HCR

2

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ALASKA STATE LEGISLATURE

REPRESENTATIVE GERAN TARR

HCR 2

"Respond to adverse childhood experiences"

Sponsor Statement

In 1998, more than 17,000 middle-class Americans were administered a 10-question study to evaluate childhood traumatic experiences concerning abuse, neglect, and household dysfunction. The results of this study were used to formulate an adverse childhood experiences or "ACEs" score ranging from 0-10. The term "ACEs" thereafter became synonymous with traumatic experiences that occur during childhood and have a lasting, negative effect on a child's developing brain and body.

There have been two key findings as a result of ACEs studies conducted in Alaska: childhood trauma is far more common than previously realized; and the impact of this trauma affects individuals over a lifetime, and societies over multiple generations. Sixty-seven percent of Alaskan children have an ACEs score, and Alaska has some of the highest ACEs rates among the five other states surveyed (Washington, Louisiana, Tennessee, Arkansas, and New Mexico).

In Alaska, we are seeing that ACEs is synonymous with asthma, depression, teen pregnancy, suicide, drug abuse, employment difficulties, and intimate partner violence. Health measures are linked to ACEs, and these community challenges are also fiscal challenges for our state. According to Dr. Hirschfield of the University of Alaska and Alaska's Southcentral Foundation, reducing Alaska's ACEs score by fifty percent could save the state $90 million annually. That means $90 million more dollars that could be spent on preventative measures that add to our children's wellbeing.

Alaska's state slogan "North to the Future" was adopted to signify that our state is the land of promise and that Alaskans are always advancing for the benefit of the people and land that sustains us.

HCR 2 urges the Governor to establish policies and programs that address the public and behavioral health epidemics associated with ACEs so that we can uphold the promise to our children that they may grow up in safe households with the best opportunities before them in order to become upstanding Alaskan citizens.

January-May: State Capitol • Juneau, AK 99801-1182 • (907) 465-3424 • Fax (907) 465-3793
June-December: 716 W. 4th Avenue • Anchorage, AK 99501• (907) 269-0144• Fax (907) 269-0148
Rep.Geran.Tarr@akleg.gov

30-LS0277\J
Glover
1/17/18

CS FOR HOUSE CONCURRENT RESOLUTION NO. 2( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

THIRTIETH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): REPRESENTATIVES TARR, Spohnholz, Parish, Tuck, Gara, Drummond, Ortiz

A RESOLUTION

Urging Governor Bill Walker to join with the Alaska State Legislature to address the presence of adverse childhood experiences and childhood trauma as factors for many societal issues by establishing a statewide policy, supporting evidence-based programs, and funding research for statewide solutions.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS nearly two-thirds of adults surveyed in the state report having experienced adverse childhood experiences during childhood; and

WHEREAS adverse childhood experiences are traumatic experiences occurring during childhood that may have a profound effect on a child's developing brain and body and may result in poor health during the person's adulthood, including physical, emotional, and sexual abuse, physical and emotional neglect, and household dysfunction, such as domestic violence, separation or divorce involving household members, and substance abuse, untreated mental illness, or incarceration of a household member; and

WHEREAS research over the last two decades in the evolving fields of neuroscience, molecular biology, public health, genomics, and epigenetics suggests that experiences in the

first few years of life may influence the biology of the human body in ways that, in turn, influence the person's physical and mental health over the person's lifetime; and

WHEREAS strong, frequent, or prolonged stress in childhood caused by adverse childhood experiences can become toxic stress, which may affect the development of a child's fundamental brain architecture and stress response systems; and

WHEREAS adverse childhood experience studies have also reported a strong correlation between the number of adverse childhood experiences and a person's risk for disease and negative health behaviors, including suicide attempts, cancer, ischemic heart disease, diabetes, smoking, substance abuse, depression, obesity, unplanned pregnancies, workplace absenteeism, lower educational achievement, and lower wages; and

WHEREAS approximately one in five adult Alaskans has experienced four or more adverse childhood experiences; and

WHEREAS, according to data collected through the Behavioral Risk Factor Surveillance System, when compared to an adult in the state with zero adverse childhood experiences, an adult in the state with four or more adverse childhood experiences is 4.7 times as likely to have ever been diagnosed with a depressive disorder, 4.2 times as likely to have experienced hunger in the previous year, 2.9 times as likely to use a government food program, 2.7 times as likely to be unable to work, 2.6 times as likely to use Medicaid, 2.6 times as likely to have not graduated from high school or received a general education development diploma, 2.3 times as likely to be a current smoker, and 1.9 times as likely to be a heavy drinker; and

WHEREAS, in research conducted outside the state, when compared to an adult with zero adverse childhood experiences, an adult with four or more adverse childhood experiences is 12.2 times as likely to attempt suicide, 10.3 times as likely to use injection drugs, 7.4 times as likely to be an alcoholic, 2.4 times as likely to have a stroke, 2.2 times as likely to have ischemic heart disease, twice as likely to have chronic pulmonary obstructive disease, 1.9 times as likely to have a type of cancer, and 1.6 times as likely to have diabetes; and

WHEREAS the Alaska Mental Health Board and the Advisory Board on Alcoholism and Drug Abuse have estimated the direct and indirect cost to the state of adverse childhood experiences in six categories (adult Medicaid, current smoking, diabetes, binge drinking, arthritis, and obesity) to be approximately $774,000,000 annually; and

WHEREAS the life expectancy of a person with six or more adverse childhood experiences is 20 years shorter than the life expectancy of a person with no adverse childhood experiences; and

WHEREAS early childhood offers a unique window of opportunity to prevent and mitigate the effects of adverse childhood experiences, toxic stress, and trauma on a child's brain and body; and

WHEREAS the emerging science and research on adverse childhood experiences, toxic stress, and childhood trauma have uncovered evidence of the burden of this growing public health crisis for the state with implications for the state's educational, juvenile justice, criminal justice, public health, public safety, labor, and commerce systems; and

WHEREAS Nobel-prize-winning economist James Heckman has found that high quality programs for disadvantaged children between birth and five years of age can deliver a 13 percent annual return on investment realized through better outcomes in education, health, social behaviors, and employment; and

WHEREAS it is more effective and less costly to positively influence the architecture of a young child's developing brain than to attempt to correct poor learning, health, and behaviors later in life; and

WHEREAS early intervention and investment in early childhood years and effective, trauma-informed services and systems for people throughout the course of life are important strategies to achieve a lasting foundation for a more prosperous and sustainable state through investing in human capital;

BE IT RESOLVED that the policy decisions of the Alaska State Legislature acknowledge and take into account the principles of early childhood and youth brain development and, whenever possible, consider the concepts of early adversity, toxic stress, childhood trauma, and the promotion of resilience through protective relationships, supports, self-regulation, and services; and be it

FURTHER RESOLVED that the Alaska State Legislature respectfully requests that the Governor join with the Alaska State Legislature to address the presence of adverse childhood experiences and childhood trauma as factors for many societal issues by establishing a statewide policy, supporting evidence-based programs, and funding research for statewide solutions.

Fiscal Note

State of Alaska
2017 Legislative Session

Bill Version:	HCR 2
Fiscal Note Number:	1
(H) Publish Date:	3/24/2017

Identifier:
Title: RESPOND TO ADVERSE CHILDHOOD EXPERIENCES
Sponsor: TARR
Requester: House H&SS

Department:
Appropriation:
Allocation:
OMB Component Number: 0

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2018 Appropriation Requested	Included in Governor's FY2018 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY 2018**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Personal Services							
Travel							
Services							
Commodities							
Capital Outlay							
Grants & Benefits							
Miscellaneous							
Total Operating	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Fund Source (Operating Only)

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Positions

Full-time							
Part-time							
Temporary							

Change in Revenues

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimated SUPPLEMENTAL (FY2017) cost: 0.0 *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY2018) cost: 0.0 *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency?
If yes, by what date are the regulations to be adopted, amended or repealed?

Why this fiscal note differs from previous version:

Initial Version.

Prepared By: Representative Spohnholz
House Health and Social Services Committee
Phone: (907)465-4940
Date: 03/22/2017

Fiscal Note

State of Alaska
2018 Legislative Session

Bill Version: HCR 2
Fiscal Note Number:
() Publish Date:

Identifier: HCR2-LEG-SESS-02-02-18
Title: RESPOND TO ADVERSE CHILDHOOD EXPERIENCES
Sponsor: TARR
Requester: House State Affairs

Department:
Appropriation:
Allocation:
OMB Component Number: 0

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2019 Appropriation Requested	Included in Governor's FY2019 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY 2019**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**
Personal Services							
Travel							
Services							
Commodities							
Capital Outlay							
Grants & Benefits							
Miscellaneous							
Total Operating	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Fund Source (Operating Only)

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Positions

Full-time							
Part-time							
Temporary							

Change in Revenues

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimated SUPPLEMENTAL (FY2018) cost: 0.0 *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY2019) cost: 0.0 *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency?
If yes, by what date are the regulations to be adopted, amended or repealed?

Why this fiscal note differs from previous version/comments:

Updated for 2018 Session.

Prepared By: Sante Lesh, Budget Analyst — Phone: (907)465-4824
Division: LEGISLATIVE AFFAIRS AGENCY — Date: 02/02/2018 09:50 AM
Approved By: Jessica Geary, Deputy Executive Director — Date: 02/02/2018
Agency: LEGISLATIVE AFFAIRS AGENCY

Adverse Childhood Experiences

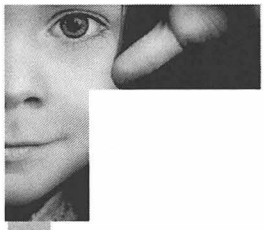
Overcoming ACEs in Alaska

State of Alaska
Department of Health and Social Services
Governor, Bill Walker
Commissioner, Valerie Davidson

Advisory Board on Alcoholism and Drug Abuse

abada amhb

Alaska Mental Health Board



The high cost of childhood trauma

An opportunity for change

In the past two decades, we've learned two key things about Alaskans' health:

- Childhood trauma is far more common than previously realized; and
- The impact of this trauma affects individuals over a lifetime and societies over generations.

A keystone 1998 study asked middle class Americans how many traumas they had experienced as a child. Traumas included physical abuse, witnessing domestic violence and having a parent in jail. Researchers then developed an 'adverse childhood experiences' (ACE) score — the more traumas, the higher the ACE score.

Researchers compared scores to measures of adult health and well-being, and found strong links with poor health, social challenges and low earning power. If children experience trauma, this undermines their ability to learn and cope, which in turn undermines their health and ability to earn a living.

Stress from trauma shows up at the cellular level, follow-up studies found, and its influence can be passed on genetically from one generation to the next. This relates directly to many of the health and social problems we wrestle with in Alaska.

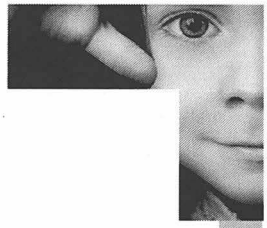
This information is incredibly important for Alaska, where rates of child abuse and domestic violence are so high. No nationwide ACE study has been done, but Alaska's first measured rates, in 2013, were higher than those of an earlier five-state study by the U.S. Centers for Disease Control and Prevention.

From low income to lung cancer, the likelihood of a host of problems rise along with trauma scores. Not surprisingly, so does Medicaid participation. The good news is that, if children have positive influences in their lives, they can overcome trauma. The catch phrase among those who support them and their families is, "Resilience trumps ACEs!"

Many of us — individuals, groups, communities, and government agencies — are already working to break the cycle of childhood trauma. We can use ACE data to guide our efforts to reduce human suffering, activate human potential, and save a significant amount of public money.

Together, we can meet this challenge and make Alaska communities even better places to grow up.

Alaskans can follow efforts across the state to prevent and mitigate the impact of ACEs on the "Overcoming ACEs in Alaska" website: dhss.alaska.gov/abada/ace-ak



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Adverse childhood experiences

What are ACEs?

In the late 1990s, the Centers for Disease Control and Prevention and Kaiser Permanente (a health care plan group provider network) asked more than 17,000 members of a Kaiser Health Maintenance Organization in San Diego whether they had experienced various kinds of trauma before age 18. The unexpected and striking results of this Adverse Childhood Experiences Study served as the basis for more than 80 peer-reviewed journal articles and statewide ACE studies.

The eight most commonly measured* traumas are in two general categories:

Table 1

Abuse	Household Dysfunction
1. Physical 2. Sexual 3. Emotional	4. Living with Someone with Mental Illness 5. Living with Someone with Substance Abuse 6. Separation or Divorce 7. Living with Someone who went to Jail or Prison 8. Witnessing Domestic Violence

**The original study also asked about physical and emotional neglect. Several states, including Alaska, did not include neglect data resulting a shorter survey.*

Researchers created a scoring method to determine the "dose" of each study participant's exposure to each type of "adverse childhood experiences," or ACEs.

A person who reported no exposure to any of the adverse experience categories would have an ACE score of zero. A person who reported exposure to all eight categories of trauma would have an ACE score of eight.

ACEs are common, linked with health outcomes

The researchers were surprised at the high number of ACEs reported by their middle-class subjects. Two thirds of adults studied had experienced at least one adverse childhood experience. (Table 2)

Researchers found striking correlations between childhood trauma and a wide range of long-term health and economic outcomes. The higher the ACEs score, the higher the incidence of disease, risky behaviors and negative social outcomes. It is clear that ACEs have a big impact on many of the difficult and entrenched health problems that Alaska faces.

Table 2

ACE Score	Prevalence
0	33%
1	26%
2	16%
3	10%
4 +	16%

These graphs are representative of many ACE studies exploring the relationships between the dose of childhood trauma and the likelihood of poor health / behavior outcomes, perhaps the most striking is the suicide link, (Fig. 1).

As the number of ACEs went up so did the likelihood that those surveyed had experienced poor social, economic or health outcome, (Fig. 2).

Researchers have also found links between ACEs and these health and social outcomes:

• Asthma • Depression • Drug abuse • Fetal death • Frequent headaches • Hallucinations • Health-related quality of life • Insufficient sleep • Intimate partner violence • Liver disease • Sexual assault • Teen pregnancy • Low yearly income • Medicaid participation • Home ownership • Separation and divorce

It is important to remember that the ACE studies and Alaska's ACE analyses are population-based studies and are not predictions of outcomes for individuals. Indeed, some of the people who are able to overcome ACEs can be our best teachers about resiliency in the face of adversity.

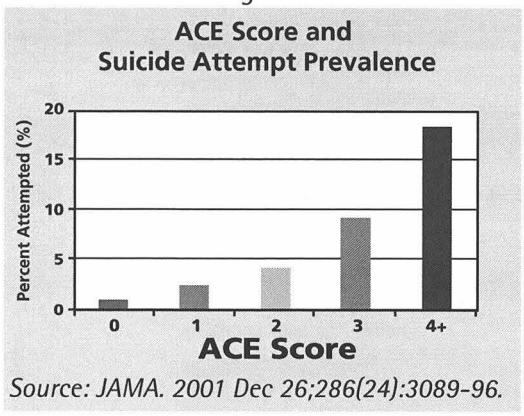
Stress and the developing brain

The initial ACE study was designed by researchers who were not sure what the mechanism for these poor outcomes was. It was clear that ACEs led to negative results (Fig. 3) but just how they did was unclear. Researchers developed the pyramid model, to the right, to explain what they were seeing. When the ACE researchers and brain researchers collaborated, a much clearer picture began to emerge.

The Center for the Developing Child at Harvard University reports that, "It's important to distinguish among three kinds of responses to stress: positive, tolerable, and toxic. As described below, these three terms refer to the stress response system's effects on the body, not to the stressful event or experience itself.

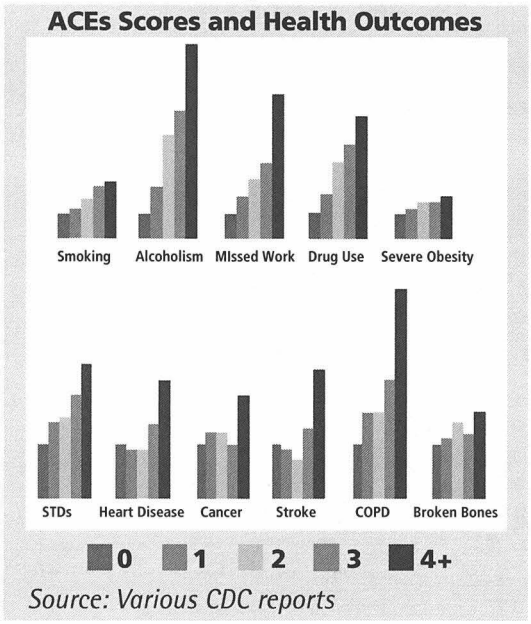
- Positive stress response is a normal and essential part of healthy development, characterized by brief increases in heart rate and mild elevations in hormone levels. Some situations that might trigger a positive stress response are the first day with a new caregiver or receiving an injected immunization.

Fig. 1



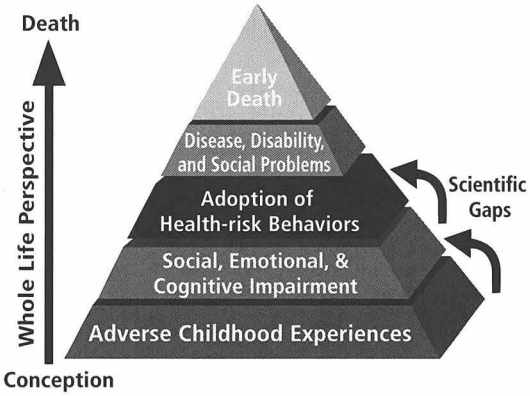
Source: JAMA. 2001 Dec 26;286(24):3089-96.

Fig. 2



Source: Various CDC reports

Fig. 3



- Tolerable stress response activates the body's alert systems to a greater degree as a result of more severe, longer-lasting difficulties, such as the loss of a loved one, a natural disaster, or a frightening injury. If the activation is time-limited and buffered by relationships with adults who help the child adapt, the brain and other organs recover from what might otherwise be damaging effects.

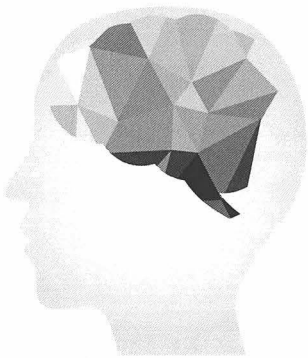
- Toxic stress response can occur when a child experiences strong, frequent, and/or prolonged adversity — such as physical or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence, and/or the accumulated burdens of family economic hardship — without adequate adult support. This kind of prolonged activation of the stress response systems can disrupt the development of brain architecture and other organ systems, and increase the risk for stress-related disease and cognitive impairment, well into the adult years.

Toxic stress affects the brain and the body and has implications for a child as he or she develops. The first steps in brain development are the most basic, and focus on survival. The next steps involve crucial social and intellectual building blocks such as bonding with parents, learning to talk, and learning to get along with others. Those are children's most important lessons in terms of building a foundation for success for the rest of their lives."

When young children feel safe and nurtured, they are calm. This frees their brains, at a neurological level, to develop these more advanced skills.

Children who experience early trauma — toxic stress — are often in a chronic state of crisis. Because they feel unsafe or threatened, their brains spend more time in basic, survival-oriented stages of development. They are too busy trying to cope, trying to feel OK, to focus on more complex learning. These children are often easily overwhelmed by minor stressors such as a change in their schedule or routine. They are used to trauma, expect it at every turn, and so are always ready to react. Small disruptions feel as if they are major. They have difficulty soothing or calming themselves without a reliable and consistent caregiver. This compromises their ability to learn. In seriously stressed children, researchers have observed:

- Less development of the upper brain;
- Smaller brain size; and
- Fewer brain connections.



This brain research is vital for Alaska schools. A child coming to school from a toxic home environment or having experienced toxic stress earlier in life may react quite differently than a child coming from a secure home. The ability to learn is impaired and the pathways in the brain may need to be rewired.

Many schools around Alaska are using this science to help all children be more ready to learn and grow when they are in school.

Generational impacts

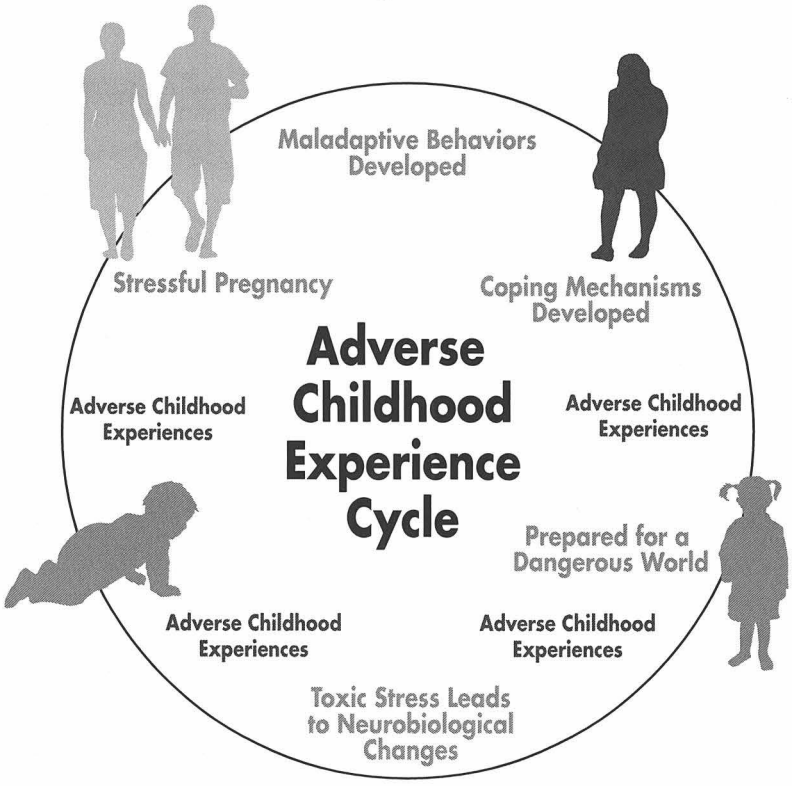
The impacts of overwhelming stress on the brain's development naturally continue into adulthood. As Alaskans exposed to this degree of stress grow up, they may start using drugs as a way to cope with their damaged stress responses. This in turn could lead to prison. If they start families of their own, these become ACEs for another generation. These are examples of behavioral influence — positive or negative habits that parents pass on to their children by example. Positive habits children may pick up from their parents include reading and exercising. Negative habits include smoking and responding to challenges with violence.

Recent research has shown that childhood experiences also have a genetic influence. Physical changes in our genes, triggered by trauma, get passed to our offspring. A study of Swedes over three generations found connections between men going hungry during their youth and rates of cardiovascular disease and diabetes among their children and grandchildren. In some ways, we inherit the experiences of our parents and grandparents as well as their physical characteristics.

Historical trauma

Epigenetics, the science that looks at how people's genes are affected by their environment, is beginning to show how historical traumas continue to affect the children of survivors in biological ways at the cellular level, as well as in behavioral ways. The good news coming from this emerging science is that **we can change our biology, and our lives, for the better.**

Fig. 4



Source: The Alaska Mental Health Board / Advisory Board on Alcoholism and Drug Abuse

A 2013 article on epigenetics in Discover magazine used these analogies:

> "You might have inherited not just your grandmother's knobby knees, but also her predisposition toward depression caused by the neglect she suffered as a newborn.
>
> Or not. If your grandmother was adopted by nurturing parents, you might be enjoying the boost she received thanks to their love and support. The mechanisms of behavioral epigenetics underlie not only deficits and weaknesses but strengths and resiliencies, too. And for those unlucky enough to descend from miserable or withholding grandparents, emerging drug treatments could reset not just mood, but the epigenetic changes themselves. Like grandmother's vintage dress, you could wear it or have it altered. The genome has long been known as the blueprint of life, but the epigenome is life's Etch-A-Sketch: shake it hard enough, and you can wipe clean the family curse."

This is particularly important in Alaska, which has seen historical traumas such as rural outbreaks of disease that killed nearly entire communities. We also have groups of people born in Alaska or in other parts of the world who have experienced trauma from outside the home. Wars, racism, displacement from a homeland, and loss of culture have been shown to lead to poor health and economic outcomes. Alaskans have experienced all of these things.

Alaska ACE findings

Behavioral Risk Factor Surveillance Survey: ACEs questions

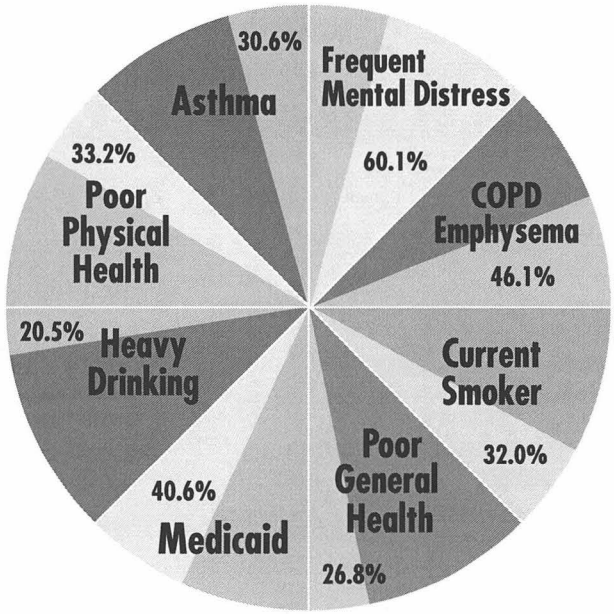
The Behavioral Risk Factor Surveillance Survey (BRFSS) is a public health phone survey of adults, developed by the U.S. Centers for Disease Control and Prevention (CDC), conducted in all states and territories nationwide. To better understand childhood trauma, the CDC developed a set of ACEs questions that states could add to their BRFS surveys starting in 2009. Alaska became the 20th state to do so this in 2013.

The Alaska Division of Public Health surveyed more than 4,000 Alaskans 18 years and older for 2013's BRFSS. The responses give us insight into the relationship between ACEs and chronic disease in Alaska, and how our ACE rates compare with other states.

Alaska population attributable risks

The graphic to the right shows the degree to which childhood trauma contributes to poor health in Alaska. The paler areas represent the proportion of each outcome which can be linked back to ACEs. For example, studies suggest that 32 percent of current smokers would not be smoking if we did away with all of the adverse childhood experiences we measured.

Fig. 5



This linkage, known as population attributable risk, is basically how often something happens in a group of people that have been exposed to something, compared to how often it happens in a group without exposure. For example, how often does chronic obstructive pulmonary disease happen among Alaskans who had childhood trauma, compared to Alaskans who didn't? Looking at the high population attributable risks for these outcomes and ACEs, the potential savings in human and economic costs from reducing childhood trauma is astounding.

Watch for details on costs associated with ACEs in information boxes throughout this report.

The COST

Comparison to other states

One of the best ways to gauge the results of the Alaska ACE survey is to compare them with other states. There are no national statistics on ACE scores available, however in 2009 the CDC released a study comparing ACE data from five states (Arkansas, Louisiana, Tennessee, New Mexico, Washington) that used the BRFSS ACE module. This analysis covered more than 23 million people (2010 Census), with direct surveys of more than 26,000 respondents.

Once Alaska added the ACE module to our 2013 risk factor survey, we could compare our data with the CDC's five-state study. Generally Alaska had higher ACE scores.

Table 2

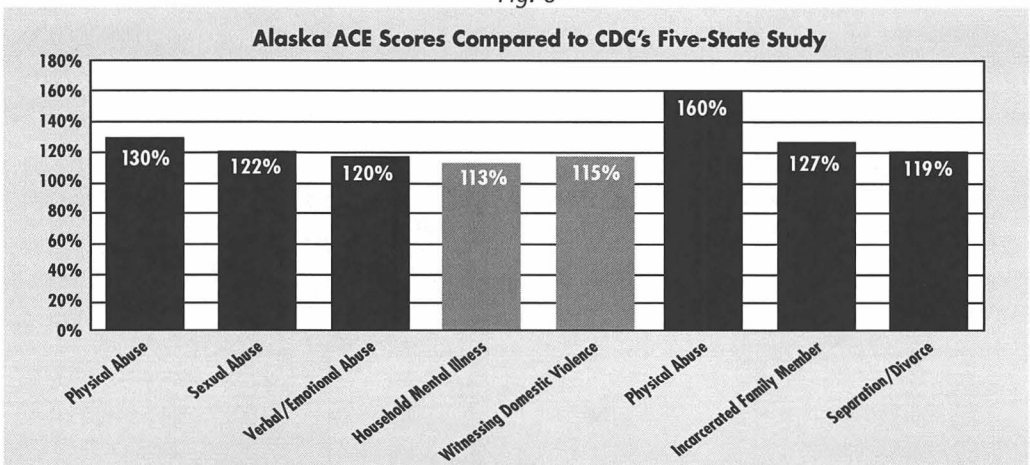
ACE Rates in Six States						
Adverse Childhood Experience	Alaska	Arkansas	Louisana	New Mexico	Tennessee	Washington
Year study released	2013	2009				
ABUSE						
Verbal/Emotional	31.0%	24.3%	21.1%	28.1%	19.2%	**34.9%**
Physical	19.1%	14.1%	10.5%	**19.5%**	12.9%	18.1%
Sexual	**14.8%**	10.9%	9.9%	12.9%	12.7%	13.5%
HOUSEHOLD DYSFUNCTION						
Mental Illness in the Home	21.9%	17.0%	16.6%	19.4%	17.1%	**24.3%**
Incarcerated Family Member	**11.5%**	5.5%	7.2%	7.1%	8.6%	6.6%
Substance Abuse in Home	**33.8%**	25.5%	26.6%	29.9%	28.3%	32.7%
Separation or Divorce	**31.7%**	23.3%	27.1%	24.4%	29.1%	26.0%
Witnessed Domestic Violence	18.7%	15.1%	14.5%	**18.9%**	17.1%	16.6%

Alaska's 2013 Behavioral Risk Factor Surveillance Survey ACEs data compared to the CDC's five-state study in 2009 using the same BRFSS module. Numbers in red indicate the highest percentage of the problem of the states reviewed.
Source: CDC Morbidity and Mortality Weekly Report, Vol. 59, No. 49 Dec. 10, 2010; Alaska BRFSS, 2014

The rates reported by Alaska adults for each category of adverse experiences were higher than the five-state study's average rates. In all but two of the categories, these higher rates were statistically significant given the two studies' sample sizes. The three categories of adverse experiences with significantly higher rates among adults in Alaska — incarcerated family member, household substance abuse and separation and divorce — were also found to be significantly higher in a sample of Alaska children when compared with a national rate.

Figure 6 shows that Alaska 2013 BRFSS ACE scores as a percentage of the mean ACE rates in the CDC's 2009 five-state study. A percentage of 100 percent would mean Alaska's rate was equal to the five-state average. Gold bars indicate the difference between Alaska's rate and the five-state average is not statistically significant.

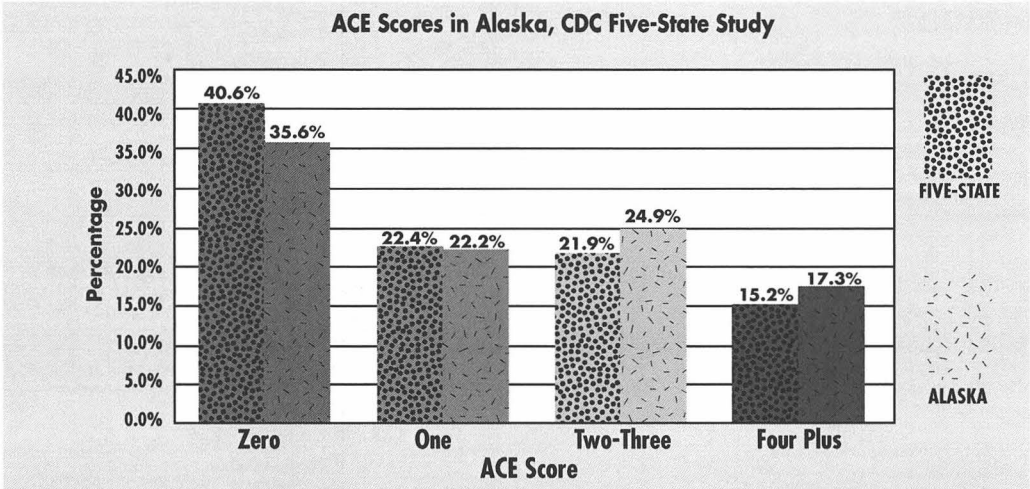
Fig. 6



Sources: 2013 Alaska Behavioral Risk Factor Surveillance Survey,
CDC MMWR: Adverse Childhood Experiences Reported by Adults – Five States, 2009

While the rates in different categories are important for those Alaskans who work to prevent those traumas, the overall statewide ACE score or "dose" of ACEs sheds light on the general health outcome at a population level. (Again, individuals may have widely different outcomes depending on their unique personalities, experiences and the protective factors they have.) Alaska's ACE score results are higher than five-state averages.

Fig. 7



Sources: 2013 Alaska Behavioral Risk Factor Surveillance Survey,
CDC MMWR: Adverse Childhood Experiences Reported by Adults – Five States, 2009

The Alaska Department of Labor and Workforce Development estimated that there were approximately 550,000 Alaskans aged 18 and older in 2013. What does the five-point difference between the five-state average of 40.6 percent of residents with an ACE score of zero to Alaska's 35.6 percent mean? If Alaska were to improve to the level of the five states, approximately **27,500 more adults would have zero ACEs.** If Alaska could reduce the percentage of people with four or more ACEs to the level of the five states, then **more than 11,500 Alaskans would have a lower ACE score**. Changing an ACE score for 11,500 people may not seem significant but evidence suggests it would have a great impact on many health, economic, and social outcomes.

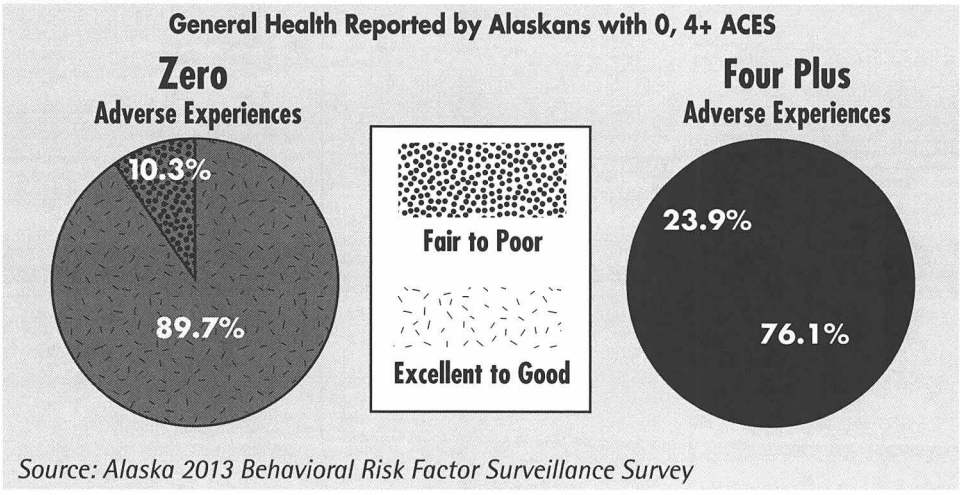
Health and economic costs for Alaska

Alaska's results are similar to those of other ACE studies have found. The more ACEs a person has, the more likely he or she is to experience poor health, both self-reported and measured.

Health outcomes

An analysis of Alaskans' general health shows that people with four or more ACEs reported that their general health was "fair to poor" at more than twice the rate compared to those with zero ACEs, (Fig. 8).

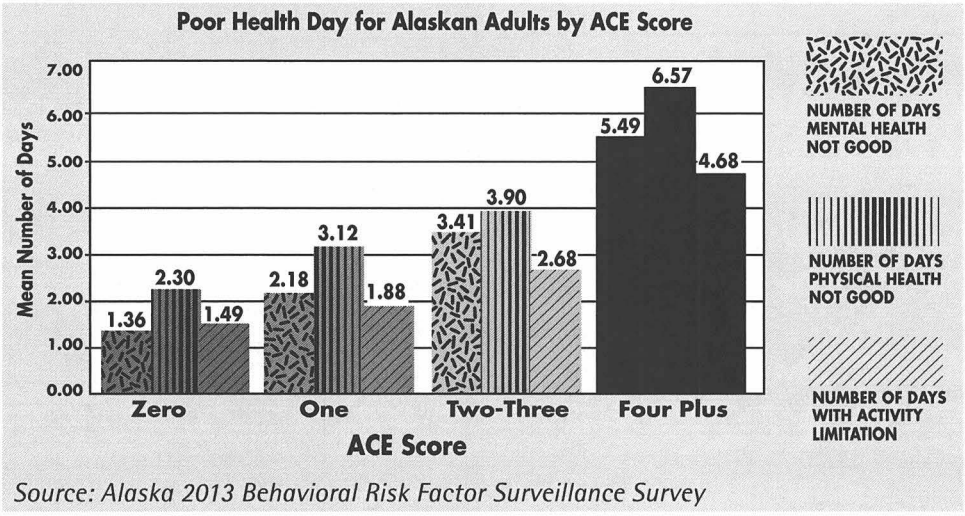
Fig. 8



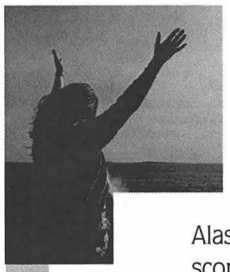
Source: Alaska 2013 Behavioral Risk Factor Surveillance Survey

Alaskans were asked the number of days of poor mental and physical health outcomes during the previous month they experienced. The average number of days in that month this led to limited activities was reported as well. The results are shown in Figure 9 and demonstrated that the more ACEs Alaskans had the higher average number of days impacted per month.

Fig. 9

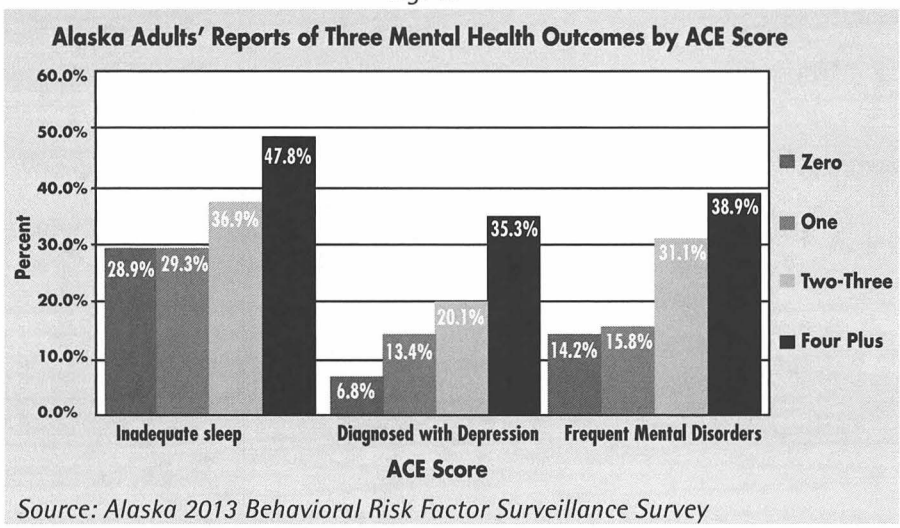


Source: Alaska 2013 Behavioral Risk Factor Surveillance Survey



Alaskans reported increasing difficulty with sleep, depression and frequent mental distress as their ACE scores rose. Figure ten displays these results. For example Alaskans with four or more ACEs were more than 5 times more likely to report having ever been diagnosed with depression than their peers with zero ACEs.

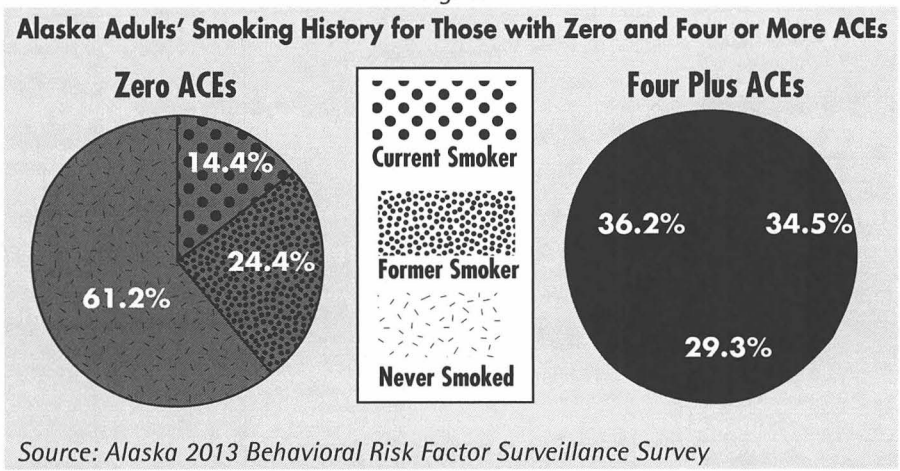
Fig. 10



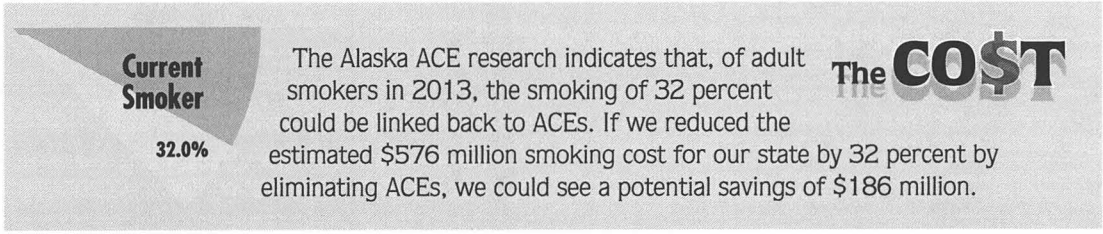
Source: Alaska 2013 Behavioral Risk Factor Surveillance Survey

Smoking in Alaska costs $576 million annually. While rates are improving, it remains a large and costly health problem. The likelihood of being a current smoker is 240 percent higher for an Alaskan with four or more ACEs compared with zero ACEs. Additionally, Alaskans with zero ACEs are significantly less likely to have ever smoked in their lifetimes. (Flg. 11)

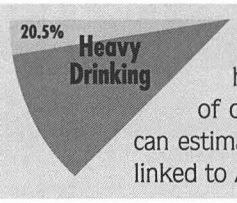
Fig. 11



Source: Alaska 2013 Behavioral Risk Factor Surveillance Survey



Substance abuse in Alaska has been estimated to cost the state $1.2 billion dollars annually in direct and indirect costs. The original ACE research found multiple connections between ACEs and substance abuse, from intravenous drug use to alcoholism. The Alaska BRFSS asks questions about alcohol but not prescription or illicit drug abuse. Looking at the CDC research and other states' data, though, we can estimate that a significant amount of drug abuse in Alaska is linked to ACEs.



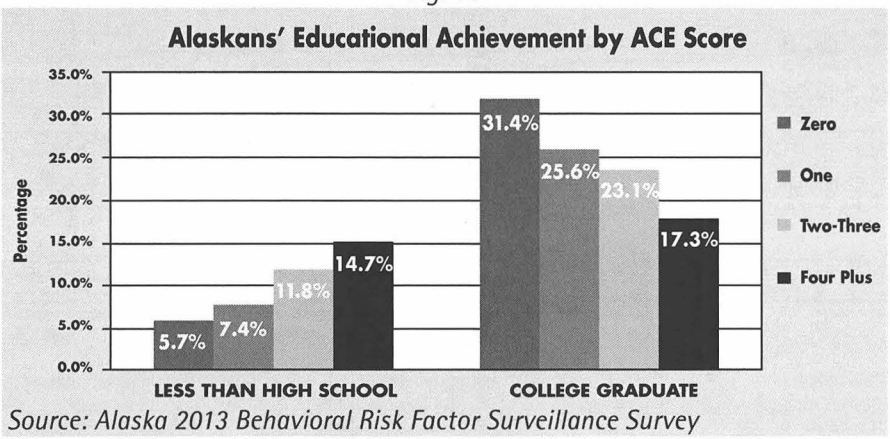
The Alaska research suggests that 20.5% of adult heavy drinking is linked back to ACEs. If 20 percent of other substance abuse is also tied to ACEs (a conservative estimate), then we can estimate that $246 million in annual costs due to substance abuse in Alaska are linked to ACES.

The COST

Economic and educational impacts

Childhood trauma can reduce Alaskans' ability to earn a good living. The impact starts early by undermining educational achievement. Alaskan adults with four or more ACEs are more than 250% less likely to have graduated from high school than those with zero ACEs. Graduation rates for college show that having zero ACEs almost doubles an Alaskan's chance of having a four year degree than those with four or more ACEs, (Fig. 12).

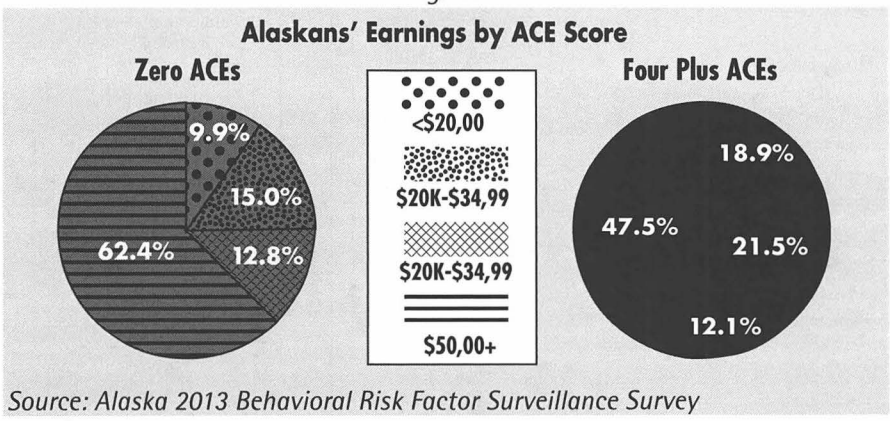
Fig. 12



Source: Alaska 2013 Behavioral Risk Factor Surveillance Survey

Figure 13 graphs the annual income reported by Alaskan adults with zero and four or more ACEs. Having a ACE free childhood is linked with higher annual income.

Fig. 13



Source: Alaska 2013 Behavioral Risk Factor Surveillance Survey

Health care access and Medicaid enrollment

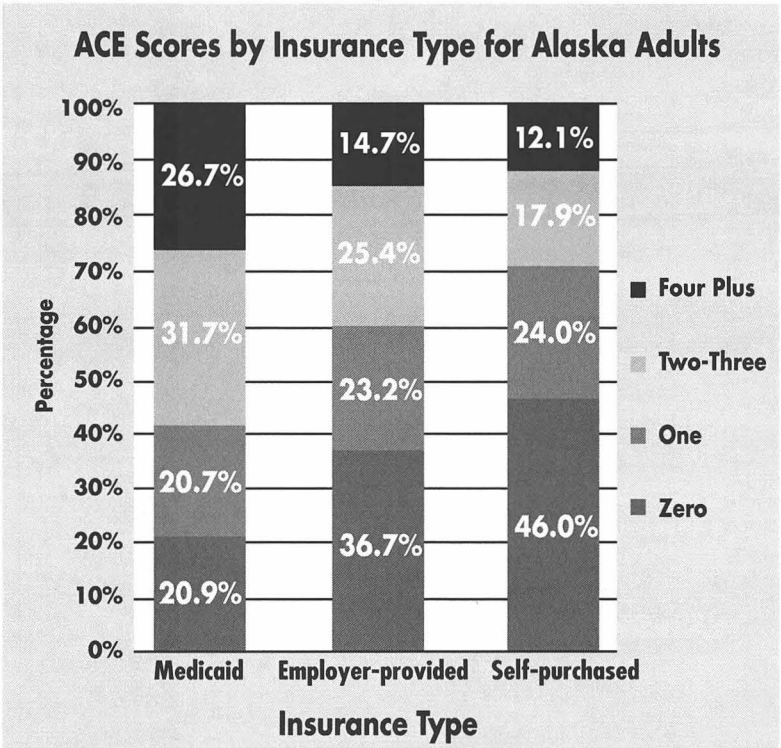
Medicaid eligibility for adults is related to financial hardship, poor health or a combination of both. As a result, it is not surprising that people using Medicaid as their health insurance have higher ACE scores than those in the private health insurance market, given what we have seen above when it comes to poor economic and health outcomes for Alaskans with higher ACE scores.

There has been considerable attention paid to the costs of Medicaid and ways to contain and improve this large system. Much of this discussion is related to care delivery and payment reforms. Bringing the prevention and mitigation of ACEs into the equation has the potential to pay large dividends.

In 2012, Alaska Medicaid spent $1.38 billion to provide care for 146,476 Alaskans' health care. Of these Alaskans served, 53,794 were adults age 20 or older at a cost of $860 million, or 62.1 percent of the total.

Alaskans who report Medicaid as their source of health insurance report significantly higher ACE scores than those who report employer provided or self-purchased health insurance (fig 14). Due to the poor health outcomes associated with high ACE scores this means that Medicaid has enrollees with significantly worse health prospects than other insurance types. This disparity leads to higher treatment costs and a higher burden on government resources.

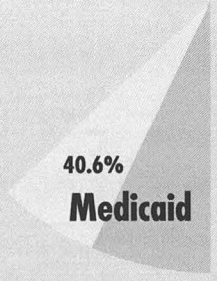
Fig. 14



Source: Alaska 2013 Behavioral Risk Factor Surveillance Survey

The COST

Alaska research suggests that 40.6% of the state's Adult Medicaid enrollment is linked back to ACEs. In 2012, that means that approximately $350 million of Adult Medicaid (age 20+) costs in Alaska could have been prevented by the elimination of ACEs.



Conclusion

Our brains can recover from trauma, but it is a challenging process. It is more cost-effective, in human and financial terms, for children to grow and develop in a healthy environment than to try to help them heal from toxic stress later. This means interrupting the ACE cycle. Fortunately, there are many opportunities to do so.

Alaska has many groups working on mitigating ACEs, trauma prevention, and community resilience & wellness. For more information on this and other resources, and updates on what is happening around the state, visit the **"Overcoming ACEs in Alaska"** website, dhss.alaska.gov/abada/ace-ak.

Building resilience and preventing ACEs

Across Alaska, people are working in large and small ways to prevent childhood trauma and ease the effects of damage already done. Here are a few examples (as of early 2015):

- Statewide, teachers and public health nurses provide teens with information on healthy relationship and life skills. They have partnered with the Alaska Departments of Health and Social Services and Education and Early Development, the Council on Domestic Violence and Sexual Assault, and the Alaska Network on Domestic Violence and Sexual Assault on a 7th, 8th and 9th grade, evidenced-based curriculum for the 7th-9th grade called "the Fourth R for Healthy Relationships."

- A statewide webinar series on trauma-informed schools was completed in January 2015. Hundreds of educators and school staff participated. The series will be offered again in 2015-16 and can be accessed online at no cost

- The Division of Public Health partnered with the Alaska Native Tribal Health Consortium and the Alaska Family Violence Prevention Project to develop a teen safety card, a gender-neutral resource developed for Alaska teens with guidance from Alaska teens. The card provides information about healthy and unhealthy relationships characteristics, what consent looks and sounds like, and where to get help if needed. Another safety card was designed specifically for women.

- The Division of Behavioral Health has promoted trauma informed care for several years. Efforts include development of "Trauma 101" and "Trauma 201" curriculum for behavioral helath providers, used around the state.

- Teens Acting Against Violence (TAAV) is a violence-prevention and youth-empowerment program at the Tundra Women's Coalition for teenagers living in Bethel. Participation is voluntary and open for any interested teens age 12–18.

- The Alaska Mental Health Board and Advisory Board on Alcoholism and Drug Abuse have coordinated the efforts of many organizations to gather Alaska specific ACE data. The Boards have focused since 2008 on community wellness and personal resilience.

- Donlin Gold – a corporation doing business in Alaska - has embraced community wellness as part of their mission. In 2013 it won the Workforce Association's National Employer of the Year Award. Donlin Gold has seen that a healthy workforce helps everyone.

- The Association of Alaska School Boards, through its Initiative for Community Engagement (ICE), has been working for nearly two decades with schools and communities to create healthier school and community climates to support youth resilience.

- The Council on Domestic Violence and Sexual Assault and Green Dot, etc., are developing an Alaska-specific teaching tool on how to intervene in potentially dangerous everyday situations — like calling a cab for someone who has been drinking, or offering the number for the local women's shelter to someone experiencing domestic violence. The Green Dot curriculum is being implemented in Anchorage, Bethel, Homer, Kenai and Prince of Wales.

- In Homer, teens lead ACE awareness sessions that focus on resilience-building strategies. They are working on training that emphasizes how to build resilience and will share this resource at a national conference in Oregon spring 2015.

- People in Kodiak and Kotzebue are focusing on how ACEs affect their communities and how to make positive changes for all their residents.

- The Mat-Su Borough held an ACEs Summit and has created a broad range of work groups to identify strategies to address ACEs as a way to improve the schools, reduce substance abuse, and improve the health of its residents.

- Yakutat decided the best way to prevent substance abuse is to tackle ACEs. They developed public service announcements to educate their community about the connection between ACEs, binge drinking, and alcohol abuse.

Next Steps

We've learned that many Alaskans have experienced ACEs. We now understand that when we break the cycle of trauma and toxic stress, our efforts pay off in many ways.

From the highest level of political power in Alaska to homes where family members care for our youngest and most vulnerable citizens, we all have a role in making our communities places where adults can overcome a rough start and thrive, and where the next generation is raised in a healthier, more supportive environment.

Alaskans can follow efforts across the state to prevent and mitigate the impact of ACEs on the "Overcoming ACEs in Alaska" website: dhss.alaska.gov/abada/ace-ak

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In this podcast, childhood trauma expert Dr. Robert Anda describes the Centers for Disease Control Adverse Childhood Experiences (ACE) Study. David Driscoll offers an Alaska perspective on childhood trauma; Elizabeth Ripley discusses what grantmakers are willing to fund; and Bill Hogan of the UAA College of Health opens the sessions and facilitates audience questions and answers. Recorded Oct. 23, 2012. http://greenandgold.uaa.alaska.edu/podcasts/index.php?id=724

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Notes

Advisory Board on Alcoholism and Drug Abuse

abada

amhb

Alaska Mental Health Board

State of Alaska
Department of Health and Social Services
ABADA/AMHB

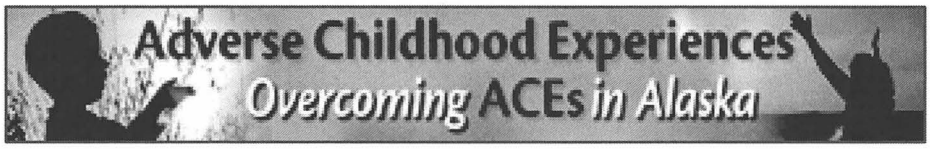
Governor, Bill Walker
Commissioner, Valerie Davidson

January 2015

Economic Costs of Adverse Childhood Experiences in Alaska

The Price of Not Intervening

Before Trauma Occurs



This document and other information related to Adverse Childhood Experiences in Alaska can be accessed at http://dhss.alaska.gov/abada/ace-ak/Pages/default.aspx

ABADA Advisory Board on Alcoholism and Drug Abuse

AMHB Alaska Mental Health Board

Prepared for the Alaska Mental Health Board and the Advisory Board on Alcoholism and Drug Abuse by Patrick Sidmore, MSW

Child Adversity and State Fiscal Health

In Alaska, Adverse Childhood Experiences (ACEs) have been a frequently discussed subject in the fields of behavioral health and child development over the past 5-10 years. This paper will take the discussion in a different direction in light of the recent survey of Alaskan adults - asking them about their own experiences with adverse childhood experiences or ACEs. Links to numerous poor health, economic and social outcomes have been found for adults who experienced ACEs.[i] Subsequent to the dozens of ACE studies from all over the U.S and around the world since the original data first became available, research in the fields of neuroscience and epigenetics have sharpened the picture of the mechanisms that lead from child trauma to negative outcomes, often years later.

As the funding of state government changes from a tax base linked almost entirely to resource extraction[ii] to one which is derived from broad-based taxes on citizens, the economic health of Alaska will be tied more than ever to its workforce. Since the building of the pipeline, Alaska has invested heavily in its people through social and health programs offered by the state. There is evidence that these investments have paid dividends which have been largely unrecognized due to the current budgeting and tax processes. In the past, the majority of successful government spending was not tied to increased state revenue because the tax base was reliant primarily on one or two industries. This is changing.

What follows is a unique way to look at the issues of child maltreatment and other adverse childhood experiences. Policymakers see the costs when a child is taken into custody but rarely connect the expenses incurred thirty years later. This discussion will explore those economic impacts to which a concentrated effort to reduce child trauma might lead, using the Alaska 2013 Behavioral Risk Factor Surveillance System[iii] (BRFSS) survey data. A model will be explored where a change in the ACE scores of Alaskan adults will be overlaid with outcome data to see if there would be a reduction in the number of adults who experience certain chronic health conditions. Added to that will be an analysis of costs that are currently associated with these chronic health issues and how these expenditures might have looked with a change in ACE scores.

The main focus of this analysis will be on the long term costs of ACEs – specifically the costs Alaska pays for adults who experienced ACEs. **It is important to remember that costs associated with child trauma, however, begin in childhood.** A recent report from the Centers for Disease Control and Prevention estimating lifetime costs of child maltreatment, an especially high level of adverse childhood experience, are seen below.

Key findings:[iv]

The estimated average lifetime cost per victim of nonfatal child maltreatment includes:

$32,648 in childhood health care costs

+ $7,728 in child welfare costs

+ $7,999 in special education costs

$48,375 Total Childhood Costs of Maltreatment

What Are The Recent Child Abuse Numbers in Alaska?

First-Time Child Abuse Victims in Alaska[v]
Average Annual Number 2009 - 2013
1705

Applying the **$48,375** cost estimate for childhood expenses to the average number of Alaskan children who had a substantiated report of harm over the past several years (1,705) the financial liability anticipated is large each year. It can be estimated that Alaska takes on the burden of approximately $82 million in current and projected costs each year on average.

Why Are Adverse Childhood Experiences So Important to Alaska?
The Intersection of Economics and Childhood Development

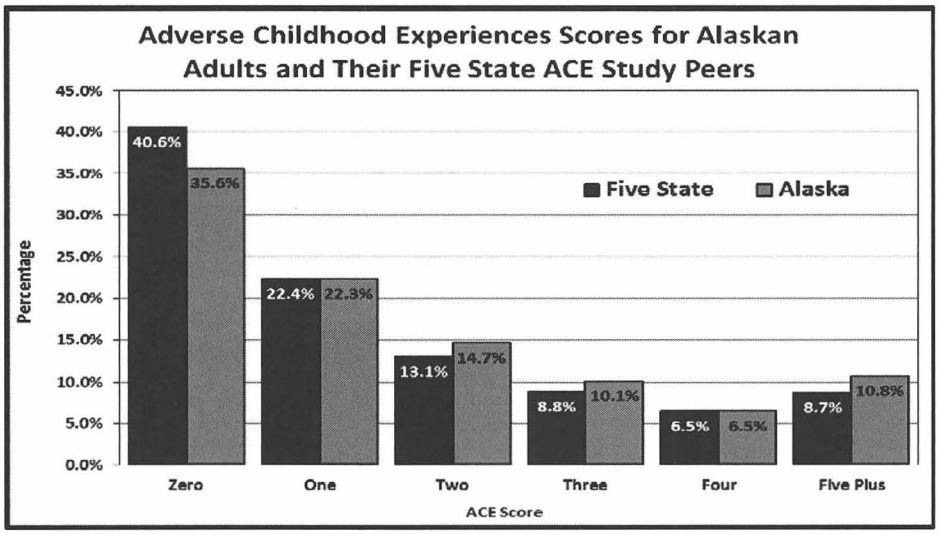
The fields of economics and business have discovered that child development has a profound impact on the economic health of a community. Groups and individuals like the Rand Corporation,[vi] The Federal Reserve Bank,[vii] the Upjohn Institute,[viii] and Nobel Laureate (Economics 2000) James Heckman[ix] from the University of Chicago have explored the importance of the earliest years of an individual's life to his or her later economic success. The idea that **"skills beget skills"** in child development leads to the very real cost benefit analysis that clearly demonstrates the need to get the early years of children's lives right. Alaskan professionals can and do repair damage caused to the developing brains of young children through their exposure to trauma - but it is costly.

In Alaska's state government there is, of course, considerable work being done with children who have been traumatized. The Office of Children's Services and the Divisions of Behavioral Health, Public Health and Juvenile Justice as well as the Department of Education and Early Development primarily do the work of helping to repair the damage caused by trauma. **Yet, is Alaska optimizing its chances to reduce social and economic costs when it comes to child maltreatment?**

The Alaskan ACE Study – What the Numbers Show

Alaska surveyed more than 4,000 adults in the 2013 Behavioral Risk Factor Surveillance System (BRFSS) to determine the extent of their ACEs experienced prior to age 18. The results, shown below in **Figure 1**, were compared to a sample of five states[x] which had been combined by the Centers for Disease Control and Prevention using a questionnaire identical to Alaska's study. The results of these states' statistically significant assessment of 23,000 residents represent one of the largest population bases of ACE questions asked of Americans (more than 20 million residents live in the five states sampled).

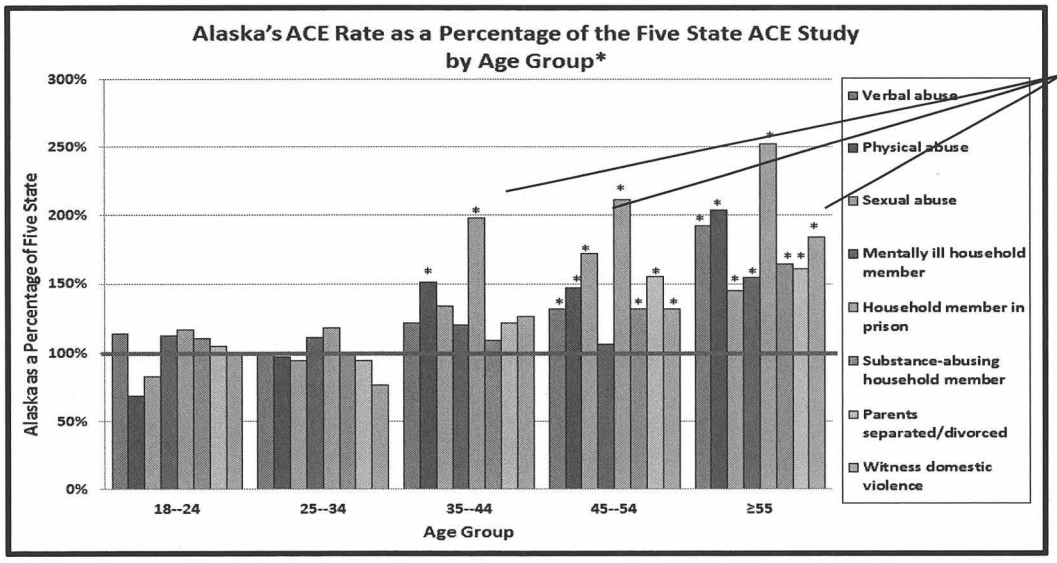
Figure 1[xi]



Alaska clearly has higher rates of ACEs than the average of the five states surveyed. As Alaska's Health and Social Services staff explored the data more fully, they uncovered an interesting finding. When comparing Alaska's ACE prevalence to the five states (Washington, Louisiana, Tennessee, Arkansas, and New Mexico) by age groups, it appears that the higher ACE scores in Alaska are held in the older generations. Below, **Figure 2** compares Alaska's rate for each ACE as a percentage of the five states' rate. For example if Alaska had exactly the same rate for an adverse experience it would register as 100% (red horizontal line).

What accounts for this leveling when compared to age cohorts in other states? Is it the flow of oil and the better jobs it created? Is it a result of immigration that has occurred since then? Can it be linked to significant spending on health and social programs? The answer probably includes all of these and others. These figures show that relative to peer groups in the five state sample, Alaska's younger adults are more in line with ACE levels elsewhere. The ACE research shows that these changes will have considerable health, social and economic benefits moving forward.

Figure 2[xii]



Alaska's older generations have higher rates of ACEs than their peers in the five states. The rates are similar for the younger generations.

Now is a pivotal time as Alaska confronts a budget crisis and moves to a broader based funding structure. The impact of investments provided from state coffers in preventing and mitigating the results of ACEs must not be lost as budgets are cut. ***To lose ground leads not only to increased future costs, but given the new reality, most likely decreased future revenues as well.*** Alaskans with high ACE scores make less money, are less likely to own their own homes and are more likely to be unable to work[xiii]. ACE awareness is even more important now.

There have been great strides in the past few years increasing Alaskans' knowledge of domestic violence, with primary prevention efforts taken to scale across the state.[xiv] Though there are agencies and groups working on the issue – **a comprehensive primary prevention effort to prevent child abuse and neglect doesn't exist in Alaska.** Could more be done to prevent ACEs?

Three Levels of Prevention[xv]

Public Health offers a model of prevention which is pertinent for a discussion of ACE prevention and mitigation.

In the field of Public Health, three levels of prevention are observed:

- **Primary Prevention** - aims to prevent disease or injury before it ever occurs.
- **Secondary Prevention** - aims to reduce the impact of a disease or injury that has already occurred.
- **Tertiary Prevention** - aims to soften the impact of an ongoing illness or injury that has lasting effects

The three tables joined below illustrate how the problem of ACEs in Alaska could be viewed. In this example, the data refer to the level of current smoking by Alaskan adults and their ACE scores.

An Example

Table 1 represents the estimated number of Alaskan adults who experience four levels of ACE scores. These figures were derived from using the 2013 Department of Labor and Workforce Developments' population estimate and the 2013 BRFSS ACE Survey percentages as reported by Alaskan adults. If impacts were made upon ACE rates at this level in the Alaskan population - **that would be an example of primary prevention**. Prevention at that level (moving people to lower ACE scores) would save the costs associated with child maltreatment cited above and pay dividends into adulthood by reducing the number of current smokers. As this table demonstrates – Alaskans with lower ACE scores tend to be current smokers at lower rates (See explanation of Table 2 below).

Table 1		Table 2	Table 3	
ACE Scores of 2013 Adult Alaska Population		Current Smoking	Current Smoking Estimate Adult Alaska Population	
Zero	194,275	14.4%	Zero	27,901
One	121,950	18.3%	One	22,298
Two - Three	135,398	24.1%	Two - Three	32,564
Four Plus	94,134	34.5%	Four Plus	32,481
Total	545,757	21.1%	Total	115,244

The black box above **(Table 2)** displays the results from the 2013 Alaskan ACE research demonstrating the percentage, by each ACE score level, of those who are currently smoking. For example, 14.4% of Alaskan adults with zero ACEs currently smoke and 34.5% of those with four or more ACEs do. Lowering these percentages for people with high ACE scores by providing trauma informed behavioral health treatment, for example, would teach Alaskans coping skills other than using nicotine to deal with stress. That would be an instance of **secondary prevention**.

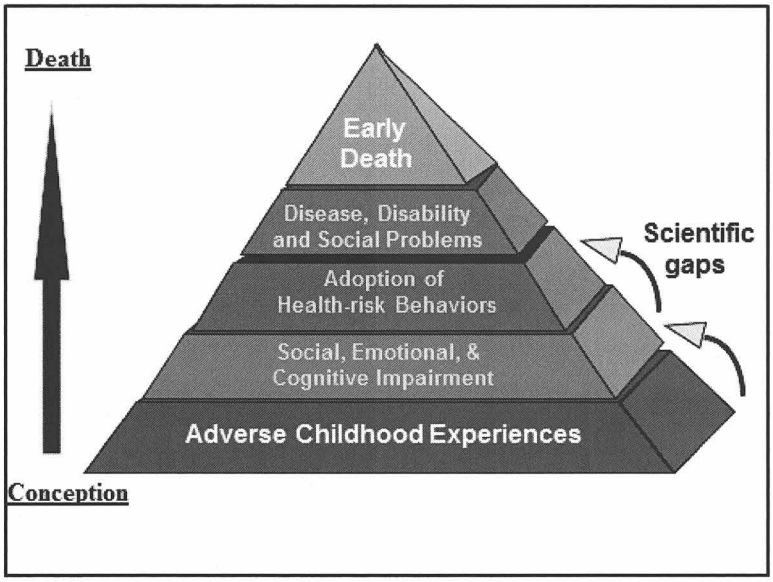
Table 3 represents the estimated current level of smokers in Alaska using the 2013 BRFSS survey results. It is derived from applying the percentages in the black box **(Table 2)** to the population based ACE estimates from **Table 1**. Working at this end of the continuum would, for example, include providing tobacco cessation programs to those Alaskans currently smoking. In terms of trauma and smoking reduction this is an example of **tertiary prevention,** as it is a way to mitigate somewhat the results of trauma (i.e. smoking). Primary, secondary and tertiary levels of prevention all have potential to improve the outcomes for Alaskans. Of course, primary prevention allows for fewer costs associated with "fixing" already damaging conditions or habits.

The Initial Paradigm

When the original ACEs studies were released, the researchers developed a graphic (**Figure 3**) to explain what they had been observing from their results. Five levels or tiers were observed throughout a person's life course if they experienced ACEs:

1. **ACEs occurred,** which led through an unknown mechanism to
2. **Social, emotional and cognitive impairments,** which led through an unknown mechanism to
3. **Adoption of high risk health behaviors ,**
4. **High rates of disease, disability and social problems, and**
5. **Early death**

Figure 3[xvi]



Subsequently, the researchers began to explore other fields of science doing complementary work. The synthesis of these fields with the ACE epidemiological work shed more light on this original paradigm.

Causation

Neurobiology & Epidemiology

Approximately eight years after the original ACE studies began to appear, the two original ACE researchers, Dr. Robert Anda and Dr. Vincent Felitti, with other scientists wrote a journal article[xvii] making the case that the links between ACEs and other health outcomes were more than correlations. In a well-reasoned argument they proposed that ACEs cause many of the outcomes linked with them. They made their case using both the original ACE epidemiology work, and new findings in neurobiology which had for years been exploring changes in the brain as a result of traumatic experiences in childhood. In this journal article, the authors cover nine points (**Figure 4**) establishing an argument for causation.

Figure 4

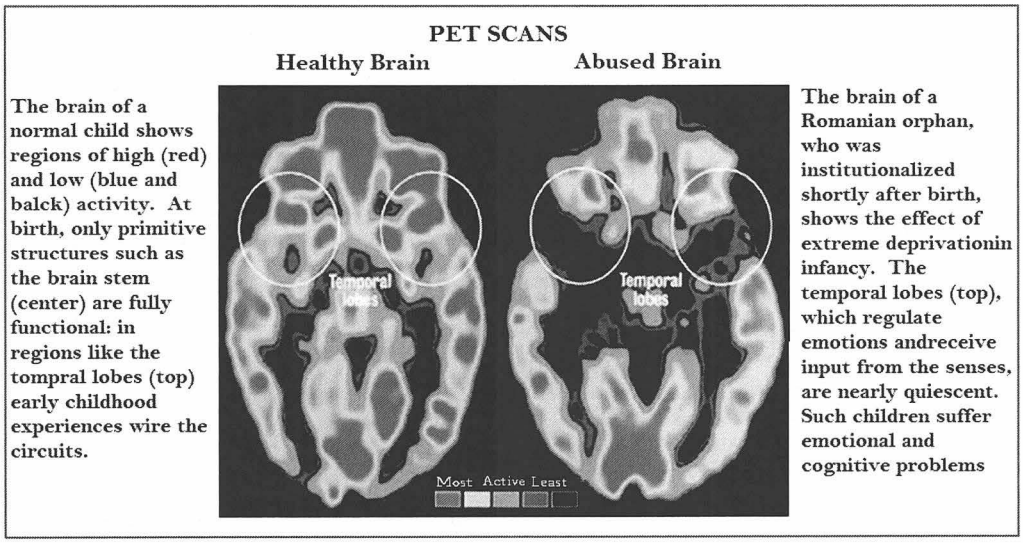
Sir Bradford Hill's - 9 criteria for establishing an argument for causation[xviii]

1. Demonstration of a strong association between causative agent and outcome
2. Consistency of findings across research sites and methods
3. Specificity
4. Temporal sequence
5. Biological gradient
6. Biological plausibility
7. Coherence
8. Experiential evidence
9. Analogous evidence

The understanding that ACEs lead to costly outcomes is key to achieving savings through ACE reduction efforts. The commentary, while dated (2005), if rewritten, could further expand on the neurobiological research cited and augment the case for causation, with research from the field of epigenetics.

The changes in the brain and gene expression (epigenetics)[xix] of individuals who experience emotional and physical trauma are the underlying basis for these arguments. Scientists can show the consequences of trauma on the brain through new technologies. Research studies show that there are structural changes which occur in a person's brain and body as a result of trauma. This material provides new opportunities to alter poor outcomes as a better understanding of the mechanisms of the impacts of trauma exposure are understood. The well-known graphic comparing brain scans of a Romanian orphan who was severely neglected compared with a normally developing child is shown in **Figure 5** below and illustrates the impacts of trauma.

Figure 5[xx]



Population Attributable Risk [xxi]

Population attributable risk is a well-established method in epidemiology of determining the percentage of an outcome which is linked back to a precursor – in this case - ACEs. **Table 4** below represents the calculations of population attributable risks associated with a number of economic, social and health outcomes as reported by Alaskan adults. For example, if all ACEs could be eliminate then it would be expected that 40% fewer Alaskan adults would be enrolled in Medicaid or there would be 32% percent fewer smokers. This table begins to hint at the potential savings available to Alaskans with a successful ACE prevention program in place.

The items in **Table 4** are from Alaska-specific research. Additional studies in various populations explored other health links to ACEs which were not studied in Alaska suggest population attributable risks which further bolster the argument for primary ACE prevention in Alaska and in other populations. For example, the population attributable risk for adolescent suicide attempts as a result of ACEs was 80% while in adults 68% in one study [xxii].

Eliminating all ACEs is not a realistic goal for a policy discussion. However, the research offers some guidelines which may be especially helpful in developing a coordinated approach to effective service arrays, prevention and intervention efforts.

Table 4

Health Behavior or Outcome	PAR%*
Frequent Mental Distress	60.1%
Chronic Obstructive Pulmonary Disease, Emphysema or Chronic Bronchitis	46.1%
Health Insurance: Medicaid	40.6%
Physical Health Not Good 14+ Days	33.2%
Current Smoker	32.0%
Current or Former Asthma	30.6%
General Health	26.8%
Non-Gestational Diabetes	23.7%
Activity Limitation 14+ Days	23.7%
Heavy Alcohol Consumption	20.5%
Ever Smoker	19.3%
Told Have Arthritis	15.8%
Insufficient Sleep	15.5%
Obesity	14.3%
Separated or Divorced	13.2%
Binge Drinking Risk Factor	11.0%
No Leisure Time Physical Activity	10.2%

A Caution for Individuals & Policy Makers

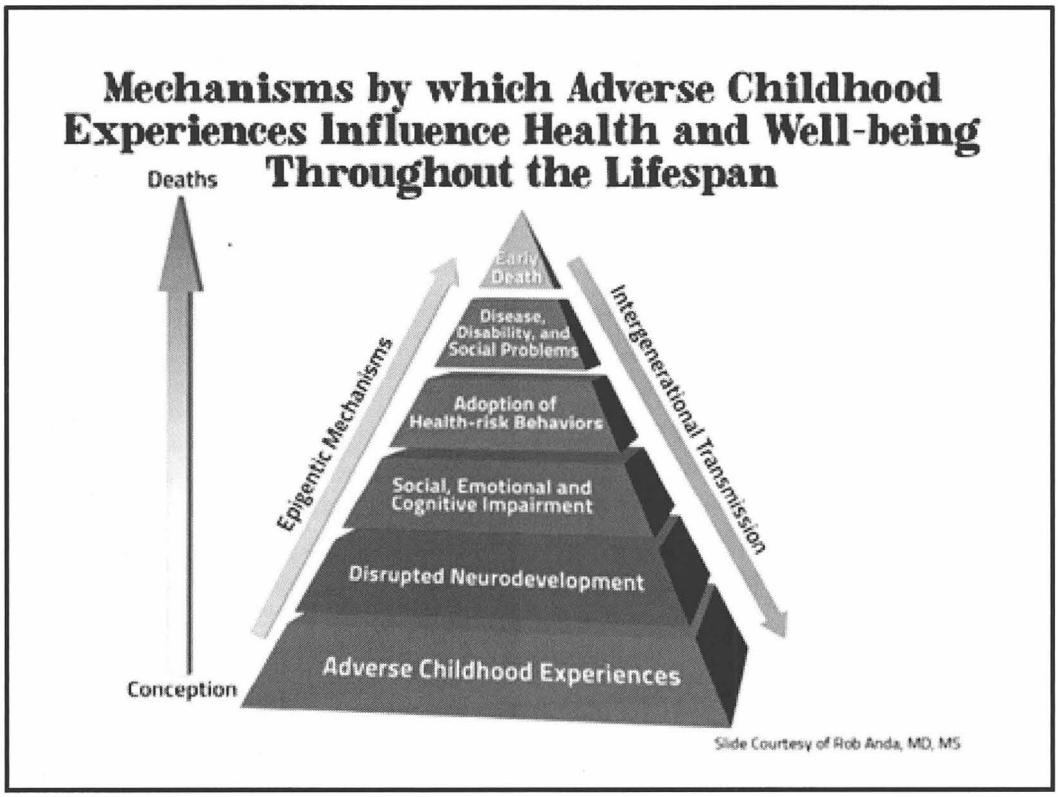
ACE research shows powerful relationships between exposure to ACEs and poor outcomes. These are important findings, but they do not predict specific outcomes for **individuals**. A person may be exposed to several ACEs and not experience the negative effects linked to ACEs. Conversely a person with no ACE exposure may develop some of the negative health outcomes associated with early trauma exposure. Because of unique biological or environmental conditions, some people are able to avoid poor outcomes (just like a person may develop lung cancer having never smoked or a person who smoked for 60 years does not develop lung cancer). Thus, ACEs research is most useful at the population level.

Policy makers must understand that while individual differences occur, these differences in outcomes should not be used to discount the overwhelming evidence and costs associated with ACEs. The strength of ACE study data is that it is **best suited** to inform how to effectively allocate resources. While individuals may vary in results - changing the ACEs for a population will pay dividends as shown below.

A New Paradigm

Recently, Dr. Rob Anda released a new ACE pyramid graphic (**Figure 6**). This representation of the ACE progression removes the "scientific gaps" seen in Figure 3 above. With the addition of research results from neurobiology and epigenetics, the mechanisms which lead from ACEs to poor health outcomes are better understood – and expanding rapidly. This graphic also brings into the discussion the idea of intergenerational transmission of ACEs. Some of the poor outcomes associated with ACEs, such as substance abuse and depression, can, if untreated, become ACEs for the next generation.

Figure 6



This new paradigm may lead in a different direction. Given what is known about the impact of trauma on developing brains and the physiological resources (**Figure 7**, below) needed to "rewire" them if damaged by toxic levels of stress, a different approach is warranted. James Heckman and others have shown that it is not just high levels of physiological resources which need to be used to fix trauma – it is also economic resources.[xxiii] **What would a primary prevention effort do for Alaskans, both economically and socially?** Alaska expends significant resources on corrections ($278 million in unrestricted general funds in 2016.[xxiv]), substance abuse ($1.2 billion annually of public and private costs.[xxv]), chronic health conditions (see below) and other issues related to ACEs.

Figure 7[xxvi]

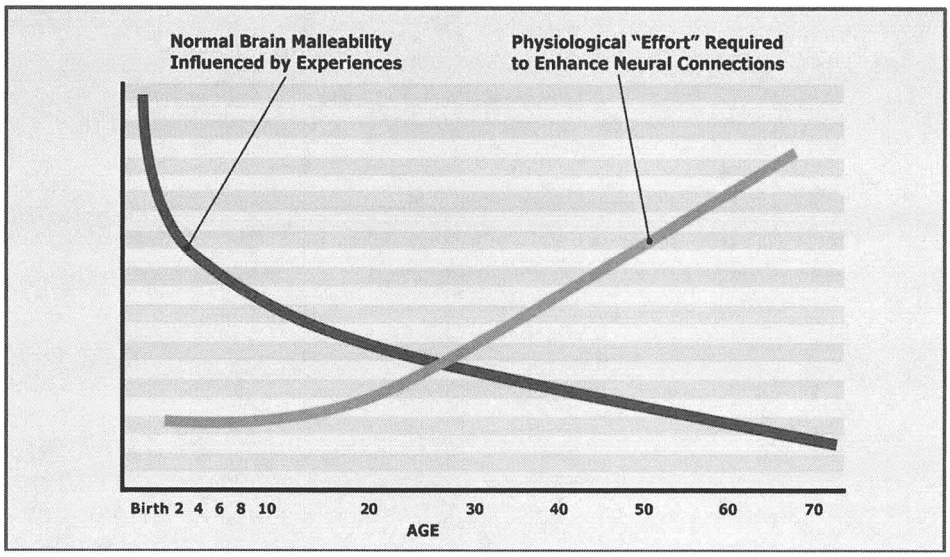


Figure 7 also gives insight into the time which is most productive to intervene if ACEs have occurred. Infants and young children require fewer physiological and economic resources to support their brains after trauma. Yet, they are the most susceptible to its effects. While intervening at any age can be effective, the younger the person is when treated after trauma the better the likelihood that the outcome will be positive with fewer resources needed.

Figure 8[xxvii]

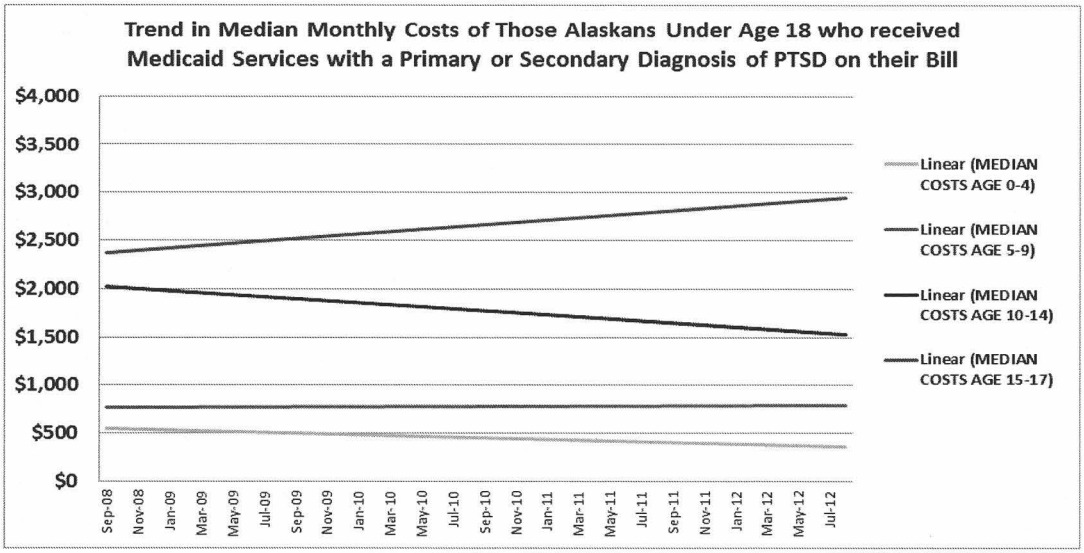


Figure 8 shows an analysis of Medicaid costs for children and youth with a PTSD diagnosis conducted by the Alaska Mental Health Board staff. It shows that treating younger children with this trauma condition is significantly cheaper than treating it later in life. Even waiting until adolescence has additional costs associated with it.

Establishing a Goal for Primary Prevention of ACEs in Alaska

Because many states (**Figure 9**) which have conducted the same ACE survey of their adult population that Alaska has, there is a rich data source from which to draw. Choosing a state or two that have a better rate of ACEs than Alaska seems a sensible place to start when developing a target for ACE prevention.

After examining the data, Vermont and Arkansas have ACE scores that are better than Alaska's. Since they have already achieved a lower level of ACE scores, it is plausible that another state can do the same.

Figure 9[xxviii]

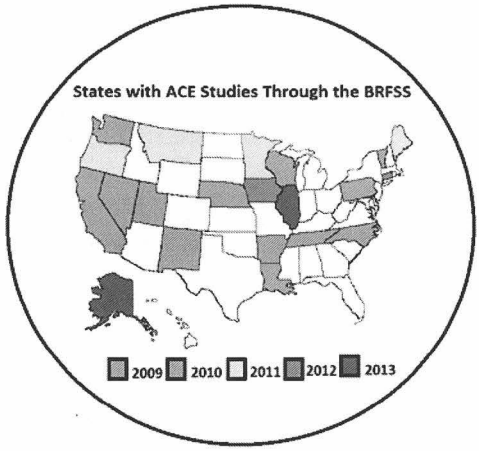
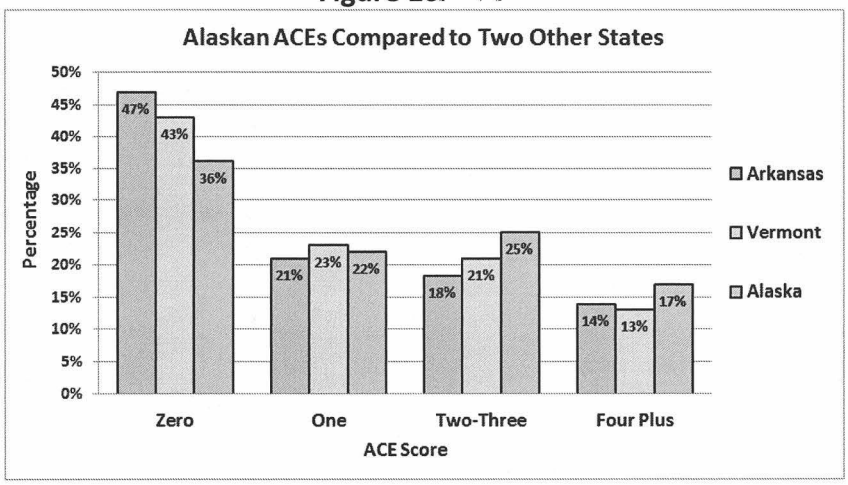


Figure 10 displays Alaska's rate of ACEs compared to Arkansas and Vermont, two states with relatively good ACE scores. The Zero ACE category is higher for the other two states. What would it take to get Alaska to the level of ACEs similar to Arkansas or Vermont?

Figure 10[xxix] [xxx]



To search the possibilities for ACE reduction the staff of the Alaska Mental Health Board and Advisory Board on Alcoholism and Drug Abuse explored several scenarios with population

based reductions in ACEs. A one ACE reduction for any Alaskan who had one was first examined, but proved too ambitious. Modeling a reduction of one ACE for half of the individuals at each level of ACE score was done. For example, if half the people with one ACE dropped to no ACEs while the other half remained at one and if half the Alaskans with two ACEs dropped to one ACE and the other half stayed at two, etc. (**Table 5**).

Table 5

ACE Score	2013 Adult Alaska Population	%	ACE Score Target Reduction	%
Zero	194,275	35.6%	255,250	46.8%
One	121,950	22.3%	101,002	18.5%
Two	80,053	14.7%	67,699	12.4%
Three	55,345	10.1%	45,382	8.3%
Four	35,419	6.5%	30,554	5.6%
Five	25,689	4.7%	20,428	3.7%
Six	15,166	2.8%	14,324	2.6%
Seven	13,482	2.5%	8,930	1.6%
Eight	4,378	0.8%	2,189	0.4%
	545,757	**100.0%**	**545,757**	**100.0%**

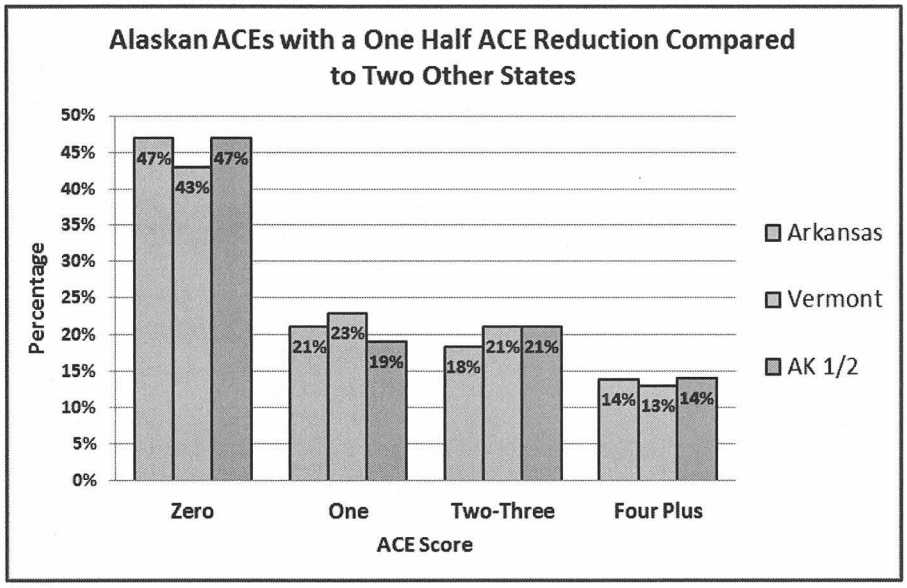
Table Six simplifies Table Five into a more manageable format and groups the higher ACE scores together. This allows for a simpler format and is in line with how most ACE data are presented across the many studies.

Table 6

ACE Scores of 2013 Adult Alaska Population			ACE Scores of 2013 Adult Alaska Population with Reduction	
Zero	194,275		Zero	255,250
One	121,950		One	101,002
Two - Three	135,398		Two - Three	113,081
Four Plus	94,134		Four Plus	76,425
Total	545,757		Total	545,757

The results of that analysis generated **Figure 11** below, which would move Alaska into the realm of the other two states.

Figure 11



The changes necessary to achieve the level of the other two states are ambitious, but Alaska has some momentum in this area already. When comparing Alaska's ACE scores to a five state average, Alaska's younger generations compare more favorably, whether this is due to in-migration, better services, or an improved economy based on oil wealth. Compared to their peers in other states Alaskan elders had much rougher childhoods.

Current Costs and Potential Savings

In **Table 7** below, categories of five costly health conditions and adult use of Medicaid are outlined in terms of their estimated annual costs to Alaska. These costs are incurred by both the public and private sectors. For each one of these categories, a population attributable risk was calculated using the 2013 BRFSS data as they related to adverse childhood experiences. Those rates are shown and in the final column those rates are applied to the estimated annual costs to determine the expenditures associated for those categories linked with ACEs, In simple terms, if all ACEs were eliminated nearly $800 million dollars of annual costs would be eliminated from Alaska's expense column for these six health measures.

Table 7*

Population Attributable Risk for ACEs			
Health Behavior or Outcome	**Estimated Annual Costs***	**Percentage of Population Attributable Risk****	**Estimated Annual Costs Linked to ACEs*****
Adult Medicaid (Age 20+)	$ 860,000,000	40.6%	$ 349,160,000
Current Smoker	$ 579,000,000	32.0%	$ 185,280,000
Non-Gestational Diabetes	$ 450,000,000	23.7%	$ 106,650,000
Binge Drinking	$ 545,000,000	11.0%	$ 59,950,000
Arthritis	$ 274,000,000	15.8%	$ 43,292,000
Obesity	$ 219,000,000	14.3%	$ 31,317,000
Total	**$ 2,927,000,000**		**$ 775,649,000**

Again, completely eliminating ACEs is an unrealistic goal. But what might a primary prevention effort with realistic goals be able to accomplish in Alaska? A change in rates of ACEs in Alaskan adults which moves the state to similar rates achieved in Arkansas and Vermont will be explored below.

* For the source of each health behavior or outcomes costs see the individual analysis of the individual items below.

** These population attributable risks were calculated for this report by the Alaska Department of Health and Social Services, Division of Public Health, Section of Chronic Disease Prevention and Health Promotion from the Alaska ACE data captured in the 2013 BRFSS

*** These cost were calculated by multiplying the two adjacent columns

Creating an ACEs Ledger

In order to answer the questions about how a reduction in ACEs in the past might have impacted Alaska today, an ACE Ledger was developed (**Table 8**). The **first column** describes several health outcomes linked to ACEs for which there is Alaska-specific annual costs data available. Additionally Alaskan adults were asked about these conditions in the 2013 BRFSS and their answers can be cross-tabbed with their ACEs scores.

The **second column** will show an estimated number of Alaskans who experience each condition based on the 2013 BRFSS and 2013 Census estimate of Alaskan adults. The **third column** will be filled out using cost estimates for Alaska of these specific health issues as calculated by various academic and government agencies.

The **fourth column** will be calculated by dividing column three by column two to estimate an annual per person cost of each health issue. The **fifth column** will be based on overlaying the reduction of one ACE for one half of the Alaskan adult population on top of the 2013 BRFSS results. This number will be the estimated number of fewer Alaskan who would be experiencing each health measure if ACE scores had been lower. Finally, an estimated saving will be calculated by multiplying columns 4 and 5 in **column six**.

This ledger below will be completed to demonstrate estimated cost savings with a realistic reduction in ACE scores.

Table 8

One	Two	Three	Four	Five	Six
Issue	Number of Alaskans	Total Costs	Average Annual Costs	Target Reduction	Estimated Savings
Medicaid	0	$0	$0	0	$0
Current Smoking	0	$0	$0	0	$0
Diabetes	0	$0	$0	0	$0
Binge Drinking	0	$0	$0	0	$0
Arthritis	0	$0	$0	0	$0
Obesity	0	$0	$0	0	$0

Alaskan Adults Who Use Medicaid

According to the Alaska Department of Health and Social Services $860 million was spent on Alaskan adults aged 20 or older in 2012 in the Medicaid program.[xxxi] These costs were spread over approximately 53,800 Alaskans. When dividing those two figures, an annual per person cost of nearly $16,000 is calculated. Because of the nature of the 2013 BRFSS survey (which does not survey people who are institutionalized and which is conducted in a way that makes surveying people in home and community based services more difficult), the survey results only estimated the adults using Medicaid at approximately 34,500. The following estimates will be based on these lower figures to keep them in the conservative range.

Tables 9, 10, and 11, below display the results of the 2013 BRFSS survey in combination with the 2013 Census estimates for Alaska. **Table 9** is the current estimated ACE levels for adults and the goal estimate of ACEs with successful primary prevention. **Table 10** is the percentage of the Alaskans who reported using Medicaid by ACE score. **Table 11** is calculated by multiplying Table 9 and Table 10's current estimates by goal estimates respectively.

Table 9			Table 10	Table 11	
ACE Score	Population		Adult Medicaid	Medicaid Recipients	
	Current Estimate	Goal Estimate		Current Estimate	Goal Estimate
Zero	194,275	255,250	3.8%	7,382	9,700
One	121,950	101,002	5.9%	7,195	5,959
Two-Three	135,398	113,081	8.0%	10,832	9,046
Four Plus	94,134	76,425	9.7%	9,131	7,413
Total	545,757	545,758		34,540	32,118

The resulting estimated reduction in the number of Alaskans who use Medicaid is 2,422 people if ACE scores were lower. This represents approximately a 7% reduction. Putting these calculations into the ACE Ledger below, the annual savings which Alaska could realize if it had levels of ACE scores like Vermont or Arkansas would be approximately $39 million.

Table 12

Issue	Number of Alaskans	Total Costs	Average Annual Costs	Target Reduction	Estimated Savings
Medicaid	53,800	$860,000,000	$15,985	2,422	$38,715,670

Alaskan Adults who Currently Smoke

According to the State of Alaska publication Alaska Tobacco Facts 2012,[xxxii] $576 million was spent on Alaskans as a result of tobacco use. A choice was made to use the current smoking figure in this calculation because the 2013 BRFSS data show that not only are people with higher ACE scores at greater risk for ever smoking they are also less likely to have quit if they ever started. These costs were spread over approximately 115,200 Alaskans. When dividing those two figures, an annual per person cost of approximately $5,000 was calculated.

Tables 13, 14, and 15, below display the results of the 2013 BRFSS survey in combination with the 2013 Census estimates for Alaska. **Table 13** is the current estimated ACE levels for adults and the goal estimate of ACEs with successful primary prevention. **Table 14** is the percentage of the Alaskans who reported being current smokers by ACE score. **Table 15** is calculated by multiplying Table 13 and Table 14's current estimates by goal estimates respectively.

Table 13			Table 14	Table 15	
ACE Score	Population		Current Smoking	Currently Smoke	
	Current Estimate	Goal Estimate		Current Estimate	Goal Estimate
Zero	194,275	255,250	14.4%	27,901	36,658
One	121,950	101,002	18.3%	22,298	18,468
Two-Three	135,398	113,081	24.1%	32,564	27,196
Four Plus	94,134	76,425	34.5%	32,481	26,371
Total	545,757	545,758		115,244	108,693

By changing the base rate of the ACEs in **Table 13** and leaving **Table 14** as it is - then **Table 15** is determined by multiplying Table 13 and Table 14. The results show a reduction of those currently smoking by 6,551 people

Adding these calculations into the ACE Ledger below (**Table 16**) the annual savings which Alaska could realize if it had levels of ACE scores like Vermont or Arkansas is approximately $33 million.

Table 16

Issue	Number of Alaskans	Total Costs	Average Annual Costs	Target Reduction	Estimated Savings
Current Smoking	115,244	$579,000,000	$5,024	6,551	$32,912,224

In order to calculate a total using the first two measures there is a need to eliminate "double counting" of costs. For example, some of the costs associated with current smokers are accounted for by people who are on Medicaid and currently smoke. By leaving the Medicaid calculation intact and removing the people who are on Medicaid from those Alaskans who currently smoke a **net potential savings of $69,558,006** between these **two categories is calculated**, as seen in **Table 17** below.

Table 17

Issue	Total 2013 BRFSS	With Reduction of ACEs	Percentage Unduplicated	Number of Alaskans Unduplicated*	Total Costs of Unduplicated Alaskans**	Average Annual Costs***	Target Reduction Unduplicated*	Estimated Savings*
Medicaid	53,800	51,378	100.0%	51,378	$821,277,330	$15,985	2,422	$38,715,670
Current Smoking	115,244	108,693	93.7%	101,893	$511,910,432	$5,024	6,139	$30,842,336

Unduplicated **$69,558,006**

*93.7% of people who reported currently smoking were not using Medicaid. These starred items were reduced by multiplying by the 93.7% figure in the "Percentage Unduplicated" column.

** Total costs of unduplicated Alaskans includes the reduction in ACES and the percentage unduplicated

*** Average annual per person costs remained the same for this analysis

Alaskan Adults Who Have Ever Been Diagnosed With Diabetes

According to an article in the journal Diabetes Care, *The Economic Costs of Diabetes in the U.S. 2012,*[xxxiii] the annual cost of Alaskans with diabetes is $450 million. Using the 2013 BRFSS an estimated 41,160 Alaskan adults had ever been diagnosed with diabetes. The average annual cost per person therefore is estimated at just under $11,000 ($450 Million/41,160).

Tables 18, 19, and 20, below display the results of the 2013 BRFSS survey in combination with the 2013 Census estimates for Alaska. **Table 18** is the current estimated ACE levels for adults and the goal estimate of ACEs with successful primary prevention. **Table 19** is the percentage of the Alaskans who reported being ever diagnosed with diabetes by ACE score. **Table 20** is calculated by multiplying Table 18 and Table 19's current estimates by goal estimates respectively.

Table 18			Table 19	Table 20	
ACE Score	Population		Diabetes	Diabetes	
	Current Estimate	Goal Estimate		Current Estimate	Goal Estimate
Zero	194,275	255,250	5.9%	11,522	15,139
One	121,950	101,002	6.7%	8,124	6,728
Two-Three	135,398	113,081	10.1%	13,725	11,506
Four Plus	94,134	76,425	8.3%	7,789	6,441
Total	545,757	545,758		41,160	39,814

By changing the base rate of the ACEs in **Table 18** and leaving **Table 19** as it is - then **Table 20** is determined by multiplying Table 18 and Table 19. The results show a reduction of those with diabetes by 1,346 Alaskans.

The ACE Ledger below (**Table 21**) displays the annual savings which Alaska could realize if it had levels of ACE scores like Vermont or Arkansas is approximately $14.7 million.

Table 21

Issue	Number of Alaskans	Total Costs	Average Annual Costs	Target Reduction	Estimated Savings
Diabetes	41,160	$450,000,000	$10,933	1,346	$14,715,743

Again, there is a need to eliminate "multiple counting" of costs. For example, some of the costs associated with diabetes are accounted for by people who are on Medicaid and/or currently smoking. By leaving the Medicaid calculation intact and removing the people who are current smokers from those Alaskans who receive Medicaid and then again removing those people with diabetes who fall into either category a **net potential savings of $78,938,520** between these **three categories is calculated**, as seen in **Table 22** below.

Table 22

Issue	Total 2013 BRFSS	With Reduction of ACEs	Percentage Unduplicated	Number of Alaskans Unduplicated*	Total Costs of Unduplicated Alaskans**	Average Annual Costs***	Target Reduction Unduplicated*	Estimated Savings*
Medicaid	53,800	51,378	100.0%	51,378	$821,277,330	$15,985	2,422	$38,715,670
Current Smoking	115,244	108,693	93.7%	101,893	$511,910,432	$5,024	6,139	$30,842,336
Diabetes	41,160	39,814	63.7%	25,376	$277,435,808	$10,933	858	$9,380,514

Unduplicated **$78,938,520**

*63.7% of people who reported diabetes were not currently smoking or using Medicaid. These starred items were reduced by multiplying by the figure in the respective "Percentage Unduplicated" column.

** Total costs of unduplicated Alaskans includes the reduction in ACES and the percentage unduplicated

*** Average annual per person costs remained the same for this analysis

Alaskan Adults who Binge Drink

In an article in The Journal of Preventative Medicine titled *State Costs of Excessive Alcohol Consumption*[xxxiv] the annual cost of Alaskans who binge drink is $545 million. Using the 2013 BRFSS an estimated 98,152 Alaskan adults binge drink. The average annual cost per person is estimated at just over $5,500.

Tables 23, 24, and 25, below display the results of the 2013 BRFSS survey in combination with the 2013 Census estimates for Alaska. **Table 23** is the current estimated ACE levels for adults and the goal estimate of ACEs with successful primary prevention. **Table 24** is the percentage of the Alaskans who reported binge drinking by ACE score. **Table 25** is calculated by multiplying Table 23 and Table 24's current estimates by goal estimates respectively.

Table 23			Table 24	Table 25	
ACE Score	Population		Binge Drinking	Binge Drinking	
	Current Estimate	Goal Estimate		Current Estimate	Goal Estimate
Zero	194,275	255,250	16.0%	31,105	40,868
One	121,950	101,002	17.1%	20,880	17,294
Two-Three	135,398	113,081	19.6%	26,507	22,138
Four Plus	94,134	76,425	20.9%	19,659	15,961
Total	545,757	545,758		98,152	96,260

By changing the base rate of the ACEs in **Table 23** and leaving **Table 24** as it is - then **Table 25** is determined by multiplying Table 23 and Table 24. The results show a reduction of those binge drinking by 1,892 Alaskans.

The ACE Ledger below (**Table 26**) displays the annual savings which Alaska could realize if it had levels of ACE scores like Vermont or Arkansas is approximately $10.5 million.

Table 26

Issue	Number of Alaskans	Total Costs	Average Annual Costs	Target Reduction	Estimated Savings
Binge Drinking	98,150	$545,000,000	$5,553	1,892	$10,505,796

In order to calculate a total using these four measures there is a need to eliminate "multiple counting" of costs. A **net potential savings of $85,291,152** between these **four categories** can be calculated, as seen in **Table 27** below.

Table 27

Issue	Total 2013 BRFSS	With Reduction of ACEs	Percentage Unduplicated	Number of Alaskans Unduplicated*	Total Costs of Unduplicated Alaskans**	Average Annual Costs***	Target Reduction Unduplicated*	Estimated Savings*
Medicaid	53,800	51,378	100.0%	51,378	$821,277,330	$15,985	2,422	$38,715,670
Current Smoking	115,244	108,693	93.7%	101,893	$511,910,432	$5,024	6,139	$30,842,336
Diabetes	41,160	39,814	63.7%	25,376	$277,435,808	$10,933	858	$9,380,514
Binge Drinking	98,152	96,260	60.5%	58,219	$323,290,107	$5,553	1,144	$6,352,632

Unduplicated **$85,291,152**

*60.5% of people who reported binge drinking were not diabetic, currently smoking or using Medicaid. These starred items were reduced by multiplying by the figure in the respective "Percentage Unduplicated" column.

** Total costs of unduplicated Alaskans includes the reduction in ACES and the percentage unduplicated

*** Average annual per person costs remained the same for this analysis

Alaskan Adults Who Have Arthritis

According to **National and State Medical Expenditures and Lost Earnings Attributable to Arthritis and Other Rheumatic Conditions U.S. 2003**[xxxv] the annual costs of arthritis in Alaska is an estimated $274.7 million. While the figure is clearly dated, it gives a conservative estimate of today's costs for this common malady. Using the 2013 BRFSS an estimated 132,136 Alaskan adults have arthritis. The average annual cost per person is estimated at $2,453.

Tables 28, 29, and 30, below display the results of the 2013 BRFSS survey in combination with the 2013 Census estimates for Alaska. **Table 28** is the current estimated ACE levels for adults and the goal estimate of ACEs with successful primary prevention. **Table 29** is the percentage of the Alaskans who reported having arthritis by ACE score. **Table 30** is calculated by multiplying Table 28 and Table 29's current estimates by goal estimates respectively.

Table 28			Table 29	Table 30	
ACE Score	Population		Arthritis	Arthritis	
	Current Estimate	Goal Estimate		Current Estimate	Goal Estimate
Zero	194,275	255,250	20.4%	39,610	52,041
One	121,950	101,002	22.4%	27,280	22,594
Two-Three	135,398	113,081	25.9%	35,122	29,333
Four Plus	94,134	76,425	32.0%	30,125	24,457
Total	545,757	545,758		132,136	128,425

By changing the base rate of the ACEs in **Table 28** and leaving **Table 29** as it is - then **Table 30** is determined by multiplying Table 28 and Table 29. The results show a reduction of those with arthritis by 3,711 Alaskans.

The ACE Ledger below (**Table 31**) displays the annual savings which Alaska could realize if it had levels of ACE scores like Vermont or Arkansas is approximately $9.1 million.

Table 31

Issue	Number of Alaskans	Total Costs	Average Annual Costs	Target Reduction	Estimated Savings
Arthritis	132,136	$274,700,000	$2,453	3,711	$9,101,890

In order to calculate a total using these five measures there is a need to eliminate "multiple counting" of costs. A **net potential savings of $89,946,946** between these **five categories** can be calculated, as seen in **Table 32** below.

Table 32

Issue	Total 2013 BRFSS	With Reduction of ACEs	Percentage Unduplicated	Number of Alaskans Unduplicated*	Total Costs of Unduplicated Alaskans**	Average Annual Costs***	Target Reduction Unduplicated*	Estimated Savings*
Medicaid	53,800	51,378	100.0%	51,378	$821,277,330	$15,985	2,422	$38,715,670
Current Smoking	115,244	108,693	93.7%	101,893	$511,910,432	$5,024	6,139	$30,842,336
Diabetes	41,160	39,814	63.7%	25,376	$277,435,808	$10,933	858	$9,380,514
Binge Drinking	98,152	96,260	60.5%	58,219	$323,290,107	$5,553	1,144	$6,352,632
Arthritis	132,136	128,425	51.1%	65,674	$161,098,322	$2,453	1,898	$4,655,794

Unduplicated **$89,946,946**

*51.1% of people who reported having arthritis were not binge drinking, diabetic, currently smoking or using Medicaid. These starred items were reduced by multiplying by the figure in the respective "Percentage Unduplicated" column.

** Total costs of unduplicated Alaskans includes the reduction in ACES and the percentage unduplicated

*** Average annual per person costs remained the same for this analysis

Alaskan Adults who are Obese

The Institute for Social and Economic Research published a study in 2014 that estimated annual costs of adult obesity in Alaska were $219 million.[xxxvi] Using the 2013 BRFSS, an estimated 156,656 Alaskan adults are obese. The average annual cost per person is estimated at $1,398.

Tables 33, 34, and 35, below display the results of the 2013 BRFSS survey in combination with the 2013 Census estimates for Alaska. **Table 33** is the current estimated ACE levels for adults and the goal estimate of ACEs with successful primary prevention. **Table 34** is the percentage of the Alaskans who reported being obese by ACE score. **Table 35** is calculated by multiplying Table 33 and Table 34's current estimates by goal estimates respectively.

Table 33			Table 34	Table 35	
ACE Score	Population		Obesity	Obesity	
	Current Estimate	Goal Estimate		Current Estimate	Goal Estimate
Zero	194,275	255,250	24.6%	47,818	62,826
One	121,950	101,002	26.9%	32,835	27,195
Two-Three	135,398	113,081	32.9%	44,521	37,183
Four Plus	94,134	76,425	33.4%	31,482	25,559
Total	545,757	545,758		156,656	152,763

By changing the base rate of the ACEs in **Table 33** and leaving **Table 34** as it is - then **Table 35** is determined by multiplying Table 33 and Table 34. The results show a reduction of those who are obese by 3,893 Alaskans.

The ACE Ledger below (**Table 36**) displays the annual savings which Alaska could realize if it had levels of ACE scores like Vermont or Arkansas is approximately $5.4 million.

Table 36

Issue	Number of Alaskans	Total Costs	Average Annual Costs	Target Reduction	Estimated Savings
Obesity	156,656	$219,000,000	$1,398	3,893	$5,442,288

In order to calculate a total using these six measures there is a need to eliminate "multiple counting" of costs. A **net potential savings of $91,936,300** between these **six categories** can be calculated, as seen in **Table 37** below.

Table 37

Issue	Total 2013 BRFSS	With Reduction of ACEs	Percentage Unduplicated	Number of Alaskans Unduplicated*	Total Costs of Unduplicated Alaskans**	Average Annual Costs***	Target Reduction Unduplicated*	Estimated Savings*
Medicaid	53,800	51,378	100.0%	51,378	$821,277,330	$15,985	2,422	$38,715,670
Current Smoking	115,244	108,693	93.7%	101,893	$511,910,432	$5,024	6,139	$30,842,336
Diabetes	41,160	39,814	63.7%	25,376	$277,435,808	$10,933	858	$9,380,514
Binge Drinking	98,152	96,260	60.5%	58,219	$323,290,107	$5,553	1,144	$6,352,632
Arthritis	132,136	128,425	51.1%	65,674	$161,098,322	$2,453	1,898	$4,655,794
Obesity	156,656	152,763	36.6%	55,845	$78,071,310	$1,398	1,423	$1,989,354

Unduplicated **$91,936,300**

*36.6% of people who reported being obese were not arthritic, binge drinking, diabetic, currently smoking or using Medicaid. These starred items were reduced by multiplying by the figure in the respective "Percentage Unduplicated" column.

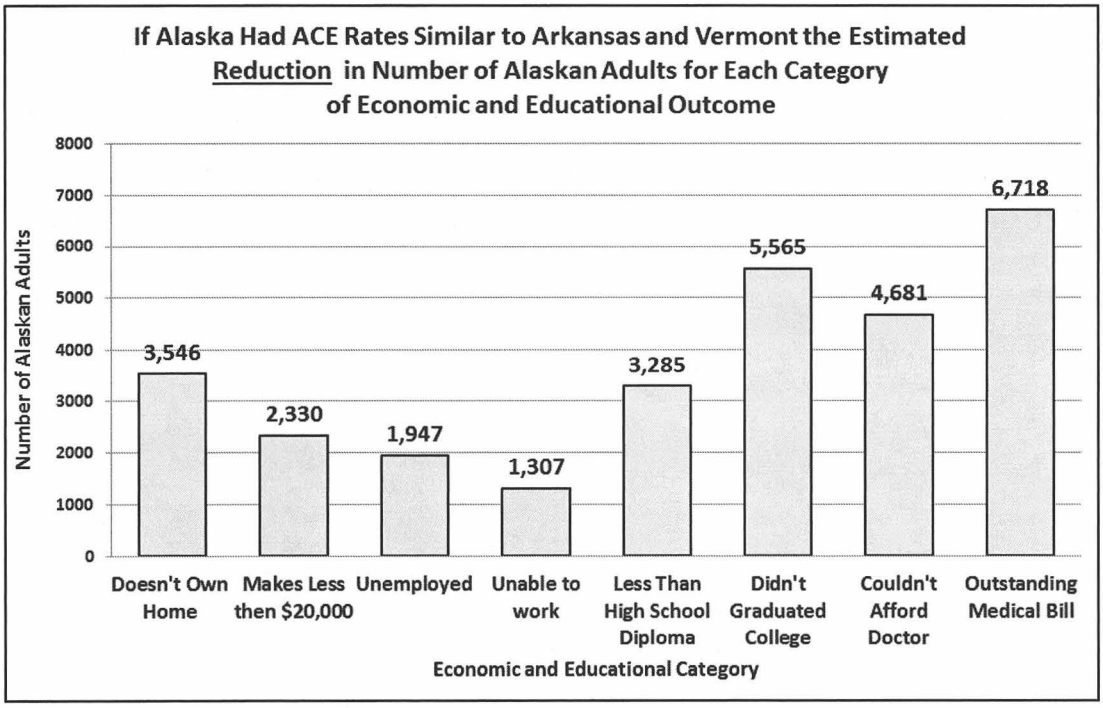
** Total costs of unduplicated Alaskans includes the reduction in ACES and the percentage unduplicated

*** Average annual per person costs remained the same for this analysis

ACEs are Costly

Whether it is the $82 million dollars estimated annual burden Alaskans take on each year for the costs during childhood of child abuse or the nearly $91 million Alaskans are paying now because Alaska's adults faced more adversity than some other Americans, ACEs are costly. These data demonstrate that a modest reduction of ACEs would have a profound impact on Alaska's government and private sector costs. While the six items explored in this document are high costs items, they don't begin to capture the many other poor outcomes associated with ACEs. **Cancer, suicide, heart disease, asthma, COPD** have all been linked to ACEs[xxxvii]. More potential areas for savings and increased economic contributions available, if ACEs are reduced, are outlined in **Figure 12** below.

Figure 12



The next steps are to explore those efforts around the state that prevent and mitigate the effects of ACEs and then take them to scale. There is solid evidence that various programs and ideas work[xxxviii]. Whether it be through faith-based organizations, community health efforts, government programs and services, or private employers – we can avoid many of the costs of social and economic issues Alaskans pay every day. **In times such as these - saving such as these - are hard to ignore.**

End Notes

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[viii] See The Upjohn Institute for Employment Research, Early Childhood section
[ix] See the Heckman Equation website
[x] Centers for Disease Control and Prevention, Adverse Childhood Experiences Reported by Adults – Five States 2009, 2010
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[xiv] Alaska Council on Domestic Violence and Sexual Assault, Alaska Men Choose Respect
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CDC Centers for Disease Control and Prevention
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Injury Prevention & Control : Division of Violence Prevention

The Adverse Childhood Experiences (ACE) Study is one of the largest investigations ever conducted to assess associations between childhood maltreatment and later-life health and well-being. The study is a collaboration between the Centers for Disease Control and Prevention and Kaiser Permanente's Health Appraisal Clinic in San Diego.

More than 17,000 Health Maintenance Organization (HMO) members undergoing a comprehensive physical examination chose to provide detailed information about their childhood experience of abuse, neglect, and family dysfunction. To date, more than 50 scientific articles have been published and more than100 conference and workshop presentations have been made.

The ACE Study findings suggest that certain experiences are major risk factors for the leading causes of illness and death as well as poor quality of life in the United States. It is critical to understand how some of the worst health and social problems in our nation can arise as a consequence of adverse childhood experiences. Realizing these connections is likely to improve efforts towards prevention and recovery.

Publications by

- Health Outcome
- Year

Data and Statistics

- Prevalence
- Participant Demographics

Learn About the ACE Study

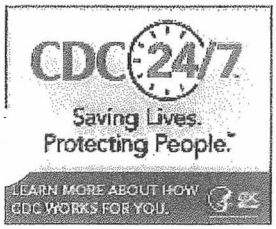
The initial phase of the ACE Study was conducted at Kaiser Permanente from 1995 to 1997. More than 17,000 participants completed a standardized physical examination. No further participants will be enrolled, but we are tracking the medical status of the baseline participants.

More >

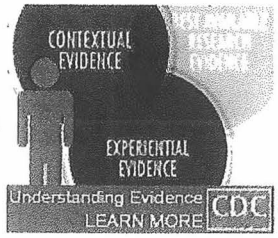
Featured Items

Podcast: Bad Memories (http://www2c.cdc.gov/podcasts/player.asp?f=4504243)

New Paper: Adverse Childhood Experiences reported by adults—Five States, 2009 (http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5949a1.htm)



(http://www.cdc.gov/24-7/?s_cid=24-7_012)



(http://vetoviolence.cdc.gov/evidence/#%26panel1-1)

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Content source: Centers for Disease Control and Prevention (http://www.cdc.gov/), National Center for Injury Prevention and Control (http://www.cdc.gov/injury/), Division of Violence Prevention (http://www.cdc.gov/ViolencePrevention/index.html)

FAMILY VIOLENCE PREVENTION FUND

HEALTH ALERT

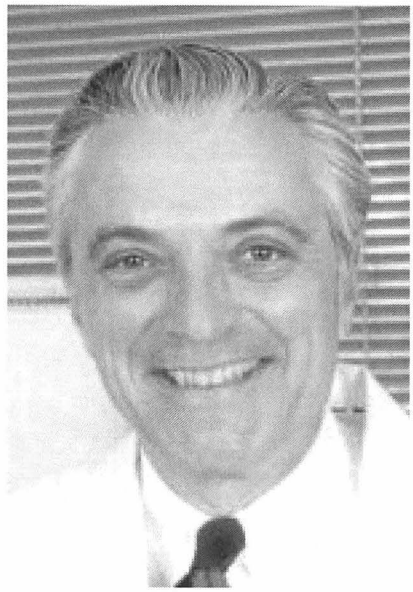
Volume 8, No. 1 Summer 2001

Reverse Alchemy in Childhood: Turning Gold into Lead

By Vincent J. Felitti, MD

The Adverse Childhood Experiences (ACE) Study

The Adverse Childhood Experiences Study is a major piece of medical research that compares current adult health to childhood experiences decades earlier. The findings are important medically, socially, and economically. They provide a remarkable insight into how we become what we are as individuals and as a nation. The ACE Study reveals a powerful relationship between our emotional experiences as children and our adult emotional health, physical health, and mortality. Moreover, the time factors in the Study make it clear that time does not heal some of the adverse experiences we found so common in the childhoods of a population of middle-aged, middle class Americans. One doesn't 'just get over' some things.



How does one perform reverse alchemy, going from a normal newborn with almost unlimited potential to a diseased, depressed adult? How does one turn gold into lead? The ACE Study was triggered by observations we made in the mid 1980s in an obesity program at Kaiser Permanente's San Diego Department of Preventive Medicine. This program had a high dropout rate, and the first of many counterintuitive findings was that the great majority of these dropouts actually were successfully losing weight. Detailed life interviews of almost 200 such individuals revealed that childhood abuse was remarkably common and antedated the onset of their obesity. Many patients spoke openly of an association between the two. The counterintuitive aspect was that for many people obesity was not their problem; it was their protective solution to problems that previously had never been discussed with anyone. An early insight was the memorable remark of a woman who was raped at twenty-three and gained 105 pounds in the year subsequent: "Overweight is overlooked and that's the way I need to be." The contrast was striking between this statement and her desire to lose weight.

Continued on page 2

With the increasing attention to examining the effects of witnessing domestic violence on children and the many complicated issues it presents for health care providers, domestic violence advocates, and policy makers, this issue of Health Alert is dedicated to discussing this critical issue. We begin by highlighting the groundbreaking Adverse Childhood Experiences (ACE) Study with this article by Vincent Felitti, MD, which shows a clear link between exposure to abuse or household dysfunction, including witnessing violence against mothers and multiple risk factors for several of the leading causes of death in adults, and calls us to engage in early screening and intervention in families for the sake of mothers and children. Betsy McAlister Groves, MSW, LICSW, then offers us insight for how these findings are important and cautions us on the complicated issues faced when responding to domestic violence in homes with children. We have included excerpts from the "Children: The Hidden Victims of Domestic Violence" plenary session from the 2000 National Conference on Health Care and Domestic Violence that also add valuable insight to this discussion.

–Peter Sawires, FVPF

Reverse Alchemy in Childhood...

Continued from previous page

Similarly, two men who were guards at the State Penitentiary became anxious after each losing over one hundred pounds. They made it clear that they felt much safer going to work looking big as a refrigerator rather than normal size. Overall, we found the simultaneous presence of opposing forces to be common; many of our weight program patients were driving with one foot on the brakes and one on the gas, wanting to lose weight but fearful of change.

In 1990 in Atlanta, I presented information about the frequent relationship of obesity and abusive childhood experiences to a largely skeptical audience at the North American Association for the Study of Obesity. Unexpectedly, this led to contacts with researchers at the Centers for Disease Control and Prevention who recognized the importance of what had been reported. They proposed a large epidemiological study to provide definitive evidence of our clinical observations. This was the beginning of the Adverse Childhood Experiences Study that was carried out in the Department of Preventive Medicine where we had been carrying out detailed biomedical, psychological, and social (biopsychosocial) evaluations of over 50,000 adult Kaiser Health Plan members each year. It was relatively easy to ask 30,000 adults coming through the Department if they would be interested in helping us understand how childhood events might affect adult health status. Seventy-one percent agreed to, understanding the information they provided about their childhoods would never be in their medical records.

The ACE Study compared the current adult health status of these many thousands of participants to seven categories of adverse childhood experience that we frequently identified in the weight program. Three categories were of personal abuse: recurrent physical abuse, recurrent emotional abuse, and sexual abuse. Four were categories of household dysfunction: growing up in a household with an alcoholic or a drug user; where someone was imprisoned; where someone was chronically depressed, mentally ill, or suicidal; and where the mother was treated violently. In addition, we decided to follow this large cohort for at least five years into the future to compare childhood experiences against adult pharmacy utilization, doctor office visits, Emergency Department use, hospitalization, and death. For purposes of analyzing the huge mass of information we gathered, an ACE Score was constructed. An individual exposed to none of these categories had an ACE Score of zero; an individual exposed to any four had an ACE Score of four, etc.

Because the average participant was 57 years old, we actually measured the effect of these childhood experiences on adult health status a half-century later. The retrospective and prospective components of the Study were designed with great skill by Robert Anda MD, my co-principal investigator at CDC. Here I will only touch upon some highlights of our findings; details may be sought in the anchor article of a series of publications deriving from the ACE Study. The initial article was published in May 1998 in the *American Journal of Preventive Medicine*, v.14:245-258; full text is at their web site: http://www.meddevel.com/site.mash?left=/library.exe&m1=4&m2=1&right=/library.exe&action=search_form&search.mode=simple&site=AJPM&jcode=AMEPRE

Adverse Childhood Experiences are Common and Dramatically Affect Adult Health

Our first finding was that adverse childhood experiences are vastly more common than acknowledged. Of equal importance was our observation that they had a powerful correlation to adult health a half century later. It is this combination that makes them so important. Slightly more than half of our middle class American population experienced one or more of the categories we studied. One in four were exposed to two categories of abusive experience, one in sixteen to four categories. Given an exposure to one category, there is 80% chance likelihood of exposure to another. All this, of course, is well shielded by social taboos against obtaining this information. Furthermore, one may miss the forest for the trees if one studies these issues individually. They do not occur in isolation; for instance, a child does not grow up with an alcoholic or domestic violence in an otherwise ideal household.

The Family Violence Prevention Fund (FVPF) is a national non-profit organization focusing on domestic violence prevention,education and public policy reform. Founded in 1980,the FUND has developed pioneering stategies to address the problem of domestic violence in the justice, health care, child welfare, workplace and communication fields.

FAMILY VIOLENCE PREVENTION FUND

HEALTH ALERT PROJECT COORDINATORS
Fran Navarro and Peter Sawires

DESIGN AND LAYOUT
ZesTop

NATIONAL HEALTH INITIATIVE ON DOMESTIC VIOLENCE STAFF

Debbie Lee Director of Health

Lisa James, Anna Marjavi, Fran Navarro, Erika Rodriguez, Peter Sawires, Rebecca Whiteman and Parry Wu

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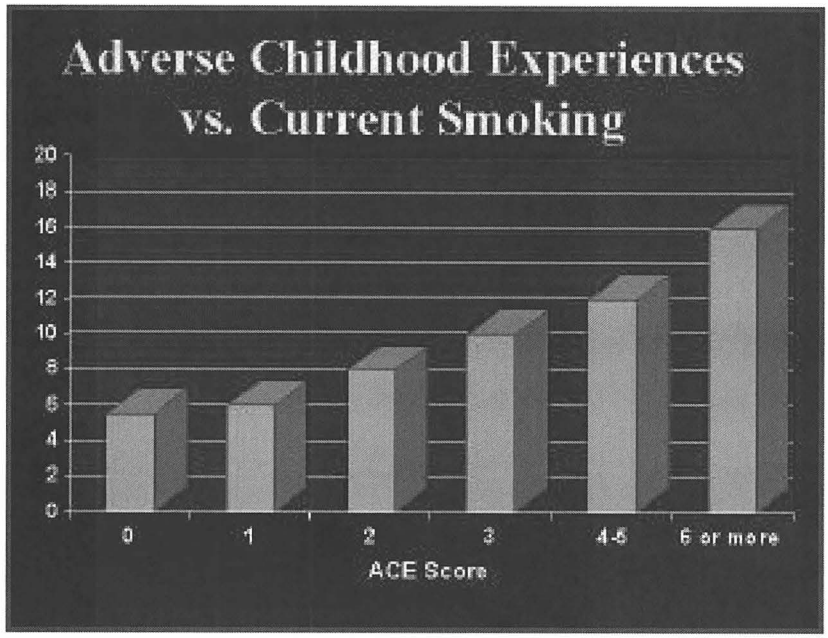
How will these childhood experiences play out decades later in a doctor's office?

Smoking is a useful starting example to illustrate what we found; moreover, it provides us with a minimally threatening topic. In California there are now profound social pressures against smoking; persisting in the face of these is often attributed to 'addiction'. Did you know that current smoking has a high degree of association with what happened decades ago in childhood? Here is a graphic illustration of how the ACE Score has a graded, dose-response effect on the probability of current smoking. The higher the ACE Score, the greater the likelihood of current smoking. This graded, dose-response effect is present for all the associations we found, although I will only present three. All the relationships have a p value of .001 or less.



Lest one doubt the significance of this, we found that chronic obstructive pulmonary disease (COPD, emphysema) has a strong relationship to the ACE Score. A person with a mid-range ACE Score of four is 390% more likely to have COPD than is a person with an ACE Score of zero. What does this do to the conventional concept of smoking that attributes addiction to characteristics that are intrinsic within nicotine? We instead found 'addiction' attributable to characteristics that are intrinsic in early life experiences. If early emotional stresses predict COPD, is COPD properly understood as a psychosomatic condition? Are certain common chronic diseases the result of attempts at self-treatment of concealed problems?

When we looked at self-defined current depression, we found that an individual with an ACE Score of four or more was 460% more likely to be suffering from depression than an individual with an ACE Score of zero. Should one doubt the reliability of this, we found that there was a 1,220% increase in the history of attempted suicide between these two groups. At higher ACE Scores, the prevalence of attempted suicide increases twenty-thirty fold. Using the analytic technique of population attributable risk, we found that about 80% of attempted suicides could be attributed to adverse childhood experiences.

Intravenous drug use is a major public health problem. In spite of massive efforts to curtail it, little progress has been made. We saw that iv drug use may properly be viewed as a personal solution to problems that are well concealed by social niceties and convention. For instance, a male child with an ACE Score of six has a 4,600% increase in the likelihood of later becoming an iv drug user. This relationship to adverse childhood experiences is powerful and graded at every step; it provides an exemplary dose-response curve. Since no one shoots heroin to get endocarditis or AIDS, might it be used for relief of profound anguish dating back to childhood experiences; might it be the best coping device an individual can find? If so, is this a public health problem or a personal solution? How often are public health problems personal solutions? Is drug abuse self-destructive or is it a desperate attempt at self-healing, albeit at a significant future cost? This is an important point because primary prevention is far more difficult than anticipated. Is this because incomplete understanding of the benefits of so-called health risk behaviors leads them to be viewed as irrational and having solely negative consequences? Does this leave us mouthing cautionary platitudes instead of understanding the cause of our intractable public health problems?

Beyond these three examples, we found many other measures of adult health to have a strong, graded relationship to what happened in childhood: hepatitis, heart disease, fractures, diabetes, obesity, alcoholism, occupational health, and job performance. These are detailed in the original and subsequent articles and will further be reported in publications of the yet-to-be-analyzed prospective arm of the ACE Study.

Early Intervention and Prevention Must be Engaged

What do these findings mean for medical practice and for society? Clearly, we have shown that adverse childhood experiences are both common and

Continued on page 4

destructive. This combination makes them one of the most important, if not the most important, determinants of the health and well being of the nation. Unfortunately, these problems are painful to recognize and difficult to deal with. Most physicians would far rather deal with traditional organic disease. Certainly, it is easier to do so, but that approach also leads to treatment failures and the frustration of expensive diagnostic quandaries where everything is ruled out but nothing is ruled in.

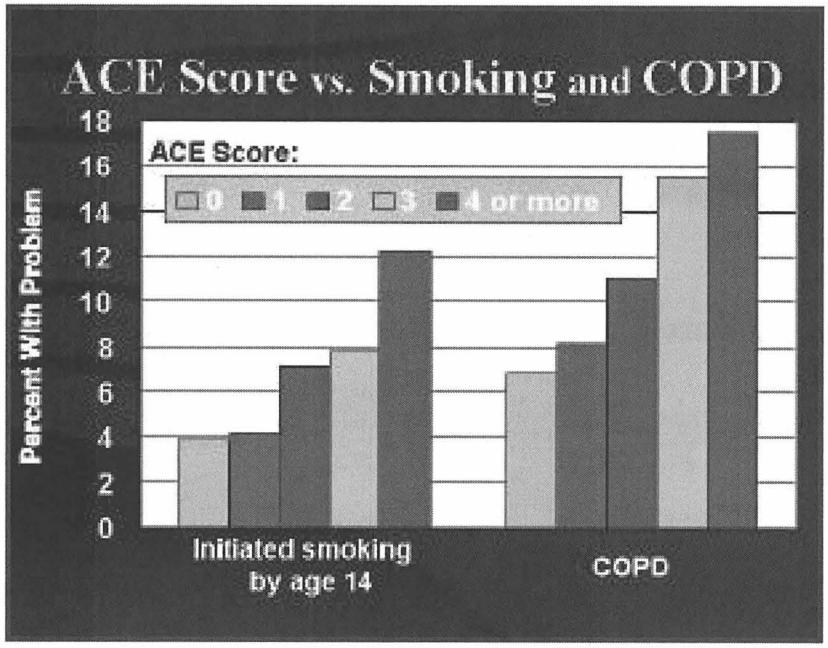
Our approach to many common adult chronic diseases reminds us of the relationship of smoke to fire. It is tempting initially to treat the smoke because that is the most visible aspect of the problem. What we have learned in the ACE Study represents the underlying fire. Fortunately, fire departments learned to distinguish cause from effect long ago; else, they would carry fans rather than water hoses to their work.

If the treatment implications of what we found in the ACE Study are far-reaching, the prevention aspects are positively daunting. The very nature of the material is such as to make one uncomfortable. Why would one want to leave the relative comfort of traditional organic disease and enter this area of threatening uncertainty that none of us have been trained to deal with? And yet, literally as I am writing these words, I am interrupted to consult on a 70 year old woman who is diabetic and hypertensive. The initial description given to me left out the fact that she is morbidly obese. Review of her chart shows her to be chronically depressed, never married, and, because we ask the question of 57,000 adults a year, to have been raped by her older brother six decades ago when she was ten. He also molested her sister who is said also to be leading a troubled life. We found that 22% of our Kaiser members were sexually abused as children. How does that affect a person later in life? That simple question is useful to ask patients, "How did that affect you later in life?"

What is this woman's diagnosis? Is she just another hypertensive, diabetic old woman or is there more to the practice of medicine? Here is the way we conceptualized her problems:

Childhood sexual abuse
Chronic depression
Morbid obesity
Diabetes mellitus
Hypertension
Hyperlipidemia
Coronary artery disease
Macular degeneration
Psoriasis

This is not a comfortable diagnostic formulation because it points out that our attention is focused on tertiary consequences, far downstream. It reveals that the primary issues are well protected by social convention and taboo. It points out that we have limited ourselves to the smallest part of the problem, that part where we are comfortable as mere prescribers of medication. Which diagnostic choice shall we make? Who shall make it? And, if not now, when?



Selected articles published from the ACE study include:

Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. Felitti, VJ, Anda, RF, Nordenberg, D, et al. *American Journal of Preventive Medicine* 1998 May; Vol 14 (4): 245-258

Adverse childhood experiences and smoking during adolescence and adulthood. Anda RF; Croft JB; Felitti VJ; et al. *JAMA* 1999 Nov 3; Vol 282 (17): 1652-1658

Unintended pregnancy among adult women exposed to abuse or household dysfunction during their childhood. Dietz PM; Spitz AM; Anda RF; et al. *JAMA* 1999 Oct 13; Vol 282 (14): 1359-1364

Adverse childhood experiences and sexually transmitted diseases in men and women: a retrospective study. Hillis SD; Anda RF; Felitti VJ; Nordenberg D; Marchbanks PA *Pediatrics* 2000 Jul; Vol 106 (1): E11

Vincent J. Felitti, MD is an internist, formerly doing infectious disease work, who created and ran for its first 25 years the Department of Preventive Medicine at Kaiser Permanente in San Diego.

ACE Study Offers Important Insights That Must be Approached Cautiously

Betsy McAlister Groves, MSW, LICSW

The Adverse Childhood Experiences (ACE) Study, authored by Vincent Felitti, Robert Anda, Dale Nordenberg, et. al. is important research, both because of the large cohort that was studied (drawn from a non-clinical sample of 30,000 members of the Kaiser Health Plan) and for its findings of a strong relationship between risk factors established in childhood and medical problems in later life. Felitti et al. also demonstrate the synergistic effect of these risk factors. Exposure to one adverse experience carries modest risk for adult health problems; exposure to four or more experiences carries a two-four-fold increase in smoking and poor self-rated health, and eight-twelve times the risk of alcoholism, depression and drug abuse. In addition, these risk factors often cluster in individuals: if a person had exposure to one experience, there is an 80% chance of exposure to another risk factor.

Of particular interest to those of us who work with families affected by domestic violence is the inclusion of exposure to violence against mother as one of the seven adverse experiences investigated. The study yields important data about the prevalence of childhood exposure to domestic violence and about the association of exposure to domestic violence with other risk factors for children. As we know, a child's exposure to domestic violence is highly correlated with direct physical abuse of the child, another factor included in Dr. Felitti's study. In his study, 12.5% of respondents indicated childhood exposure to domestic violence and 10.8% indicated a history of child abuse. This finding is an important addition to existing studies of childhood exposure to domestic violence, indicating that more than 10% of the adult population has grown up in homes in which women were the victims of physically assaultive behavior. The study also underscores the longer-term consequences of exposure to domestic violence and adult health and well-being. It reminds us that there are both direct and indirect victims of domestic violence: children suffer as the hidden victims of violence against women. It also reinforces what many advocates and survivors know all too well: that children's exposure to violence reverberates into adult life.

Implications for the Field

The ACE study suggests several priorities for policy and practice. First, we should re-double our efforts at primary prevention of violence against women. The benefits of preventing domestic violence are obvious for women and for the future health and well-being of their children. Efforts to provide education to teenagers about healthy relationships, to raise awareness of the issue, to engage communities in addressing violence against women, to hold perpetrators accountable for the violence are of paramount importance and should be a priority in funding. Indeed, Felitti's study helps to frame the challenge of prevention in public health and mental health terms that broaden the base of professionals who should engage in prevention efforts.

Second, we must develop strategies for early identification of and support for children who are exposed to domestic violence. As with any of the adverse child experiences cited in Felitti's study, early identification has the potential to be early intervention, thereby decreasing the risk of adverse health outcomes in adult life. Health care systems are an important setting for such screening and response. Almost all children see health providers and young children and their parents have frequent intersection with health care systems. Screening and intervention protocols for partner violence are used in adult medicine and obstetrics/gynecology practice. However, there is no standard for screening and almost no funding for services in pediatric settings. The results of the ACE study make a strong case for the importance of screening and responding to children in pediatric practices. Implementing strategies for identifying children and families affected by domestic violence are a priority, but they should be done with careful thought of the potential consequences of identification such as the quandary

Continued on page 6

that providers may face about mandatory reporting of identified children to child protection services.

We Must Move Forward Cautiously

As with most research, there are certain cautions to consider before translating this study's findings into policy or practice. In his first publication of the results, Fellitti reminds us that these results show correlation, not causation.[i] It is tempting to assume from this study that exposure to adverse childhood experiences directly causes health problems in later life. However, there are many intervening events and variables that mediate childhood exposure and later health problems in adults. Understanding more about the intervening variables is an important goal of continued research.

It is also important to consider that children are affected in a range of ways by exposure to adverse experiences, including domestic violence. There are factors in their genes, their temperaments and their environments that affect their ability to withstand stressful experiences. Both research and clinical experience demonstrate that not all children are doomed by growing up with domestic violence and that some children seem to withstand its effects better than others[ii]. The research agenda should focus on how and why some children are more resilient to adverse experiences.

A final caution should be reiterated about the use of the ACE study's findings about childhood exposure to domestic violence: in the zeal to protect children from the longer-term consequences of exposure adverse childhood experiences, we are tempted to enact policies that are punitive to women and in the long run, not helpful to children. For example, there have been tendencies to use studies that focus on childhood exposure to domestic violence to argue for increased penalties against mothers for "failure to protect" children. This has been particularly true with protective services policies, and is increasingly problematic for African Americans and other people of color who are over-represented in the system because of potential racial bias.[iii] A growing number of states have determined that exposure to domestic violence is grounds for removal of children from both their parents.[iv] In addition, some states are adding enhanced legal penalties for adults who commit assaults in front of a child. While these policies may be well intended, they have the troubling consequences of further punishing mothers, who are usually the direct victims of the violence, and they are not necessarily helpful to children. For example, children may be required to testify in court about what they witnessed in a domestic violence assault, or in cases of dual arrest, children may be separated from their mothers and unnecessarily placed in foster care further traumatizing the children. Additionally, with these policies in place many victims may be less willing to seek assistance for the violence, so that neither they nor their children receive much needed support and services.

"Implementing strategies for identifying children and families affected by domestic violence are a priority, but they should be done with careful thought of the potential consequences of identification"

In conclusion, the findings of the ACE study yield important confirmation of the prevalence of childhood exposure to domestic violence and to the association of this exposure with poor health and mental health outcomes for adults. The challenge for those who work with families affected by domestic violence is to renew our efforts to prevent violence against women and to advocate for implementation of policies that makes it easier to identify children who are at risk. At the same time, we must use caution in making certain that our practice and policy decisions do not ultimately create more harm than good.

Betsy McAlister Groves, MSW, LICSW, is the founding Director of the Child Witness to Violence Project at Boston Medical Center and Assistant Professor of Pediatrics at Boston University School of Medicine. She is the recipient of an Open Society Institute Fellowship and has lectured widely on children and violence. Publications include articles in the Journal of the American Medical Association, Pediatrics, Harvard Mental Health Letter and Topics in Early Childhood Special Education. She is a member of the Massachusetts Governor's Commission on Domestic Violence and has served as consultant to the Mass Department of Social Services, the Massachusetts Judicial Institute and Family Communications, Inc., producers of Mr. Rogers' Neighborhood.

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i Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Kiss MP, Marks JS. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine*, 14 (4), 245-258.

ii Edelson J.(2000). Is childhood exposure to adult domestic violence a form of child maltreatment? Paper delivered at the conference "Children and Domestic Violence", Washington DC, April 10, 2000.

iii Morton, T.D. (1999). The Increasing Colorization of America's Child Welfare System: The Overrepresentation of African-American Children. *Policy and Practice of Public Human Services* (formerly *Public Welfare*), 57(4), 23-30.

iv Sengupta S. (July 8, 2000). Tough Justice: Taking a child when one parent is battered. *New York Times*, p. A1 & A11.

Children: The Hidden Victims of Domestic Violence

Robert M. Reece, MD, Betsy McAlister Groves*, MSW, LICSW, Alicia Lieberman, PhD, Margaret McNamara, MD

Robert M. Reece, MD:

Dr. Vincent Felitti wrote in an editorial in *Pediatrics*, the journal of the American Academy of Pediatrics, "We are awash in a sea of violence in our society. There are over three million reported cases of child abuse in this country each year and up to 5,000 childhood fatalities resulting from child maltreatment. True statistics about domestic violence are a little harder to find because of a disparate reporting practice in the various reporting states, but a similar number is probable. It may even exceed that amount." This constitutes an epidemic in our society. We know that there are long and short-term effects secondary to family violence. We know that there are structural and functional changes to the brain itself. These come from the ravages of actual or threatened violence and increasingly we read scientific reports of similar changes in the brain from simply witnessing violence. We reviewed a paper just recently in the *Journal of the American Medical Association*, about home nurse visitation programs... This was a disturbing but also enlightening article in that it pointed out the fact that home health nurse visitation programs are not effective when there is domestic violence in the home... (Eckenrode, J., et al., "Preventing Child Abuse and Neglect With a Program of Nurse Home Visitation: The Limiting Effects of Domestic Violence," *JAMA*, 2000, Vol. 284, pages 1385 to 1391.)

The American Academy of Pediatrics has an official policy statement about domestic violence and the role of pediatricians in recognizing and intervening on behalf of abused women. It leads off by saying: "The abuse of women is a pediatric issue. The American Academy of Pediatrics and its membership recognizes the importance of improving the physician's ability to recognize partner violence as well as child abuse and other forms of family violence... The AAP recognizes that family and intimate partner violence is harmful to children." They go on to say that, "The AAP recommends that 1) Residency programs and continuing education program leaders incorporate education on family and intimate partner violence and its implications for child health into the curricula of pediatricians and pediatric emergency department physicians; 2) Pediatricians should attempt to recognize evidence of family or intimate partner violence in the office setting; 3) Pediatricians should intervene in a sensitive and skillful manner that maximizes the safety of women and children victims; and, 4) Pediatricians should support local and national multidisciplinary efforts to recognize, treat and prevent family and intimate partner violence." (Full policy available at http://www.aap.org/policy/re9748.html)

I would like to suggest that education of medical personnel should be one of the major emphases. We need to make this a central objective for the curricula in medical and nursing schools and in our residency training programs. Perhaps more important, we need to assure that those who are already in primary care practice are given the necessary education and training to perform this most important task.

Alicia F. Lieberman, PhD:

Children who were exposed to domestic violence have more than double the rate of psychiatric problems than other children. This is the case even after children no longer are exposed to ongoing violence... And a child being exposed to domestic violence is the major predictor for adults engaging in domestic violence...

It has been long believed that very young children do not understand violence or forget about violence. That is not the case... The way children express their problems with witnessing aggression varies with age, but even babies under one year of age respond to violence with excessive crying, failure to gain weight, difficulty being soothed, exaggerated startle responses, frozen posture, stiffness, sad and withdrawn facial expression and lack of interest in exploration... Toddlers and preschoolers show aggression to adults and peers, defiance, noncompliance... Toddlers who witness violence also often have a very interesting characteristic, which is that they become reckless and accident-prone... As you know, toddlers do have temper tantrums but the ones that witness violence are intractable and they go on and on and on and on... They have night terrors, difficulty going to sleep, intense separation anxiety, hypervigilance, multiple fears, emotional withdrawal, and on and on. School

Continued on page 8

children and adolescents show all the same behaviors, but also early and excessive experimentation with sexuality and with illegal substances, anger at authorities, school failure and criminal behavior...

That leads us to the question of intervention. There is an unnecessary and regrettable gap between women's advocacy groups and children's advocacy groups... It is often overlooked that a very high percentage of battered women are also mothers and that their sense of self-esteem when they cannot relate to their children, when their children are having trouble at school, when their children are having intractable tantrums in the supermarket, their self-esteem, their sense of competence, their sense of being skillful suffers greatly. So our program helps the women become mothers with a higher sense of competence and a higher sense of understanding of what their children do. What we are finding is that many women who suffer domestic violence have also suffered abuse and neglect when they were growing up... As many as 70% fit criteria for post-traumatic stress disorder... So that we cannot just help the children. We have to be aware of the problems of the mothers.

I will give you a quick example of a child, a four-year-old who had intractable tantrums in which he would say, "Kill me, mom, kill me. I want to die..." One time the child jumped on a high shelf and threatened to fall down, the therapist took the child down and said, "I cannot let you jump. I don't want you to get hurt." The child started having a terrible intractable tantrum, which the therapist could not contain on her own. She said to the mother, "Let's hold him together. He really needs our help in knowing that we need him to be safe." And the child kept screaming, "Kill me, mom, kill me. You don't love me." And the mother would say, "I love you. You know I love you, don't you?" And the child would say, "No. You call me stupid. You don't love me." And the mother would be frozen, without knowing how to respond. The therapist said, "You know, you need to say to him really strongly, 'I love you, I won't let you get hurt.'" She kept repeating it as a mantra and as she kept repeating it the mother started to say it increasingly strongly. The child relaxed, cuddled up in her arms and fell asleep. The mother and the child were helped to rediscover their love for each other and the mother was helped to rediscover her competence in dealing with the child's fear and saying to the child "I do care about you."...

I want to get to the findings that we are getting when we look at about 70 mothers and children that we have treated this way, to tell you that the scores in cognitive tests for the children have gone up significantly, an average of 15 points. Their scores for social problems and emotional problems have gone down significantly, at the point of one statistical level. Equally exciting, the scores for maternal PTSD have gone down significantly, at the point of one level, so that in working with a mother/child relationship we can make a difference not only for the children but for the mothers as well. It seems to me that it is a model. As we work on the relationship between mother and child, let us work on the relationship between child advocacy groups and mother advocacy groups and really find a joint language to speak to both of them.

Margaret McNamara, MD:

I do not have to convince anyone in this room about why pediatricians should routinely screen. We also know that routine screening is a more efficient way of going about this since specific indicators are not reliable. Additionally, routine screening serves to educate patients that domestic violence is a serious health issue for them and their children and to let them know that we can provide resources for them or their friends or family if they ever need it. Finally, as Betsy and Alicia have very eloquently told us, children are so often the silent victims, for whom pediatric healthcare providers can provide appropriate assistance.

Margaret McNamara, MD, Alicia Lieberman, PhD, Betsy McAlister Groves, MSW, LICSW and Robert Reece, MD at the National Conference on Health Care and Domestic Violence.

As healthcare professionals who deal with children in our practices, we have a number of advantages when it comes to screening. We have very frequent visits with the family. We also, as pediatric healthcare providers, are in a trusted and privileged position to hear about family matters. Most parents understand that the health and well-being of their child is integrally connected with the health and well-being of the family. We routinely screen about a number of sensitive issues and so routine screening about domestic violence, just as with those other sensitive issues, is easier.

The screening that we use as pediatric healthcare professionals can be similar to an adult setting. Of course we face a number of challenges in a pediatric setting when we respond to domestic violence. Let us discuss the issues that are unique to the pediatric experience. The first is who is the designated patient. Domestic violence is not the only area in which we ask about parental behavior and how it might influence the child. We routinely ask about tobacco exposure, substance abuse, and many of us ask about the presence of firearms in the household. Many important issues affecting children are not specifically limited to questions about the child.

The second issue, which is the presence of children or other family members or friends in the room

during screening, is a very difficult one and there is some difference of opinion in the literature in terms of how to deal with this. I would suggest that for the sake of the child, because we know the very profound effects that family violence has on the child growing up, that we are doing them a disservice not to screen, even with them in the room (excepting the perpetrator). More often than not, the child knows what is going on at home and if we simply decide not to ask about it, we send the message that we do not want to hear about it. Once children get to be about eleven or twelve years of age, I typically separate them from the parent during the physical exam anyway, for reasons of modesty and so that I can talk with them about other issues such as tobacco prevention. With these children I tend to not ask the parent directly and simply talk with the child about if they feel safe at home and how things go when people disagree at home. It takes the pressure off of the parent and the child if the child is in a situation where they might have allied themselves with one or the other of the parents.

Another major challenge is that there is a lack of resources available for providers if they uncover this kind of history in the home. This is a very difficult issue to tackle and I would simply suggest that if you do not ask and therefore do not find out about the incidence of this problem, we will never develop the resources that we need to help these children.

Robert Reece, MD:

I wanted to tell one little clinical experience that I had about ten years ago. It was sort of an epiphany for me because it brought home to me how important it is for a pediatrician to ask a mother about possible abuse in the family. It had to do with a little baby, four months old, who had been brought in at eighteen days of age with a what we call a hypoforengial perforation, which means just something had perforated the back of the throat. This baby was, for some unknown reason, returned to the parents and then came back at four months of age with a variety of skeletal fractures and other injuries. I talked with the mother and the father, both, and said, "Who takes care of the baby?" And they both said, "We do." I asked, "Is there anyone else who takes care of the baby? Is there a daycare provider, is there a babysitter or do you have one of the relatives watch the baby when you go out?" and so on. "No, we take care of the baby completely alone. Nobody else has ever had any contact with the baby but us." Well, that, in itself, was a little bit of a worry. Then I interviewed the mother alone and I said these injuries had to have been inflicted on the baby. They do not happen spontaneously or by accidents at four months of age and so either you or your partner has inflicted these on the baby. I just let the question sit there for oh, two minutes, with total silence in the room, and then I said, "Is he hitting you too?" And she broke down in a flood of tears, disclosed all that had gone on in this baby's life. He had been rough with the baby, more than rough – fractured several of the bones – and had also injured her on several occasions.

So that was ten years ago or twelve years ago and it demonstrated to me more graphically than anything that I could read or hear about that this is the appropriate question in some instances to ask. The outcome of that was that the partner was removed from the family and the mother and the baby continued to live together and there was a much different outcome for that family as a result of the discovery.

I want to thank the panelists but I also want to say that we can work together as pediatricians and as people invested in the domestic violence field. As a matter of fact, we have to work together because the best interests of the child lies with the best interests of the mother and the family and until we get to a common ground on this, we are going to be fighting an uphill battle.

**Full transcripts from this plenary and all the other plenary sessions at the National Conference on Health Care and Domestic Violence will be available in late July on-line at www.fvpf.org/health or by calling 1-888-Rx-ABUSE. Betsy McAlister Groves' comments will be published in a special issue of* Violence Against Women *this fall.*

Robert M. Reece, MD, is a Clinical Professor of Pediatrics at Tufts University School of Medicine and Director of the Institute for Professional Education at the Massachusetts Society for the Prevention of Cruelty to Children. Dr. Reece is also the Chairman of the Section on Child Abuse of the American Academy of Pediatrics. He is the editor of two books on child maltreatment, child abuse, medical diagnosis and management, including, The Treatment of Child Abuse. He was honored in 1997 as the outstanding professional in the field of child abuse.

Alicia F. Lieberman, PhD, is a Professor of Psychology, in the Department of Psychiatry at the University of California, San Francisco. She is Director of the Child Trauma Research Project and Senior Psychologist, Infant Program, at the San Francisco General Hospital. Dr. Lieberman is the author of The Emotional Life of the Toddler, and numerous articles on disorders of attachment, infant/parent psychotherapy and the role of cultural factors in early childhood mental health interventions.

Margaret McNamara, MD, is an Assistant Clinical Professor, Department of Pediatrics at the University of California, San Francisco, and she practices at the UCSF/Mt. Zion Medical Center, where she serves as Chief of Pediatrics. Dr. McNamara has lectured and published widely on many issues related to pediatric primary care, including the effects of domestic violence on children and firearm injury prevention. She is a Fellow of the American Academy of Pediatrics, Executive Medical Board Member at Mt. Zion Medical Center and Chairperson of the Executive and Advisory Committees of the Violence Prevention Project.

News and Notes

Intimate Partner Homicide and Pregnancy

Homicide Rates

A recent study by Isabelle L. Horon, DrPH and Diana Cheng MD published in the *Journal of the American Medical Association* (Vol. 285, No. 11) finds that pregnant or recently pregnant women are more likely to be the victims of homicide than to die from any other cause. The study, Enhanced Surveillance for Pregnancy-Associated Mortality, expands the definition for maternal death to include deaths "not traditionally considered to be related to pregnancy such as accidents, homicide, and suicide." The study compares the homicide rate of pregnant or recently pregnant women with that for women "aged 14 to 44 years who had not had a pregnancy in the year preceding death." It finds that the homicide rate is significantly higher for women in the first group. Overall, homicide accounted for 11.2 % of deaths for women who were not pregnant (when adjusted for race and maternal age) compared with 20.2% of deaths for pregnant or recently pregnant women.

Additionally, homicide is the leading cause of death during pregnancy (43.4%) and during the 43 to 365-day period following delivery or termination of pregnancy (23.3%). Homicide accounted for 3.6% of deaths occurring within the first 42 days. The study does not distinguish whether a homicide was perpetrated by an intimate partner or by a non-intimate partner.

Homicide Prevention

The study is accompanied by a powerful editorial by Victoria Frye, MPH that expands on these findings and uses them to explore ways to prevent homicides, specifically those perpetrated by intimate partners, by focussing on the role health care providers can play in preventing the murder of pregnant women by their partners.

The editorial echoes the study's call for further research to develop prevention strategies, and highlights the social risk factors for pregnancy-associated deaths, such as domestic violence. It notes that "homicide is the leading killer of young women, pregnant or not," and that "much of the violence that women experience during pregnancy is perpetrated by intimate partners and that, for some, intimate partner violence begins during pregnancy."

Seventy-two percent of reproductive age women receive reproductive care, yet only 17% of OB/GYNs screen for domestic violence at their first visit and only 10% thereafter. Because most pregnant women have a relationship with a health care provider and many of these women come into contact with the health care system before their death, these providers are in a unique position to prevent intimate partner homicide of women by routinely screening for domestic violence.

Screening in the Pediatric Setting

Screening for Postpartum Abuse of New Mothers

Another recent study by Sandra L. Martin, PhD et al. published in the *Journal of the American Medical Association* (Vol. 285, No. 12) found that most women who were abused after pregnancy were injured (77%), but that only 23% of those received medical treatment for their injuries. This study also found that both abused and nonabused women utilized well-baby care and that the numbers did not differ significantly by maternal patterns of abuse. These findings show that while an abused woman may not seek health care for herself, she may access the health care setting on behalf of her children. This provides an opportunity for pediatricians and other health care providers to screen women for domestic violence who may never otherwise access health care services.

Routine Screening for Domestic Violence in Pediatric Practice

This guidebook focuses on the importance of routine screening for family violence in the pediatric setting. The guidebook is thorough in scope, addressing the impact on the mother, the child and the pediatrician when screening for domestic violence. It offers advice on preparing to screen, how to screen, follow-up strategies, coding and documentation, as well as training for health care providers. Also included is a Pediatrician Quick Reference Guide for Routine Screening. For more information call Melissa Strauss at 617/243-6522.

Shelter from the Storm: Clinical Intervention with Young Children Affected by Domestic Violence

Shelter from the Storm is a curriculum for training child mental health clinicians who work with families and young children affected by domestic violence. The curriculum, produced by the Child Witness to Violence Project at Boston Medical Center, provides information and case examples that illustrate the complexities of working with families affected by domestic violence. It contains six flexible training modules:

- Domestic violence: principles of empowerment-based practice.
- The impact of domestic violence on children.
- Assessment of children affected by domestic violence.
- Individual and group treatment of children affected by domestic violence.
- Domestic violence, children and the court.
- Caring for the caregiver

For more information contact the project at 617/414-4244.

Brake the Cycle: Domestic Violence is Everyone's Business

Last October 15 riders commemorated Domestic Violence Awareness month by participating in the Brake the Cycle of Violence bike tour in Northern California. Riders represented the California Clinic Collaborative on Domestic Violence, a project of the FVPF funded by the California Endowment, and succeeded in not only raising awareness, but also in raising over $14,000 that went directly to their clinic's domestic violence programs. Participants, from beginners to more experienced riders, cycled an average of 40 miles per day on the three-day tour in the California wine country of Sonoma Valley. This year's ride, taking place September 22 -24, will be supported by Towanda Tours, a San Francisco based bike tour company specializing in tours to raise money for non-profit efforts. If you are interested in more information about this year's ride, or organizing a fundraising bike tour for your organization, contact Donna at 415/695-2726 or donnaluna@mindspring.com or visit their website at www.TowandaTours.com.

Breaking the Cycle of Domestic Violence, a resource for healthcare providers

Although the reporting guidelines and some resources listed are specific to Kansas, this video, developed by the Kansas Medical Society Alliance, with its accompanying resource manual contains the basic information needed to screen, document, and refer victims for additional assistance. The video is available from Fanlight Productions at 800/937-4113; Kansas residents can contact Becky Collier at the KMSA at 316/838-1410.

Available from the Health Resource Center 888-Rx-ABUSE, www.fvpf.org/health

Teen Dating Violence

This new packet for health care providers offers both informational and practical tools to improve their outreach to battered teens in the clinical setting. The packet includes: fact sheets on teen dating violence; a clinical overview of the problem; adolescent safety plan; resource sheet for health care providers and teens; bibliography; and information on barriers of adolescent disclosure including dynamics of battered pregnant teens and battered gay/lesbian/transgendered and queer youth.

Violence Against Women with Disabilities

Available Fall 2001

This packet will provide health care providers with a starting point in recognizing and addressing the specific concerns of women with disabilities who are also the victims of domestic violence. The packet will include a fact sheet, ideas for safety planning, a resource list and bibliography.

Voices of Survivors

This video, developed by Christina Nicolaidis, MD, MPH addresses the dynamics of domestic violence, prevalence of the issue, and the need for provider screening. The video is distinctive in that it addresses these issues from victims' perspective. It offers specific step by step instructions on how to screen for domestic violence, give support to victims, assess for safety, and give effective referrals. In addition, it describes the hidden costs and hidden physical and mental health issues that could be addressed sooner if screening were to occur. Running time: 31 minutes, cost: $10.00. Available at www.fvpf.org/store or 415/252-8900.

Health Cares About Domestic Violence Day

Wednesday, October 10th, 2001

Help the health care system identify and prevent domestic violence. Join health care professionals and domestic violence advocates by taking part in the Family Violence Prevention Fund's third annual Health Cares About Domestic Violence Day on October 10th, 2001.

GET INVOLVED!

To learn more about this event and what you can do, visit the Family Violence Prevention Fund's website: **www.fvpf.org/health** for on-line resources, free materials and up-to date information about national involvement on the issue, or if you don't have access to the web, call the National Health Resource Center on Domestic Violence toll-free: **(888) Rx-ABUSE**

WE HAVE RESOURCES TO HELP GET YOU STARTED:

- National guidelines on how to screen for domestic violence.
- Simple steps health care providers can take to improve their response to domestic violence.
- Free patient & provider educational materials.
- Organizing ideas for October 10th activities and more!

www.fvpf.org/health

FAMILY VIOLENCE PREVENTION FUND

Family Violence Prevention Fund
383 Rhode Island Street, Suite 304
San Francisco, CA 94103-5133
fund@fvpf.org
www.fvpf.org

Adverse Childhood Experiences (ACE)

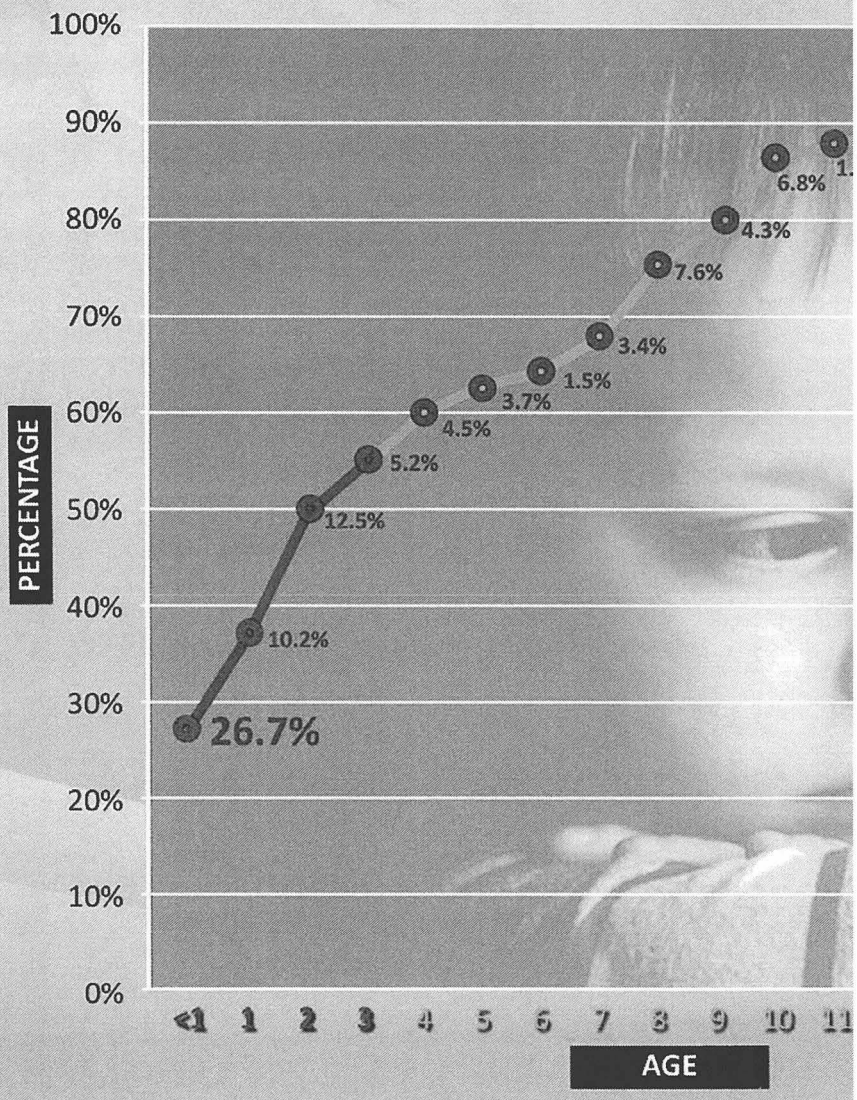
The crisis that happens when we do not invest in early childhood and Pre-Kindergarten

ACEs are traumatic events that can happen in a child's life. These events cause the child high levels of stress that, if not buffered by a strong, supportive adult relationship in the early years of brain development, can permanently damage the young child's developing brain and lead to a long list of negative physical and mental health outcomes in adulthood.

An adult relationship can be with a parent, grandparent, caregiver, teacher or any competent and caring adult who maintains regular contact with the child. Funding early intervention provides the largest possible return on investment.

Young Alaskans have acquired HALF of their accumulated ACEs by the age of 3

The Percentage of the Full Dosage of ACEs accumulat
Child and youth populations by age grou



ALASKA
RESILIENCE
INITIATIVE

January 9, 2018

Rep. Jonathan Kreiss-Tomkins, Chair
House State Affairs Committee
State Capitol, Rm. 411
Juneau, AK 99801

Re: Scheduling and passing HCR 2 – relating to Adverse Childhood Experiences

Dear Rep. Kreiss-Tomkins,

The Alaska Resilience Initiative is in strong support of House Concurrent Resolution 2 – relating to Adverse Childhood Experiences. As part of a collaborative effort housed at the Alaska Children's Trust, our initiative is a network of nonprofit, tribal and state government organizations, schools, businesses and community coalitions with a shared goal of mobilizing Alaska to end child maltreatment, and intergenerational and systemic trauma, through healing and strategic advocacy.

Our initiative's Steering Committee members, who represent 25 different entities and 16 sectors, spent many hours working in collaboration with the sponsor and others to revise the initial version of HCR 2, and we would like you to consider the attached version as your working document for consideration as soon as possible in January. We are already working to build support in the Senate and are mobilized to get it passed through both bodies. We understand the restraints the state is facing, and this legislation represents a strong first step towards trauma-informed practices, which will improve well-being and reduce costs.

Attached please find the new draft resolution and a list of all the organizations that have already sent letters of support, many of whom have members in Sitka and other cities and towns of importance to your committee. This is a statewide issue that will reap rewards for our children's future.

Sincerely,

Laura Norton-Cruz

Laura Norton-Cruz, LMSW
Director, Alaska Resilience Initiative

Cc: House State Affairs Committee Members:

Rep. Gabrielle LeDoux, Vice Chair	Rep. Chris Tuck	Rep. Adam Wool
Rep. Chris Birch	Rep. DeLena Johnson	Rep. Gary Knoop

act
alaska children's trust

The Alaska Resilience Initiative is an initiative of Alaska Children's Trust

Planned Parenthood
Act. No matter what.

Planned Parenthood Votes Northwest and Hawaii

Representative Geran Tarr
Alaska State Capitol
Juneau, AK 99801

Re: House Continuing Resolution 2

January 29th, 2018

Dear Representative Tarr,

On behalf of Planned Parenthood Votes Northwest and Hawaii, I write today to thank you for sponsoring House Continuing Resolution 2, which would resolve that Alaska establish statewide policies that address Adverse Childhood Experiences (ACEs).

Planned Parenthood is the nation's leading reproductive health care provider, serving over 7,000 patients each year in Alaska alone. We strongly support policies that positively impact all aspects of peoples' health and wellness, with particular attention to policies that improve reproductive and sexual health access and outcomes.

A growing body of research suggests that ACEs have a substantial negative impact on individuals' long-term health, including their reproductive health. Exposure to ACEs has been linked to a wide range of health problems, including drug abuse, depression, cancer, heart disease, and more. ACEs have also been linked to poorer reproductive health outcomes for women in particular, including increased risk of unintended pregnancy and sexually transmitted infections (STIs) and an increased likelihood having sexual intercourse before age fifteen.[i] Adopting concrete policies to reduce ACEs is an important step towards improving women's health in our state.

In considering such policies, we encourage the state to consider the important role that access to comprehensive family planning and reproductive health services can play in supporting stable, healthy families. Lack of access to such services that are critical to protecting women's reproductive health and preventing unintended pregnancy can have significant negative consequences to women and their families. An Institute of Medicine Report identifies unintended pregnancy as a risk factor for late or inadequate prenatal care, low birth rate, neonatal death, domestic violence, child abuse, and exposure of the fetus to harmful substances such as tobacco, alcohol, and other drugs.[ii] Unintended pregnancy is also associated with social and economic co-factors such as economic hardship and failure to achieve education and career goals.[iii] Helping women avoid unintended pregnancies by improving access to reproductive and sexual health must be a key component of any attempt to reduce ACEs and improve community health.

Taking action to reduce ACEs is a public health imperative and we applaud you for this first step towards fostering healthy communities in Alaska. We look forward to supporting your efforts.

Sincerely,

Alyson Currey
Regional Field Organizer and Legislative Liaison

Planned Parenthood Votes Northwest and Hawaii
3231 Glacier Hwy, Juneau, AK 99801
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THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Health and Social Services
ALASKA MENTAL HEALTH BOARD
ADVISORY BOARD ON ALCOHOLISM AND DRUG ABUSE
431 North Franklin Street, Suite 200
Juneau, Alaska 99801
Main: 907.465.8920
Fax: 907.465.4410

February 7, 2018

The Honorable Representative Geran Tarr
State Capitol Room 126
Juneau AK, 99801

RE: HCR 2- Adverse Childhood Experiences

Dear Representative Tarr;

The Advisory Board on Alcoholism and Drug Abuse (ABADA) and the Alaska Mental Health Board (AMHB) are the state agencies charged with planning and coordinating behavioral health services funded by the State of Alaska. The joint mission of ABADA/AMHB is to advocate for programs and services that promote healthy, independent, productive Alaskans.

The Boards offer our full support to House Concurrent Resolution 2 in response to the impact of adverse childhood experiences (ACEs) in Alaska. The Boards have been instrumental in educating Alaskans about ACEs through the use of Alaska specific data regarding the correlation between childhood experiences and adverse health outcomes as adults. We appreciate the work you have done to support the conversation for improved policies, evidence-based programs and research for statewide solutions.

More than two-thirds of Alaskan adults have experienced ACEs prior to their eighteenth birthday. The neural networks being "wired" in the developing brains of children and youth are especially susceptible to traumatic events. Research shows that ACEs can affect the normal development of children and that these are the mechanisms behind the poor outcomes associated with childhood trauma. From poor school and work performance to substance abuse and mental illness to poor physical health outcomes, the link to ACEs has been shown in Alaska and other state's populations as well.

Each year Alaska spends hundreds of millions of dollars in state and private funds as a result of traumatic events experienced during childhood. Even modest reductions in childhood trauma would have immediate and long-term benefits to our state financially and socially.

Communities across Alaska are coming together to address ACEs in a big and small ways. HCR2 recognizes and supports the need for continued research and evidence-based efforts to prevent and mitigate the impact of ACEs. Thank you for this opportunity to support and comment on HCR2 and please contact me if you need additional information.

Sincerely,

Alison L. Kulas, MSPH
Executive Director

February 5th, 2018

Alaska State Legislature
State Capitol
Juneau, AK 99801

Dear Legislators,

Child abuse and neglect in Alaska are a chronic and devastating problem. To overcome the high rates of trauma experienced by our children and youth, prevention efforts need to be deployed at multiple levels.

Unfortunately, the trauma and sustained toxic stress associated with child abuse, neglect and a list of other adverse childhood experiences (ACEs) such as incarceration of a parent and drug and alcohol abuse have been shown to undermine a child's healthy development. Such factors damage the developing brain and adversely impact a child's learning and behavior, making academic achievement more difficult. Moreover, such factors increase susceptibility to physical and mental illness and put children at higher risk for involvement in delinquent and/or criminal activities. When children do not have equal opportunity for healthy growth and development, we are putting the future society of Alaska at risk.

The long-term effects of ACEs in Alaska are costly. High ACE scores are linked to social, emotional and cognitive impairment; adoption of health-risk behaviors; chronic medical diseases; disability and social problems; and early death. More than 65 percent of Alaskans have experienced adverse childhood experiences in their lifetimes. Additionally, Alaska has some of the highest adverse trauma rates among the five other states surveyed by the Behavioral Risk Factor Surveillance Systems survey (Washington, Louisiana, Tennessee, Arkansas, and New Mexico).

Preventing childhood trauma and supporting those who have experienced childhood trauma will save the State of Alaska significant costs across the board including spending on health care, Medicaid, incarceration and juvenile justice systems. According to a recent report by the Centers for Disease Control and Prevention, the average lifetime cost per victim of nonfatal child maltreatment is over $48,000 per child. There are thousands of reports of child maltreatment every year in Alaska, meaning we are spending tens of millions of dollars every year for costs related to child abuse.

I support HCR 2 as one component of a statewide prevention system needed to help reduce traumatic experiences among our children, but also as an investment in our state's infrastructure and future.

Sincerely,
Daniella DeLozier
5003 Sillary Circle
Anchorage, AK 99508

A Public Health Cris
Adverse Childhood
Experiences

REPRESENTATIVE

HOUSE STATE AFFAIR

FEBR

What are ACES?

- 1998 study asked middle class Ame traumas experienced as a child
- Used 10 question quiz to assess exp trauma
- Developed as ACE score based on
- Score can be 0-10

What Kind of Childhood Trau

- Trauma in three categories: Abuse, Negle dysfunction
- Traumas in two categories for impact: thir you and things done around you
- Traumas include physical abuse to persor to person, domestic violence to adult fan having a parent in jail

What is your ACES Score?

- Group exercise to take the test and your own score

- Develop your own ACE score as a r

ACES Studies in Alaska

- 2 Key Findings
  - Childhood trauma is far more and more expensive, than pr realized
  - The impact of this trauma aff individuals over a lifetime an over generations

Select Negative Health Outc

- Depression
- Drug abuse
- Fetal death
- Frequent headaches
- Hallucinations
- Insufficient sleep
- Sexual assault
- Teen pregnancy
- Low yearly
- Medicaid
- Home owr
- Separatior
- Liver disec
- Intimate p

Select Negative Health Outc

- Medicaid
  - 40.6%
- Current Smoker
  - 32%
- Heavy Drinking
  - 20.5%
- Poor Physical Health
  - 33.2%

The Price of Not Intervening Before Trauma Occurs

- Reduce smoking cost of $576 million by 3 savings
- Reduce substance abuse by 20% = $350
- Reduce Medicaid costs by 40.6% = $350
- **Total = approximate annual savings by p**

Overcoming ACES in Alaska Building a Statewide Moveme

- Strong statewide support, including:
  - Alaska Children's Trust and Alaska Resil
  - Sealaska Heritage
  - Juneau Suicide Prevention Council
  - Alaska Mental Health Board & Advisory and Drug Abuse
  - Best Beginnings
  - Alaska Infant and Early Childhood Mer

Overcoming ACES in Alaska: Connecting people and poli

- In 2017, State OCS has 50 reports of neglect a day
- Most ACES happen to Alaska kids b
- Bring together the professionals in th learning, mental health, substance pediatrics, behavioral health, dome and education

Overcoming ACES in Alaska:

- Statewide policy needed for tr
  services
- Raise awareness about eviden
  programs to increase commun
  respond to, prevent, and addr
- Pilot programs needed for Alas
  research