PRENATAL SUBSTANCE USE: A SYSTEMS PERSPECTIVE TO PREVENTION & TREATMENT

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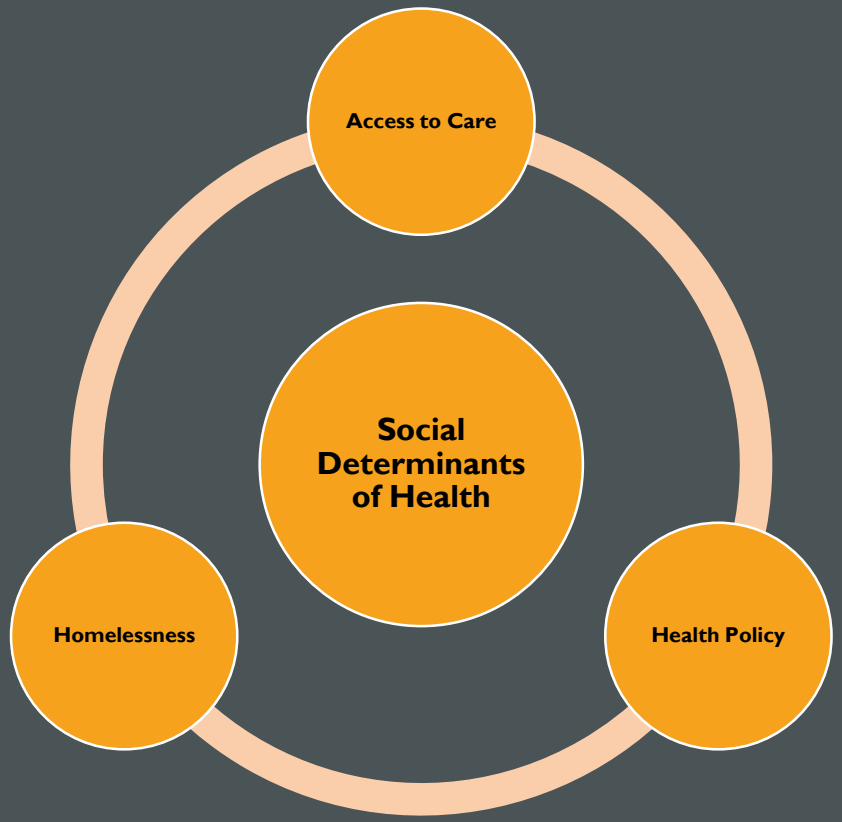
Society for the Study of Addiction

November 8, 2018


Social Determinants of Health
Research
Prenatal Substance Use
Practice
Health Equity


Access to Care
Social Determinants of Health
Homelessness
Health Policy


Social Determinants of Health
Research
Prenatal Substance Use
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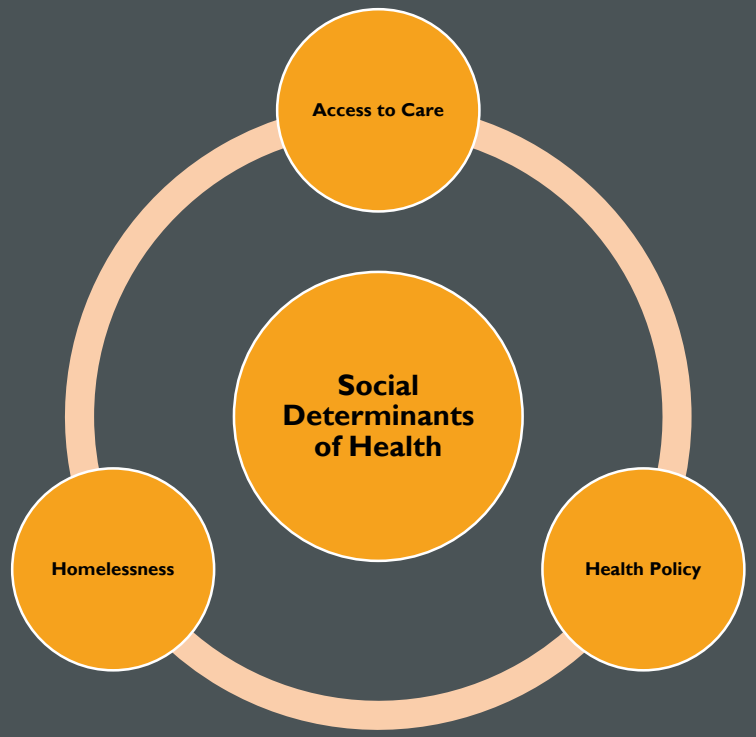
Health Equity


Access to Care
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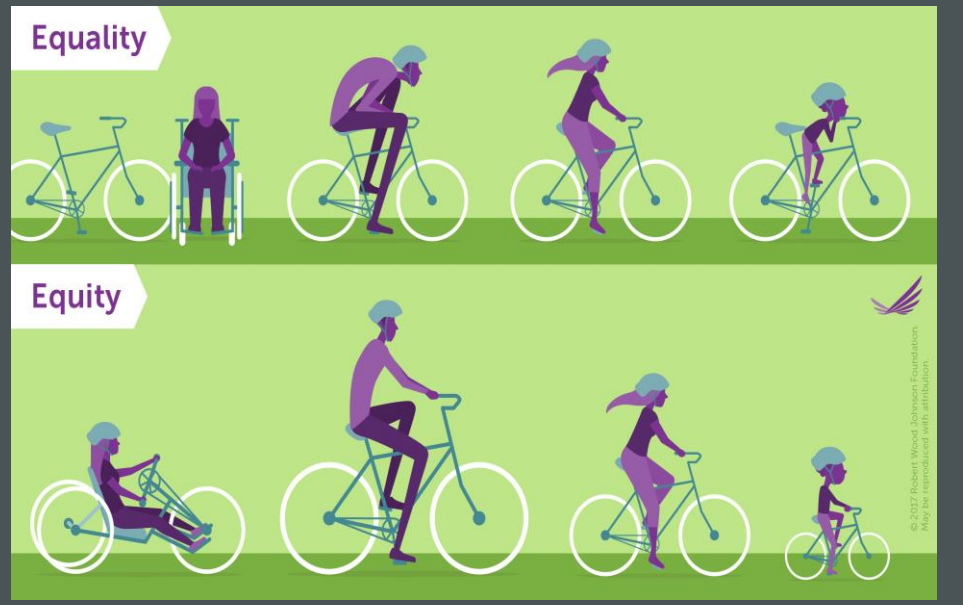
Equality
Equity
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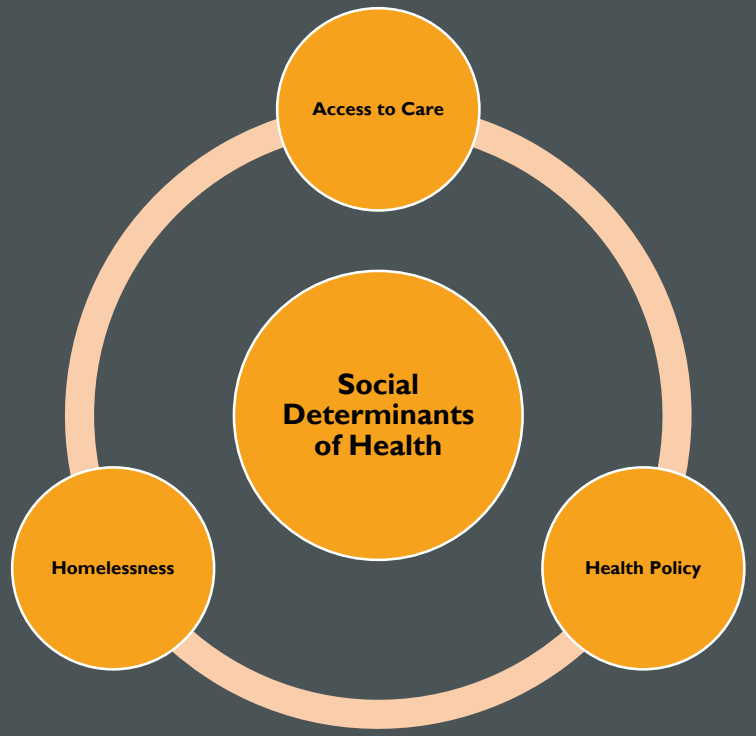
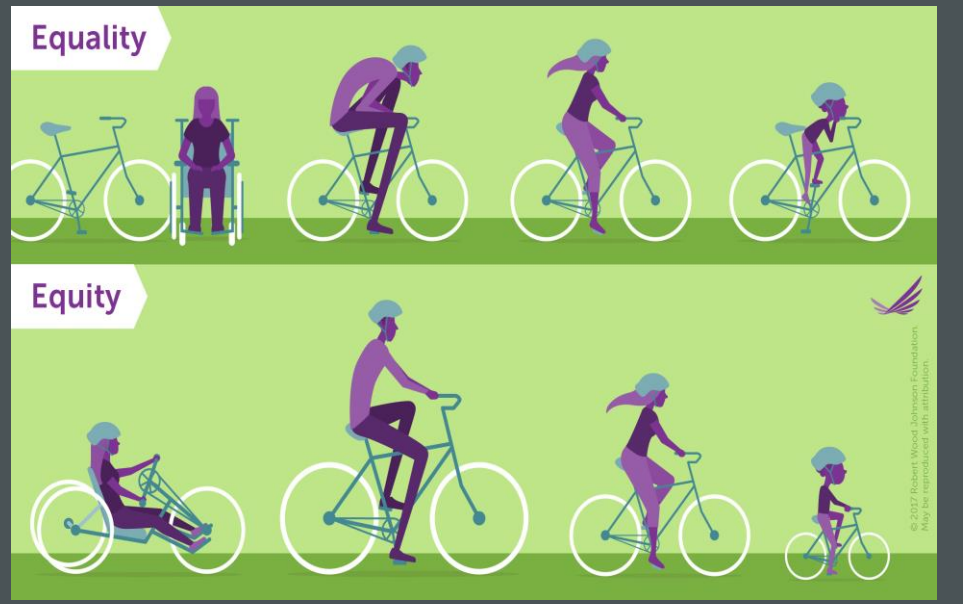
Social Determinants of Health
Research
Prenatal Substance Use
Practice
Health Equity



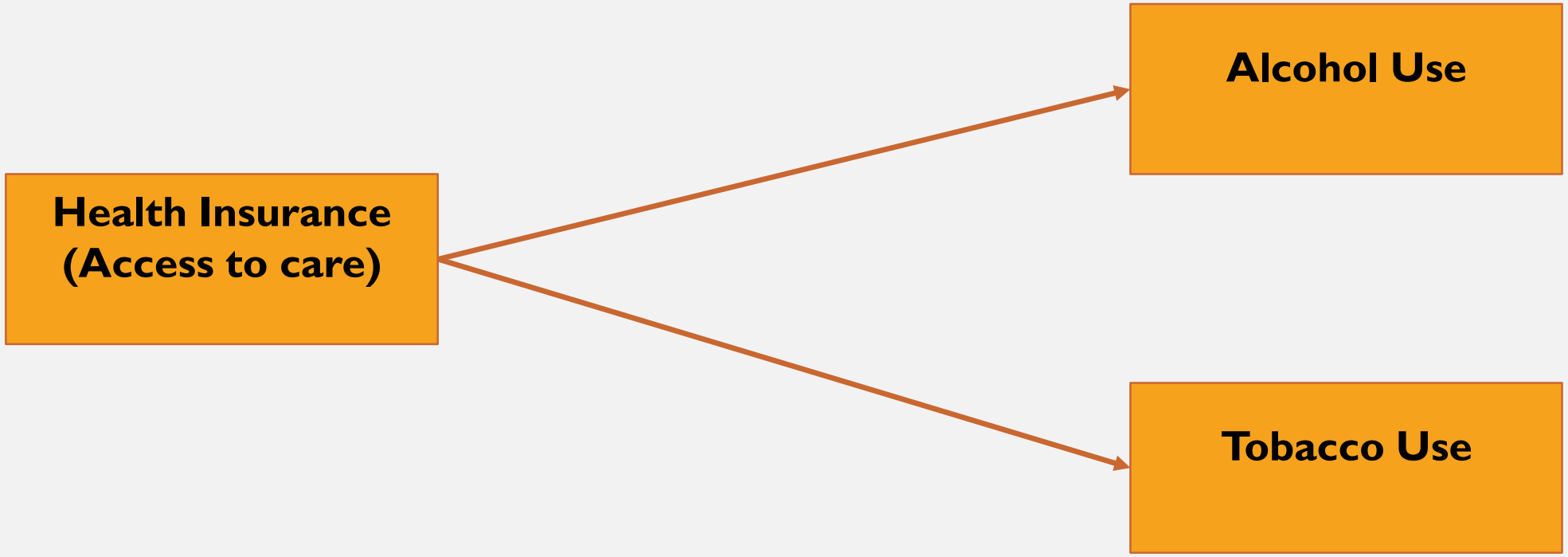


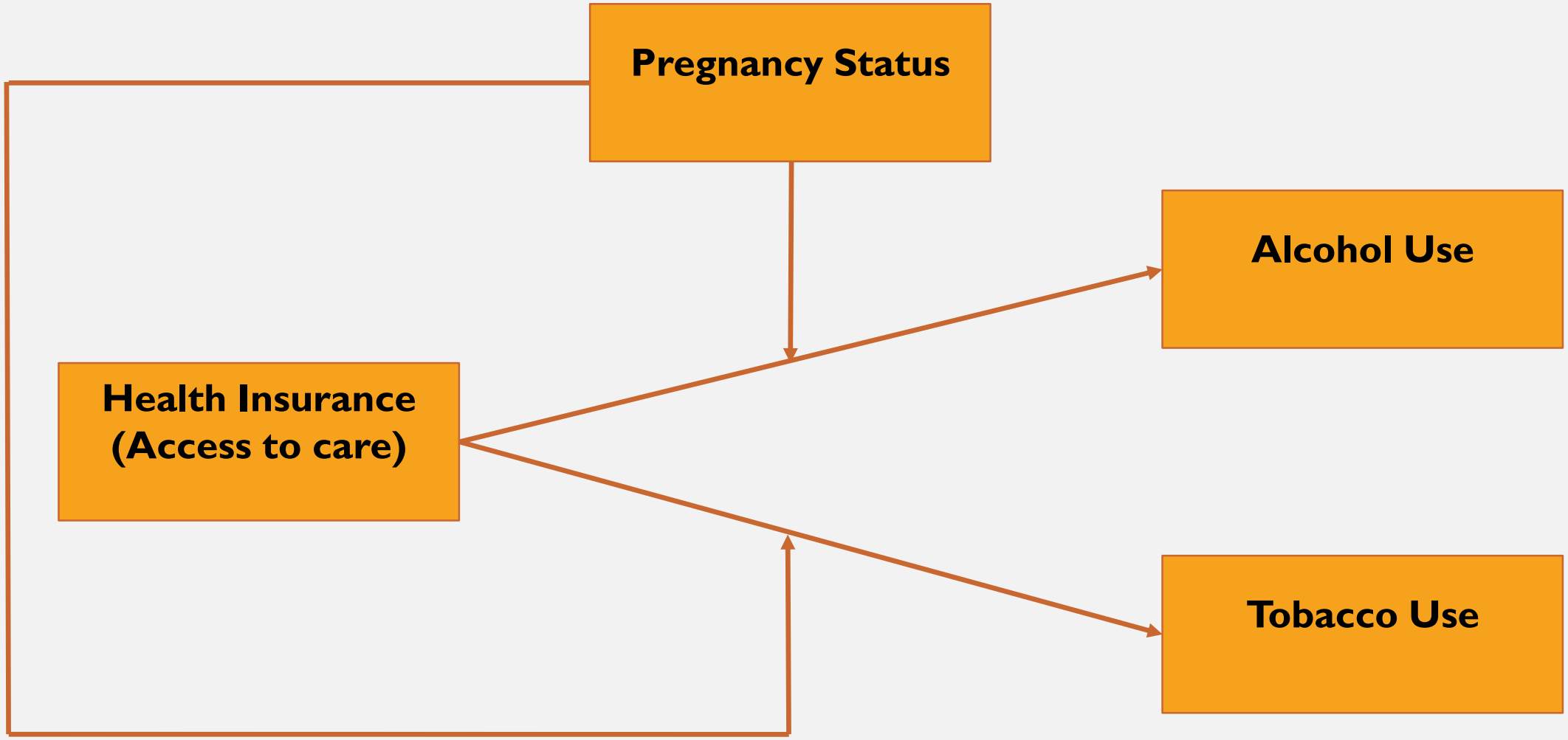
1. Whose job is it to address social determinants of health?
2. Is the current system working?
3. What is your role in promoting health equity?
4. Are you willing to do more?

Health Insurance (Access to Care)

Health outcomes associated with prenatal tobacco and alcohol use:	
Tobacco associated problems	**Alcohol associated problems**
Low birth-weight	Fetal Alcohol Syndrome
Pre-term deliveries	Spontaneous abortion
Neurodevelopmental deficits	Neurodevelopmental deficits
Infant mortality	Pre/postnatal growth deficits

Dietz et al., 2010; Floyd et al., 2008; Hankin, 2002; Key et al., 2007; Maier et al, 2001


Health Insurance
(Access to care)
Alcohol Use
Tobacco Use


Pregnancy Status
Alcohol Use
Health Insurance
(Access to care)
Tobacco Use

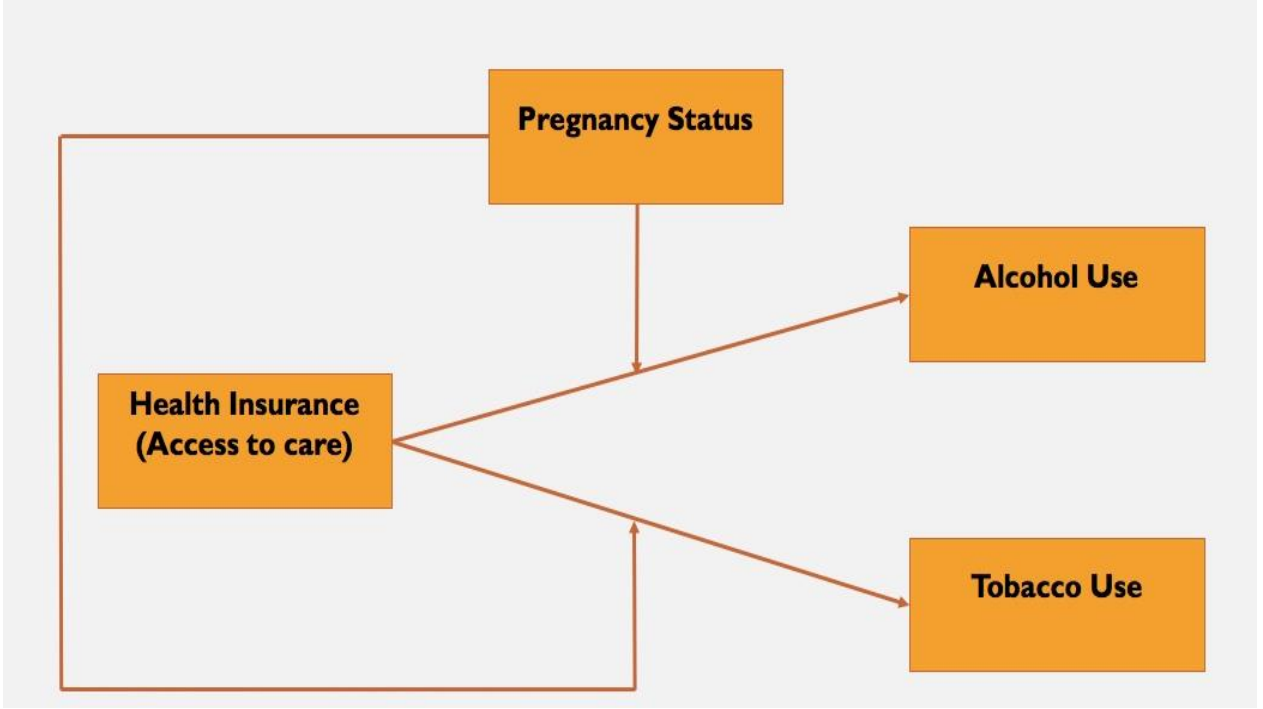
HYPOTHESES

1. Inverse association between health insurance coverage and alcohol and tobacco use.

2. Pregnancy status is a moderator –

(The magnitude of association between health insurance coverage and alcohol/tobacco use will be stronger among pregnant women.)

CONCEPTUAL MODEL

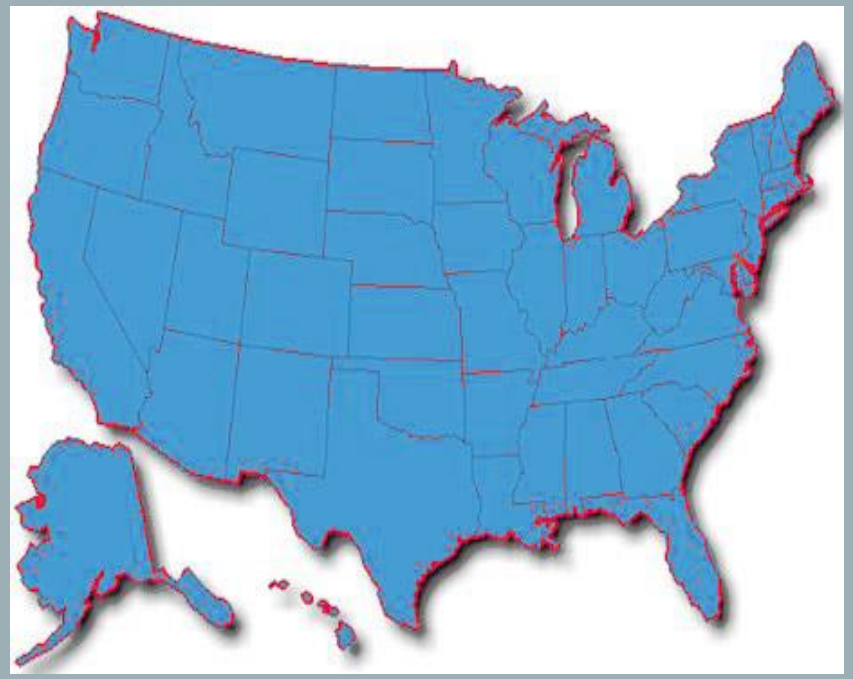


Methods

Sample (N= 97,788)

(Pregnant n= 3,267; non-pregnant n= 94,521)

- **US National Survey on Drug Use and Health (NSDUH)**
- **Nationally representative sample**
- **4 Years: 2010-2013**
- **Reproductive-age women 12-44 years old**



*Analyses adjusted for complex survey design and survey year using Stata/SE 14

Measures/ Study Design

- **Cross-sectional**
- **Logistic regression**
- **Outcomes (binary)**
  - Past month tobacco use
  - Past month alcohol use
- **Independent variable (binary)**
  - Health insurance coverage
- **Moderator**
  - Pregnancy status
- **Covariates**

Age	Race/Ethnicity
Marital Status	Past month alcohol use (when tobacco use was the outcome)
Education	Past month tobacco use (when alcohol use was the outcome)
Poverty	

Brown QL, Hasin DS, Keyes KM, Fink DS, Ravenell O, Martins SS. Health insurance, alcohol and tobacco use among pregnant and non-pregnant women of reproductive age. Drug Alcohol Depend 2016;166:116-24.

Descriptive Characteristics (N=97,788)
Age 26-44 years – **57.32%**
Non-Hispanic White – **57.77%**
High School Education or Greater – **72.12%**
Not Married – **63.67%**
200+% or above poverty threshold – **55.22%**
Health Insurance Coverage – **81.91%**
Alcohol Use Past Month – **49.18%**
Tobacco Use Past Month – **23.97%**
Nicotine Dependent Past Month – **11.67%**
Alcohol Abuse Past Year (DSM-IV) – **3.51%**
Alcohol Dependence Past Year (DSM-IV) – **3.36%**

Brown et al., 2016

ASSOCIATION BETWEEN HEALTH INSURANCE COVERAGE, AND PAST MONTH TOBACCO AND ALCOHOL USE AMONG REPRODUCTIVE-AGE WOMEN IN THE US, N=97,788

	Tobacco use – past month			Alcohol use – past month		
	Pregnant n=3,267	**Not Pregnant n=94,521**	**Interaction p-value**	**Pregnant n=3,267**	**Not Pregnant n= 94,521**	**Interaction p-value**
Health Insurance			**p≤0.01**			**p≤0.01**
Yes	1.14 (0.73, 1.76)	**0.67 (0.63, 0.72)****		**0.47 (0.27, 0.82)***	**1.23 (1.15, 1.32)****	
No	---	---		---	---	

* p≤ 0.01; ** p≤ 0.001

Brown et al., 2016

*Estimates are adjusted odds ratios

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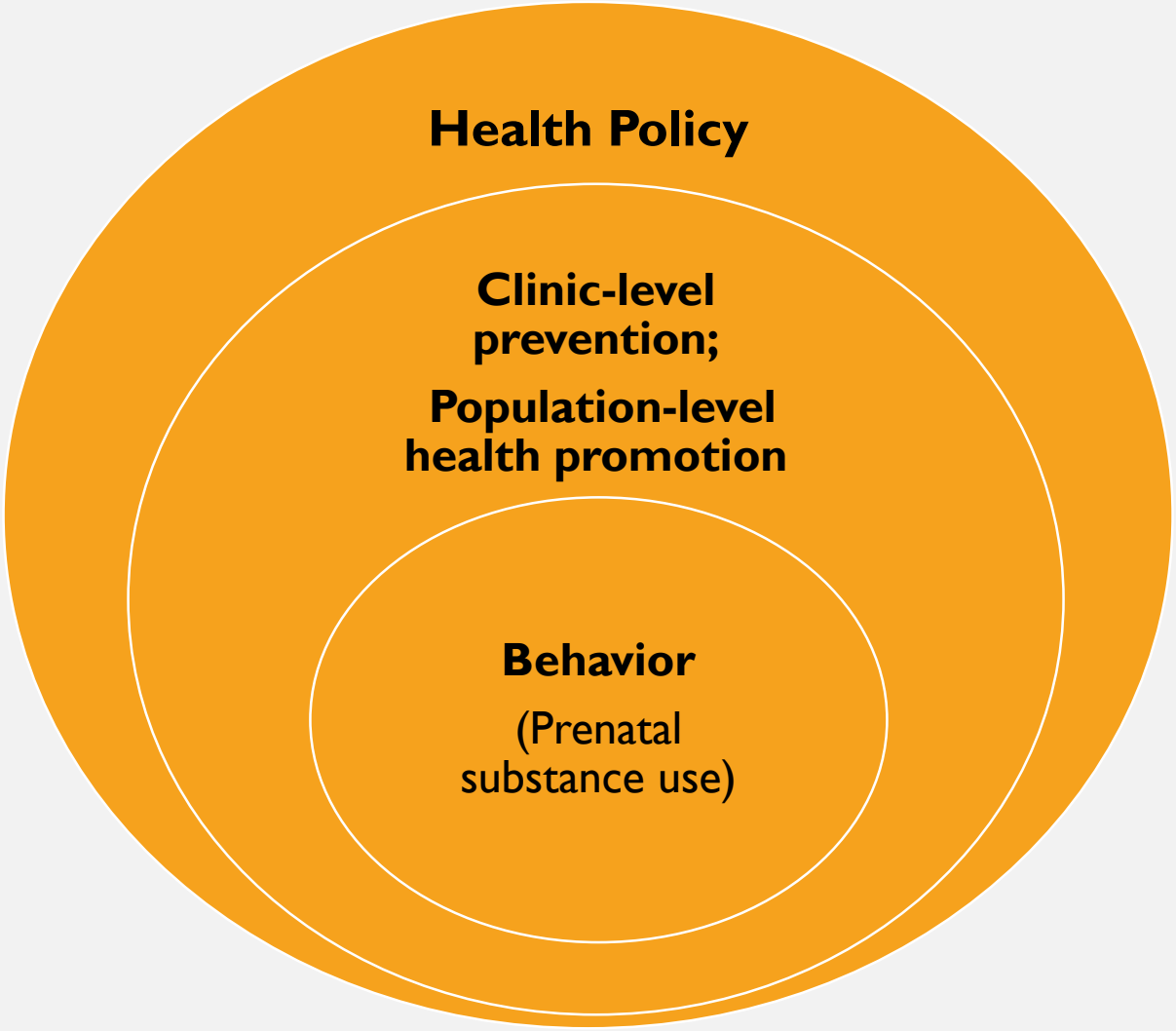
SYSTEMS


Health Policy
Clinic-level prevention;
Population-level health promotion
Behavior
(Prenatal substance use)

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Brown et al., 2016

5 A's of tobacco cessation (brief intervention)

- ***Ask*** about tobacco use
- ***Advise*** to quit
- ***Assess*** willingness to make a quit attempt
- ***Assist*** with quit attempt
- ***Arrange*** for follow-up

American College of Obstetricians and Gynecologists, 2010; Coleman-Cowger et al., 2014; Quinn et al., 2009

*Estimates are adjusted odds ratios

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Brown et al., 2016

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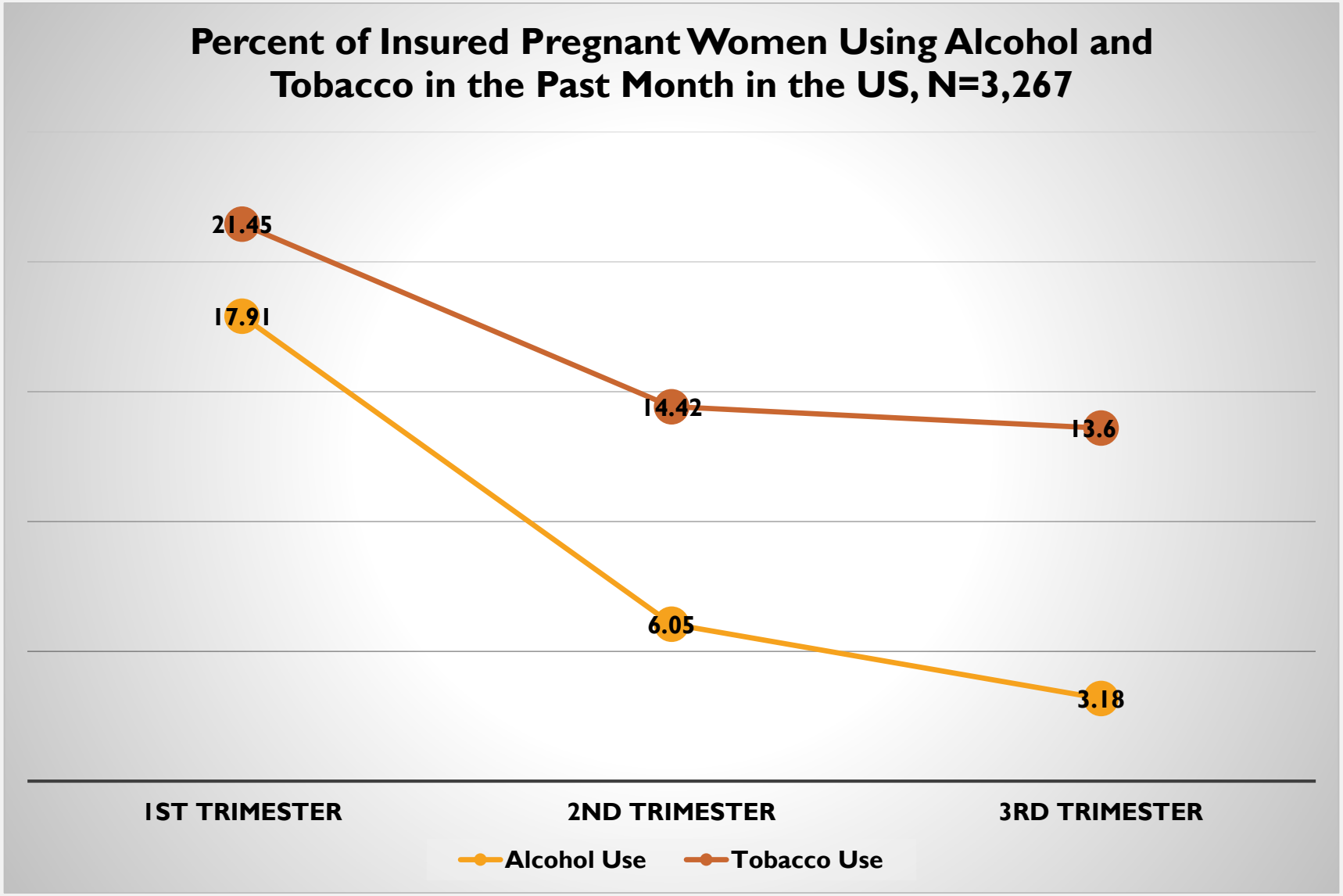
Barriers to providing tobacco cessation treatment according to providers

- **Lack of Time**
- **Lack of Reimbursement**
- **Lack of Training**
- **Competing Demands**
- **Prioritize Other Health Conditions**

American College of Obstetricians and Gynecologists, 2010; Coleman-Cowger et al., 2014; Quinn et al., 2009

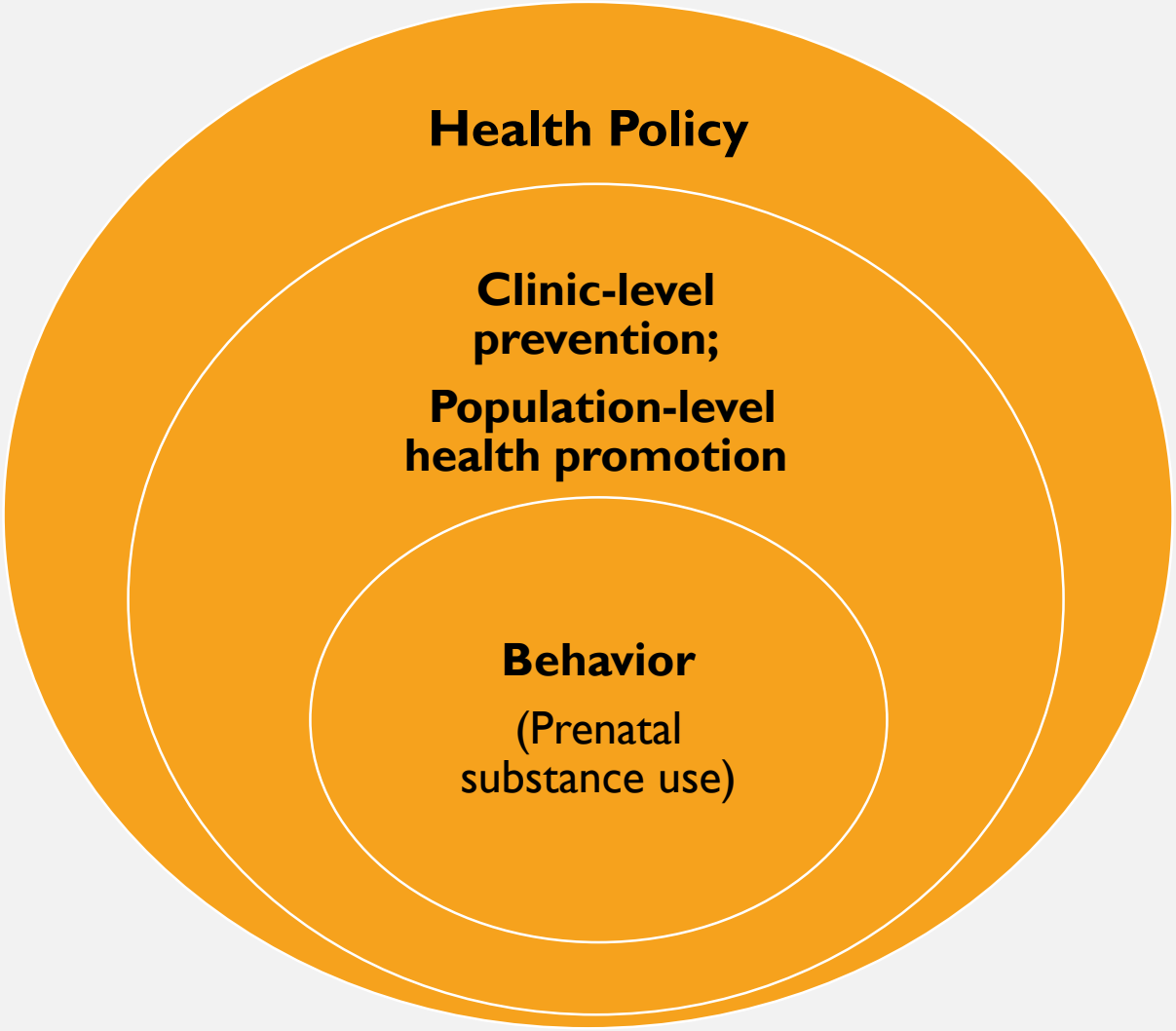
*Estimates are adjusted odds ratios



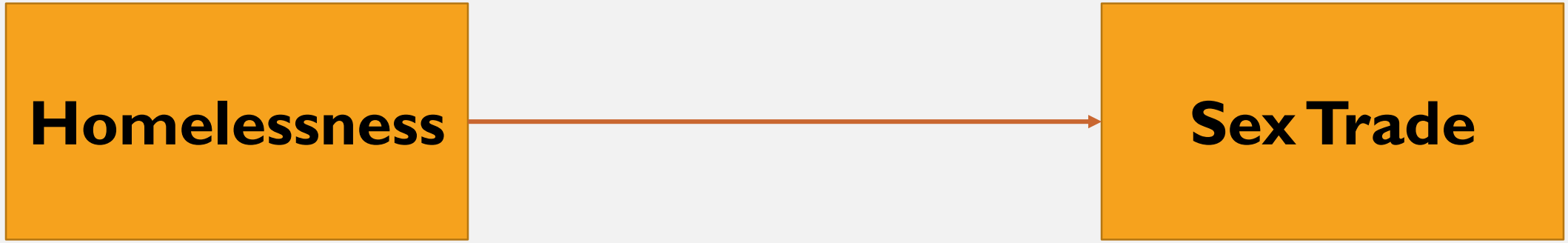
Adjusted for complex survey design

Adapted from **Brown** et al., 2016

SYSTEMS


Health Policy
Clinic-level prevention;
Population-level health promotion
Behavior
(Prenatal substance use)

Homelessness


Homelessness
Sex Trade

HYPOTHESIS

POSITIVE ASSOCIATION BETWEEN

HOMELESSNESS & SEX TRADE

CONCEPTUAL MODEL

METHODS

- **N=81** (pregnant women in drug treatment)
- **Cross-sectional**
- **Recruitment Period 2006-2008**
- **Logistic regression**
- **Outcome (binary)**
  - Sex trade in past 6 months
- **Independent variable (binary)**
  - Homeless in past 6 months
- **Covariates**
  - Age
  - Race
  - Education
  - Lifetime psychiatric diagnosis

Brown QL, Cavanaugh CE, Penniman TV, Latimer WW. The impact of homelessness on recent sex trade among pregnant women in drug treatment. J Subst Use 2012;17(3):287-93.

Descriptive Characteristics (N=81)
Age range 18-43 years
African American – **60.5%**
Less than high school education – **55.6%**
Lifetime psychiatric diagnosis – **59.3%**
Homeless in past 6 months – **26%**
Traded sex in past 6 months – **31%** • Traded sex for survival needs (e.g., shelter, money, not drugs) – **88%** • Traded sex for drugs only – **12%**
Substance use disorder in past month • Opioid use disorder – **53.1%** • Cocaine use disorder – **56.8%** • Alcohol use disorder – **9.9%** • Cannabis use disorder – **9.9%** • Sedative use disorder – **6.2%** • Stimulant use disorder – **1.2%** • Poly substance use disorder **– 9.9%**

Brown et al., 2012

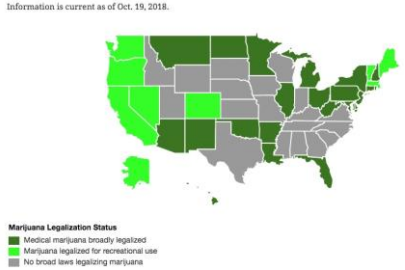
ASSOCIATION BETWEEN HOMELESSNESS, PSYCHIATRIC COMORBIDITY, AND SEX-TRADE AMONG PREGNANT WOMEN IN DRUG TREATMENT N=81

Homeless in past 6 months	
Yes	**4.74 (1.42, 15.85)***
No	**---**
Lifetime psychiatric diagnosis	
Yes	**5.41 (1.48, 19.78)***
No	

* p< 0.05

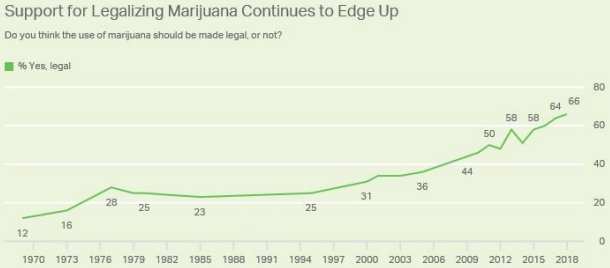
Brown et al., 2012

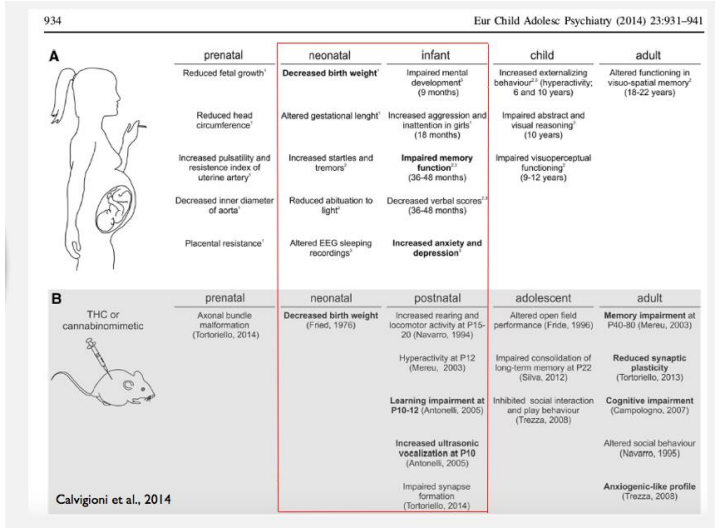
CANNABIS USE: POLICY & SOCIAL NORMS

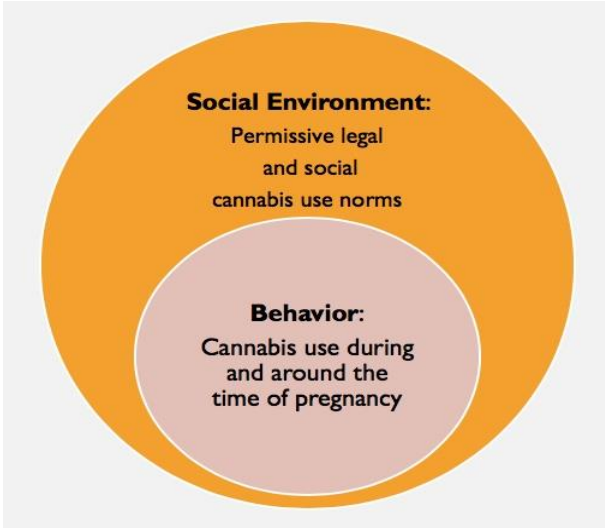


Governing.com

WASHINGTON, D.C. -- Sixty-six percent of Americans now support legalizing marijuana, another new high in Gallup's trend over nearly half a century. The latest figure marks the third consecutive year that support on the measure has increased and established a new record.

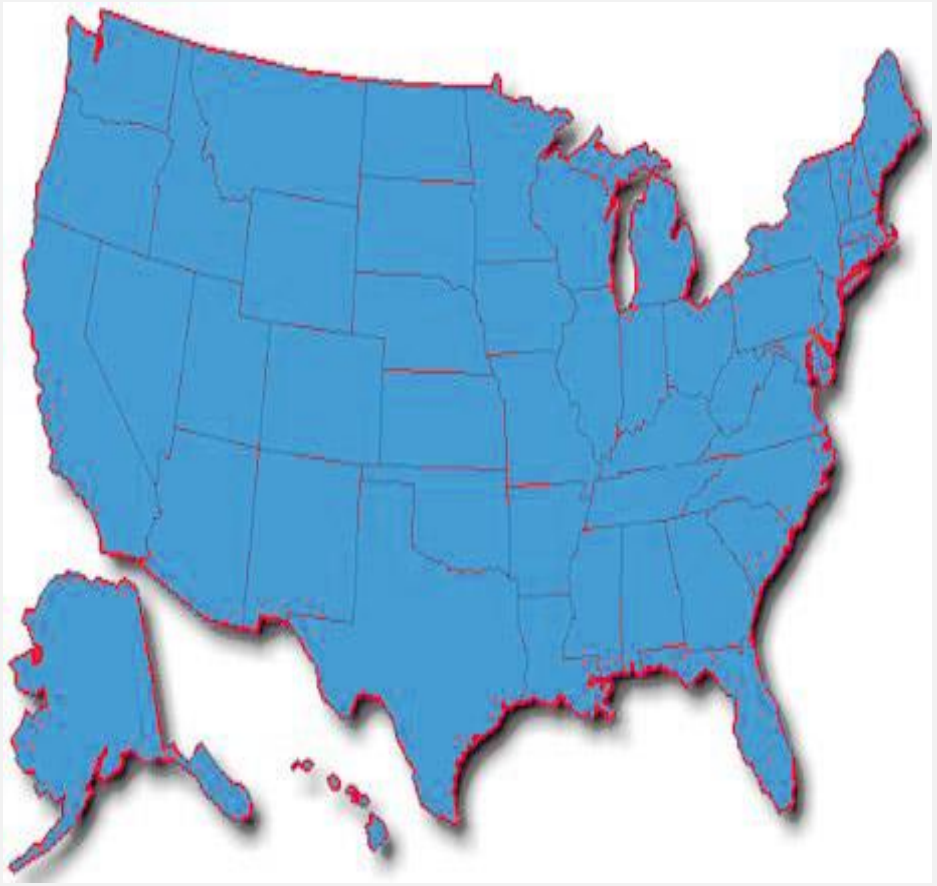






RISKS, RECOMMENDATIONS & THEORY

METHODS



- **NSDUH**
- **Nationally Representative Sample**
- **13 Years: 2002-2014**
- **Repeated cross-sectional**
- **Log-poisson regression**
- **Examined**
  - **Time-trends in past month (and past year) cannabis use**
  - **Differences in trends by pregnancy status**
- **Women 18-44 yrs old**
- **N = 200,510 (includes 10,587 pregnant women)**

*Analyses adjusted for complex survey design and survey year using SUDAAN 11.0.1

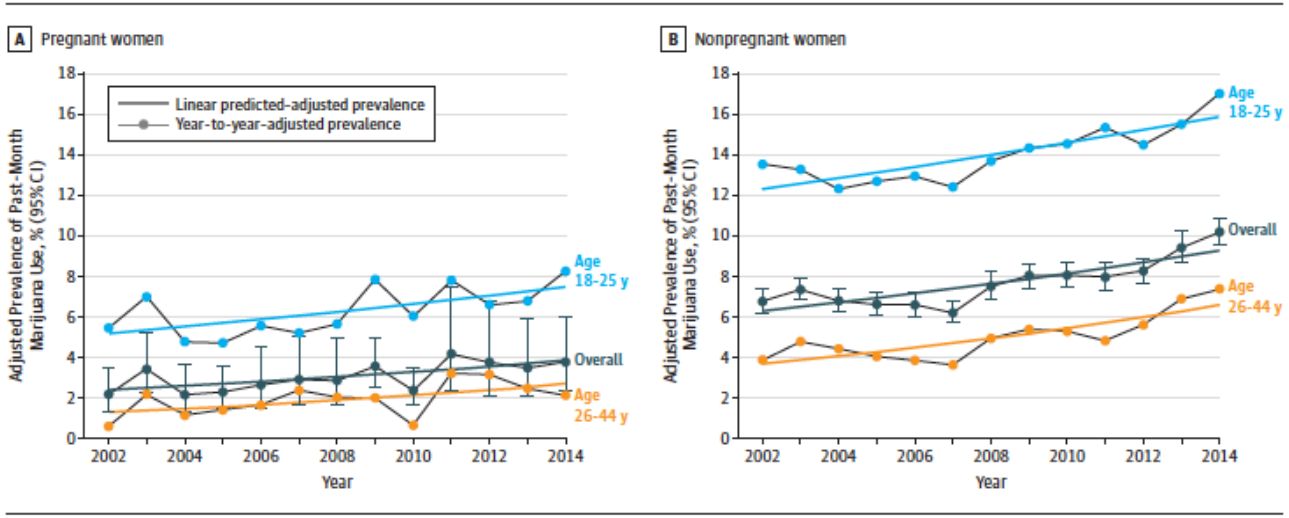
Brown QL, Sarvet AL, Shmulewitz D, Martins SS, Wall MM, Hasin DS. Trends in marijuana use among pregnant and non-pregnant reproductive-aged women, 2002-2014. **JAMA.** 2017;317(2):207-9.

CANNABIS USE IS INCREASING AMONG REPRODUCTIVE-AGE WOMEN IN THE US.

~50,000 More Pregnant Cannabis Users in 2014 vs 2002

~1.98 Million More Non-pregnant Reproductive-age Cannabis Users in 2014 vs 2002

Increases in past-month cannabis use did <u>not</u> differ by pregnancy status.
P = 0.64



Brown et al., 2017

JANE'S HOUSE OF INSPIRATION

MEDICAL RESIDENTS AT JANE'S HOUSE OF INSPIRATION