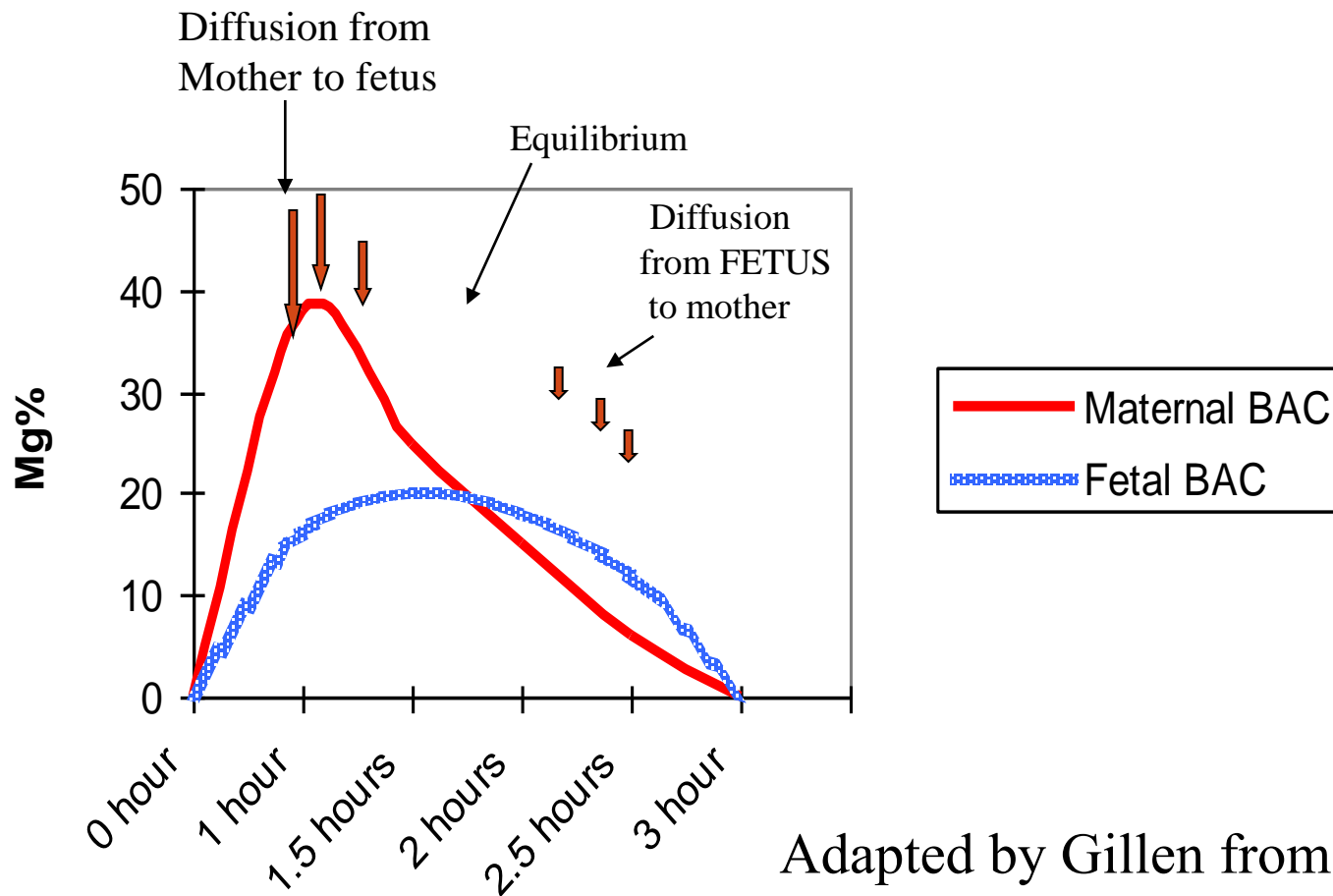
Alcohol Metabolism: Approximate Blood Alcohol Concentrations (BAC) for a 130 pound Woman



Adapted by Gillen from Morris et al

Fetal Alcohol Spectrum Disorders

Diffusion of Alcohol Following 'ONE' Drink



Adapted by Gillen from Morris et al

Misconception: Beer/wine is less harmful than spirits

- ❖ All alcoholic beverages are harmful.
- ❖ Binge drinking is especially harmful.
- ❖ **A drink \neq a drink \neq a drink**
 - ❖ All beer does not have the same alcohol content
 - ❖ Typical mixed drinks often have more than one serving of alcohol
- ❖ There is no proven safe amount of alcohol use during pregnancy.



FASD and Alcohol

❖ Binge = 4 or more drinks on one occasion for a women, 5 or more for a man

❖ Drink = 12 ounces of beer, 5 ounces of wine, or 1.5 ounces of hard liquor



❖ Kaskutas and Graves (2001) studied alcohol consumption in 321 pregnant women
--When self selecting drinks, the size of the drinks was up to 307% greater than standard measures

Drinking Among Women Age 15 to 44 In the United States*

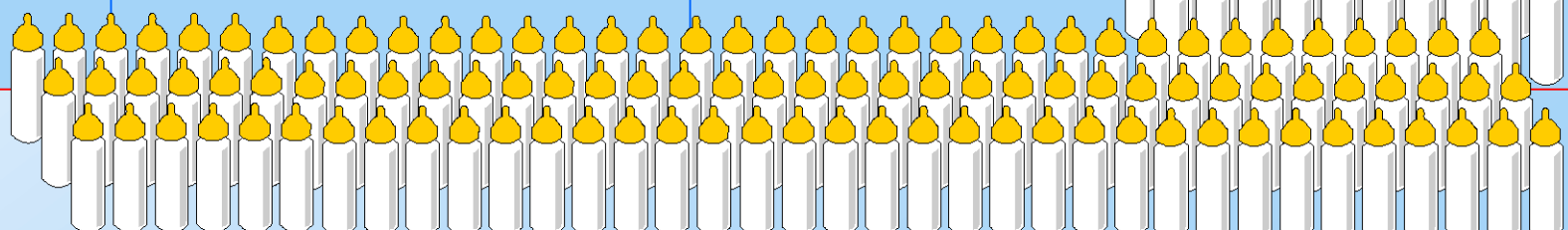
- ❖ 1 in 2 report using alcohol in the past month.
- ❖ Approximately **1 in 8 report binge drinking** (defined as 4 or more drinks, on one occasion).
- ❖ About **1 in 20 report heavy alcohol use** (defined as binge drinking on at least 5 days in the last month)

Ohio PRAMS in 2010 reported that 47% of all births are UNINTENDED.

Drinking During Pregnancy

Dr. Larry Burd, University of North Dakota

Drinks Per Day	Cumulative Fetal Exposure (Drinks per day x 270)	Fetal Exposure to Absolute Alcohol in Oz.*	Full Baby Bottles
1	270	135	15
2	540	270	33
10	2700	1350	168



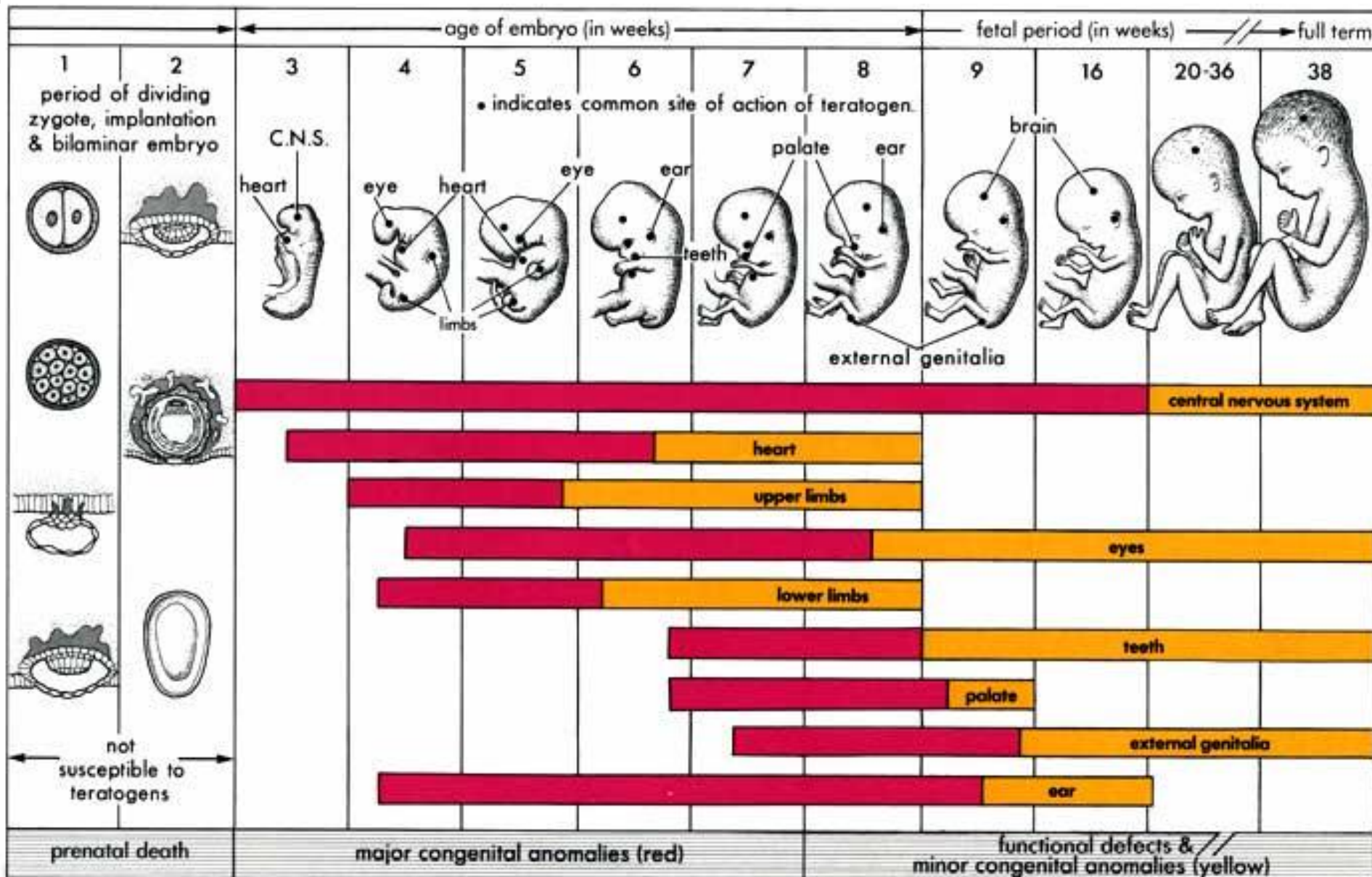
How Much Alcohol Causes Damage?

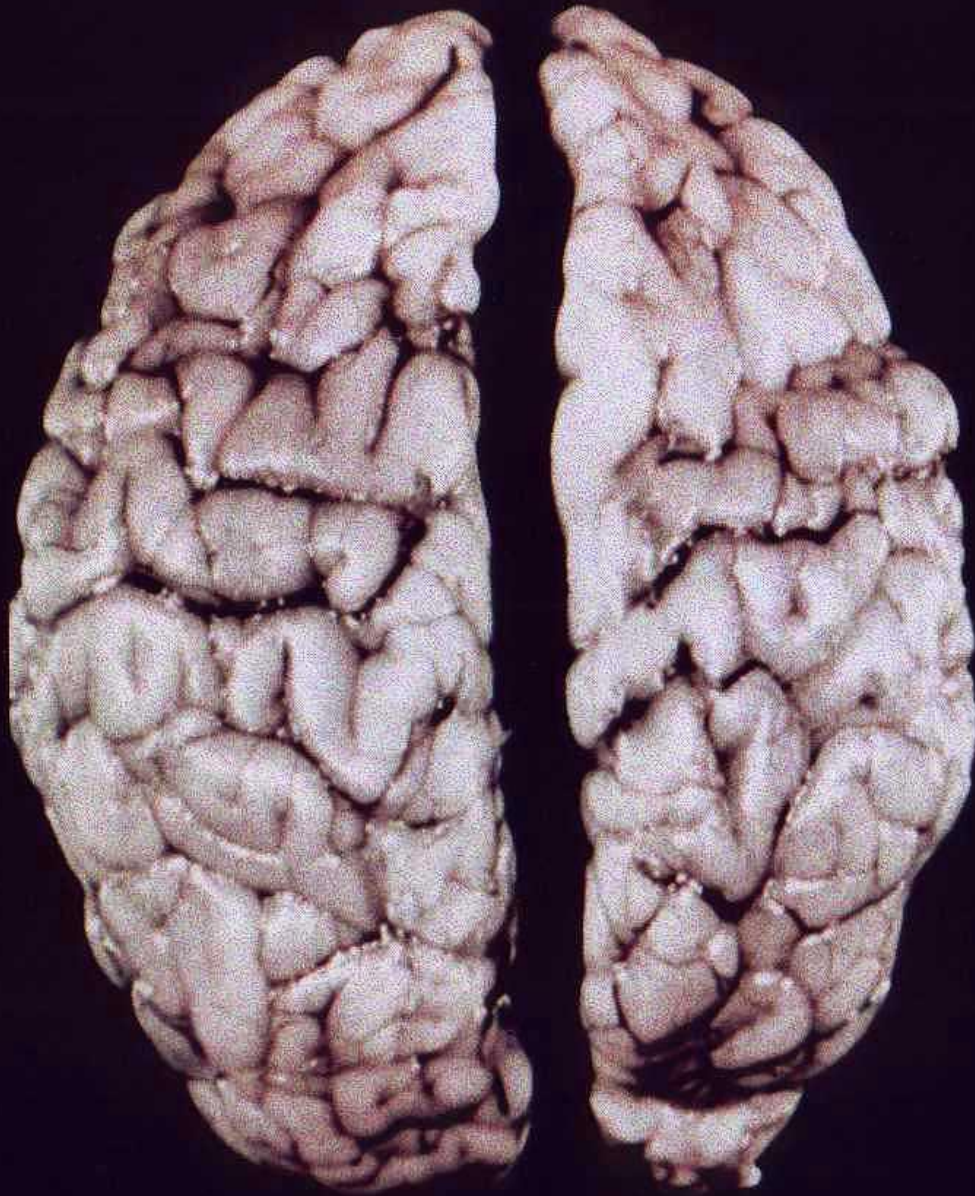
- ❖ **There is no way to predict how much alcohol will cause how much damage in any one individual**
 - ❖ People absorb and metabolize alcohol differently
 - ❖ The ability of the liver to process alcohol has an effect
 - ❖ Genetics has an effect
 - ❖ The presence or absence of certain gene pairs
 - ❖ Age of mother
 - ❖ Parity (number of previous children)
 - ❖ Co-occurring issues e.g., tobacco use, other substance use; nutrition

How Much Alcohol Causes Damage?

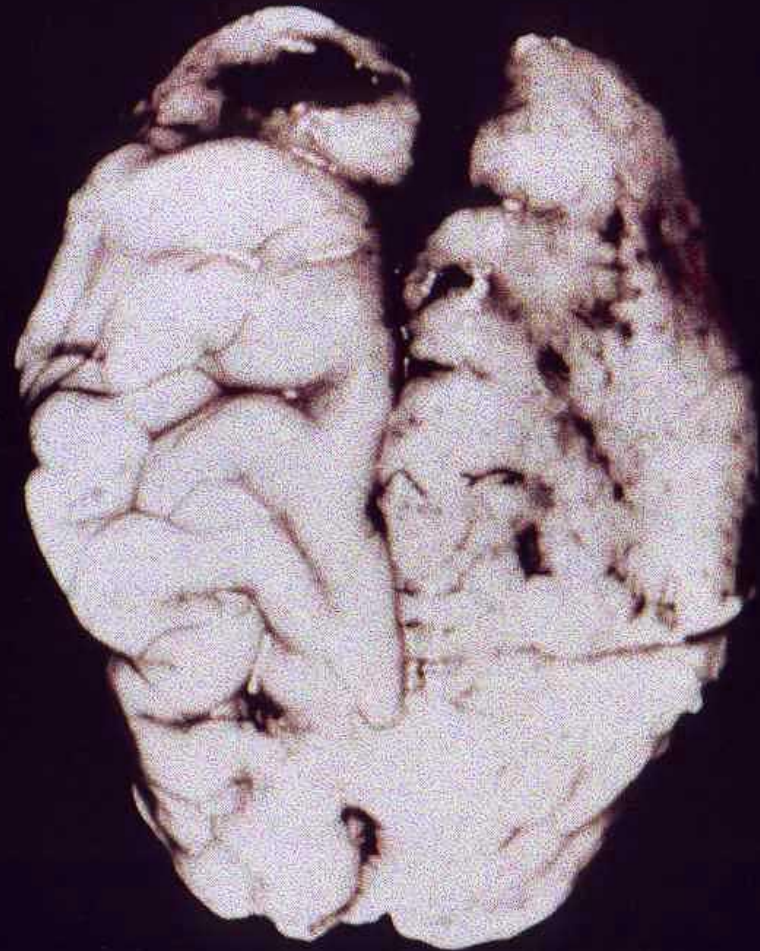
- ❖ Sood et al (2001) found that a child's behavior was adversely affected even at levels of alcohol consumption as low as one drink per week
- ❖ Children exposed to any level of prenatal alcohol exposure were found to have 3 times the odds of showing delinquent behavior

The Effect of Teratogens





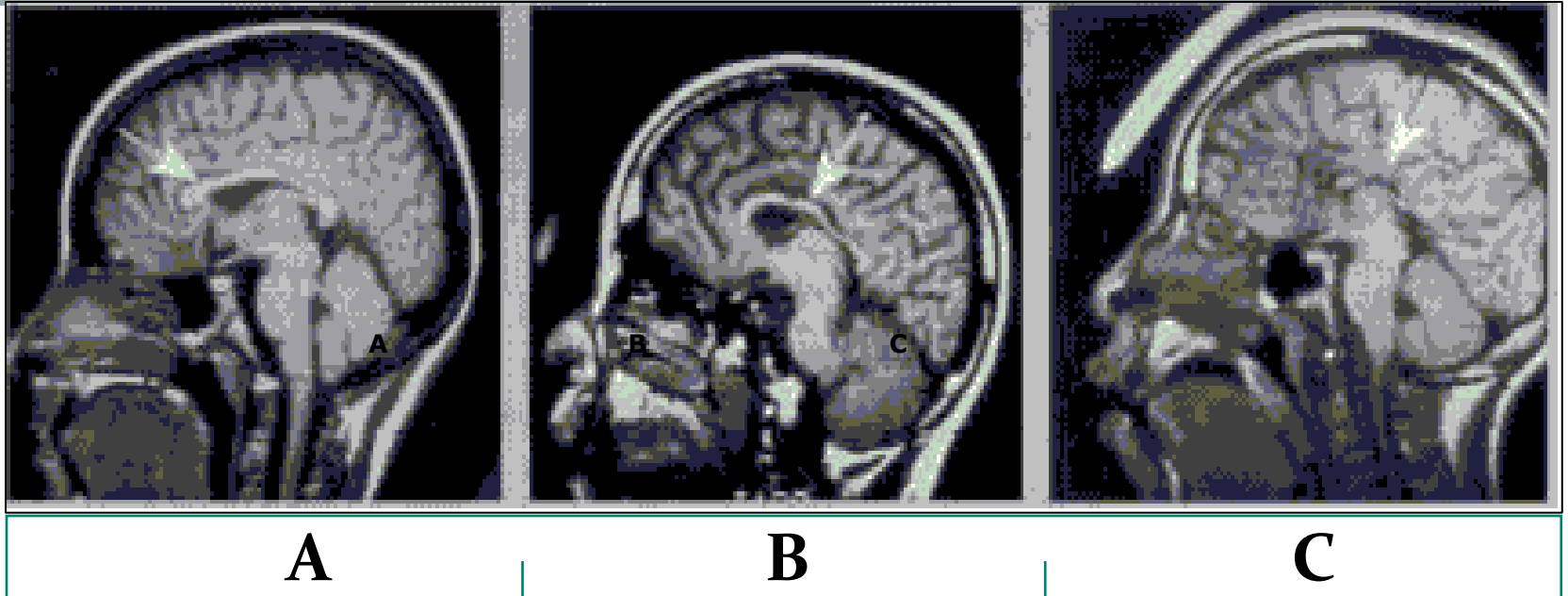
6-Week Old Baby
"Normal" brain



6-Week Old Baby
"Fetal Alcohol Syndrome" brain

Photo courtesy of Sterling K. Clarren, MD, Children's Hospital, Seattle

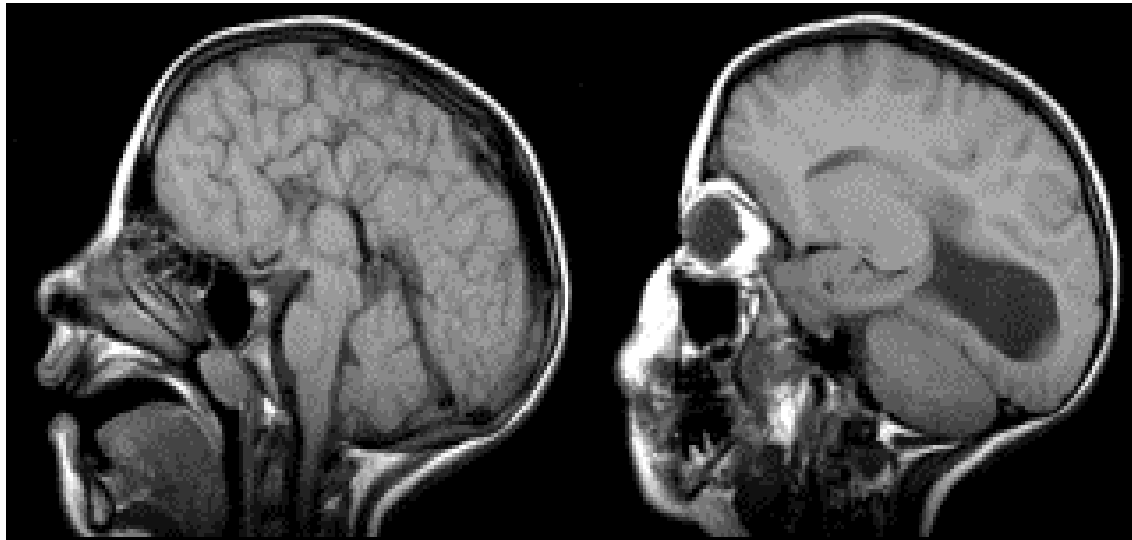
FAS and the Brain



A. Magnetic resonance imaging showing the side view of a 14-year-old control subject with a normal corpus callosum; B. 12-year-old with FAS and a thin corpus callosum; C. 14-year-old with FAS and agenesis (absence due to abnormal development) of the corpus callosum.

Source: Mattson, S.N.; Jernigan, T.L.; and Riley, E.P. 1994. MRI and prenatal alcohol exposure: Images provide insight into FAS. *Alcohol Health & Research World* 18(1):49–52.

FAS and the Brain



A

These two images are of the brain of a 9-year-old girl with FAS. She has agenesis of the corpus callosum, and the large dark area in the back of her brain above the cerebellum is essentially empty space.

Source: Mattson, S.N.; Jernigan, T.L.; and Riley, E.P. 1994. MRI and prenatal alcohol exposure: Images provide insight into FAS. *Alcohol Health & Research World* 18(1):49–52.

Fetal Alcohol Spectrum Disorders

The Community and FASD

FASD IS A SIGNIFICANT PROBLEM

- ❖ FASD affects at least 40,000 newborns each year.
- ❖ FAS: .2-1.5 per 1,000 births
- ❖ FASD: 10 per 1,000 births.
- ❖ It outranks Down Syndrome and is \approx autism in prevalence.

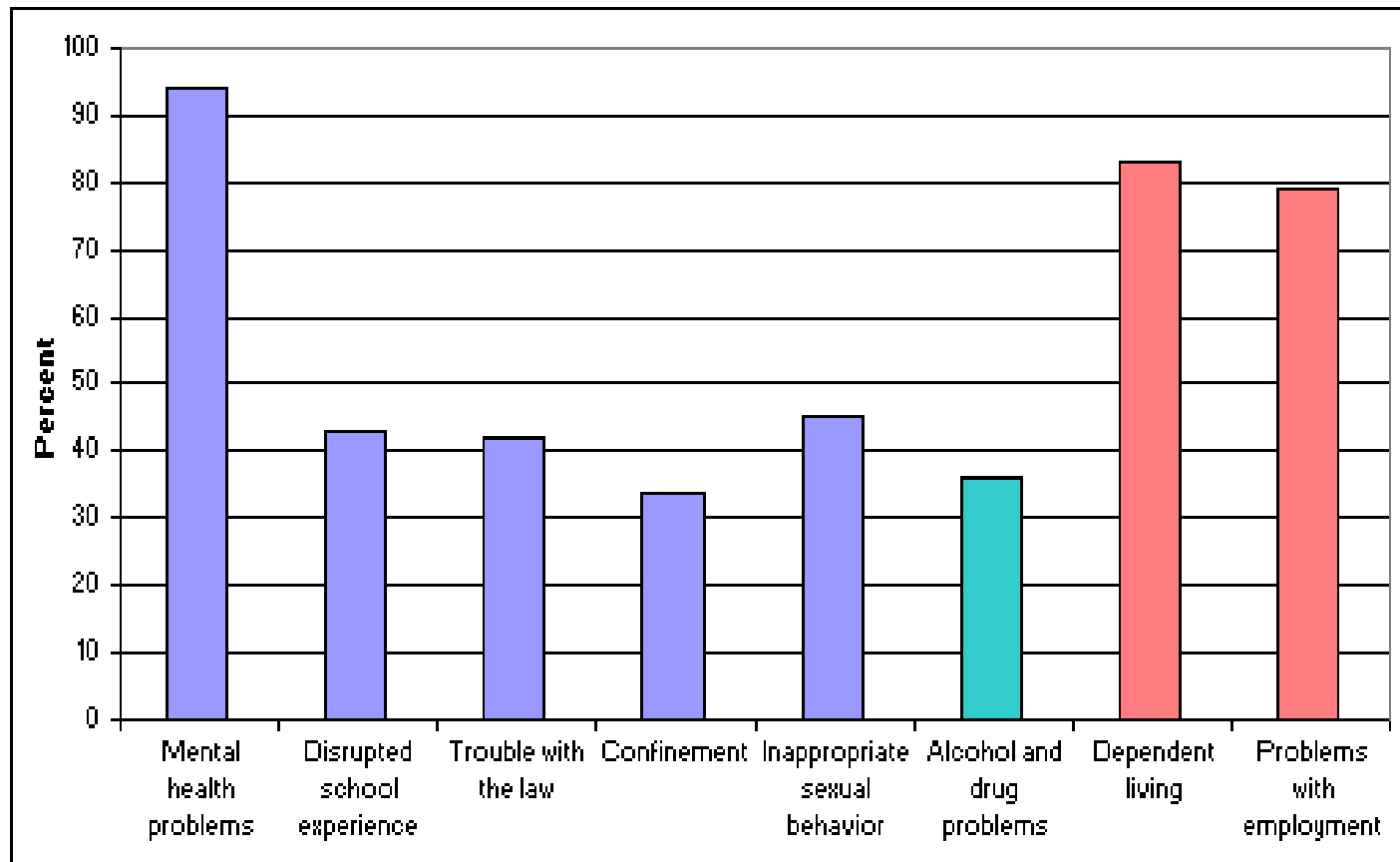


Misconception: A FASD is not as serious as FAS

- ❖ Most FAS is diagnosed
 - ❖ A diagnosis of FAS can improve outcomes because recognition of the disability helps in providing appropriate interventions.
- ❖ Many with a FASD other than FAS are undiagnosed
 - ❖ Lack distinctive facial features
- ❖ Many with a FASD (other than FAS) are misdiagnosed
 - ❖ ADHD, autism, reactive attachment disorder, borderline personality disorder
- ❖ Many with a FASD have co-occurring disorders and substance abuse
- ❖ 90% of those with a FASD have a secondary disability

WHAT PROBLEMS DO PEOPLE WITH A FASD HAVE?

Percent of Persons With FAS or a FASD Who Had Secondary Disabilities



◆ = Age 6+

◆ = Age 12+

◆ = Age 21+

Streissguth, et al. (1996)

Factors Associated With Reduced Secondary Disabilities

❖ Stable home

❖ Recognized disabilities

❖ Early diagnosis

❖ Diagnosis of FAS

❖ No violence against oneself

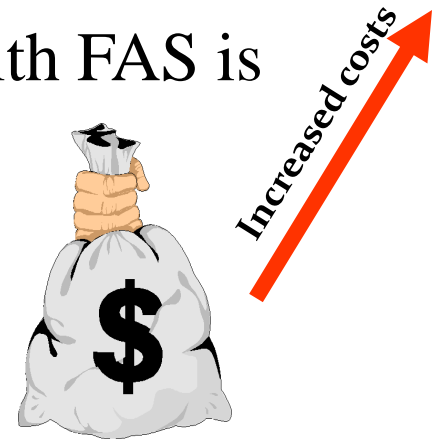
❖ Good quality home from ages 8 to 12

❖ More than 2.8 years in each living situation

❖ Basic needs met for at least 13 percent of life

Economic Costs of FAS

- ❖ FAS alone cost the United States more than \$4 billion in 1998. The cost to the nation now of FAS alone may be up to \$6 billion each year.
- ❖ The average lifetime cost for each child with FAS is more than \$2 million.
 - ❖ \$1.6 million for medical care services
 - ❖ \$0.4 million for loss of productivity
- ❖ The average lifetime cost for a FASD \$1.4-1.5 million



Economic Costs of FAS

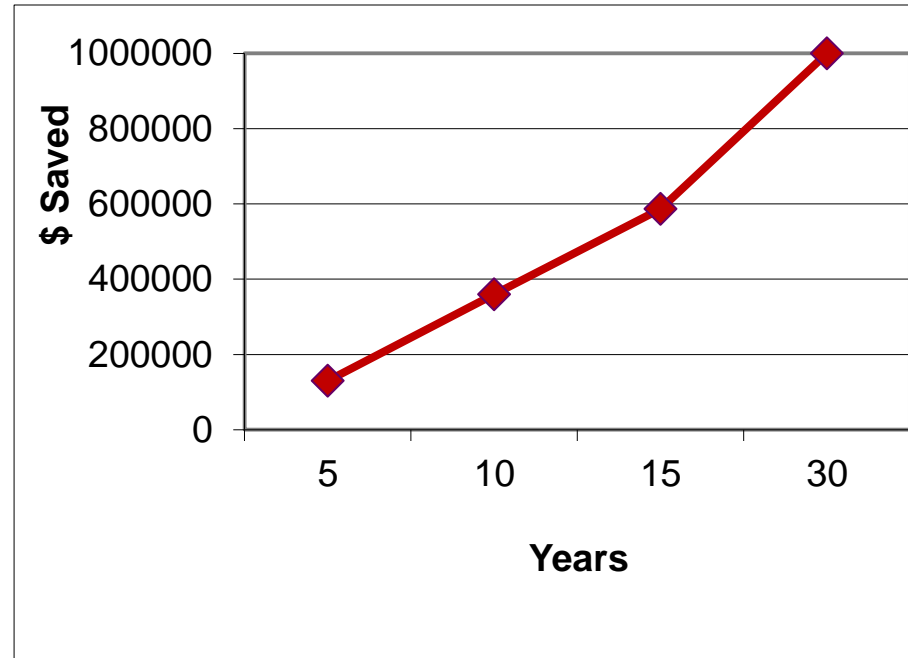
❖ One prevented case of FAS saves:

❖ \$130,000 in the first 5 years
years

❖ \$360,000 in 10 years

❖ \$587,000 in 15 years

❖ More than \$1 million in 30 years



**Increased savings
through prevention**

Fetal Alcohol Spectrum Disorders

Prevention of FASD

FASD CAN BE PREVENTED!

- ❖ FASD is 100% preventable. The only cause of a FASD is prenatal exposure to alcohol.
- ❖ If a woman does not drink during pregnancy, her baby will not have FASD.
- ❖ Individuals who already have a FASD should receive an accurate diagnosis and appropriate treatment, prevention, and support services.

Prevention Is the Only Solution

- ❖ Talk about the effects of alcohol on an individual and on a fetus:
 - ❖ Begin at an early age, such as elementary school.
 - ❖ Ask all women of childbearing age about alcohol use
 - ❖ Indicate that stopping drinking at any time during pregnancy will help the fetus.



**Convey the message: If you're pregnant, don't drink.
If you drink, don't get pregnant.**

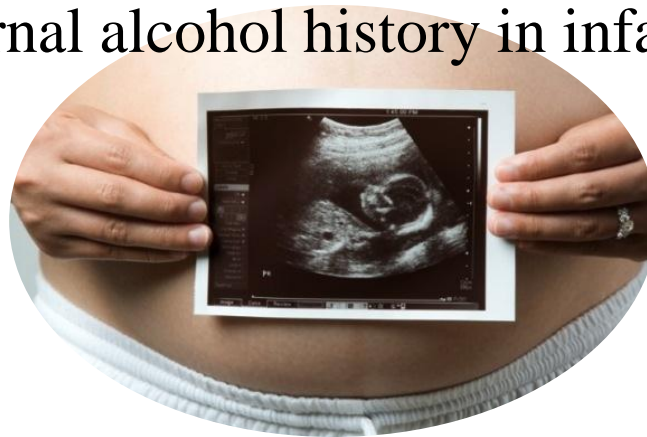
Importance of Preventing FASD: Facts to Consider

- ❖ Utilizing evidence based practices in the prevention of alcohol exposed pregnancies is important in reducing the incidence
- ❖ Project Choices, Brief Screening and Intervention, and the Parent-Child Assistance Program are practices that have shown effectiveness in reducing the incidence of alcohol exposed pregnancies
- ❖ Fidelity to practices is key in successful outcomes with these practices

Screening and Brief Intervention at WIC

Project Goals:

- ❖ Screen all pregnant women enrolling in the WIC Program in Montgomery County
- ❖ Provide Brief Intervention to all who screen positive
- ❖ Follow women receiving Brief Intervention during her pregnancy
- ❖ Develop a process for referral to treatment services
- ❖ Incorporate maternal alcohol history in infant's pediatric file



Brief Intervention

- ❖ A time-limited (10-15 minutes) conversation between the at-risk drinker and the practitioner utilizing Motivational Interviewing techniques:
- ❖ *“A collaborative , person-centered form of guiding to elicit and strengthen motivation for change”*

<http://motivationalinterview.org/Documents/1%20A%20MI%20Definition%20Principles%20&%20Approach%20V4%20012911.pdf>

Brief Intervention

- ❖ Triggered by scoring Screening tool
 - ❖ Any alcohol use during the last 30 days
 - ❖ Score of 2 or greater on TWEAK
- ❖ Content
 - ❖ Consequences of drinking while pregnant
 - ❖ Benefits of quitting
 - ❖ Risky Situations/Ways to cope
 - ❖ Defines a standard drink
 - ❖ Sets a drinking goal
 - ❖ Ways to cut down
 - ❖ Summary



FINDINGS: Screening

- ❖ 11,159 total screened (100%)
 - ❖ Very little resistance screening

- ❖ Brief Intervention (BI)
 - ❖ 546 eligible for BI (5%)
 - ❖ 519 BI given (95% of those eligible)

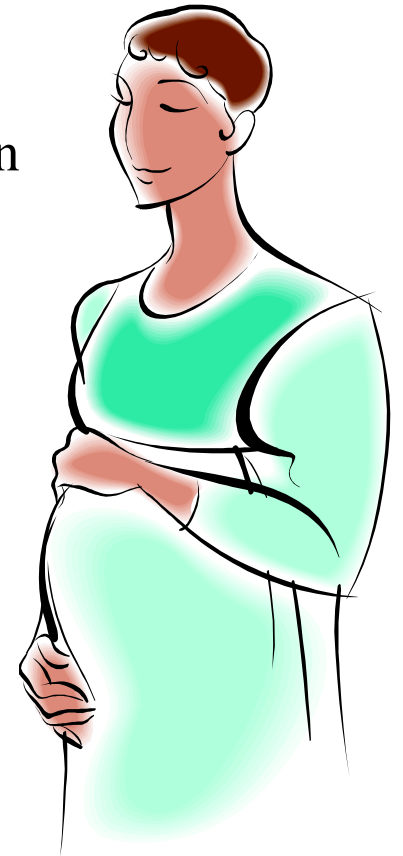
- ❖ **35%** reported drinking during 30 days prior to screen
 - ❖ across all trimesters

- ❖ **65%** received BI because of TWEAK score only- no current use



Results:

- ❖ Point of initial BI:
 - ❖ 46% first trimester
 - ❖ 37% second trimester
 - ❖ 17% third trimester
- ❖ 2.5% high school age <18
- ❖ 16.0% under drinking age <21
- ❖ 9.9% age 35 or older
- ❖ 21% less than HS
- ❖ 41% HS grad/GED
- ❖ 38% College
- ❖ 98% non-Hispanic
- ❖ 2% Hispanic
- ❖ 45% African American
- ❖ 53% White
- ❖ 12% Other
- ❖ 88% Unmarried
- ❖ 12% Married



Results

- ❖ 97% abstain from further alcohol use after initial Brief Intervention and
- ❖ 99% after 2 Brief Interventions!



Conclusions:

- ❖ Enhanced screening identifies more alcohol use than standard WIC questions
- ❖ Brief intervention halts alcohol use during pregnancy
- ❖ Misinformation about alcohol use during pregnancy rampant
- ❖ Alcohol use during pregnancy not limited to one demographic
- ❖ ASBI can be fully integrated into many existing systems

*Social change takes time
Brief Interventions can make it happen!*

FACTS TO CONSIDER

- ❖ There is no known safe amount of alcohol to use during pregnancy.
- ❖ There is no known safe time to drink during pregnancy.
- ❖ Most women do not know when they become pregnant.
- ❖ Fetal alcohol spectrum disorders can occur in any community where women drink.
- ❖ The only proven safe amount of alcohol to drink during pregnancy is **NONE!**

Resources

- ❖ SAMHSA FASD Center for Excellence:
fasdcenter.samhsa.gov
- ❖ Centers for Disease Control and Prevention FAS Prevention Team: www.cdc.gov/ncbddd/fas
- ❖ National Institute on Alcohol Abuse and Alcoholism (NIAAA): www.niaaa.nih.gov/
- ❖ National Organization on Fetal Alcohol Syndrome (NOFAS):
www.nofas.org
- ❖ National Clearinghouse for Alcohol and Drug Information:
ncadi.samhsa.gov
- ❖ These sites link to many other Web sites.

Fetal Alcohol Spectrum Disorders

THANK YOU FOR YOUR TIME!

Sara Paton
(937) 258-5553
sara.paton@wright.edu

