

The 2013 Alberta Adverse Childhood Experiences (ACE) Survey

Key Findings

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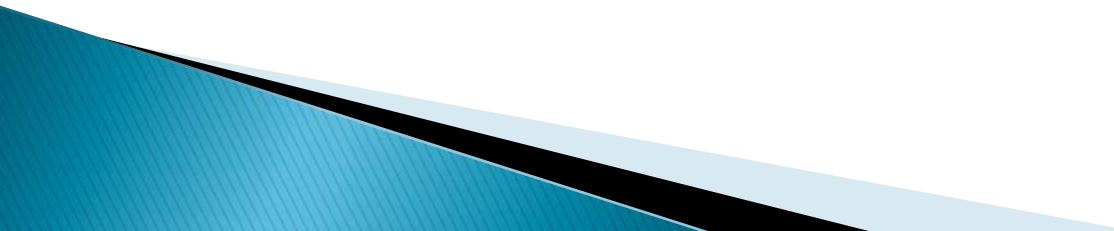


Acknowledgements

- ▶ We thank the Albertan adults who provided time to complete the survey
- ▶ Funding was provided through a partnership between the Alberta Centre for Child, Family, and Community Research and the Norlien Foundation



Overview

- ▶ **Background**
 - ▶ **Alberta Study**
 - Rationale and Objectives
 - Methods
 - ACE descriptive results
 - Domain-specific approach to conceptualizing ACEs
 - ▶ **Resilience**
 - ▶ **Implications and Conclusion**
- 

What is an ACE?

- Adverse Childhood Experiences (ACEs) include all types of experiences of *abuse*, *neglect*, and *dysfunction within the household* that occur to individuals under the age of 18



The Landmark ACE (Kaiser) Study¹

- ▶ The Centers for Disease Control in collaboration with one of the largest Health Maintenance Organizations in the US (Kaiser Permanente) conducted the first ACE study
- ▶ Between 1995 and 1997, over 17,000 individuals undergoing physical examinations completed a confidential survey about childhood trauma and current health
- ▶ Participants in this study were educated, employed, middle-class Americans with an average of 57 years
- ▶ The landmark ACE study found relationships between childhood traumatic experiences and poor health and well-being later in life

¹Felitti, VJ et al. American Journal of Preventive Medicine 1998; 14:245–258
www.acestudy.org

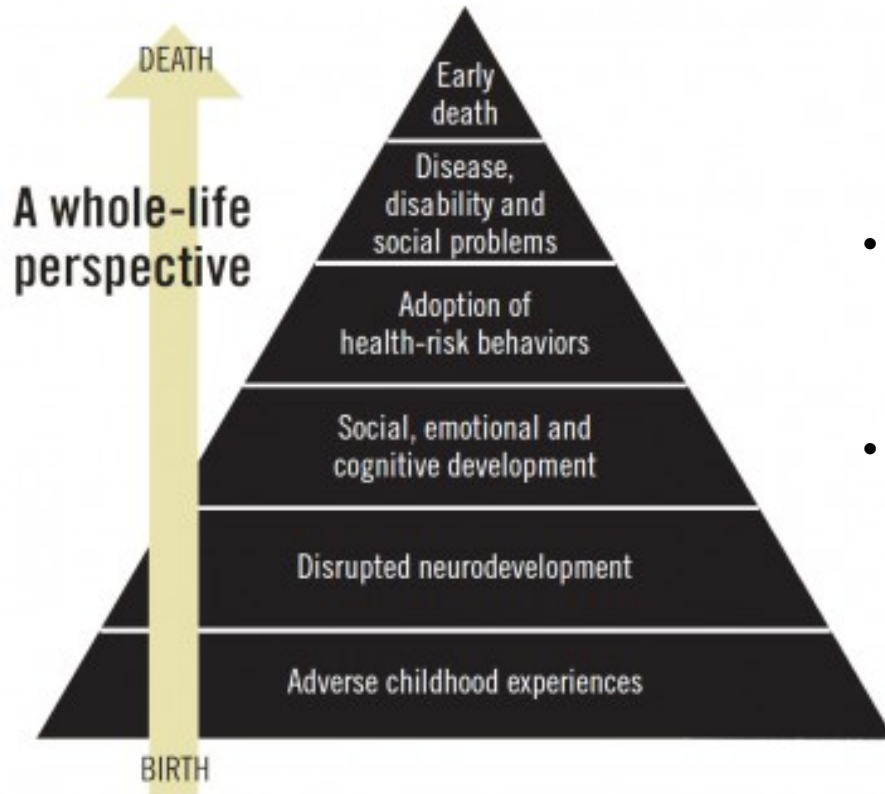
ACE Study¹ Findings

As ACE score goes up, so does risk for:

- ▶ Organic disease (pulmonary, heart & liver disease)
- ▶ Smoking
- ▶ Adult alcoholism & illicit drug use
- ▶ Depression and suicide attempts
- ▶ Multiple sexual partners & STDs
- ▶ Poor health-related quality of life
- ▶ Intimate partner violence
- ▶ Adolescent pregnancy
- ▶ Unintended pregnancy
- ▶ Fetal death

¹Felitti, VJ et al. American Journal of Preventive Medicine 1998; 14:245–258
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Conceptual framework: The ACE Pyramid¹



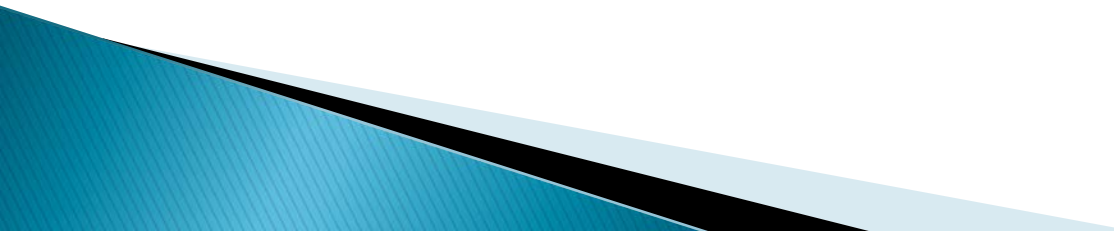
Brain research helps us understand the mechanism:

- *Toxic stress from trauma in childhood damages the developing brain*
- *Exposure to trauma influences the stress response and coping strategies leading to health and social problems in adulthood*

¹<http://www.cdc.gov/violenceprevention/acestudy/pyramid.html>

The Alberta ACE survey

Rationale

- ▶ To date, there has been no research done in Alberta on ACEs and there is limited Canadian data
 - ▶ There is a need for provincial baseline data on ACEs
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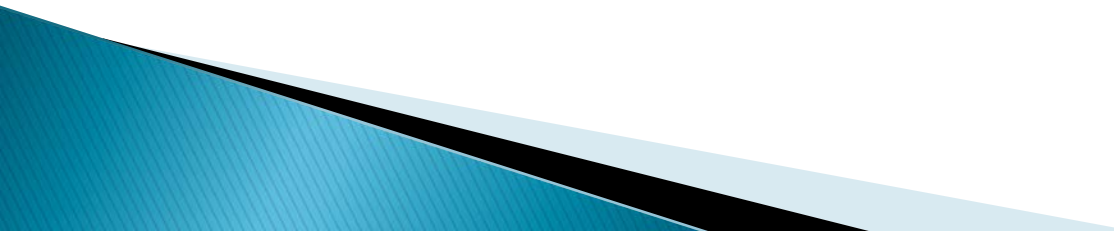
Objectives

- ▶ To develop an ACE checklist that is appropriate to the Alberta, Canada context and that can be implemented through telephone methodology
 - ▶ To describe the prevalence of ACEs among Albertan adults
 - ▶ To examine ACEs as risk factors for perceived health and diagnosed conditions
 - ▶ To develop ACE risk profiles using a domain-specific approach
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Methods

- ▶ Computer-assisted telephone survey with a random sample of adults in Alberta, Canada (n=1 207)
 - ▶ Random digit dialling and computer assisted telephone interviewing drawing from a provincial database of 8-digit telephone banks
 - ▶ Two-stage sampling procedure
 - ▶ Eligibility: ≥ 18 yrs; able to be contacted by direct dialling; 20.9% response rate
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Methods

- ▶ Eight questions were asked about two main areas or domains of childhood trauma: childhood abuse and household dysfunction
 - ▶ Questions on self-perceived health and diagnosed health conditions were asked
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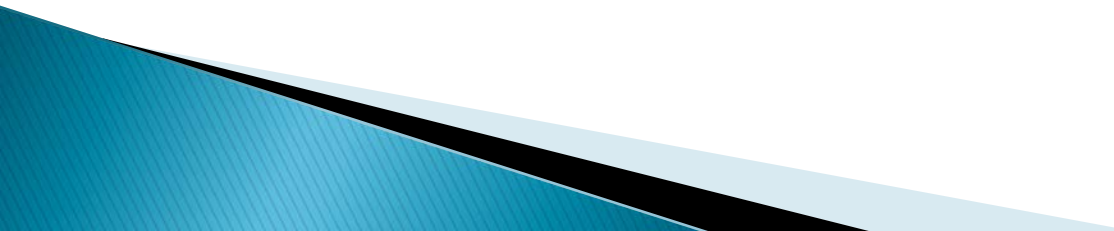
Alberta Survey ACE checklist: Abuse

Prior to your 18th birthday:

Did you frequently experience verbal insults or threats from an adult or parent in the household?

Were you ever injured or bruised from physical abuse by an adult or parent in the household?

Did you experience inappropriate sexual advances or contact by an adult or someone who was 5 or more years older than you?



Alberta Survey ACE checklist: Household Dysfunction

Prior to your 18th birthday:

Were your parents separated or divorced?

Did you ever witness your mother or stepmother being treated violently?

Were you part of a household where someone abused alcohol or drugs?

Were you part of a household where someone was depressed or mentally ill?

Were you part of a household where someone was diagnosed with a serious chronic illness or physical disability that limited or interfered with his/her daily activities?

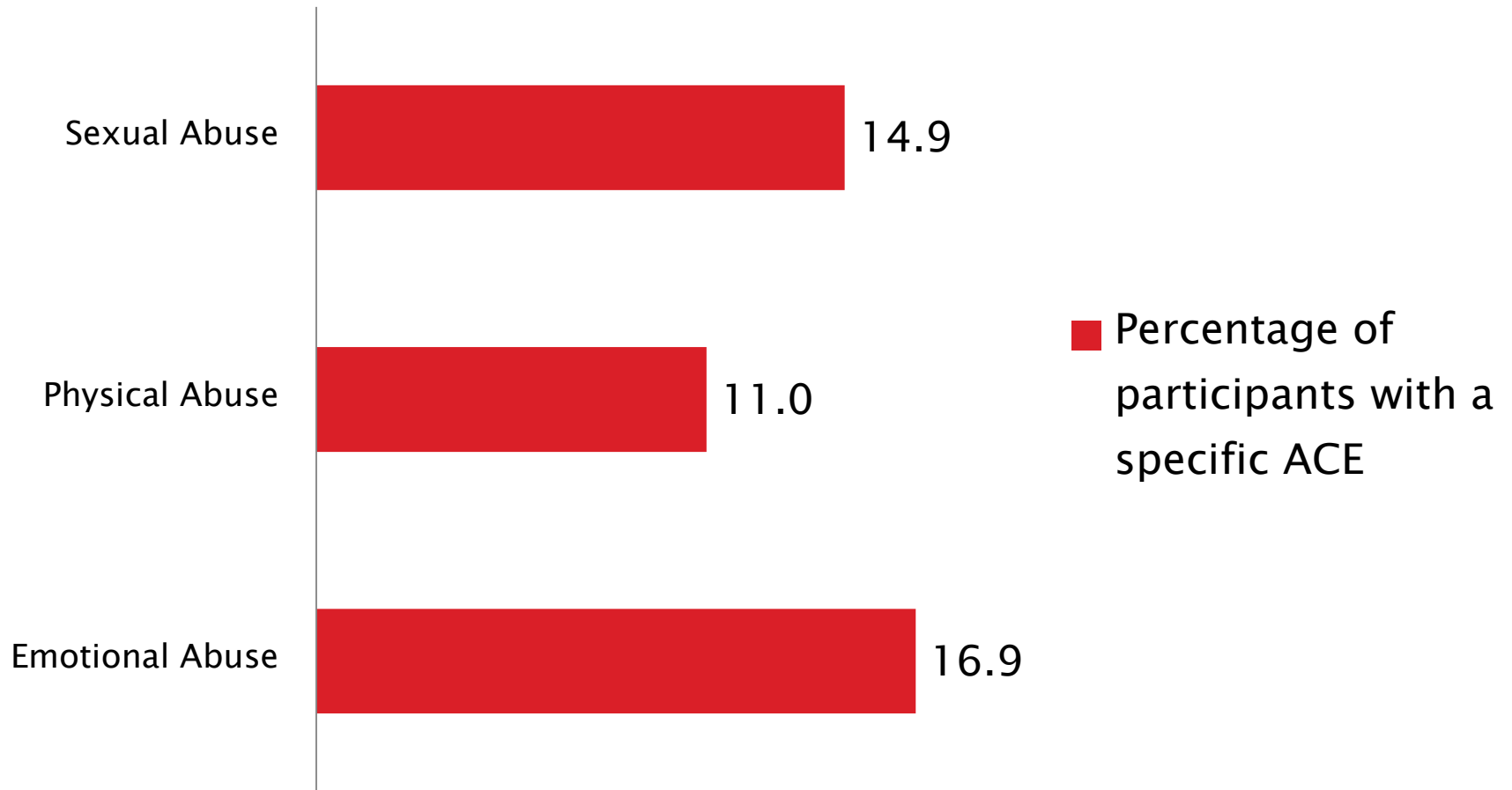


Demographic Characteristics

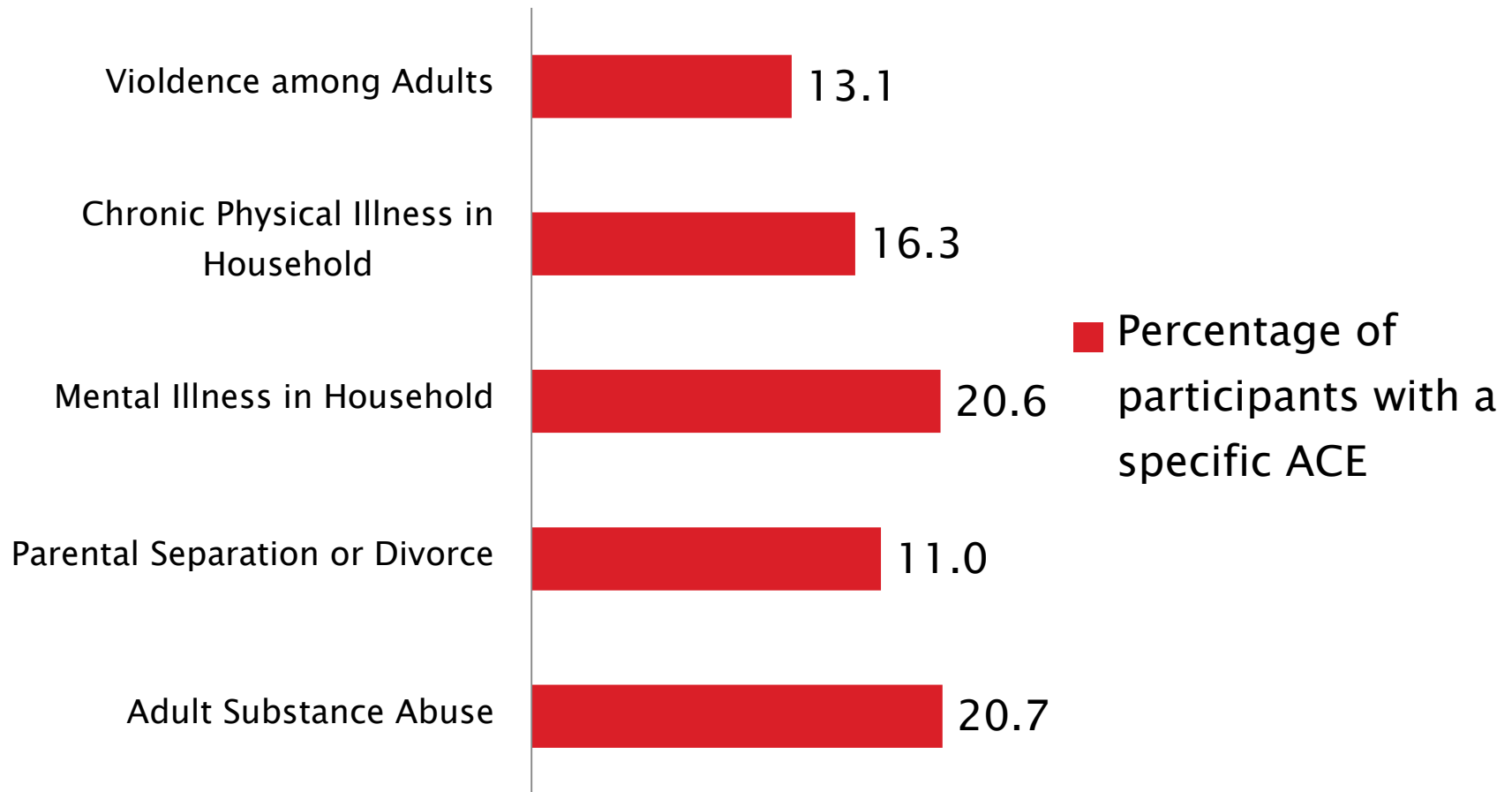
n=1207

Characteristic	n (%)
Age <i>mean (SD)</i>	52.4 (16.3)
Married/Common-law	791 (65.8)
Post-secondary education (college, university, or trade)	936 (78.2)
Employed (PT or FT)	671 (55.7)
Born in Canada	965 (80.1)
White/Caucasian	1028 (86.2)

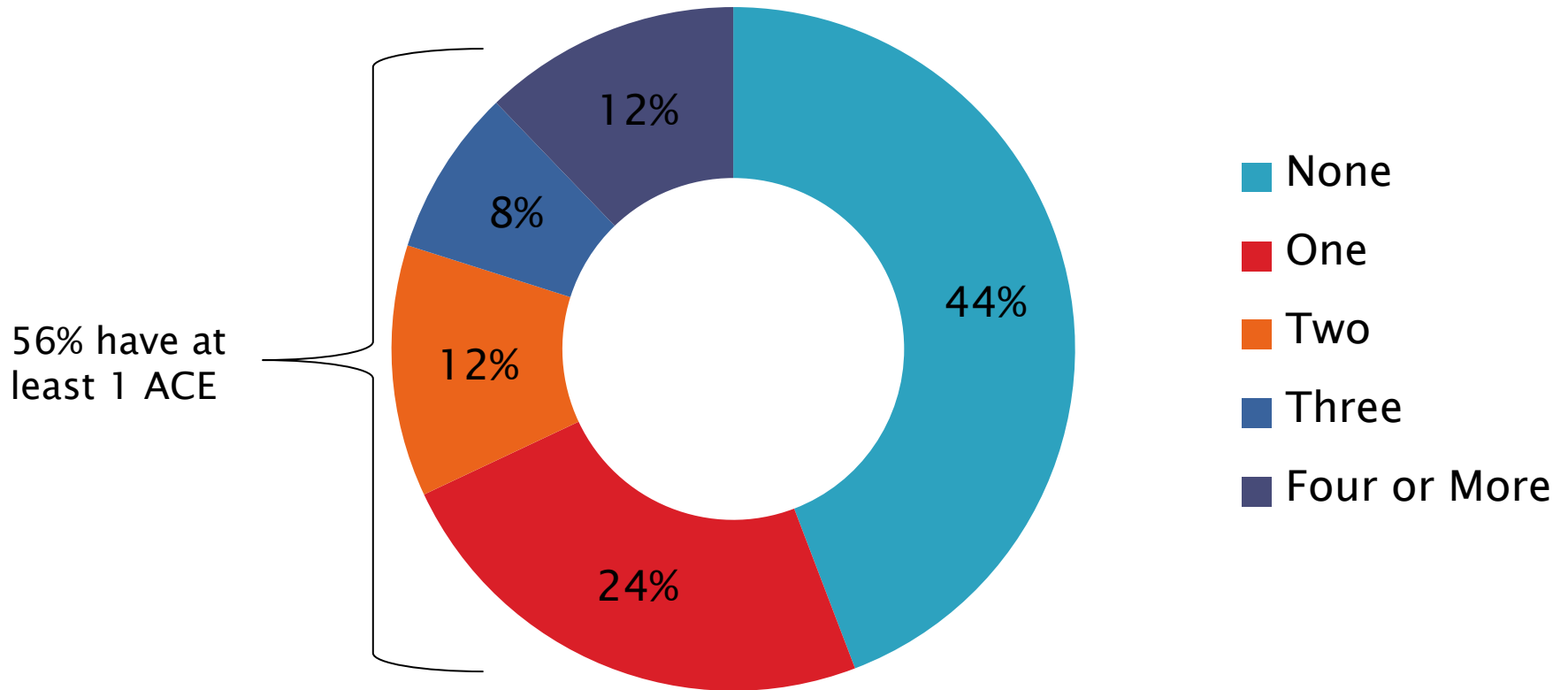
Prevalence of ACES: Abuse



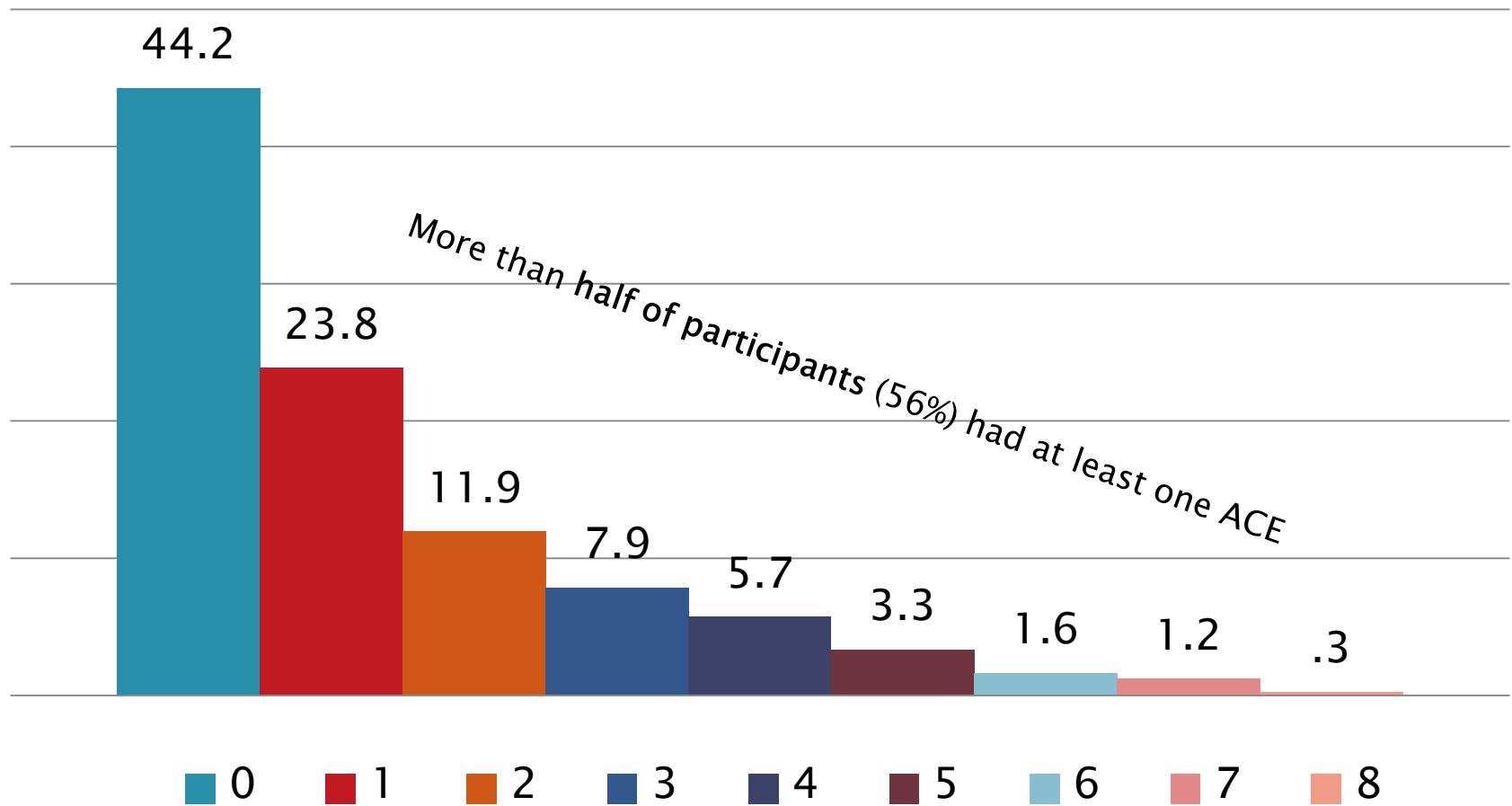
Prevalence of ACES: Household Dysfunction



How Common are ACEs?

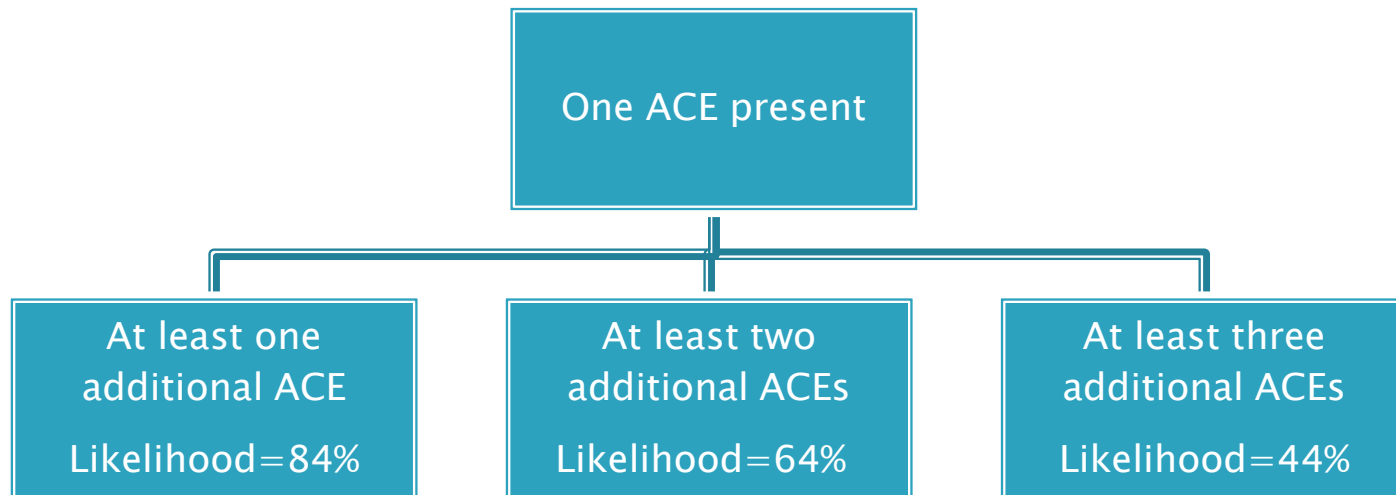


Total ACE Score

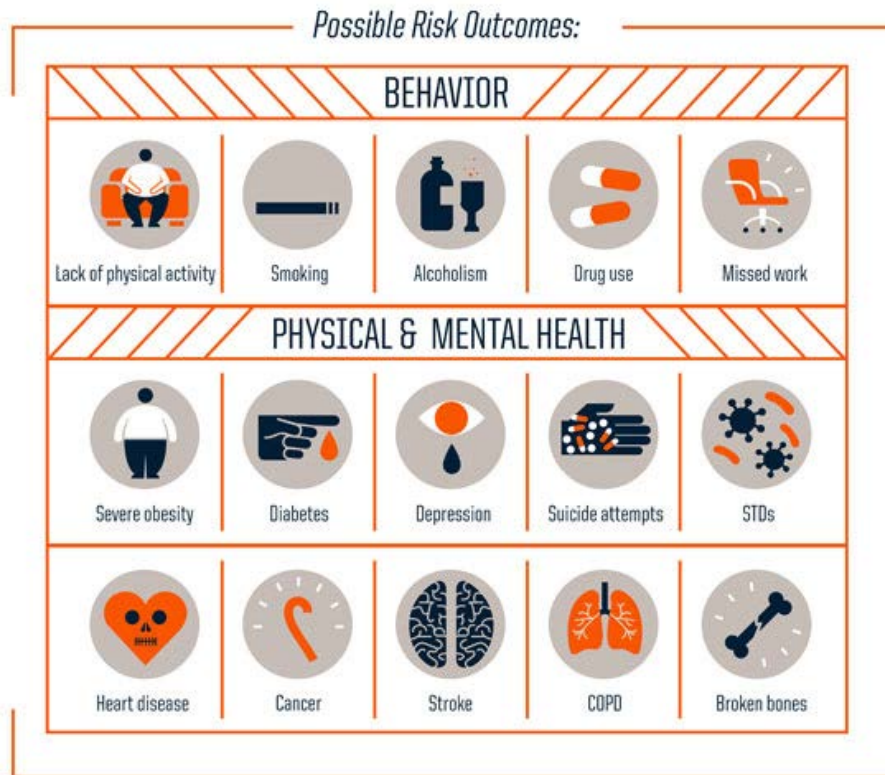


Interrelated Nature of ACEs

- ▶ ACEs rarely occur in isolation
- ▶ Consistent with other studies, our findings showed that ACEs were highly interrelated



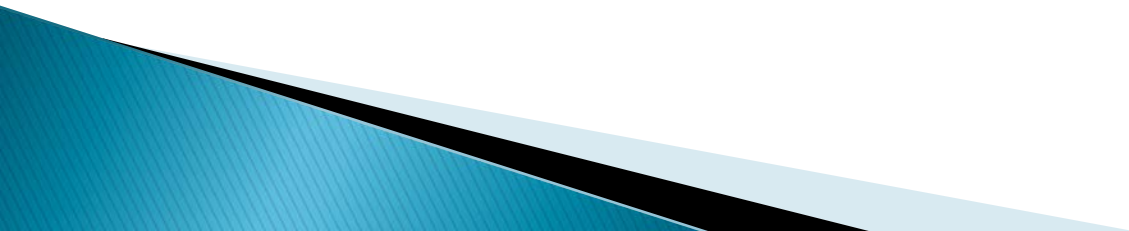
Impact of ACEs



<http://www.rwjf.org>

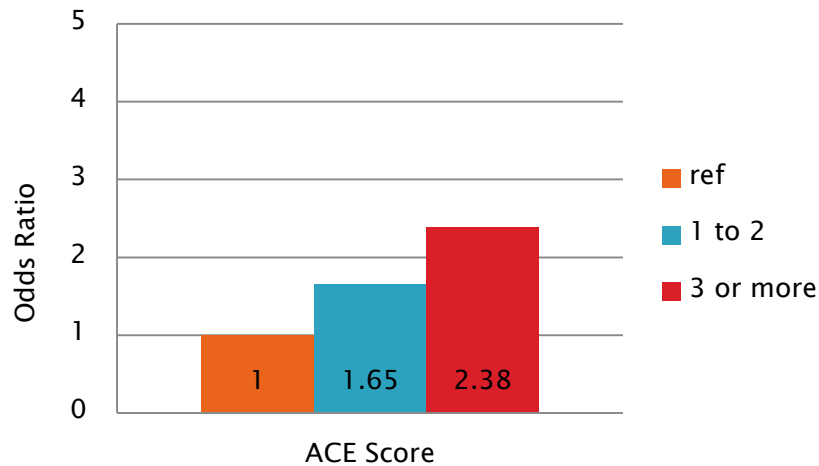
Impact of ACES

Perceived Health

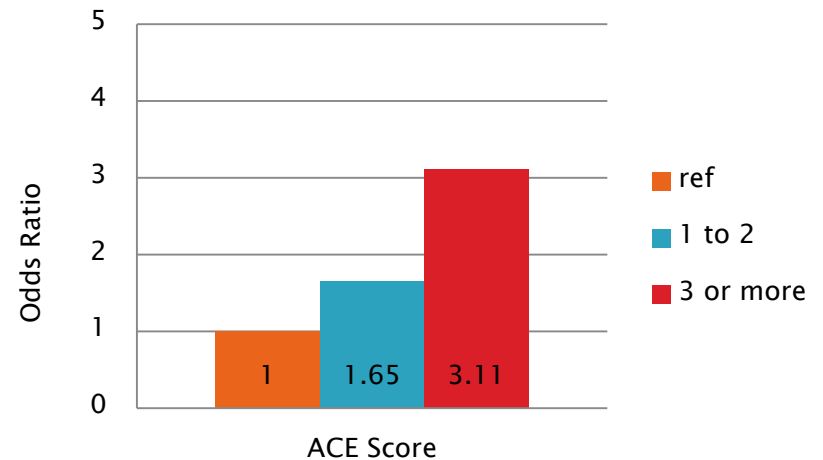


ACEs and Perceived Health

Perceived fair or poor physical health

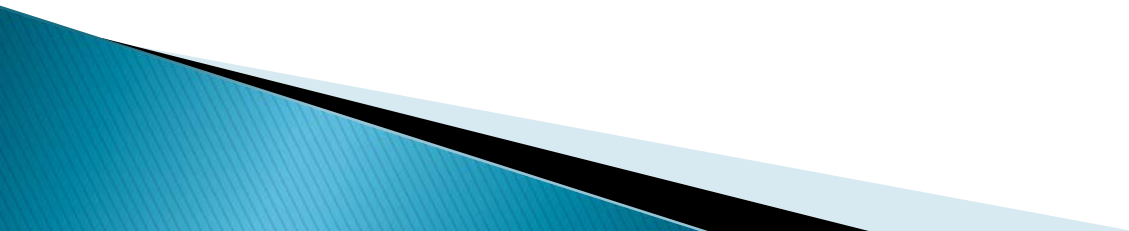


Perceived fair or poor emotional health



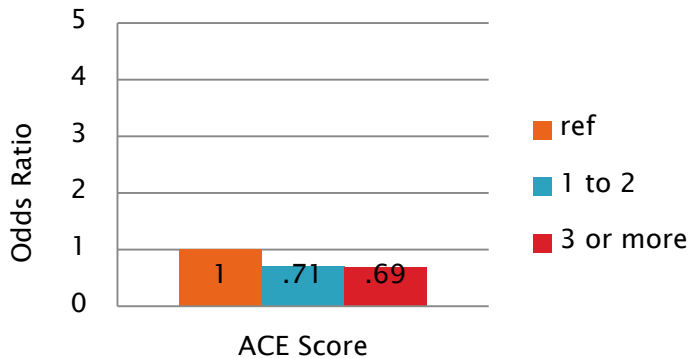
Impact of ACEs

Diagnosed Health Conditions

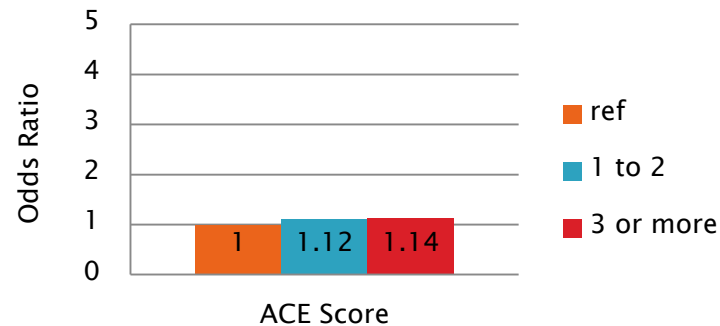


ACEs and Diagnosed Conditions

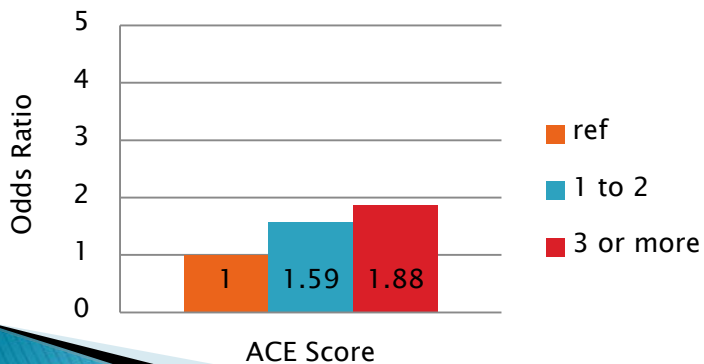
Cancer



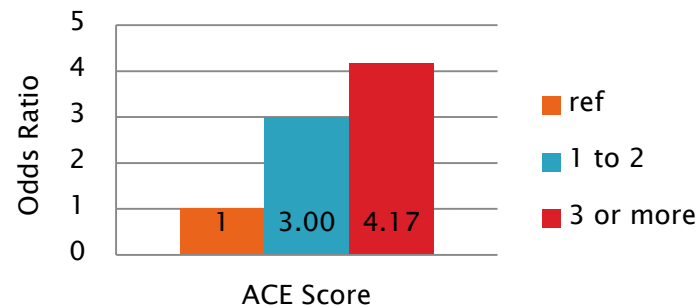
High blood pressure, heart, or stroke



Diabetes

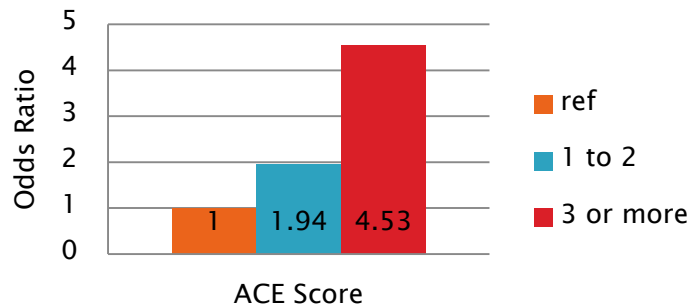


IBS, Crohn's, celiac, or colitis

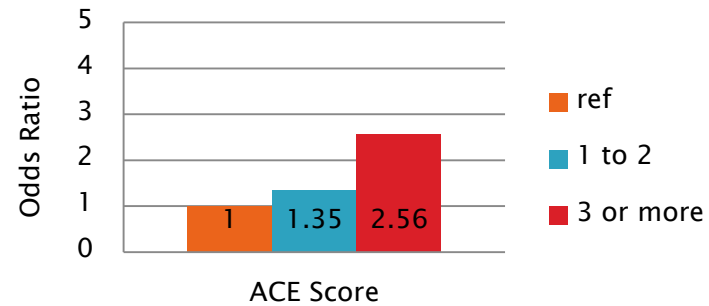


ACEs and Diagnosed Conditions

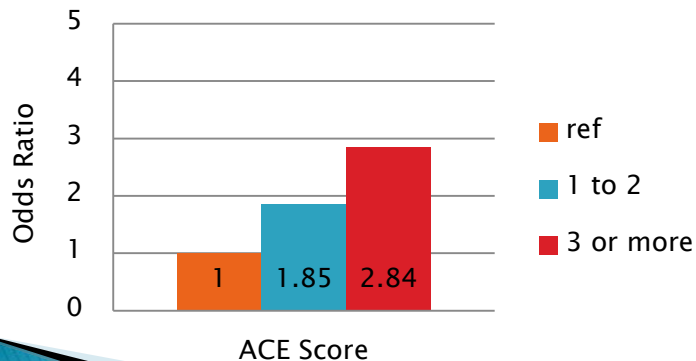
Chronic pain, arthritis, hip,
or knee problems



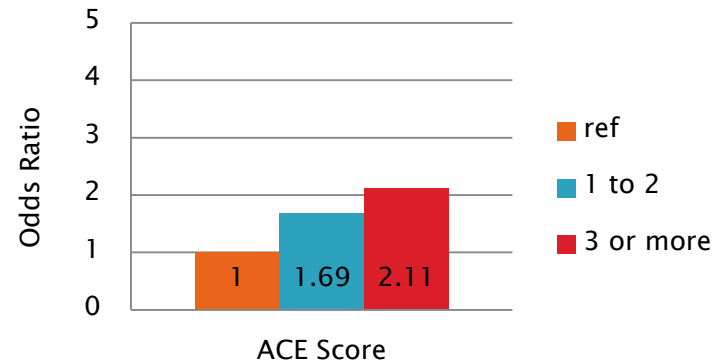
Backache or other back
related problems



Lung or asthma problems

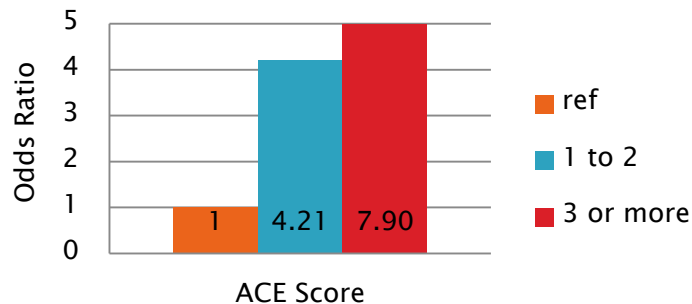


Allergies

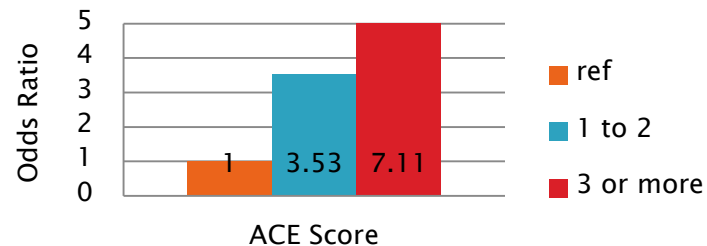


ACEs and Diagnosed Conditions

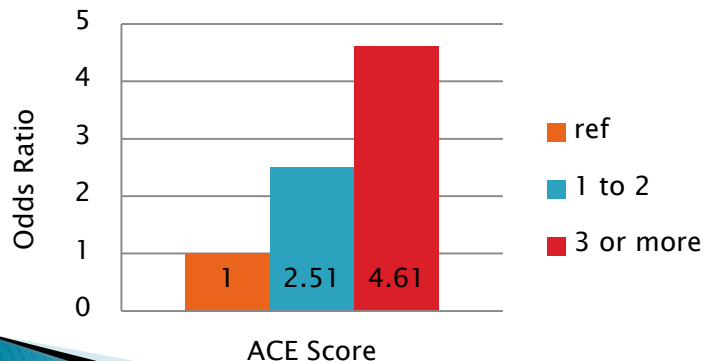
Chronic fatigue syndrome or fibromyalgia



Anxiety, depression, or other mental health problems



Alcohol or drug dependency



- *There is evidence for a graded relationship between number of ACEs and most adult health outcomes*
- *The trend is significant for those outcomes with an inflammatory component and mental health component (e.g., IBS, pain, chronic fatigue, mental health problems, substance dependence)*

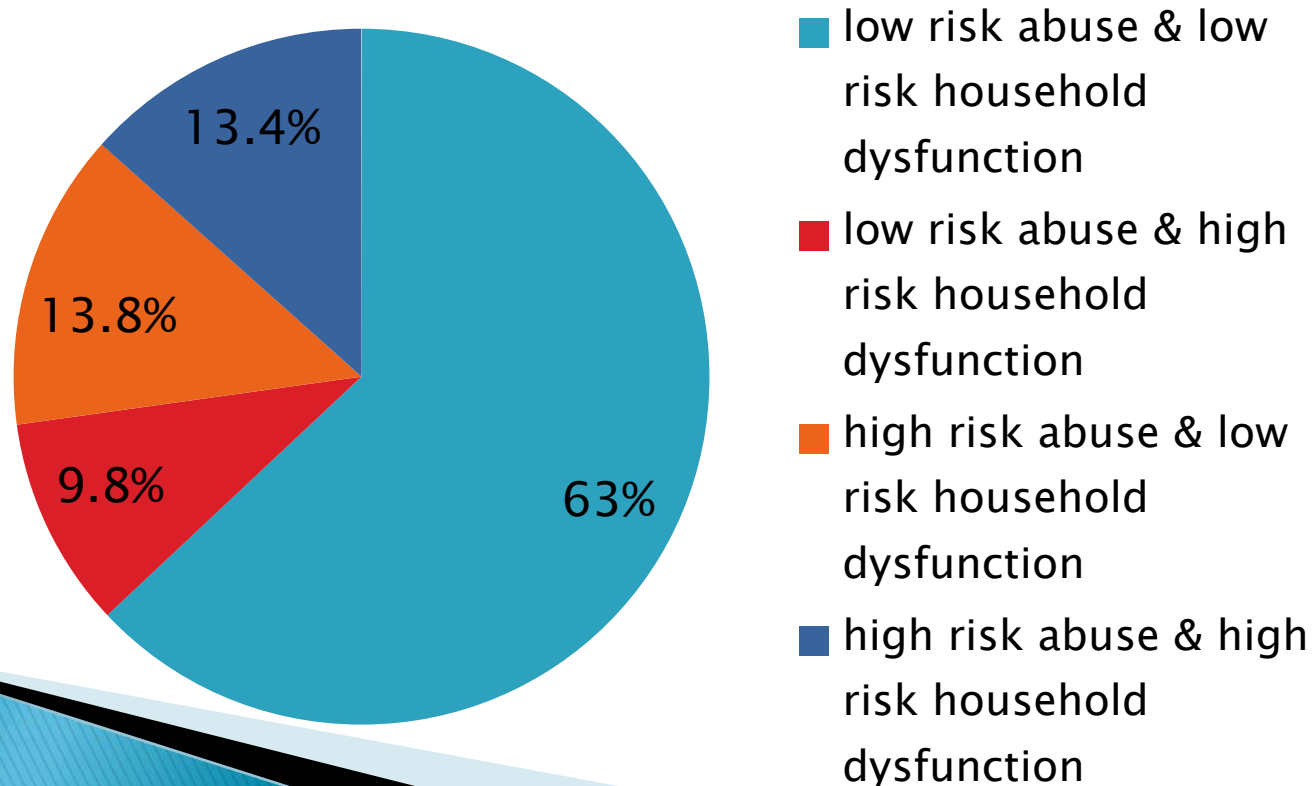
ACE Risk Profiles:

A more comprehensive approach?

- ▶ Previous approaches to studying ACEs include:
 - ACE score, Individual ACEs, Individual Domains
 - ▶ Previous approaches may oversimplify early trauma as a risk factor for adult health outcomes
 - ▶ Is there a need for a more comprehensive approach to studying ACEs?
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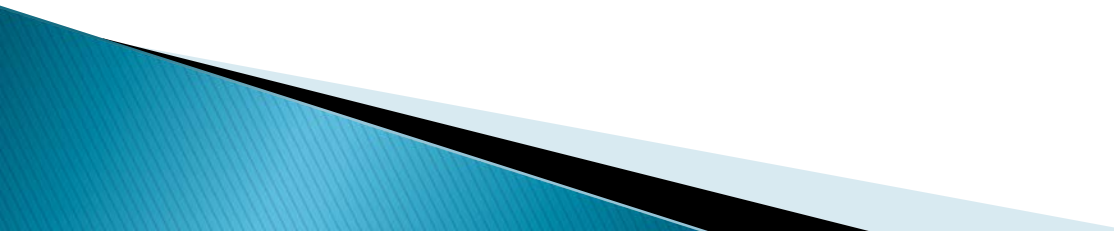
ACE Risk Profiles: Domain-Specific Approach

- ▶ Considers BOTH ACE score and ACE domain (abuse or household dysfunction)



ACE risk profiles and Grouped Adult Health Conditions

- ▶ Four grouped adult health conditions were created:
 1. Mental Health condition / Addiction
 2. Circulatory condition
 3. Respiratory condition
 4. Chronic pain condition

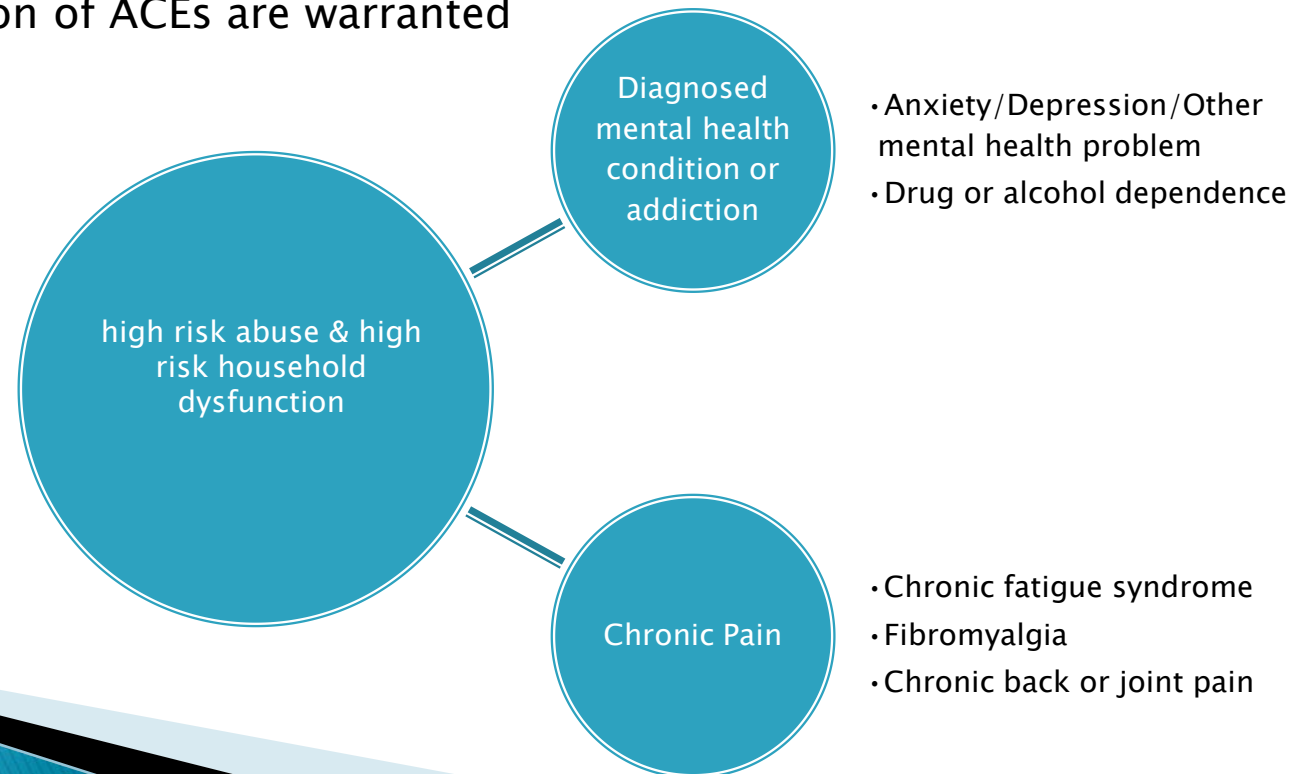
 - ▶ Examined association between ACE risk profile variable and each grouped health condition controlling for sociodemographic variables
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Prevalence of Grouped Adult Health Conditions

Grouped Adult Health Condition	n (%)
Mental health condition/Addiction (Anxiety, depression, other mental health problems/alcohol or drug dependence)	174 (15.0)
Circulatory condition (High blood pressure, cardiovascular disease, stroke, diabetes)	372 (32.1)
Respiratory condition (Lung or asthma problems)	314 (27.0)
Chronic pain condition (Chronic fatigue syndrome, fibromyalgia, chronic back or joint pain)	235 (20.2)

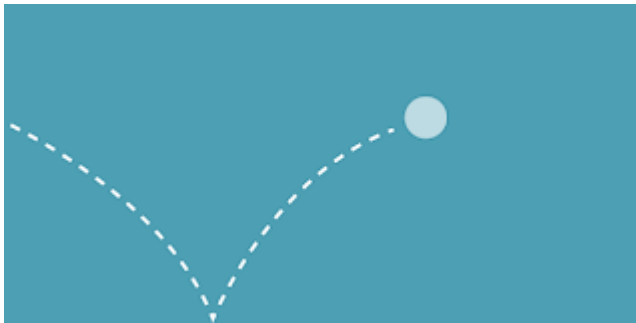
ACE risk profiles and Grouped Adult Health Conditions

- ▶ Overall, the four category ACE risk profile variable was significantly associated with a diagnosed **mental health condition/addiction** and **chronic pain**, when controlling for sociodemographic characteristics
- ▶ Given the interrelatedness of ACEs, comprehensive approaches to conceptualization of ACEs are warranted



Resilience

- ▶ Plasticity in brains suggests that resilience factors can mitigate or reverse the potential for poor outcomes



Resilience factors borne out of ACE concepts include:

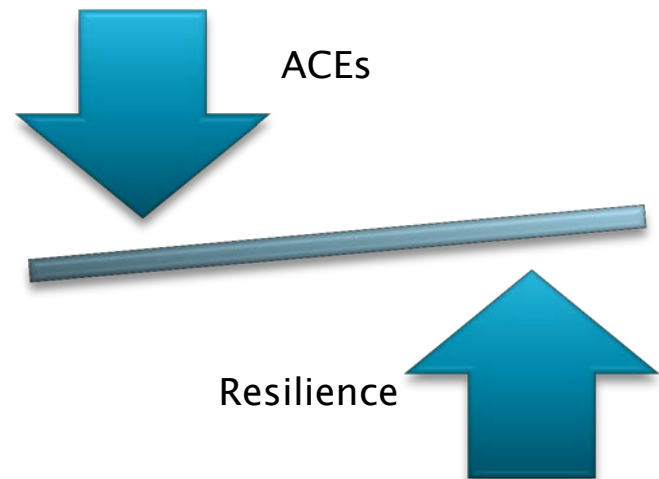
- *Asking for help*
- *Developing trusting relationships*
- *Developing positive coping strategies*
- *Paying attention to feelings*
- *Developing a positive outlook*

Example items from the RESILIENCE questionnaire:

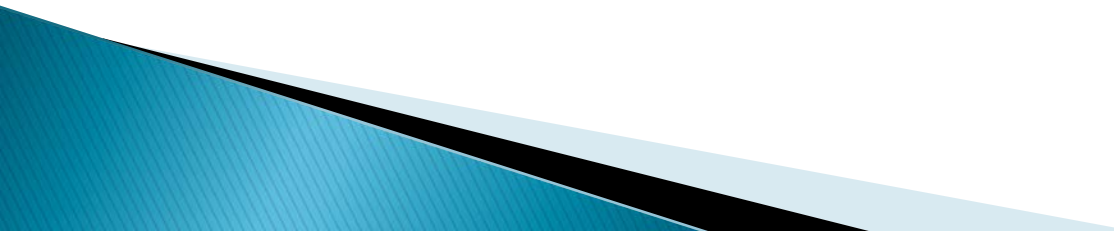
- *'I believe that my mother loved me when I was little'*
- *'When I was a child, there were relatives in my family who made me feel better if I was sad or worried'*
- *'Someone in my family cared about how I was doing in school'*
- *'I believed that life is what you make it'*

Resilience

- ▶ In addition to the ACE checklist, the RESILIENCE questionnaire can improve our understanding of:
 - how early experiences affect later health outcomes
 - why some individuals who have experienced trauma do well while others don't



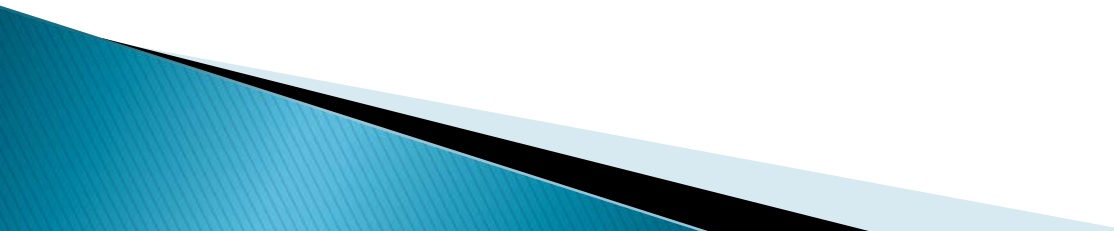
Implications

- ▶ Prevent
 - ▶ Mitigate
 - ▶ Intervene & Support
- 

Implications

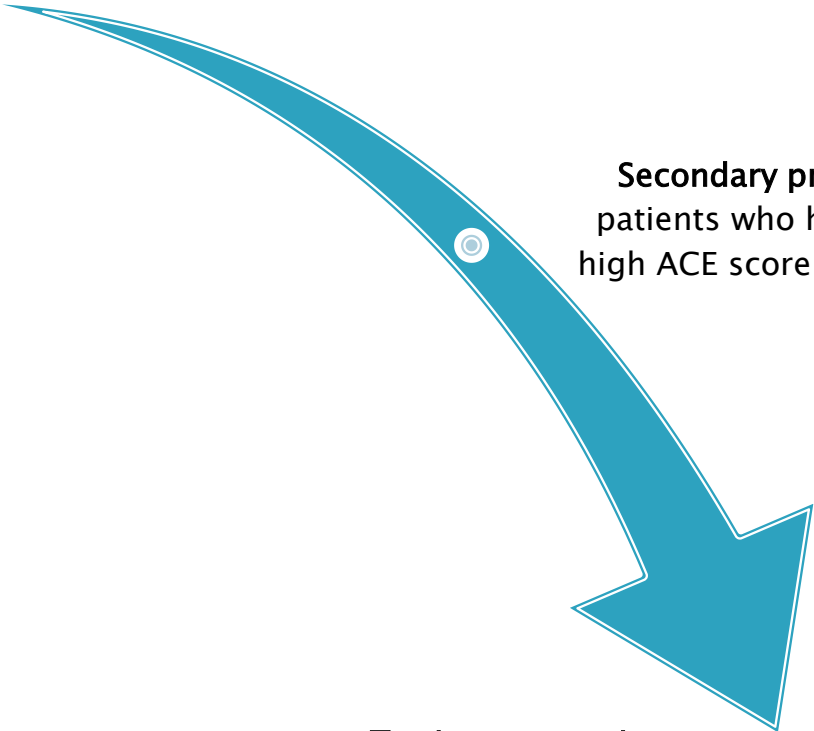
- ▶ We need to focus on prevention of ACEs and recovery from ACEs to decrease the burden of disease
- ▶ Strategies include primary, secondary and tertiary prevention

Awareness and Education



Implications

Primary prevention: effective programs to prevent exposure to toxic stress and support nurturing and stable relationships for children



Secondary prevention: identification of patients who have increased risk due to a high ACE score but do not exhibit problems

Tertiary prevention: provision of targeted treatment to address the impact of ACEs among patients with significant impairment

Conclusion

- ▶ ACEs are common and co-occur
 - ▶ Findings showed a graded association with number of ACEs for the majority of adult health outcomes
 - ▶ The 'tipping point' for clinical relevance appears to be at least 3 ACEs
 - ▶ Children who experienced BOTH abuse and family dysfunction had the highest risk for mental health problems and chronic pain in adulthood
 - ▶ Strategies to promote resilience in the face of adversity are important
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Thank-you!

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