ADVERSE CHILDHOOD EXPERIENCES (ACEs)

How ACEs and trauma are affecting our society and what can be done to prevent it

Background of ACEs

- Scientific study done in 1996 by Centers for Disease Control and Prevention and Kaiser Permanente by Dr. Vincent Felitti and Dr. Robert Anda
- Approximately 17,000 people participated in the study in southern California (majority were middle-class Caucasians with college degrees)
- ACEs are categorized in three groups: abuse, neglect, and household challenges that occurred before the age of 18
Adverse Childhood Experience (ACE) Questionnaire
Finding your ACE Score

While you were growing up, during your first 18 years of life:

1. Did a person or other adult in the household often...
   1. Get up and get dressed, and go to school or work?
      Yes No
   2. Get up and get dressed, and go to school or work?
      Yes No
   3. Get up and get dressed, and go to school or work?
      Yes No
   4. Get up and get dressed, and go to school or work?
      Yes No
   5. Get up and get dressed, and go to school or work?
      Yes No
   6. Get up and get dressed, and go to school or work?
      Yes No
   7. Get up and get dressed, and go to school or work?
      Yes No
   8. Get up and get dressed, and go to school or work?
      Yes No
   9. Get up and get dressed, and go to school or work?
      Yes No
   10. Get up and get dressed, and go to school or work?
      Yes No

Now add up your "Yes" answers. This is your ACE Score.
Findings of ACEs

- Direct link between ACEs and chronic disease, mental illness, prison time, and work absenteeism
- 2/3 of adults in the study had experienced one or more ACEs
- 87% had experienced two or more
- The higher the ACE score, the higher the risk of mental, health, and social problems

Risk of ACEs

ACES can have lasting effects on:

- Health (obesity, diabetes, depression, suicide attempts, STDs, heart disease, cancer, stroke, COPD, broken bones)
- Behaviors (smoking, alcoholism, drug use)
- Life Potential (graduation rates, academic achievement, lost time from work)

ACES have been found to have a graded dose-response relationship with 40+ outcomes to date.

*This pattern holds for the 40+ outcomes, but the exact risk values vary depending on the outcome.*
Risk of ACEs

Connection of ACEs and Drug Use

- Participants with an ACE score of 4 are 10 times more likely to have injected street drugs
- As the ACE score increases, the likelihood of IV drug use increases
- A male child with an ACE score of 6 is 46 times more likely to be an IV drug user later in life, compared with a male child with an ACE score of 0
Connection of ACEs and Drug Use

• Another study of approximately 8,600 adults examined the connection of ACEs and self-reported drug use.

• Participants with an ACE score of 5 or higher were 7 to 10 times more likely to report drug addiction compared with participants having an ACE score of 0.

• Higher ACE scores correlate to lifetime drug use.

ACEs and Childhood Trauma

• Trauma—“... an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life-threatening, and that has lasting adverse effects on the individual’s functioning and mental, physical, social, emotional, or spiritual well-being”*

• Trauma is common in the lives of individuals with mental and substance use disorders.

*FLEITAS (2019)
Toxic Stress

• Constant exposure to ACEs can produce toxic stress in our children
• “Toxic stress refers to strong, frequent, or prolonged activation of the body’s stress management system”*
• Toxic stress explains how ACEs physically impact the body and brain


Effects of Toxic Stress on the Body

• ACEs activate the stress response system (red alert mode) in the body
  • Fight/flight/freeze response
  • Rapid breathing, increased heart rate and blood pressure
  • Release of cortisol and adrenaline
What if the bear lives with you?

Constant Red Alert

• Rewires the brain for constant danger and fear
• Affects the development of the brain in children
• Learning and memory impairments
• Leads to chronic health problems
• Changes DNA development (epigenetics)
Trauma and Brain Development

This PET scan of the brain of a normal child shows regions of high (red) and low (blue and black) activity. At birth, only primitive structures such as the brain stem (center) are fully functional; in regions like the temporal lobes (top), early childhood experiences wire the circuits.

An Abused Brain

This PET scan of the brain of a Romanian Orphan, who was institutionalized shortly after birth, shows the effect of extreme deprivation in infancy. The temporal lobes (top), which regulate emotions and receive input from the senses, are nearly quiescent. Such children suffer emotional and cognitive problems.

Trauma & Brain Development

Typical Development
- Cognition
- Social/Emotional
- Regulation
- Survival

Developmental Trauma
- Cognition
- Social/Emotional
- Regulation
- Survival

Adapted from Holt & Jordan, Ohio Dept. of Education
Progression of Trauma

Resiliency

• “The ability to overcome serious hardship”*
• It is the key to mitigating ACEs—there is HOPE
• Build protective factors across the child, family, and community levels
• The most common protective factor—one stable and committed adult in a child’s life

*Center on the Developing Child, 2017
HOPE (Health Outcomes of Positive Experience)

- Supportive, healthy relationships build resilience
- Neurofeedback with mother and child creates a healthy brain
- Build and strengthen families
- Safe and supportive neighborhoods and schools
- Greatest positive impact was feeling supported by family and friends

Prevention and Mitigation of ACEs

- Educate the community about ACEs and how to be trauma informed
- Educate parents about ACEs and the effects on their parenting and children
- Build the five protective factors in a family to strengthen the family
- Build the resiliency in children by creating safe, supportive environments in the community
Five Protective Factors

• Parental resilience
• Social connections
• Knowledge of parenting and child development
• Social and emotional competence in children
• Concrete support in times of need
A Model Solution to a National Problem

The Martinsburg Initiative

Founded on a school-centered, family-based approach and applying the science of the Adverse Childhood Experiences (ACEs) study, the Martinsburg Initiative is building strong families and empowering communities.
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The Martinsburg Initiative is partnered with the WV ACEs Coalition

- ADVOCATE—Provide wraparound services
- COORDINATE—Police, schools, and community
- EDUCATE—Educate to reduce and prevent ACEs

West Virginia SUBSTANCE ABUSE DEATH STATISTICS

The Centers for Disease Control and Prevention

West Virginia in Comparison to Other States (2017)

- Second-highest number of heroin overdose deaths
- Highest death rate for synthetic opioid-involved overdoses
- Number one in prescription opioid-involved deaths
A Multilevel Strategy

ENFORCEMENT
TREATMENT
PREVENTION

“We can’t arrest or treat our way out of the problem”

“Adopt a Classroom”
GOAL 1

Identify at-risk students

Cultivate healthy environments

Foster collaborative relationships

Prevent Adverse Childhood Experiences (ACEs) by building a trauma-informed community

ACEs awareness

The Martinsburg Initiative: A Police/School/Community Partnership
Preventing Opioid Use Disorder, Building Strong Families, and Empowering Communities
**GOAL 2**

Provide resiliency-building activities

Connect students with mentors

Identify and support at-risk students

**Foster resilience in children in Martinsburg to minimize the impact of ACEs**

**GOAL 3**

Connect family to needed resources

Teach students social emotional

Connect school, family, and community

**Provide wraparound services for students experiencing complex trauma**
TIERS

TIER 1
TRAUMA-INFORMED TRAININGS

A Nurtured-Heart Approach

CURRICULUM

Too Good for Drugs
The police and the school have a unique connection with at-risk children and their families, often providing the only hope, safety, and stability the children and families experience.
Mentors—Prevention and Building Resilience

- Children mentored 3 times per month for 1 year:
  - Use illegal drugs — 26% less
  - Start drinking — 27% less
  - Skip school — 52% less

Source: www.mentoring.org

Transforming the Future—
Discipline, Self-Responsibility, and Persistence
## TIER 3

### Wraparound Services

<table>
<thead>
<tr>
<th>Service Area</th>
<th>N</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Housing</td>
<td>28</td>
<td>82</td>
</tr>
<tr>
<td>2. Employment</td>
<td>20</td>
<td>62</td>
</tr>
<tr>
<td>3. Education</td>
<td>35</td>
<td>11%</td>
</tr>
<tr>
<td>4. Health</td>
<td>30</td>
<td>93%</td>
</tr>
<tr>
<td>5. Mental Health</td>
<td>32</td>
<td>102%</td>
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<tr>
<td>6. Social Services</td>
<td>24</td>
<td>78%</td>
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<tr>
<td>7. Substance Use</td>
<td>29</td>
<td>92%</td>
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<tr>
<td>8. Transportation</td>
<td>26</td>
<td>84%</td>
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<tr>
<td>9. Child Development</td>
<td>25</td>
<td>83%</td>
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<tr>
<td>10. Parent Development</td>
<td>23</td>
<td>76%</td>
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<tr>
<td>11. Family Development</td>
<td>22</td>
<td>71%</td>
</tr>
</tbody>
</table>

**Note:** Percentages exceed 100% due to overlap in service areas.
Positive Outcomes to Celebrate

* At the end of 2018, 878 ACE assessments had been completed by school personnel and community members who had taken trauma-informed training (including every pre-K teacher and all bus drivers)

* To date, TMI has provided trauma-informed training to 330 educators

* At the end of 2018, we had 20 mentors; we now have 24 more in various stages of mentor training

* Shepherd University is offering a special-topic class for students who want to become mentors

* “Adopt a Classroom” has provided police visits to more than 100 classrooms, positively interacting with nearly 4,000 students

* To date, TMI has held 49 trauma-informed trainings
Sources


Sources


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