



**Breaking the  
Intergenerational Cycle of  
Adversity**

**CWDA 2019**  
**California At the Forefront**  
Wednesday October 16, 2019

# Executive Order: N-02-19

**WHEREAS** California faces serious health challenges rooted in early social determinants of health; and

**WHEREAS** these challenges are not only serious but inequitable, disproportionately impacting low-income Californians and communities of color; and

**WHEREAS** some of the most pernicious, but least addressed, health challenges are the upstream factors that eventually become chronic and acute conditions that are far more difficult and expensive to treat; and

**WHEREAS** the overwhelming scientific consensus is that these upstream factors, including toxic stress and the social determinants of health, are the root causes of many of the most harmful and persistent health challenges facing Californians; and

**WHEREAS** California is home to many of the world's leading experts on proactively addressing these root causes, including State and local health officials; and

**WHEREAS** these experts are endeavoring to identify and implement solutions proven successful by our best science; and

**WHEREAS** medical and policy experts cannot effectively do this work alone—they must leverage the expertise of Californians whose lived experience is critical to the development of working solutions; and

**WHEREAS** it is time that California appoints a leader who can marshal the insights and energy of medical professionals, public health experts, public servants, and everyday Californians to solve our most pressing health challenges with surgical focus.

**NOW, THEREFORE, I, GAVIN NEWSOM**, Governor of the State of California, by virtue of the power and authority vested in me by the Constitution and statutes of the State of California, do hereby issue this Order to become effective immediately.

**IT IS HEREBY ORDERED** that there is established the position of Surgeon General, a public entity within the Governor's direct executive authority.

**IT IS FURTHER ORDERED** that the Surgeon General shall advise the Governor on a comprehensive approach to addressing health risks and challenges as effectively and as early as possible.

**IT IS FURTHER ORDERED** that the Surgeon General shall marshal the insights and energy of medical professionals, scientists and other academic experts, public health experts, public servants, and everyday Californians to solve our most pressing public health challenges.

**IT IS FURTHER ORDERED** that the Surgeon General shall be a key spokesperson on public health issues throughout the State of California by providing Californians with the best medical and scientific evidence through public health reports and other tools of communicating widely to the public.



# Office of California Surgeon General Priorities

- **Health Equity**
- **Early Childhood**
- **Toxic Stress**



# 10 Categories of Adverse Childhood Experiences (ACEs)

## ABUSE



Physical



Emotional



Sexual

## NEGLECT



Physical



Emotional

## HOUSEHOLD DYSFUNCTION



Mental Illness



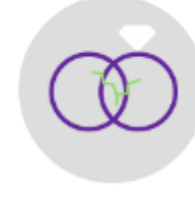
Incarcerated Relative



Mother treated  
violently



Substance Abuse

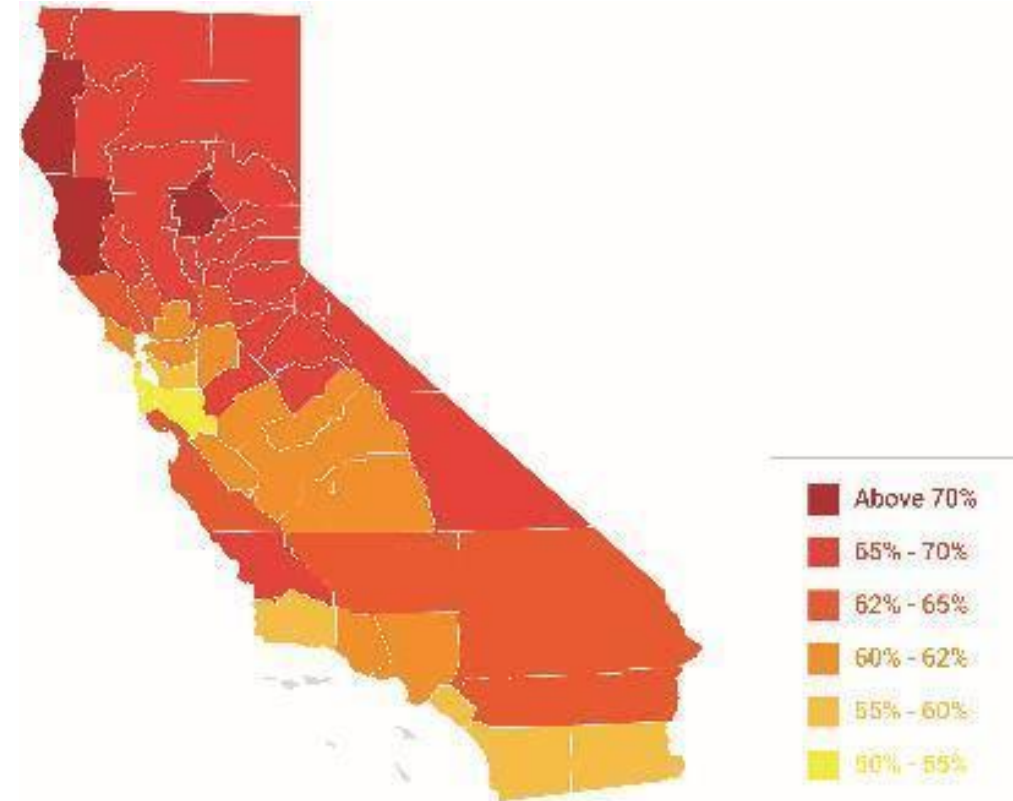
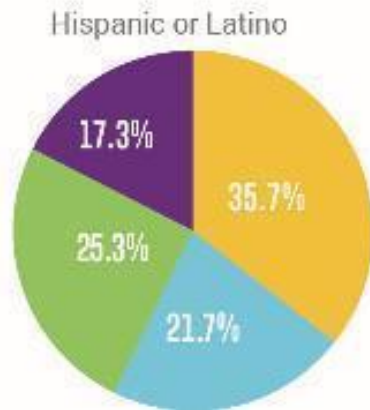
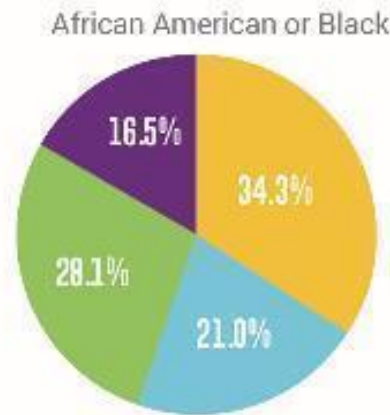
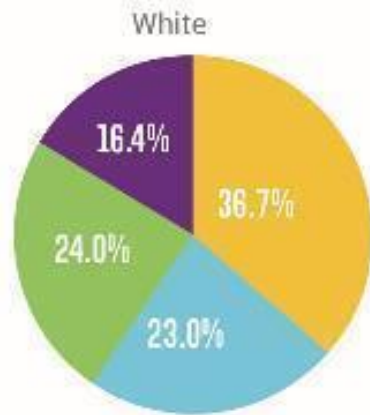


Divorce



# 63.5% Californians with $\geq 1$ ACEs

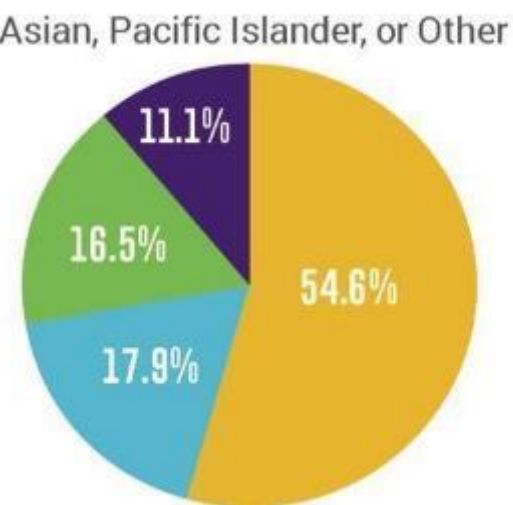
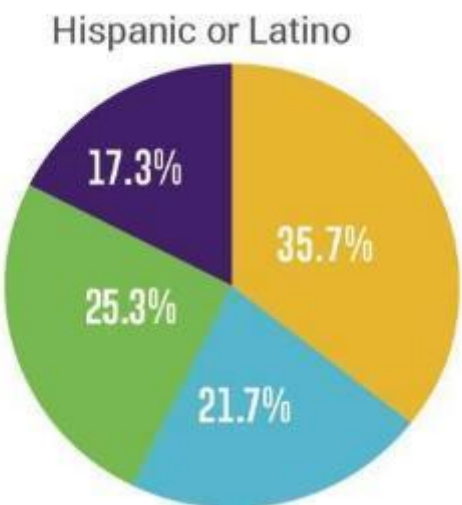
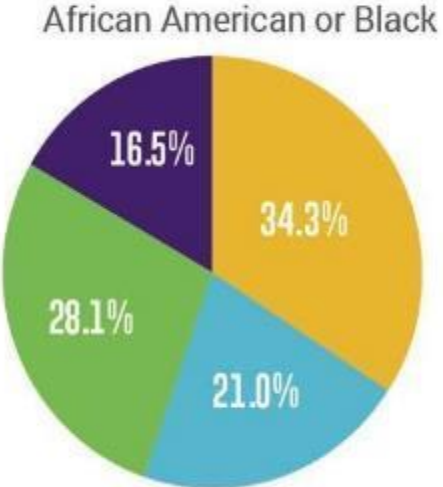
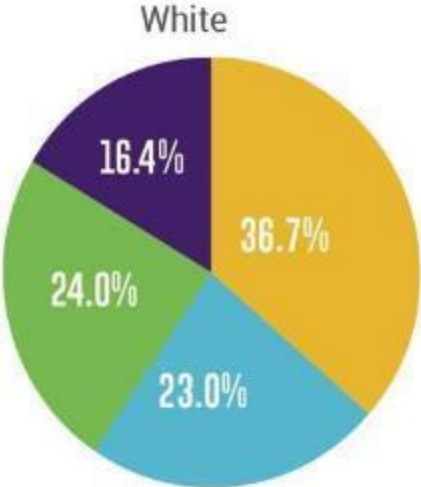
## 17.6% have $\geq 4$ ACEs



Source: A Hidden Crisis: Findings on Adverse Childhood Experiences in California, Center for Youth Wellness, 2014

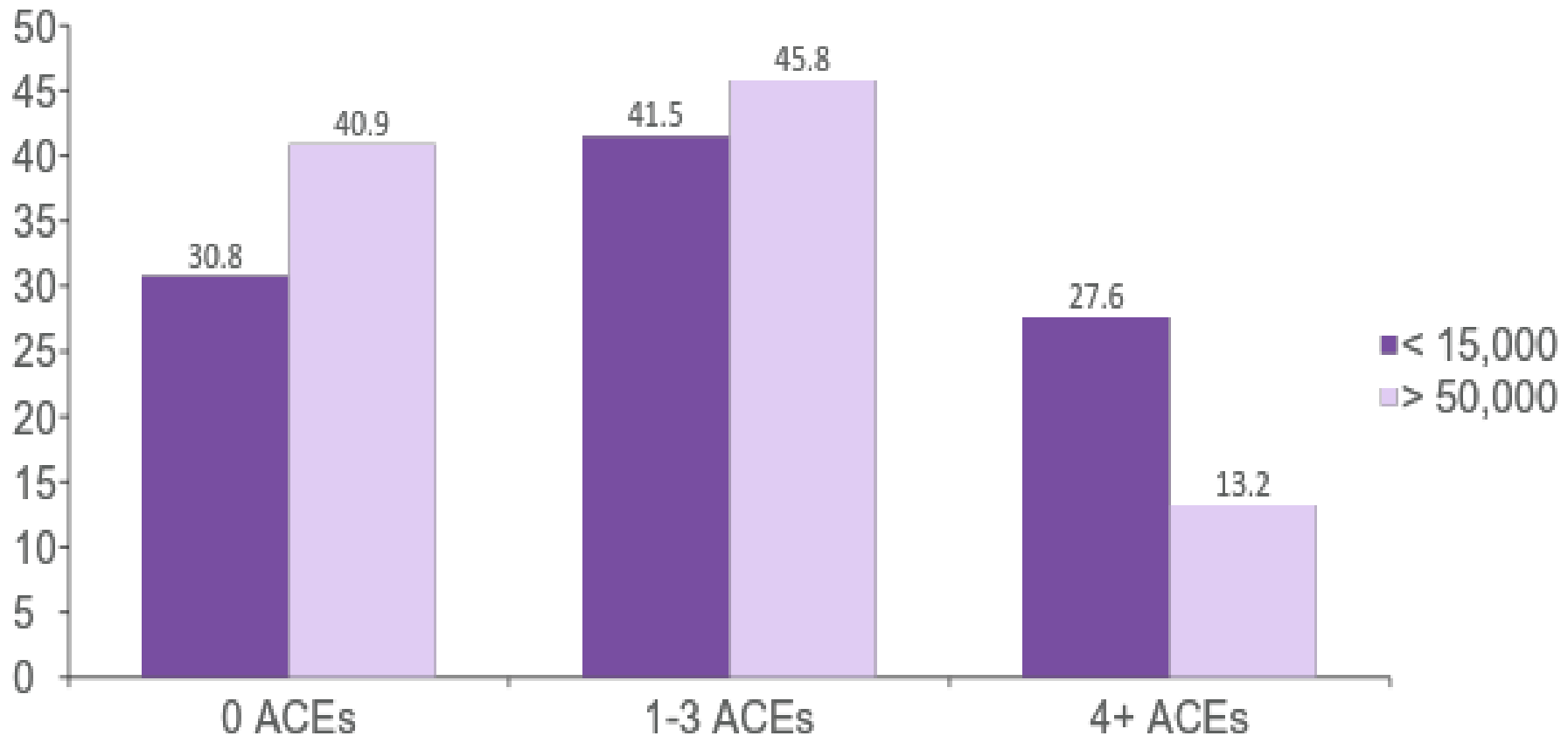
<https://letsgethealthy.ca.gov/goals/healthy-beginnings/adverse-childhood-experiences/>

# ACEs across race and ethnicity



Source: "A Hidden Crisis: Findings on Adverse Childhood Experiences in California," Center for Youth Wellness and Public Health Institute 2014

## Prevalence of 4+ ACEs in low-income populations is substantially greater



Data source: \*Gilbert et al. 2010 Childhood Adversity and Adult Chronic Disease: An Update from Ten States and the District of Columbia. American Journal of Preventative Medicine. 48(3): 345-349

# ACEs dramatically increase risk for 8 out of 10 leading causes of death in US

	Leading Causes of Death in US, 2017	Odds Ratio Associated with $\geq 4$ ACEs
1	<b>Heart Disease</b>	<b>2.1</b>
2	<b>Cancer</b>	<b>2.3</b>
3	<b>Accidents</b>	<b>3.5</b>
4	<b>Chronic Lower Respiratory Disease</b>	<b>3.0</b>
5	<b>Stroke</b>	<b>2.4</b>
6	<b>Alzheimer's</b>	<b>11.2</b>
7	<b>Diabetes</b>	<b>1.5</b>
8	Influenza and Pneumonia	
9	Kidney Disease	
10	<b>Suicide</b>	<b>30.1</b>

Source: National Vital Statistics System, National Center for Health Statistics, CDC 2017, Hughes et al., 2017 for all odds ratios except for stroke and Alzheimer's disease, stroke and accidents; Felitti et al., 1998 for stroke; Center for Youth Wellness, 2014 for Alzheimer's disease, Ford et al 2018 for Accidents (Acquired brain injury used as a proxy for accidents).



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1	<b>Heart Disease</b>	<b>2.1</b>
2	<b>Cancer</b>	<b>2.3</b>
3	<p style="text-align: center;">ACEs are NOT destiny!                      With intervention, we can make a significant impact and improve outcomes.</p>	
4		
5		
6		
7	<b>Diabetes</b>	<b>1.5</b>
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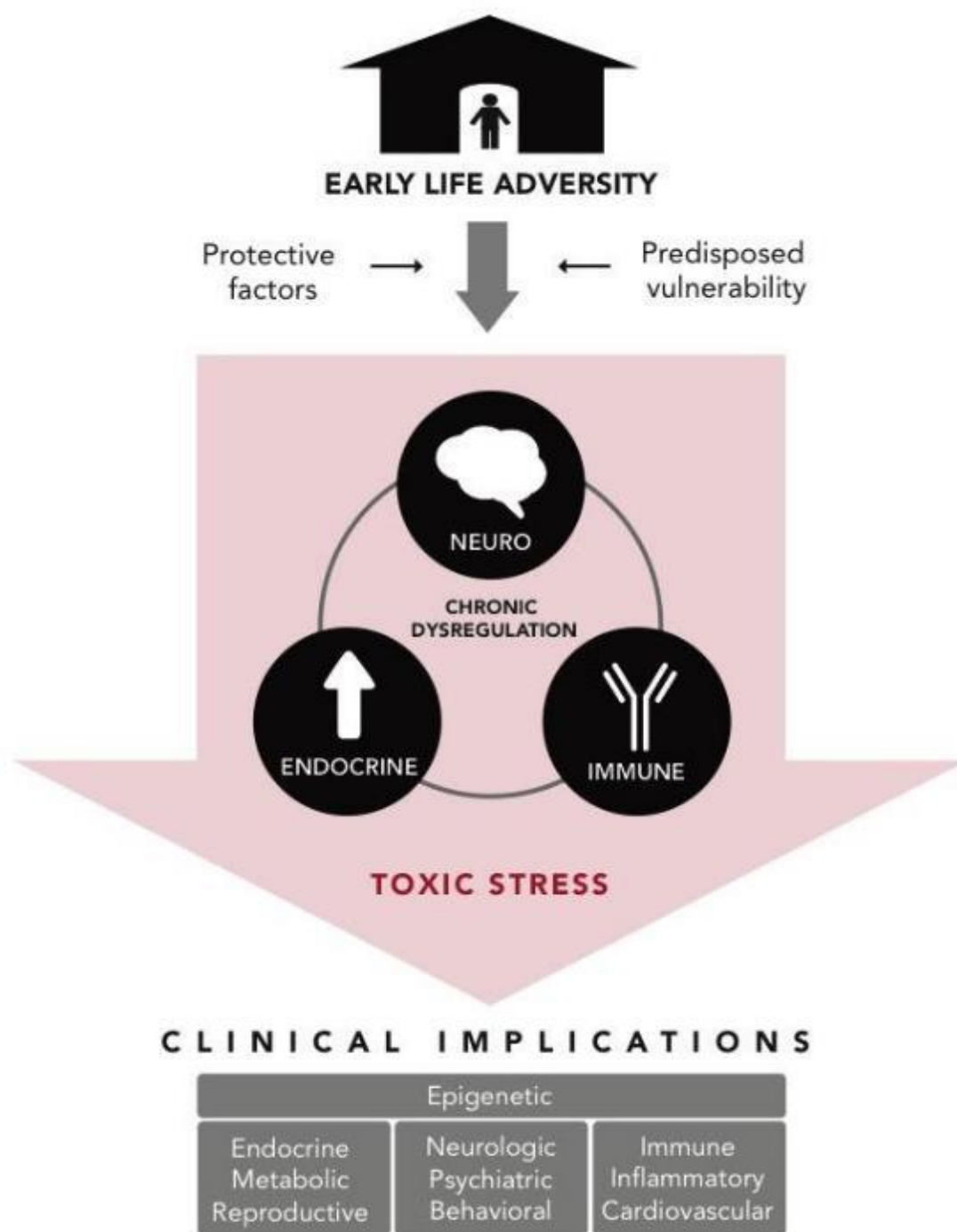


# **The Biology of Adversity**









# Health and behavioral outcomes in children

dev. delay  
growth delay  
failure to thrive  
sleep disruption



asthma  
pneumonia  
viral infection  
atopic disease  
learning difficulties  
behavioral problems



obesity  
diabetes  
headache  
abdominal pain  
teen pregnancy  
hyperthyroidism  
pubertal changes









# **Using the Science to Break the Cycle**

# S T R E S S   R E S P O N S E

## POSITIVE

Physiological response to mild or moderate stressor

Brief activation of stress response elevates heart rate, blood pressure, and hormonal levels

Homeostasis recovers quickly through body's natural coping mechanisms

*Tough test at school, playoff game*

## TOLERABLE

Adaptive response to time-limited stressor

Time-limited activation of stress response results in short-term systemic changes

Homeostasis recovers through buffering effect of caring adult or other interventions

*Immigration, natural disaster*

## TOXIC

Maladaptive response to intense and sustained stressor

Prolonged activation of stress response in children disrupts brain architecture and increases risk of health disorders

Prolonged allostasis establishes a chronic stress response

*Abuse, neglect, household dysfunction*

**Fig. 2.** Spectrum of the stress response: positive, tolerable, and toxic.

# Buffering the Toxic Stress Response



**Neurologic:** MRI studies found that institutionalized **children randomized to high quality nurturant caregiving showed normalization of the developmental trajectory of white matter structures.**



**Immunologic:** Meditation was associated with decreased IFN- $\gamma$  and NK cell production of IL-10 with increased T cell production of IL-4 (anti-inflammatory). Social support **protected against the rise in infection risk** associated with increasing frequency of conflict.

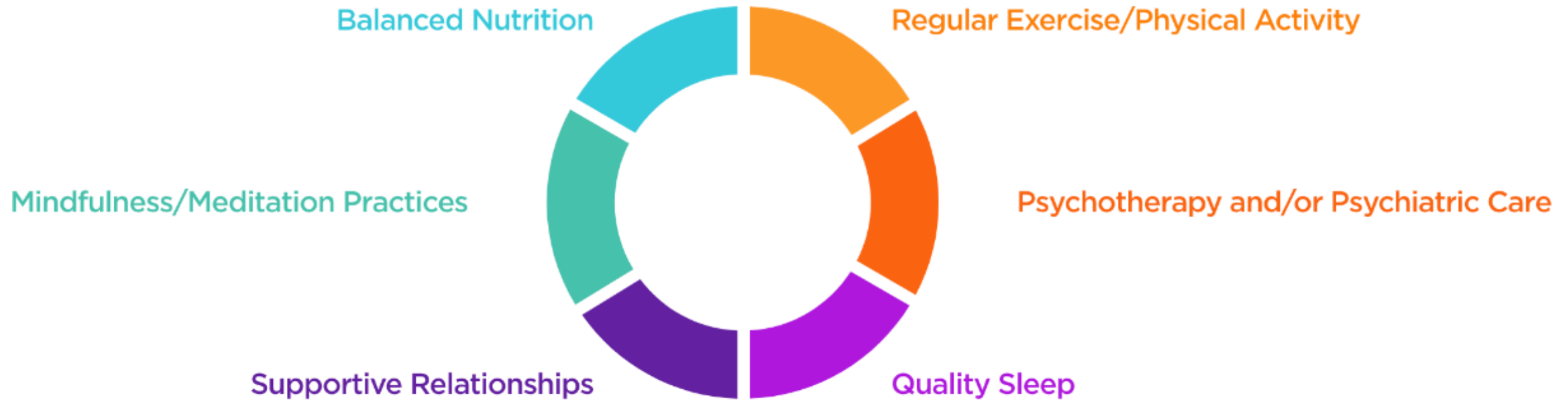


**Endocrine:** Oxytocin inhibits the stress response, enhances bonding, protects against stress-induced cell death, has anti-inflammatory effects, enhances metabolic homeostasis and protects vascular endothelium.



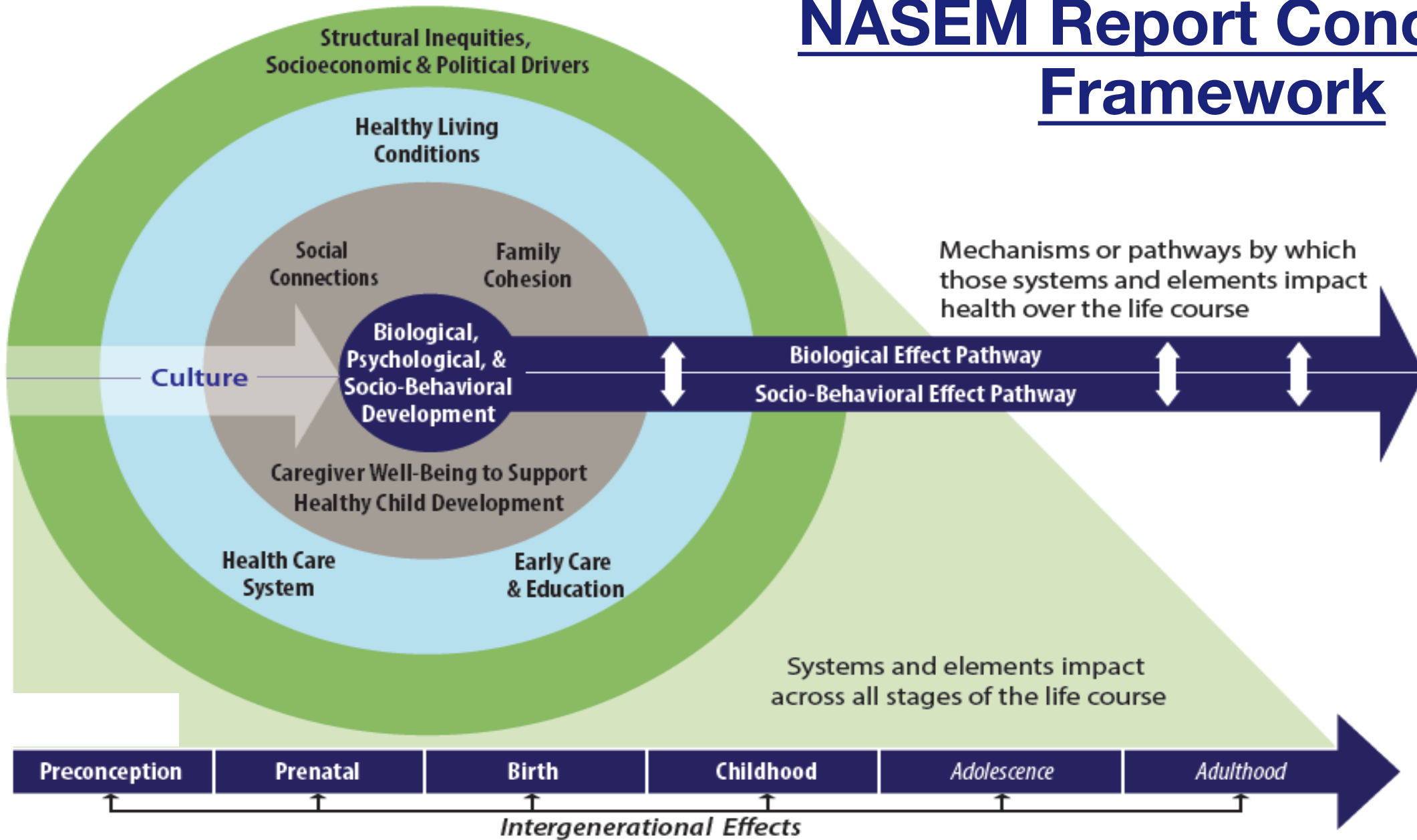
**Epigenetic:** Meany and colleagues found that **nurturant caregiving was associated with epigenetic changes** that led to greater stress tolerance, more normal functioning of the stress response, improved cognitive performance in increased caregiving.

# Buffering the Toxic Stress Response



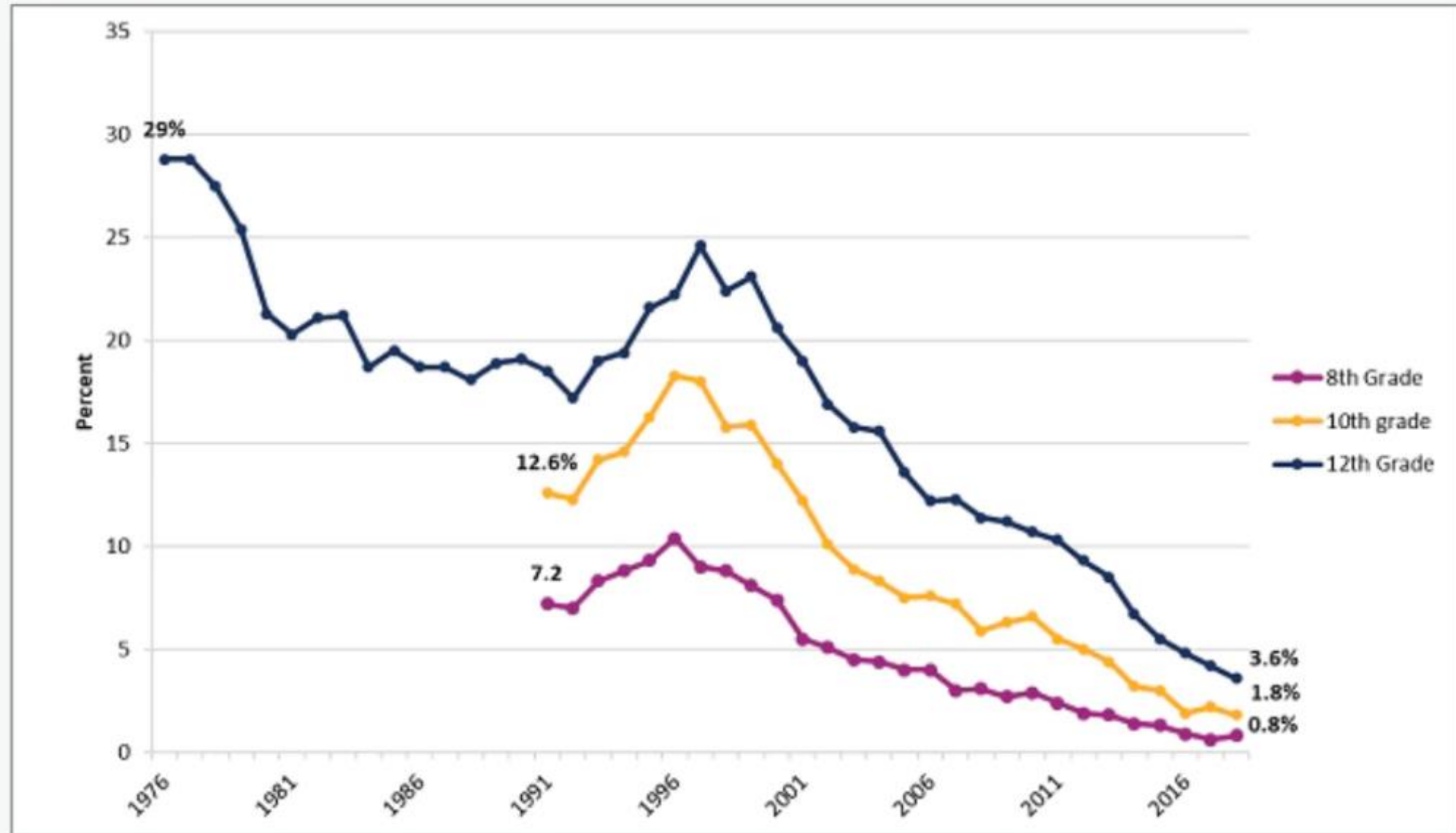
SYSTEMS AND ELEMENTS THAT HELP "SET THE ODDS"

# NASEM Report Conceptual Framework





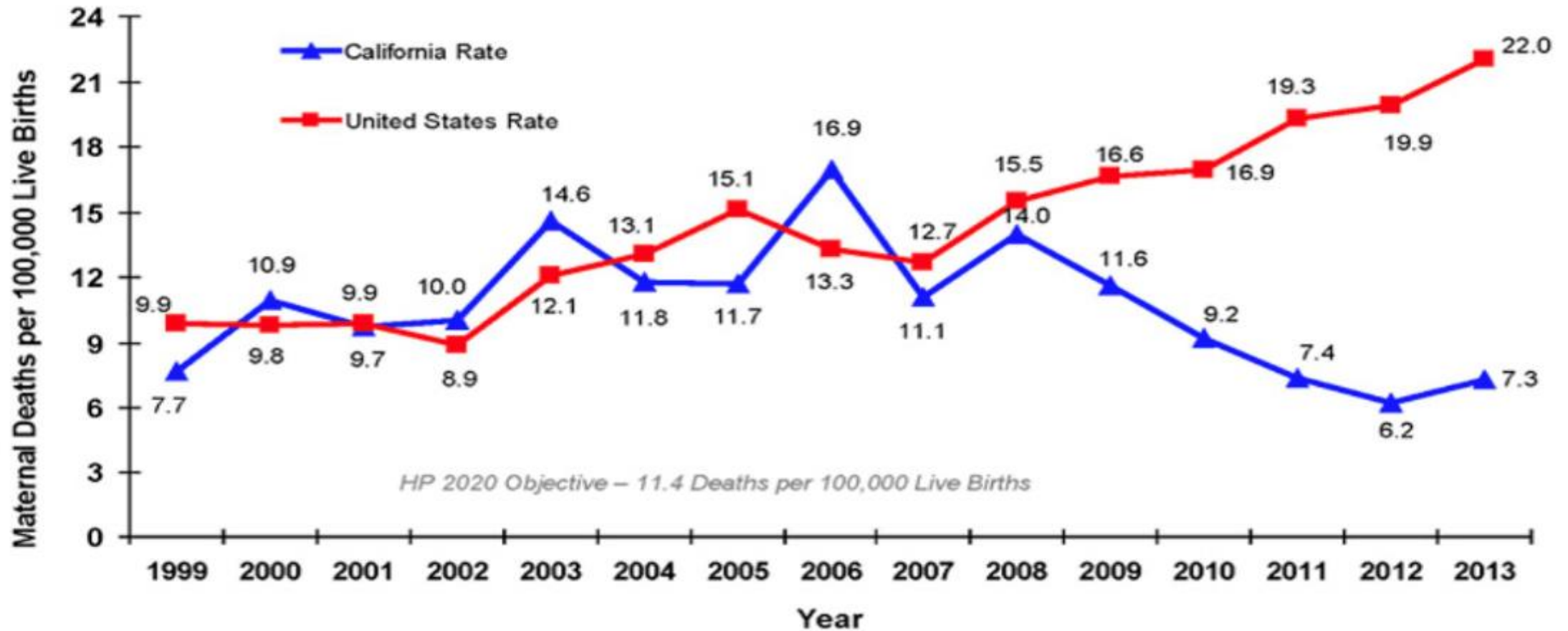
# Figure 1: 30 Day Prevalence of Daily Use of Cigarettes, by Grade, 1976-2018



Source: Johnston, L.D., Miech, R.A., O'Malley, P.M., Bachman, J.G., Schulenberg, J.E., & Patrick, M.E. (2019). Monitoring the Future national survey results on drug use 1975-2018: Overview, key findings on adolescent drug use. Ann Arbor: Institute for Social Research, University of Michigan. <http://www.monitoringthefuture.org/pubs/monographs/mtf-overview2018.pdf>



# Maternal Mortality Rate, California and United States; 1999-2013



Source: State of California, Department of Public Health, California Birth and Death Statistical Master Files, 1999-2013



**BOLD VISION:  
California will cut ACES and Toxic  
Stress in half in one generation.**



- **Establish primary prevention through coordinated public awareness campaigns.**
- **Systematically deploy broad scale screening, early detection and early intervention of ACEs/toxic stress.**
- **Interrupt vertical transmission of ACEs by advancing screening and children in adults – with special focus on the prenatal and early parenting years.**
- **Coordinate and strengthen the network of referral and treatment systems to make them more effective, accountable and easy to navigate for children, adults and providers.**

# State of California Investment



- \$40.8M for Adverse Childhood Experiences (ACES) screenings of young children and adults receiving Medi-Cal
  - DHCS will provide a supplemental payment to Medi-Cal providers for trauma screenings for adults and children, beginning in January 2020.
- \$50M (plus match) to train providers on trauma screenings
  - Providers must complete required training and self-attest to completion to receive supplemental payments for trauma screening.

# CA-OSG & DHCS

## AB 340 Phased Approach



- **Phase 1: Minimum Requirements for Reimbursement –**
  - 2-hour online training that covers the basics of what billing providers need to know to appropriately screen and treat patients for ACEs and toxic stress, and how to participate in the program.
  - Training will provide Continuing Medical Education (CME) and Maintenance of Certification (MOC) credits and will be available in the Fall of 2019.



# CA-OSG and DHCS AB 340 Phased Approach



- **Phase 2: Provider Engagement and Training –**
  - Partnering with organizations to provide additional certified training opportunities that are targeted to specific provider specialties and/or offered in different modalities (such as in-person).
  - All trainings would need to meet CA-OSG/DHCS-developed curriculum criteria.

# CA-OSG and DHCS AB 340 Phased Approach



- **Phase 3: Learning and Quality Improvement –**
  - Development of a Learning and Quality Improvement (LQI) Collaborative to implement a data-driven, iterative evaluation and quality improvement process
  - Will draw on inputs from diverse hospitals and clinics across California, and provide technical assistance in identifying, improving upon, and implementing evidence-based best practices.
  - The LQI Collaborative would work to disseminate these best practices to health systems across the state.

# State of California Investment



- Multi-disciplinary network of systems & cross sector work:
  - \$195m to the early learning and care workforce in education/training grants
  - \$50m in After School Education and Safety Programs
  - \$31.4m (\$124.9m ongoing) to increase access to State Preschool for 10,000 income-eligible children in community based organizations
  - and \$5m investment in developing a Master Plan for Early Learning and Care



# CA-OSG Listening Tour 2019

- **Visited 10 counties**
  - Brought together community members, healthcare providers, education experts, and leaders to roundtable conversations
- **Key Learnings:**
  - Recognition of ACEs as a root cause of many challenges
  - People willing and ready or already hard at work on these issues
  - Need for coordination and infrastructure is abundantly clear
  - Localized and unique approach is critical
  - Need more widespread awareness to create the network of buffering care, early intervention and access to services
  - Tailoring Trauma Informed Care is already happening - practices, ideas, solutions and approaches are truly groundbreaking. Must nurture this innovation and help share best practices among us.

# Continuing to Address ACEs and Toxic Stress

- Building the Buffering Care Infrastructure
- CA-OSG - Report on ACEs and Toxic Stress in California
- ACEs Aware: Public Education Campaign
- Continued work with CWDA & Individual Counties





**Thank you for all you are  
doing to support  
vulnerable kids and  
families!**