

Steve Sisolak  
*Governor*



Richard Whitley  
*Director*

# State of Nevada Department of Health and Human Services

---

Adverse Childhood Experiences (ACEs) and Maternal  
Child and Adolescent Health Data and Partners

Division of Public and Behavioral Health

Kagan Griffin, MPH, RD



3/10/2022

*Helping people. It's who we are and what we do.*



# Agenda

1. Brief Overview of Maternal, Child, and Adolescent Health (MCAH) Section
2. Pregnancy Risk Assessment Monitoring System (PRAMS) and ACEs
3. Youth Risk Behavioral Survey (YRBS) and Behavioral Risk Factor Surveillance System (BRFSS) ACEs Data
4. Urban Lotus Project
5. Questions



# Maternal, Child and Adolescent Health Section

Title V Maternal Child  
Health (MCH) Program

Pregnancy Risk  
Assessment Monitoring  
System (PRAMS)

Teen Pregnancy  
Prevention

- Personal Responsibility  
Education Program (PREP)
- Sexual Risk Avoidance  
Education (SRAE)

Early Hearing Detection  
and Intervention (EHDI)

Nevada Maternal Infant  
and Early Childhood  
Home Visiting (MIECHV)  
Program

Rape Prevention and  
Education (RPE)  
Program

Enhancing Reviews and  
Surveillance to Eliminate  
Maternal Mortality  
(ERASE MM)

Account for Family  
Planning (AFP)

Alliance for Innovation on  
Maternal Health (AIM)





# Title V MCH Program

Maternal and  
Infant Program  
(MIP)

Children and  
Youth with Special  
Health Care  
Needs (CYSHCN)


Adolescent Health  
and Wellness  
Program (AHWP)

Rape Prevention  
and Education  
(RPE) Program

MCH  
Epidemiology

State Systems  
Development  
Initiative (SSDI)





# Nevada Pregnancy Risk Assessment Monitoring System (PRAMS)

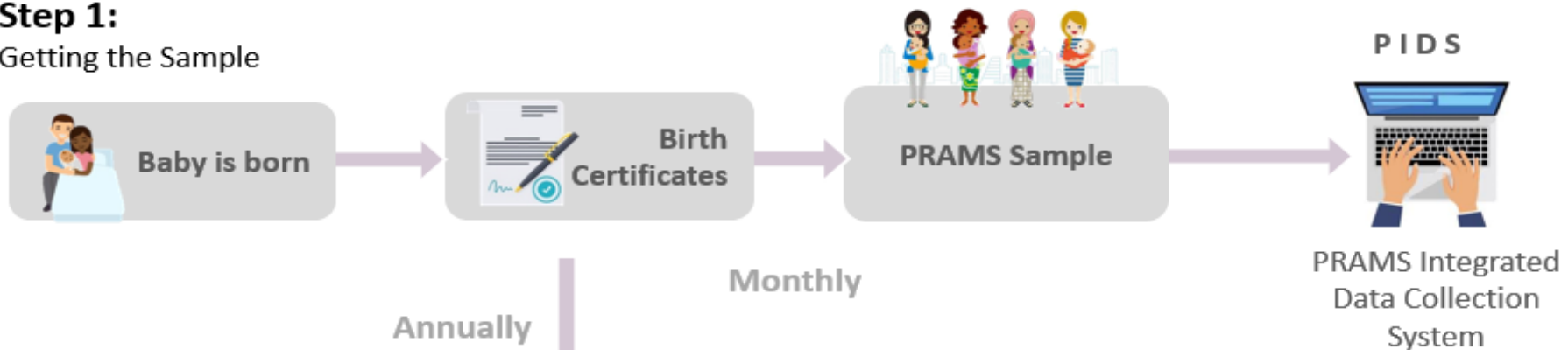
- Nevada PRAMS is a joint pregnancy surveillance study between the Nevada Division of Public and Behavioral Health (DPBH) and the Centers for Disease Control and Prevention (CDC)
- Nevada PRAMS began collecting data in September 2017, and has received weighted data from CDC for 7 months of 2017, 2018, 2019, and 2020 births
- Nevada PRAMS applied for and received funding for another 5-year cycle that began May 2021



# Nevada PRAMS

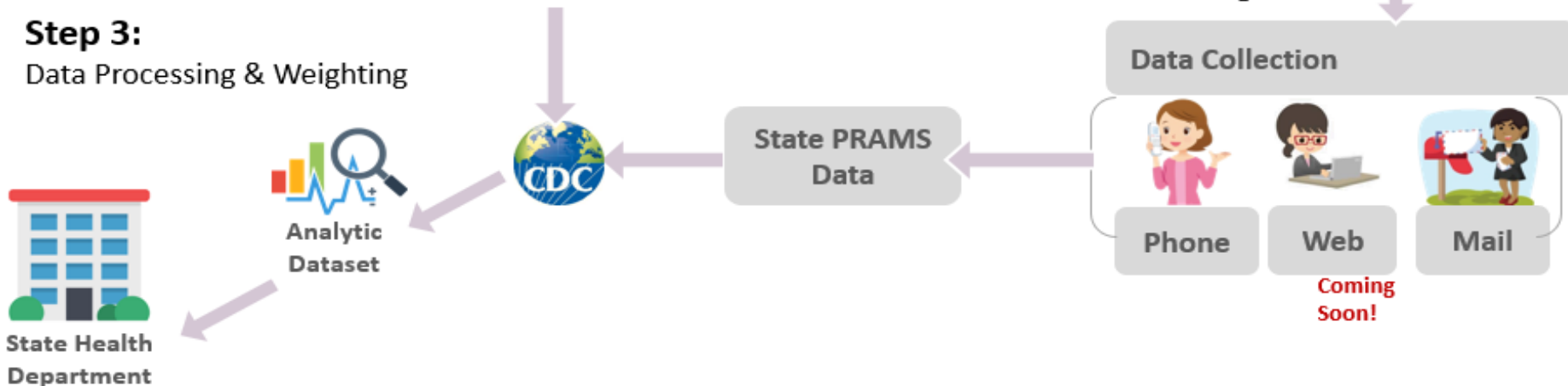
## Step 1:

Getting the Sample



## Step 3:

Data Processing & Weighting





# Nevada PRAMS

- As part of CDC grant deliverable requirements, Nevada PRAMS submits two Data to Action reports annually
- 2017 and 2018 Nevada PRAMS data were utilized to explore if cumulative ACEs exposure is associated with marijuana use during pregnancy



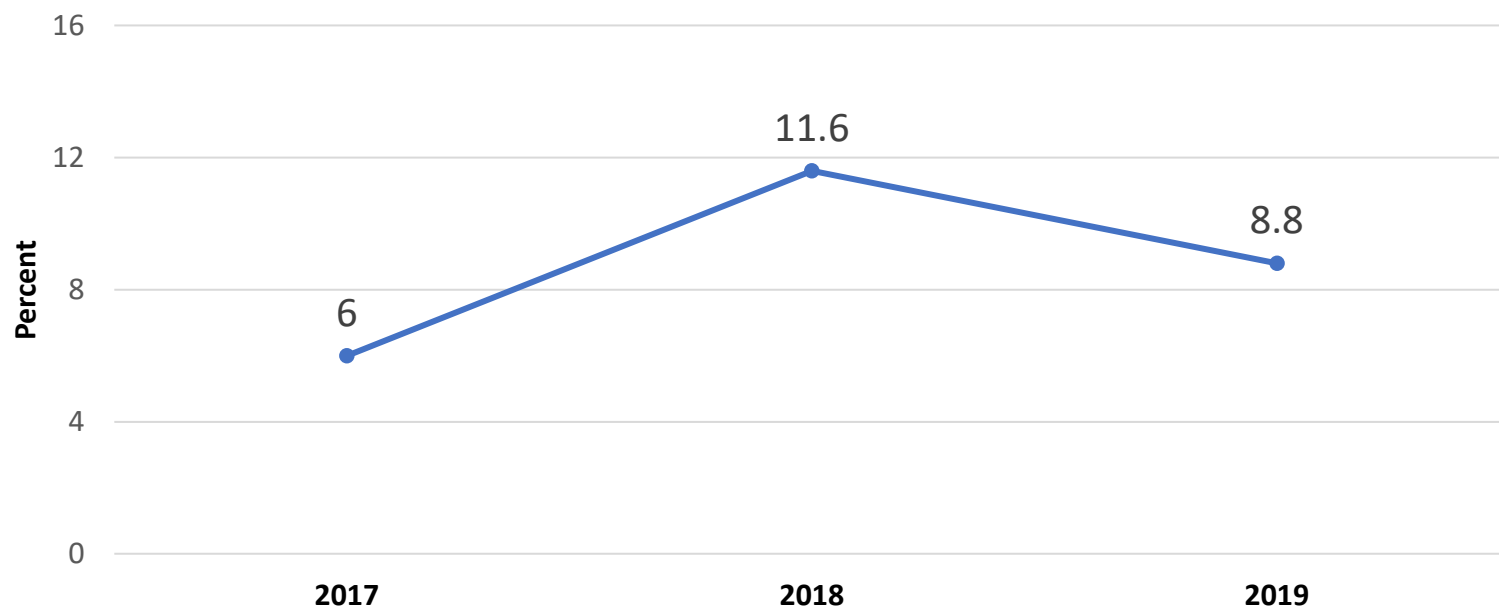
# Nevada PRAMS

- Previous research has shown marijuana is the most used substance during pregnancy, and this use is associated with preterm labor, low birth weight, and stillbirth<sup>1-3</sup>
- Self-reported PRAMS marijuana use during pregnancy in Nevada has been increasing. Understanding factors that influence use of marijuana during pregnancy is important for prevention efforts.



# Nevada PRAMS

## NV PRAMS Marijuana or Hash Use During Pregnancy



**Source: 2017-2019 Nevada PRAMS Survey**

2017 Nevada PRAMS data had a response rate of 40.6% and 2018 had a response rate of 39.4%, which are both under the CDC required response rate threshold of 55% to publish data. 2019 PRAMS data had a response rate of 42% which is under the CDC required response rate threshold of 50% to publish data. 2017 consists of seven months of data collection. Interpret data with caution due to the response rate.



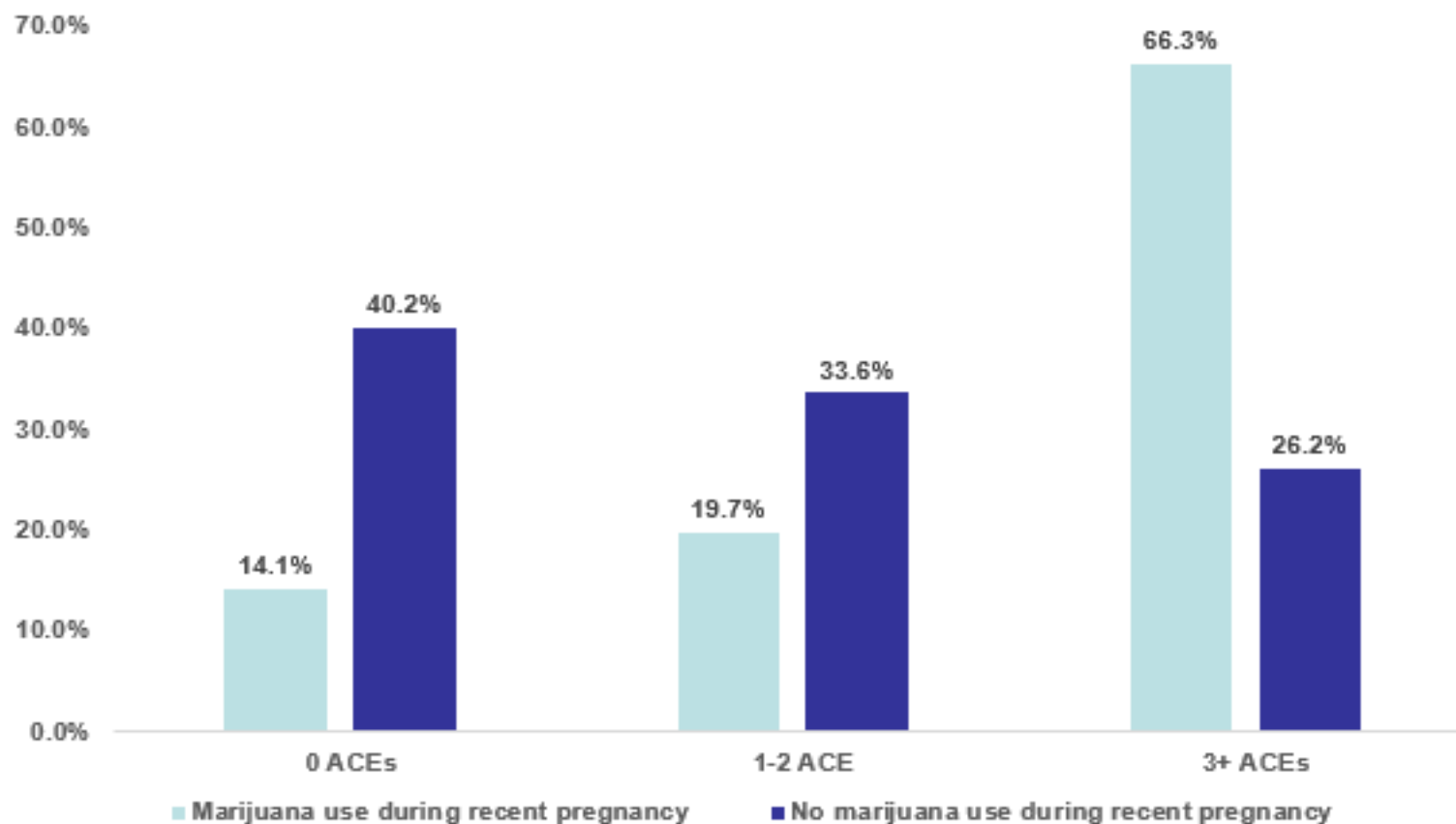


# Nevada PRAMS

- Using 2017 and 2018 Nevada PRAMS data, Shawn Thomas, MPH, University of Nevada, Reno (UNR), performed weighted logistic regression analyses that were used to assess the association between Adverse Childhood Experiences (ACEs) and marijuana use during pregnancy, adjusting for the effects of demographic characteristics such as age, race/ethnicity, education, marital status, and income.
- P-value cut-off of 0.05 for significance.
- 2017 Nevada PRAMS data had a response rate of 40.6% and 2018 had a response rate of 39.4%, which are both under the CDC required response rate threshold of 55% to publish data. 2017 consists of seven months of data collection. Interpret data with caution due to the response rate.

# Nevada PRAMS

## NV PRAMS ACEs by Marijuana Use During Most Recent Pregnancy, 2017-2018





# Nevada PRAMS

## Weighted Logistic Regression Results

ACEs	Adjusted Odds Ratio	95% Confidence Interval
0 (ref)	1.00	-
1	1.57	0.46, 5.33
2	3.15	0.89, 11.13
3+	9.19	3.15, 26.78



# Nevada PRAMS

- These findings were presented by Dr. Wei Yang from UNR at the Nevada Cannabis and Vaping Summit in January 2021 and utilized in developing a statewide Cannabis and Vaping Action Plan
  - The Action Plan calls out the continued need for PRAMS surveillance, as well as the necessity of specific messaging to reach pregnant individuals about the impacts of using substances while pregnant. A focus on ensuring messaging reaches those with high ACEs scores will be vital.
  - The plan considers implementing universal questionnaire-based screening (Screening, Brief Intervention, and Referral to Treatment – SBIRT) in a non-stigmatizing manner to identify substance use in pregnant and non-pregnant patients of reproductive age.



# Nevada PRAMS

- Overall, the PRAMS findings support substance use prevention programs providing wraparound support services accessible to people with high ACEs scores.
  - Wraparound support services often incorporate non-judgmental, relationship-based, trauma-informed, and harm reduction approaches that can be particularly effective for birthing persons with high ACE scores.
- Nevada PRAMS will continue to collect data on ACEs and substance use and disseminate findings to partners. Nevada PRAMS will also continue to utilize findings internally to guide programmatic and policy decisions.
- A link to the full data to action piece can be found here:  
<https://dpbh.nv.gov/Programs/TitleV/MCAH-Data-and-Publications/>



# Youth Risk Behavioral Survey (YRBS) and Behavioral Risk Factor Surveillance System (BRFSS)

- Title V MCH funds help support BRFSS data collection.
- Title V MCH utilizes both BRFSS and YRBS findings in annual Block Grant Report submissions.
- A BRFSS Special Report on ACEs was published using 2018 and 2020 data: [2018 and 2020 Behavioral Risk Factor Surveillance System \(BRFSS\) and Adverse Childhood Experiences \(ACES\) Special Report](#)
- Starceвич, K., Zhang, F., Clements-Nolle, K., Zhang, F., & Yang, W. University of Nevada, Reno. 2018 and 2020 Nevada Behavioral Risk Factor Surveillance System (BRFSS): Adverse Childhood Experiences (ACES) Special Report.
- YRBS Special Reports on ACEs were published using 2019 Nevada high school and middle school data: [2019 High School YRBS ACEs Special Report](#)
- [2019 Middle School YRBS ACEs Special Report](#)
- Maxson, C. Lensch, T., Diedrick, M., Zhang, F., Peek, J., Clements-Nolle, K., Yang, W. State of Nevada, Division of Public and Behavioral Health and the University of Nevada, Reno. 2019 Nevada High School Youth Risk Behavior Survey (YRBS): Adverse Childhood Experiences (ACES) Special Report.



# BRFSS: ACEs Special Report

- The report focuses on the relationship between lifetime ACE exposure and select substance use, emotional health, and physical health outcomes
- This report provides lifetime prevalence estimates for different ACE exposures that are helpful to understand
- Lifetime prevalence estimates for each ACE exposure are: 23.8% physical abuse, 31.2% emotional abuse, 14.5% sexual abuse, 17.9% household mental illness, 32.1% household substance use, 21.4% household domestic violence, 10.3% incarcerated household member, 34.8% parental separation or divorce

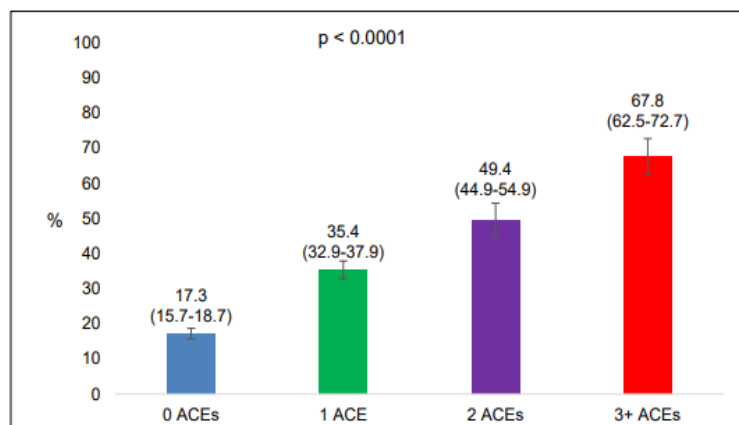


# YRBS: ACEs Special Reports

- These reports focus on the relationship between ACE exposure and important violence and victimization, emotional health, substance use, and sexual health outcomes for child and adolescent populations in Nevada
- Females were more likely to report two or more ACEs than males
- Children qualifying for free or reduced lunches were more likely to report one ACE or higher
- LGBTQ-identifying students were more likely to report higher ACE scores than those identifying as heterosexual
- As the number of ACEs increase, so does the likelihood of participating in violence, experiencing victimization, sexual and physical dating violence, and suicidal ideation

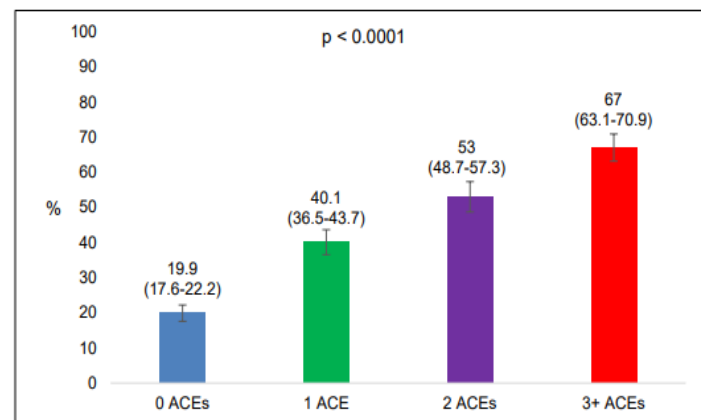
# YRBS: ACEs Special Report

Percentage of middle school students who felt sad or hopeless almost every day for two or more weeks in a row during the 12 months before the survey\*, by ACE score — Nevada, Youth Risk Behavior Survey, 2019



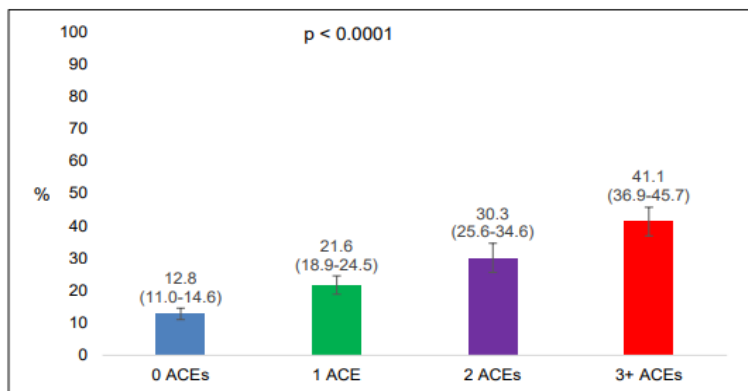
\*So that they stopped doing some usual activities

Percentage of high school students who felt sad or hopeless almost every day for two or more weeks in a row during the 12 months before the survey\*, by ACE score — Nevada, Youth Risk Behavior Survey, 2019

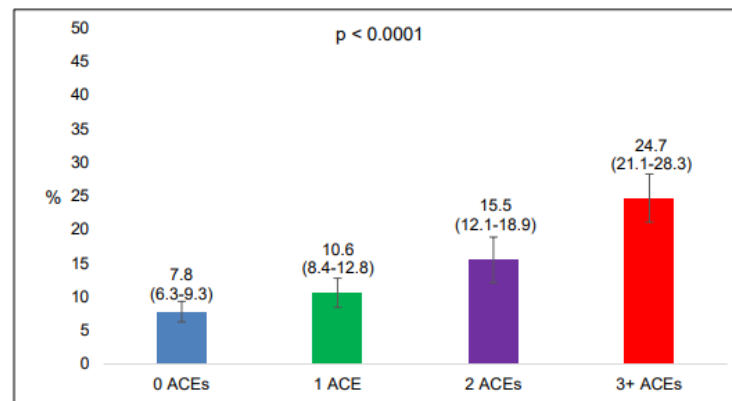


\*So that they stopped doing some usual activities

Percentage of middle school students who were bullied on school property during the 12 months before the survey, by ACE score — Nevada, Youth Risk Behavior Survey, 2019

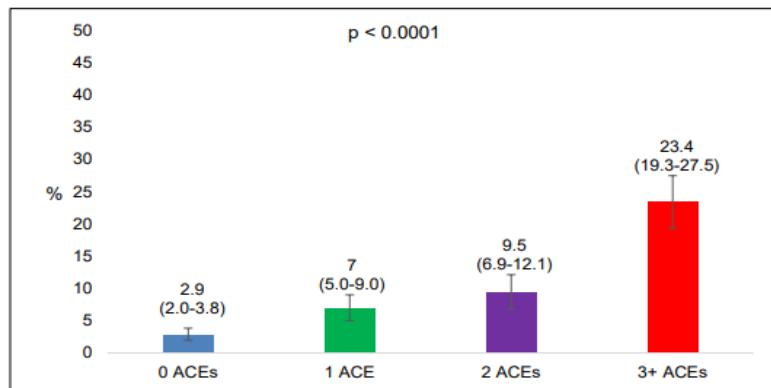


Percentage of high school students who were bullied on school property during the 12 months before the survey, by ACE score — Nevada, Youth Risk Behavior Survey, 2019



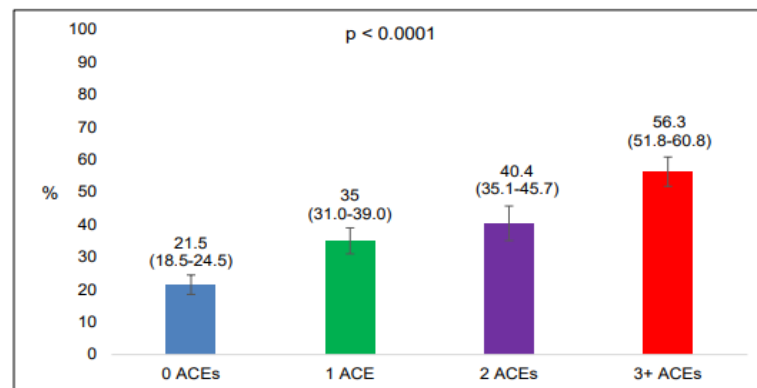
# YRBS: ACEs Special Reports

Percentage of middle school students who used marijuana during the 30 days before the survey\*, by ACE score — Nevada, Youth Risk Behavior Survey, 2019



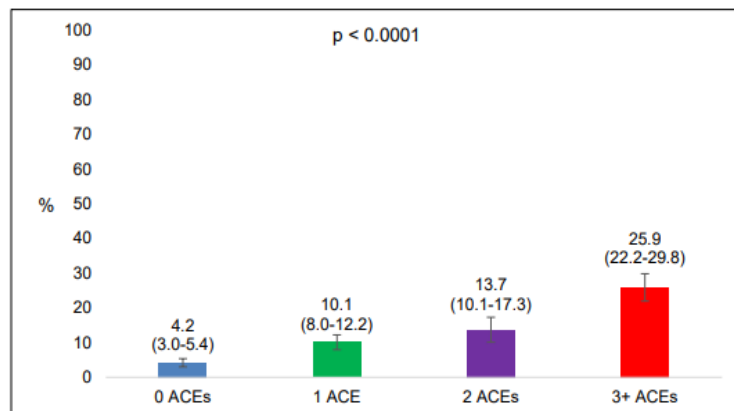
\*Also called "pot", "weed", or "cannabis"

Percentage of high school students who ever used marijuana\*, by ACE score — Nevada, Youth Risk Behavior Survey, 2019



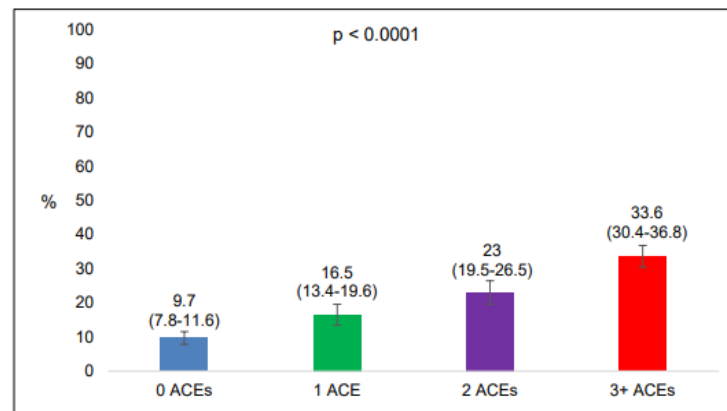
\*Also called "pot", "weed", or "cannabis"

Percentage of middle school students who ever took prescription pain medicine without a doctor's prescription or differently than prescribed\*, by ACE score — Nevada, Youth Risk Behavior Survey, 2019



\*Took prescription pain medicine (e.g., codeine, Vicodin, OxyContin, Hydrocodone, and Percocet)

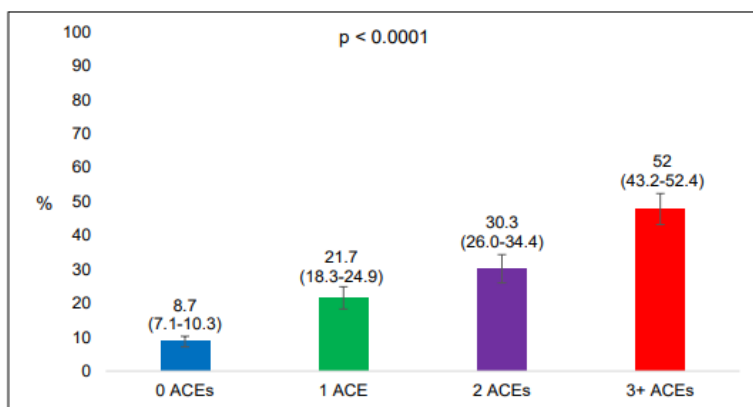
Percentage of high school students who ever took prescription pain medicine without a doctor's prescription or differently than prescribed\*, by ACE score — Nevada, Youth Risk Behavior Survey, 2019



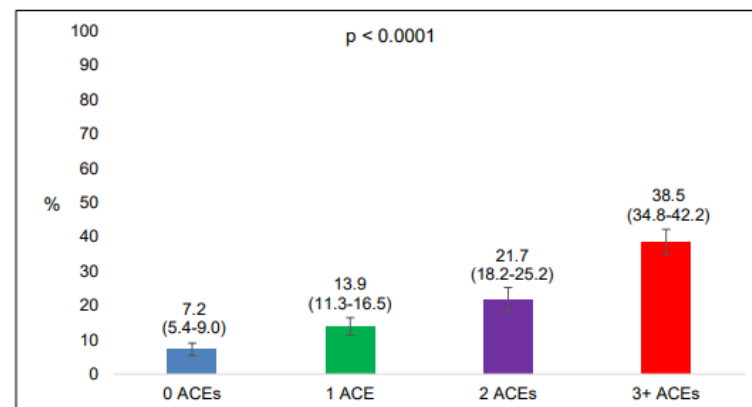
\*Took prescription pain medicine (e.g., codeine, Vicodin, OxyContin, Hydrocodone, and Percocet)

# YRBS: ACEs Special Report

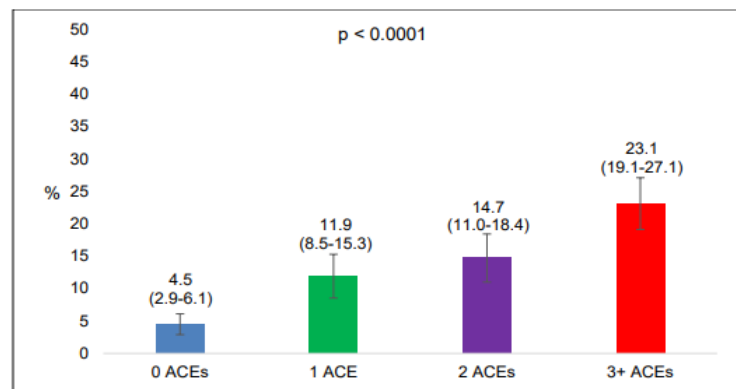
Percentage of middle school students who ever seriously considered killing themselves during the 12 months before the survey, by ACE score — Nevada, Youth Risk Behavior Survey, 2019



Percentage of high school students who seriously considered attempting suicide during the 12 months before the survey, by ACE score — Nevada, Youth Risk Behavior Survey, 2019



Percentage of high school students who experienced sexual dating violence during the 12 months before the survey\*, by ACE score — Nevada, Youth Risk Behavior Survey, 2019



\*Including kissing, touching, or being physically forced to have sexual intercourse when they did not want to by someone they were dating or going out with; among students who dated or went out with someone during the 12 months before the survey



# YRBS and BRFSS- Utilizing Data

- Data from these reports indicate the need for prevention and intervention strategies targeting ACEs to reduce mental health consequences into adulthood
- Current statewide efforts address ACEs by building resiliency, using trauma-informed approaches, and providing social and emotional support services to children and their families
- MCAH staff attended conferences and webinars to understand how trauma affects the developing adolescent brain in healthy decision-making and to learn what it means to be trauma-informed with adolescent patients.
  - The AHW, SRAE, and PREP programs shared resources obtained with youth-serving agencies and youth advisory councils to enhance their understanding of trauma-informed principles and better engage with youth impacted by ACEs.



# Urban Lotus Project

- Title V MCH funds Urban Lotus Project to provide physical activity to underserved youth and those experiencing special health care needs
- Urban Lotus Project offers Trauma-Informed Yoga for Youth to benefit adolescents impacted by a high lifetime prevalence of ACEs
  - This helps increase physical activity, provide resilience, support mindfulness, combat obesity and chronic disease, enhance wellness, and help mitigate other harmful public health outcomes





# Conclusions

- Overall, data collection on ACEs within the MCAH Section is focused on PRAMS, BRFSS, and YRBS surveys
- PRAMS ACEs analyses can be updated to include 2019 and 2020 data, as well as expanding beyond marijuana use
- Impacts of ACEs on utilization of services and other public health outcomes should be factored into program planning and policy development for MCH populations



# References

1. McCabe JE, Arndt S. Demographic and substance abuse trends among pregnant and non-pregnant women: eleven years of treatment admission data. *Maternal Child Health J.* 2012 Nov;16(8):1696-702. doi: 10.1007/s10995-011-0872-z. PMID: 21842247.
2. Verner MA, Andersen ME, Clewell HJ 3rd, Longnecker MP. Prenatal PCB-153 Exposure and Decreased Birth Weight: Verner et al. *Respond. Environ Health Perspect.* 2014 Apr;122(4):A89-90. doi: 10.1289/ehp.1307796R. PMID: 24691074; PMCID: PMC3984225.
3. Hayatbakhsh, M., Flenady, V., Gibbons, K. et al. Birth outcomes associated with cannabis use before and during pregnancy. *Pediatr Res* 71, 215–219 (2012). <https://doi.org/10.1038/pr.2011.25>





# Questions?



# Contact Information

Kagan Griffin, MPH, RD

Title V MCH Program Manager

[kgriffin@health.nv.gov](mailto:kgriffin@health.nv.gov)

775-684-4134



# Acronyms

- Adverse Childhood Experiences (ACEs)
- Maternal, Child, and Adolescent Health (MCAH)
- Pregnancy Risk Assessment Monitoring System (PRAMS)
- Youth Risk Behavioral Survey (YRBS)
- Behavioral Risk Factor Surveillance System (BRFSS)
- Division of Public and Behavioral Health (DPBH)
- Centers for Disease Control and Prevention (CDC)
- Children and Youth with Special Health Care Needs (CYSHCN)
- Adolescent Health and Wellness Program (AHWP)
- Sexual Risk Avoidance Education (SRAE)
- Personal Responsibility Education Program (PREP)