Going Upstream to Address The Opioid Crisis and Addictions: 
Adverse Childhood Experiences

Jay C. Butler, MD, FAAP, MACP, FIDSA
Former Commissioner, and
Chief Medical Officer,
Alaska Dept of Heath & Social Services
Past-President,
Association of State and Territorial Health Officials

Overview

• Public health approaches to substance misuse and addiction prevention
• Adverse childhood experiences (ACEs)
• How ACEs influence health and health outcomes
• What can be done
Conceptual Framework

Public Health Approaches to Preventing Substance Misuse and Addiction

3° Prevention
Prevent life-threatening adverse outcomes

Public Health Practice Paradigms

- Acute health event control and prevention

2° Prevention
Diagnose and treat addictions and substance use disorders

- Chronic disease screening and management

1° Prevention
- Reduce the need to self-medicate
- Control access to addictive substances
- Promote protective factors

Foundation:
Effective, Evidence-Based Education and Communication

Adverse Childhood Experiences (ACEs)

Adapted from: Butler JC. J Public Health Pract Manag 2017; 23:531-536

www.rwjf.org/aces
ACEs Are Common

https://www.cdc.gov/violenceprevention/acestudy/index.html
Health Impact of ACEs

Association Between Childhood Trauma and Adults Outcomes

Copeland WE, et al. *JAMA Network Open* 2018;1(7):e184493
Number of ACEs and Lifetime Suicide Attempt


ACEs and Health Risk Behaviors

Compared with people with no ACEs, those with 4+ ACEs are:

- 2 times more likely to currently binge drink and have a poor diet
- 3 times more likely to be a current smoker
- 5 times more likely to have had sex while under 16 years old
- 6 times more likely to have had or caused an unplanned teenage pregnancy
- 7 times more likely to have been involved in violence in the last year
- 11 times more likely to have used heroin/crack or been incarcerated

Health Impact of ACEs

LIFE EXPECTANCY
People with six or more ACEs died nearly 20 years earlier on average than those without ACEs.

https://www.cdc.gov/violenceprevention/acestudy/index.html

Attributable Risk from ACEs

Preventing ACEs in future generations could reduce levels of:

- Early sex (before age 16) by 33%
- Unintended teen pregnancy by 38%
- Smoking (current) by 16%
- Binge drinking (current) by 15%
- Cannabis use (lifetime) by 33%
- Heroin/crack use (lifetime) by 59%
- Violence victimisation (past year) by 51%
- Violence perpetration (past year) by 52%
- Incarceration (lifetime) by 53%
- Poor diet (current; <2 fruit & veg portions daily) by 14%

Society Impact of ACEs

**ECONOMIC TOLL**

The Centers for Disease Control and Prevention (CDC) estimates that the lifetime costs associated with child maltreatment at **$124 billion**.

https://www.cdc.gov/violenceprevention/acestudy/index.html

https://www.cdc.gov/violenceprevention/acestudy/index.html
Types of Stress Response

**POSITIVE**
Brief increases in heart rate, mild elevations in stress hormone levels.

**TOLERABLE**
Serious, temporary stress responses, buffered by supportive relationships.

**TOXIC**
Prolonged activation of stress response systems in the absence of protective relationships.

“Trauma turns a learning brain into a surviving brain”

-Josh Arvidson
Univ Alaska Anchorage

Duration of Stress Response

**Acute**
Flight, fight, or freeze

**Chronic**
Energy directed away from growth and reproduction
Down-regulation of the Amygdala

- The amygdala is suppressed at low doses of alcohol
- At higher doses, cortical functions are also compromised
- Other depressants:
  - Opioids (stress also increases pain perception)
  - Benzodiazepines
What Can Be Done?

- Home visiting to pregnant women and families with newborns
- Parenting training programs
- Parent support programs for teens and teen pregnancy prevention programs
- Mental illness and substance abuse treatment
- Intimate partner violence prevention
- Social support for parents
- ABC (High quality child care)
- Sufficient income support for lower income families

Authority and Responsibility for Child Protective Services Differs Among the States

https://www.childwelfare.gov/pubPDFs/services.pdf
Opportunities and Evidence of Change

• Using trauma informed approaches
  – Not “what’s wrong with you?”, but “what happened to you?”
• Reframing conversation as “our problem” rather than just a problem of “those people”
• Criminal justice addressing addiction as a health issue
• Embracing substance misuse and addiction as a public health issue
• Increased openness to addressing ACEs as a primary prevention opportunity
  – Adverse Childhood Experiences
  – Adverse Collective Experiences
  – Adverse Community Environments

Questions?

Jay C. Butler, MD, FAAP, MACP, FIDSA
Former Commissioner, and
Chief Medical Officer,
Alaska Dept of Health & Social Services
Past-President,
Association of State and Territorial Health Officials