# ADVERSE CHILDHOOD EXPERIENCES

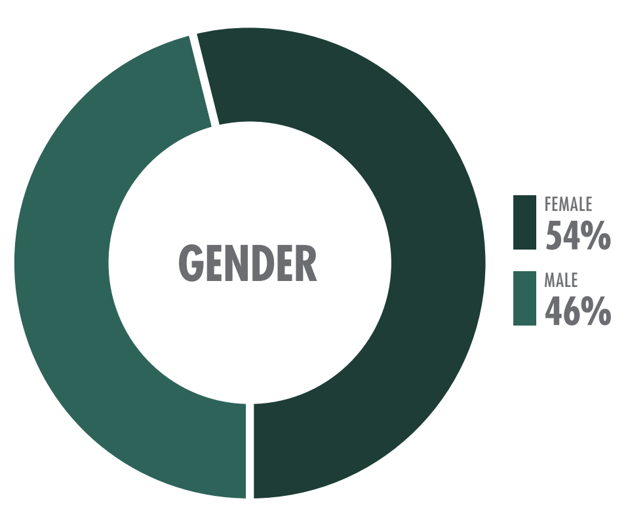
*looking at how ACEs affect our lives & society*

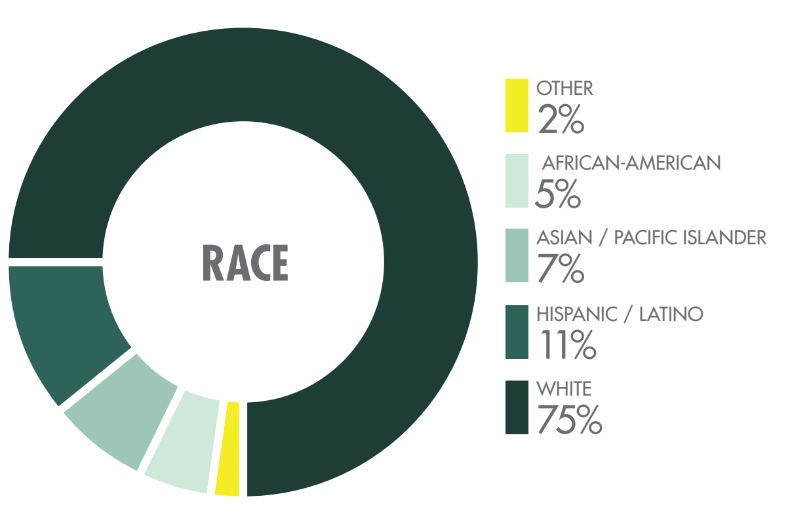
## What are **ACES?**

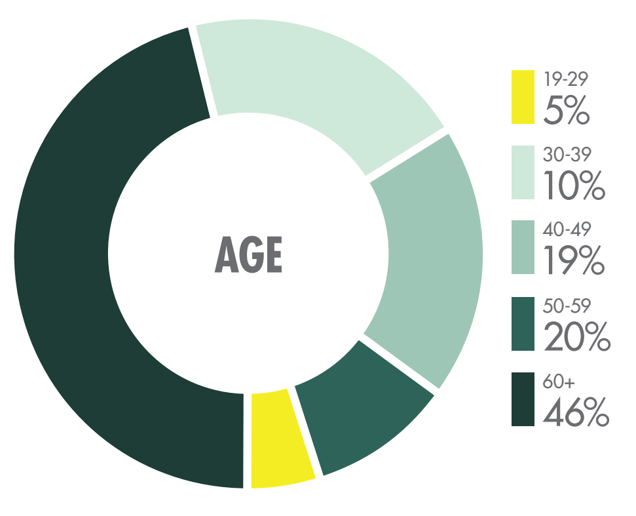
Adverse Childhood Experiences (ACEs) is the term given to describe all types of abuse, neglect, and other traumatic experiences that occur to individuals under the age of 18. The landmark Kaiser ACE Study examined the relationships between these experiences during childhood and reduced health and well-being later in life.

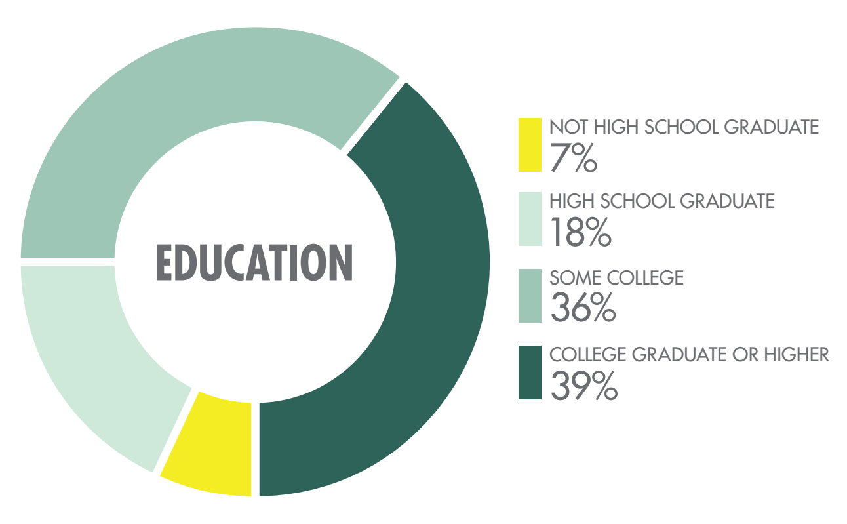
### WHO PARTICIPATED IN THE **ACE** STUDY?

Between 1995 and 1997, over 17,000 people receiving physical exams completed confidential surveys containing information about their childhood experiences and current health status and behaviors. The information from these surveys was combined with results from their physical exams to form the study's findings.



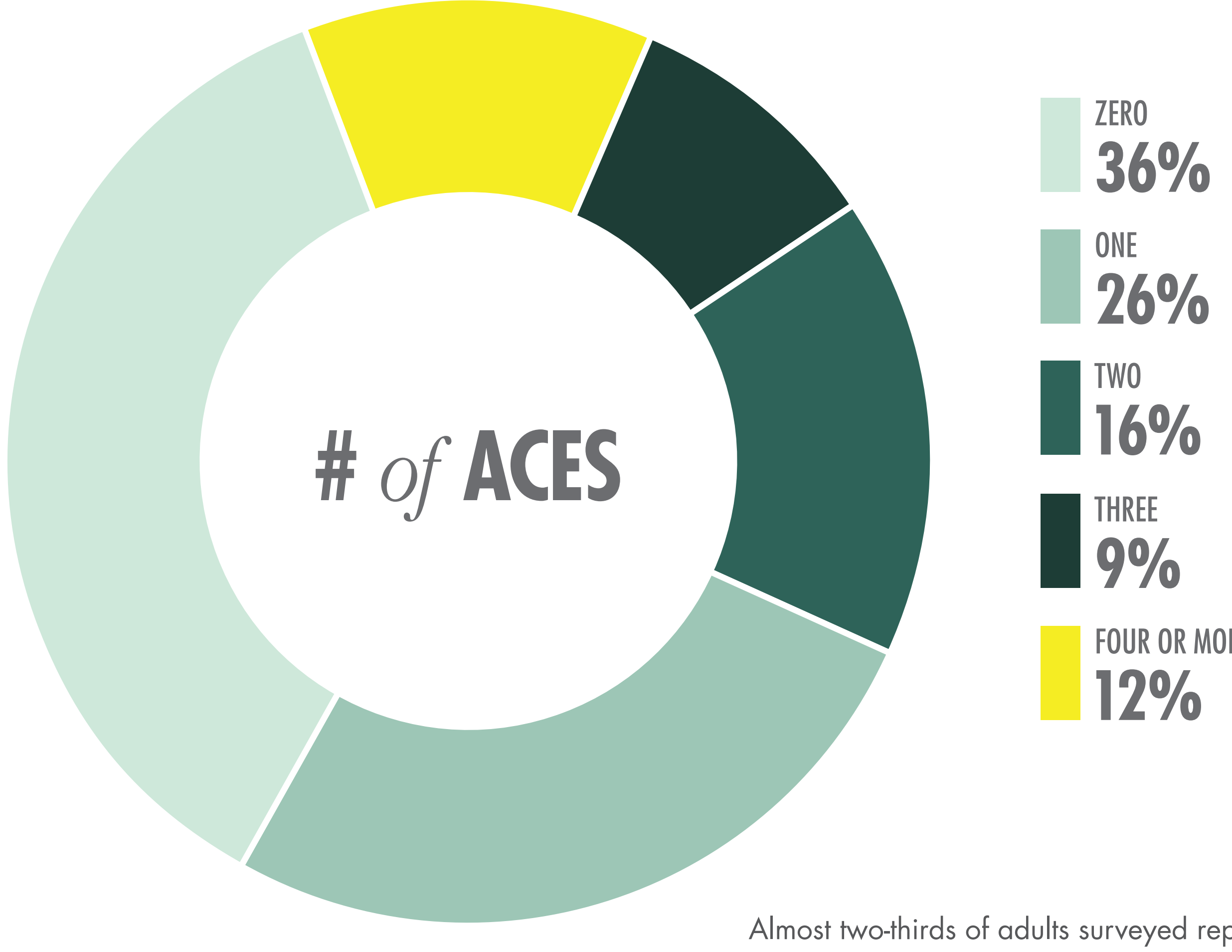






*Participants in this study reflected a cross-section of middle-class American adults.

## HOW COMMON ARE **ACES?**

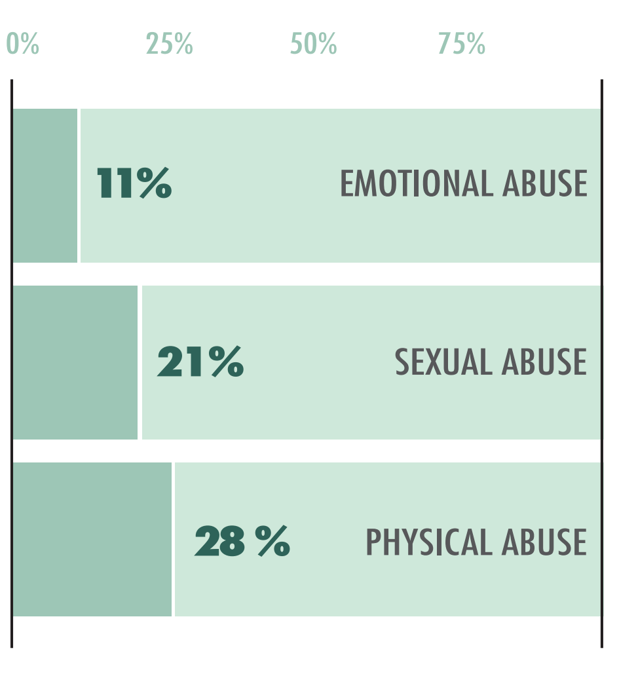


Almost two-thirds of adults surveyed reported at least one Adverse Childhood Experience – and the majority of respondents who reported at least one ACE reported more than one.

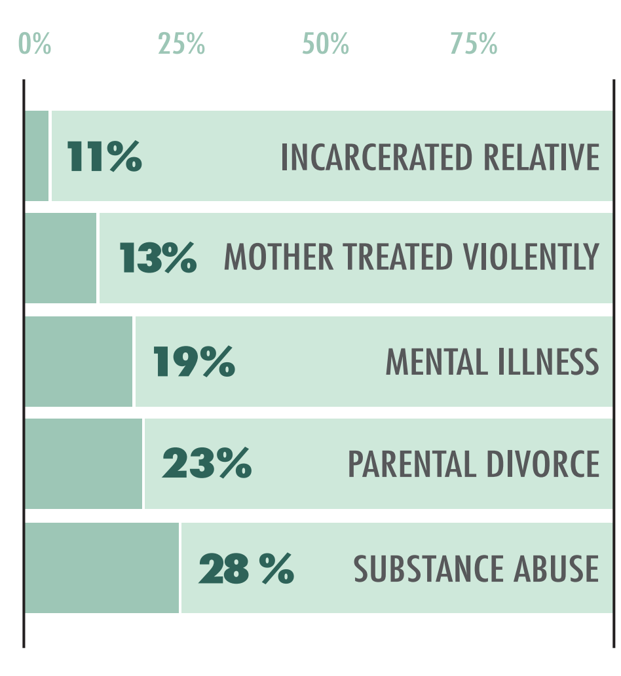
### TYPES *of* **ACES**

The ACE study looked at three categories of adverse experience: **childhood abuse**, which included emotional, physical, and sexual abuse; **neglect**, including both physical and emotional neglect; and **family dysfunction**, which included growing up in a household were there was substance abuse, mental illness, violent treatment of a mother or stepmother, parental separation/divorce or had a member of the household go to prison. Respondents were given an **ACE score** between 0 and 10 based on how many of these 10 types of adverse experience to which they reported being exposed.

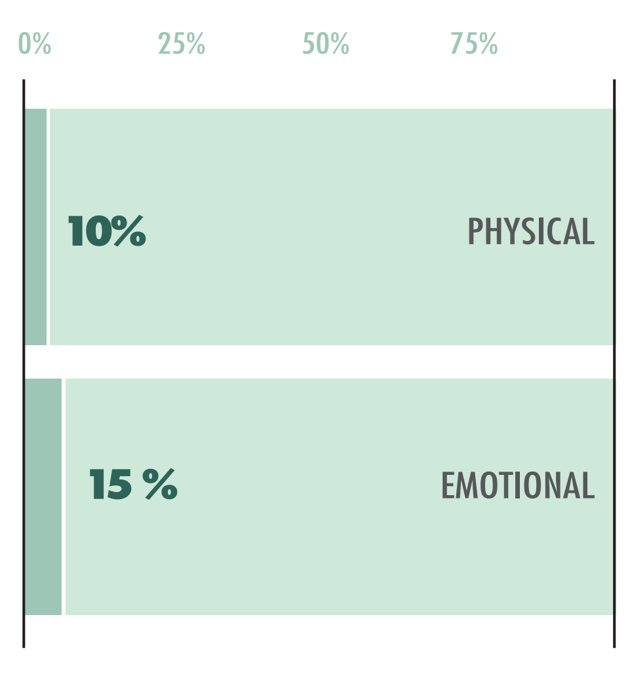
ABUSE



FAMILY DYSFUNCTION



NEGLECT



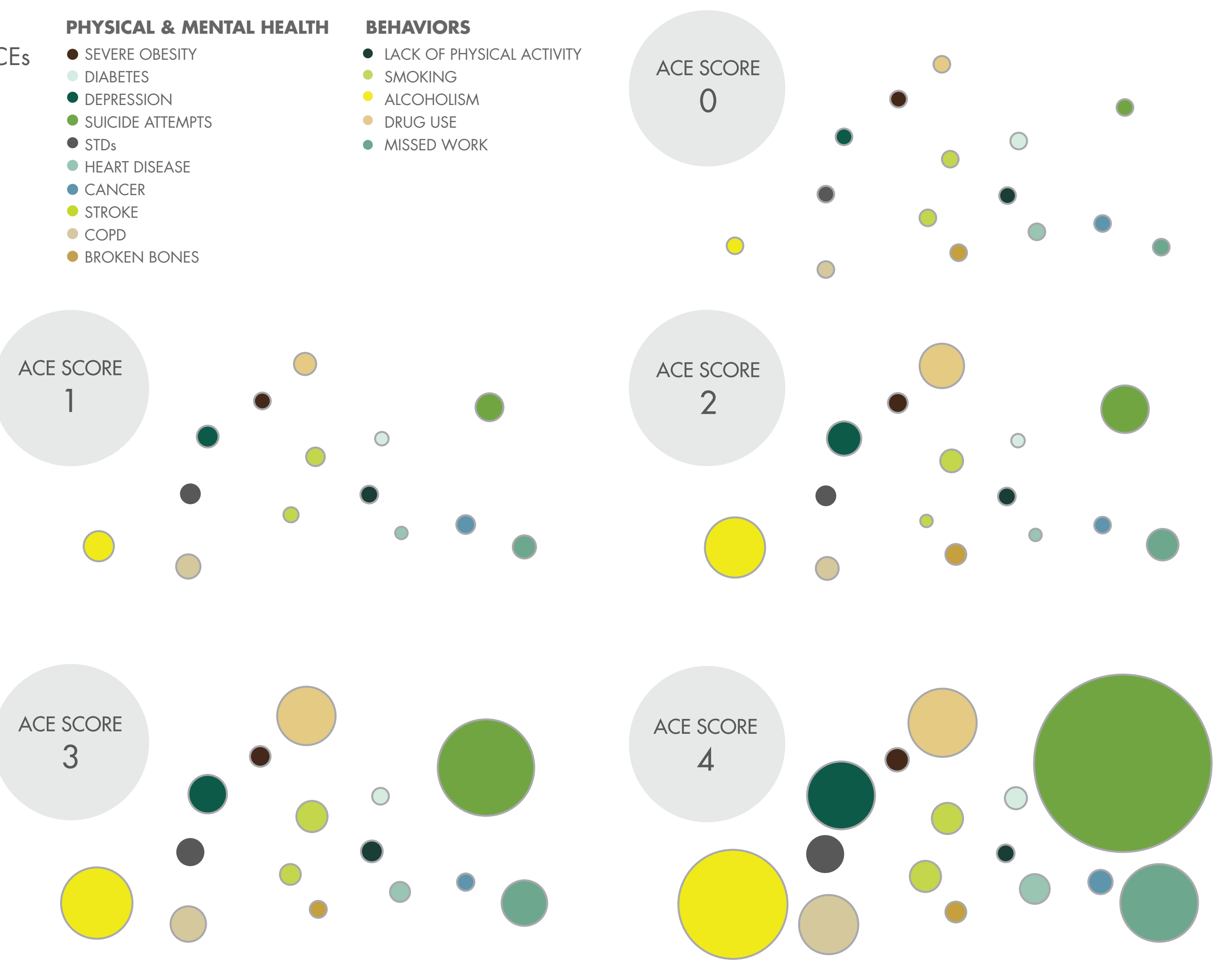
## HOW DO **ACES** AFFECT OUR LIVES?

### ACES CAN HAVE LASTING EFFECTS ON BEHAVIOR & HEALTH...

Simply put, our childhood experiences have a tremendous, lifelong impact on our health and the quality of our lives. The ACE Study showed dramatic links between adverse childhood experiences and risky behavior, psychological issues, serious illness and **the leading causes of death.**

The following charts compare how likely a person with1, 2, 3, or 4 ACEs will experience specified behaviors than a person without ACEs.

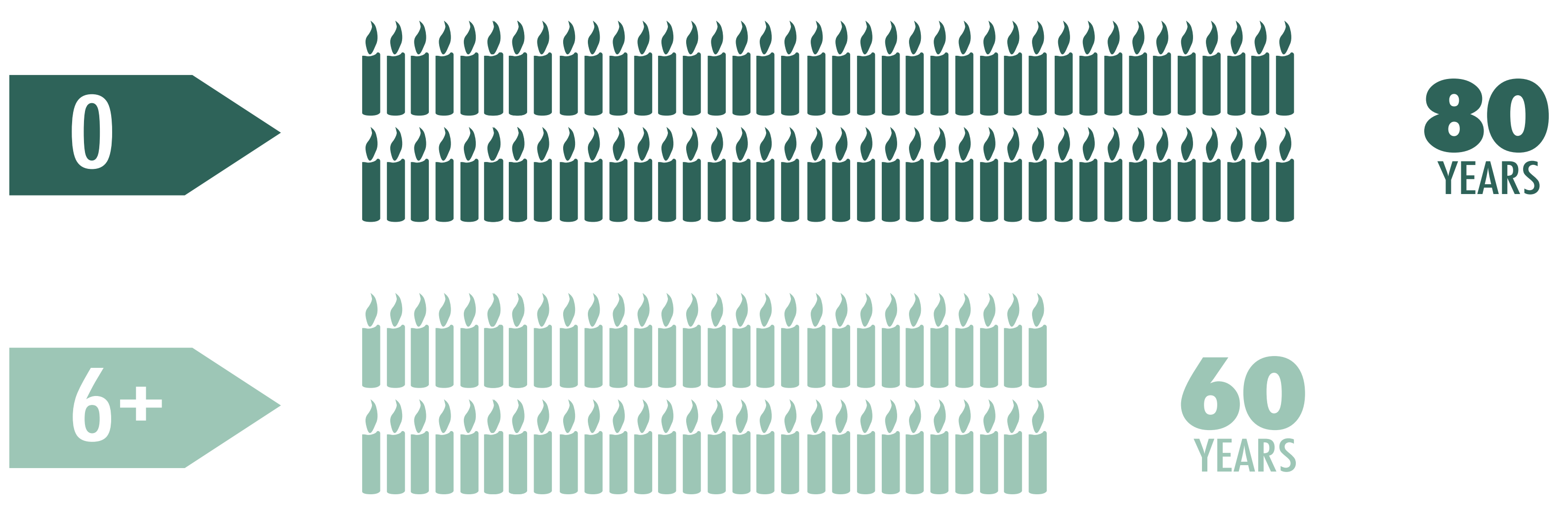
*Having an ACE score of zero does not imply an individual could not have other risk factors for these health behaviors/diseases.



## HOW *do* **ACES** AFFECT OUR SOCIETY?

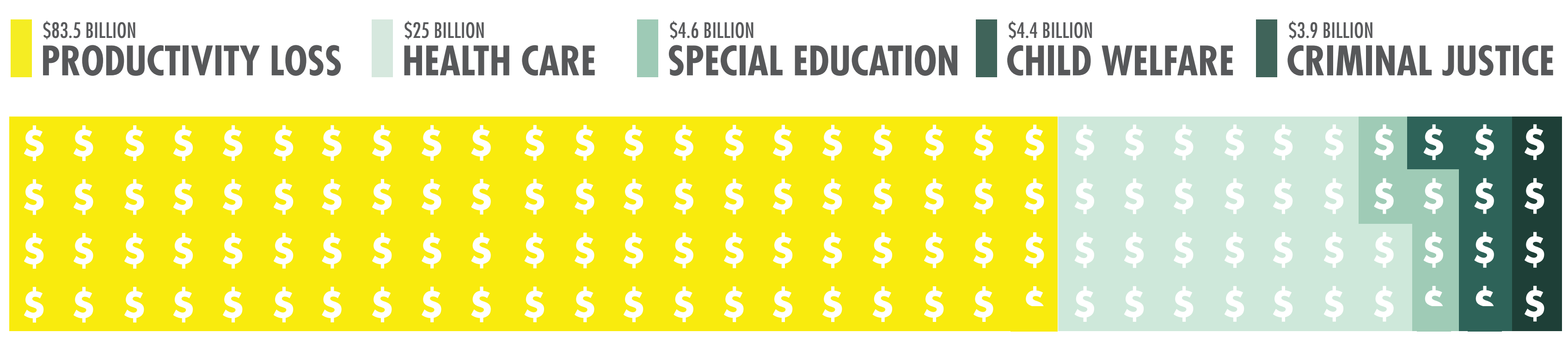
### LIFE EXPECTANCY

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

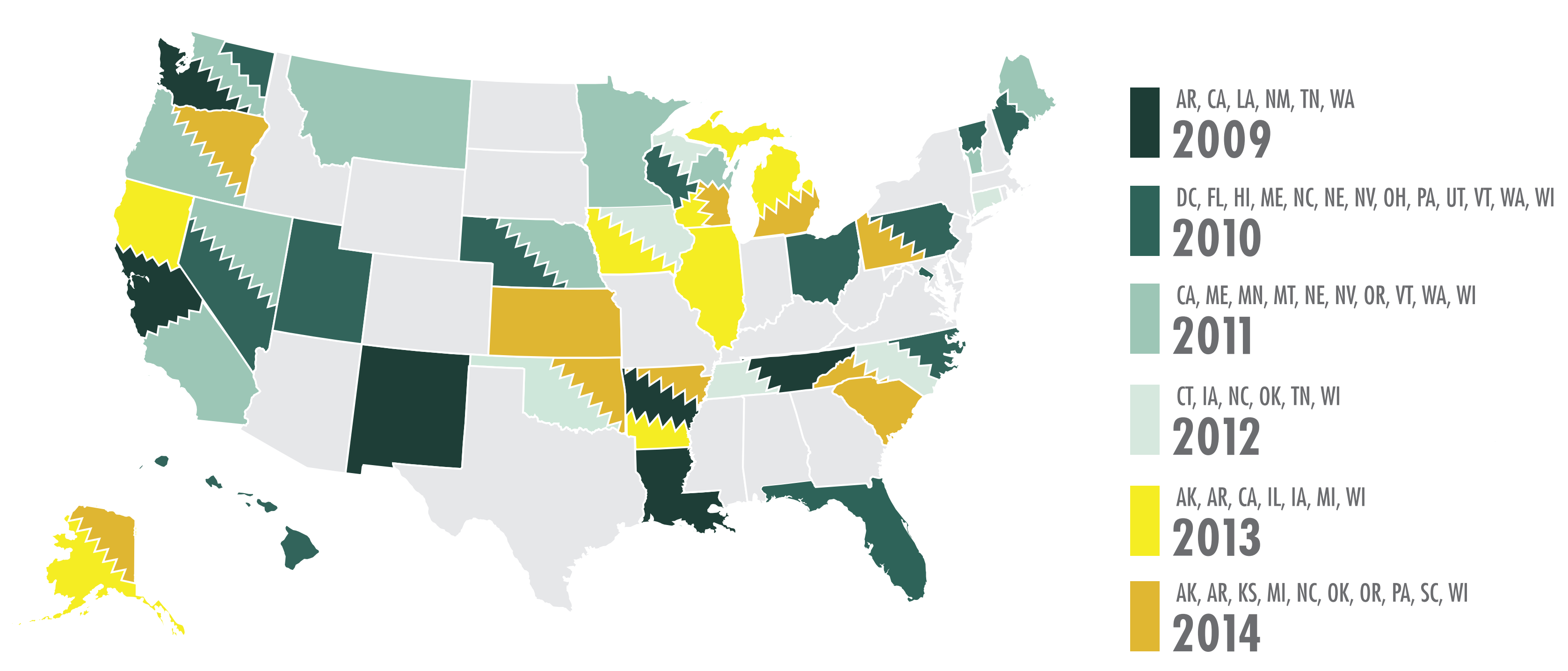


### ECONOMIC TOLL

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



## THE **ACE** STUDY CONTINUES



Although the study ended in 1997, some states are collecting information about ACEs in their population through the Behavioral Risk Factor Surveillance System (BRFSS).

# WHAT *can* BE DONE ABOUT ACES?

These wide-ranging health and social consequences underscore the importance of preventing ACEs before they happen. **Safe, stable and nurturing relationships** (SSNRs) can have a positive impact on a broad range of health problems and on the development of skills that will help children reach their full potential. Strategies that address the needs of children and their families include:

Home visiting to pregnant women and families with newborns

Parenting training programs

Intimate partner violence prevention

Social support for parents

Parent support programs for teens and teen pregnancy prevention programs

Mental illness and substance abuse treatment

High quality child care

Sufficient Income support for lower income families

## REFERENCES AND RESOURCES

### REFERENCES

ACE Study
Child Welfare Information Gateway
Economic Cost of Child Abuse and Neglect
Essentials for Childhood

This article was downloaded by: [108.4.4.183]
On: 26 June 2015, At: 05:06
Publisher: Routledge
Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK

Journal of Prevention & Intervention in the Community
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/wpic20

# Reducing Adverse Childhood Experiences (ACE) by Building Community Capacity: A Summary of Washington Family Policy Council Research Findings

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Published online: 12 Sep 2012.

**To cite this article:** Judy Hall, Laura Porter, Dario Longhi, Jody Becker-Green & Susan Dreyfus (2012) Reducing Adverse Childhood Experiences (ACE) by Building Community Capacity: A Summary of Washington Family Policy Council Research Findings, Journal of Prevention & Intervention in the Community, 40:4, 325-334, DOI: 10.1080/10852352.2012.707463

**To link to this article:** http://dx.doi.org/10.1080/10852352.2012.707463

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**Evello Systems Outcomes Management Technology**

The Outcomes
Management Experts

# Participation in the TennCare Pilot for Behavioral Healthcare: Replacement of Residential Treatment Services for Children & Adolescents with Home-Based Treatment (HBT) and Mental Health Care Coordination (MHCC)

**February 10, 2015**

## Overview of Project

The Bureau of TennCare is the Medicaid program for the state of Tennessee. TennCare was formed in the early 1990's with the goal of controlling rising Medicaid costs while increasing public access to affordable health care.

In the area of Behavioral Healthcare, TennCare has a large number of child and teenage consumers that are treated for various mental health and substance abuse disorders through placement in Residential Treatment Services. Many times Residential Treatment Services are used for a consumer that has not reacted positively to alternate treatment methods. Unfortunately, many times when a consumer is placed in Residential Treatment they rarely show signs of improvement and are rarely released from treatment. If released, many times they will re-enter the program shortly after. Additionally, treatment of consumers with this service is a very costly one for TennCare to maintain. Residential Treatment Service is one of the most expensive behavioral healthcare services for which the agency offers reimbursement.

TennCare has established that if it can reduce the number of adolescent and teenage consumers entering Residential Treatment Services, two goals would be accomplished. Along with the belief that consumers would experience an increased rate of their conditions improving and thus not needing additional services, reimbursement rates would be greatly reduced across the state. A primary goal of this initiative was to ensure that youth who could receive the appropriate level of services in a community setting would not be removed from their homes and needlessly admitted to expensive residential treatment facilities.

TennCare began the formation of a “pilot project” in 2013 in an effort to reach the goal of having fewer of its consumers be placed into Residential Treatment Services. This pilot is generally referred to as “the TennCare Pilot” by those involved with the project.

## The TennCare Pilot Project Description

TennCare believes that the application of alternate services will cut down on the number of consumers being admitted into Residential Treatment. For the pilot, the following services will be offered to clients that ordinarily would be placed into Residential Treatment Services:

- Home-Based Treatment (HBT); and
- Mental Health Care Coordination

By enrolling clients in one of these two services, TennCare believes that it will see a drop in the number of consumers that need to be placed into further care within Residential Treatment Services. Traditionally, these two services have higher success rates for consumer improvement and are less expensive treatment methods than enrolling a consumer into residential care.

For the pilot, TennCare has enlisted the help of three Managed Care Organizations (MCOs) in the state of Tennessee. These Managed Care Organizations are:

- BlueCross BlueShield of Tennessee;
- United HealthCare/Optum; and
- Amerigroup Tennessee

Together, these MCOs and TennCare established the treatment terms, policies and reimbursement rates for Behavioral Healthcare Providers across the state to administer the HBT and MHCC Services to consumers that would ordinarily be candidates for Residential Treatment Services.

As their next step, TennCare put out a Request for Proposals (RFP) for potential Behavioral Healthcare Providers to participate in the pilot. Potential providers across the state answered the RFP and the following were selected as initial providers in the pilot project:

- Centerstone of Tennessee;
- Health Connect America;
- Volunteer Behavioral Healthcare System;
- Mental Health Cooperative;
- Life Care Center of Tennessee; and
- Youth Villages

Once all of these providers were selected to participate in the TennCare Pilot, 100 consumers across the state were identified to be enrolled in either HBT or MHCC as an alternative to residential care. These consumers would be enrolled in one of the two alternate services and treatment would be provided by one of the participating providers. Services for all consumers are reimbursed by the participating MCOs and ultimately TennCare.

## TennCare Pilot Reporting Needs

In order to track the success rate of the pilot, extensive reporting capabilities are an ongoing necessity. Clinical reporting is necessary to show the presence and rate of consumer condition improvement. Time-based reporting is necessary to track the amount of time providers are spending on the different tasks involved with consumer treatment. And data collection is necessary to measure the impact of certain occurrences with the clients that may have an influence on their overall treatment within the pilot services, such as expulsion from school.

Before the introduction of Evello Systems' Outcomes Management Technology, the collection, aggregation and display of all of this data was going to be a monumental effort for the parties participating in the pilot. The collection and aggregation of data was made exponentially more difficult by the fact that all of the participating providers were using different Electronic Health Record (EHR) systems. Without a system to handle the management of all of this information, cumbersome paper surveys and Excel spreadsheets were the pilots' only choice for any type of simple reporting of the pilot outcomes.

**Evello System's Participation**

TennCare and the pilot group selected Evello Systems to provide a complete outcomes management solution for the pilot. Evello systems is used to collect, aggregate and report on all of the data being generated by the participants in the pilot. For the pilot, clinical outcomes are tracked using the following industry-standard surveys:

- The Child and Adolescents Needs and Strengths (CANS) survey is used to track the clinical status of consumers being treated in the pilot; and
- The Caregiver Strain Questionnaire (CSQ) survey is used to track the emotional state of the parent or caregiver attached to each child participating in the pilot.

Additional surveys are used to track other relative occurrences going on in the consumers' lives as well as how time is being spent on treating these consumers. Additional surveys created and employed in the pilot are:

- The Common Measurements survey is used to track pertinent occurrences in various aspects of the consumer's life. Such as trouble they may get into in school, legal or law enforcement run-ins, emergency room visits, admission to higher levels of care, medication compliancy, etc.
- The Provider Clinician Responsibilities survey is used to compile the time being spent on each consumer's treatment in the services of HBT and MHCC. Categories include Home Care Coordination, Care Team Meetings, Crisis Interventions, etc.
- The Provider Administrative Responsibilities survey is used to compile time being spent by administrative staff in supervising the care for a consumer. Categories being tracked include Referral Gathering, Supervision Time, Pilot Meetings & Training, etc.

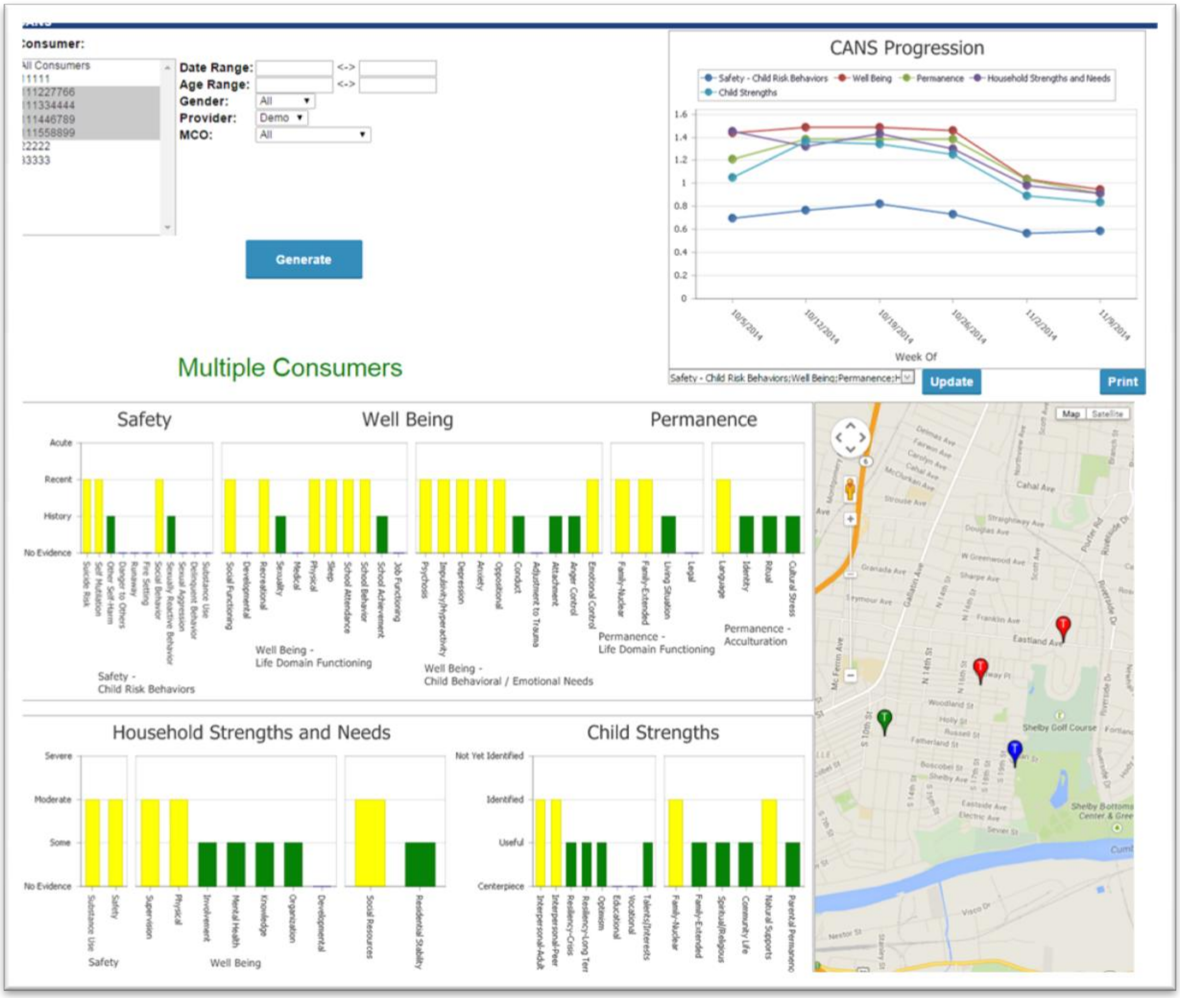
All of this data can be collected in a variety of ways. Providers can use their current EHR to collect the data. Several providers in the pilot chose to have the data collected through the surveys in the electronic system because their clinicians were already familiar with this interface. Evello systems then securely imports the data from their EHR on pre-determined timed intervals. Alternately, providers can choose to enter the data directly into the Evello Systems secure website or Offline Tablet App.

Once data is securely entered, it is immediately available for reporting purposes within the system. All access to data within the system is scalable, based on what a user's permissions should be. In other words, when a provider logs in, they only have access to the consumers in the pilot that are being treated by their agency. When one of the MCOs logs in, they only have access to the data for the consumers that are enrolled with their organization. And when TennCare logs into the system, they have access to and can run reports on all consumer data in the system – across all providers and MCOs. This capability is vital to the pilot adhering strictly to the HIPAA and HITECH guidelines that govern this industry.

Configurable filtering tools are available to run reports using various demographic information collected on the pilot consumers. For example, filters could be used to run a report tracking the number of school expulsions over the past quarter for all male consumers, under the age of fifteen, who are being treated by Health Connect America and are enrolled with the MCO Amerigroup.

Additionally, reports can be run on individual consumers, groups of consumers, or a report can measure the entire aggregated population of consumers being treated.

In the screenshot below, several CANS reports are being run to show aggregated data on four consumers participating in the pilot. The internationally recognized CANS chart is shown giving the color-coded scores across all categories of the CANS measurement. At the top right of the page a CANS progression chart is showing the collected CANS scores across various weeks of the pilot. In the bottom right of the screen a geo-location map is given showing the location of individual consumers. These consumers are color coded to tie into the color coded scores of the CANS chart.



**Consumer:**
All Consumers
11111
11227766
11334444
11446789
11558899
22222
33333

**Date Range:** <-> 
**Age Range:** <-> 
**Gender:** All
**Provider:** Demo
**MCO:** All

Safety - Child Risk Behaviors;Well Being;Permanence;H

The screenshot on this page is an example of one of the system reports that can be run to show a breakdown of how clinicians are spending their time in treating consumers participating in the pilot. In this case, time spent is compared between the two pilot services of HBT and MHCC. This report gives detail into where every treatment minute is spent across all sub-categories of each service.

**Reports • Back**

**Additional Provider Responsibilities**

**Consumer:**

All Consumers
11111
111227766
111334444
111446789
111558899
22222

**Date Range:** <->
**Age Range:** <->
**Gender:** All
**Provider:** Demo
**MCO:** All

Multiple Consumers

The system screenshot below shows a report that is tracking the number of times any consumer in the pilot has an emergency room visit, mobile crisis call, or there is a provider disruption or diversion of a crisis.

Common Measurements - ER, Mobile Crisis, Disruption/Diversion

Consumer: All Consumers

Date Range: <->

Age Range: <->

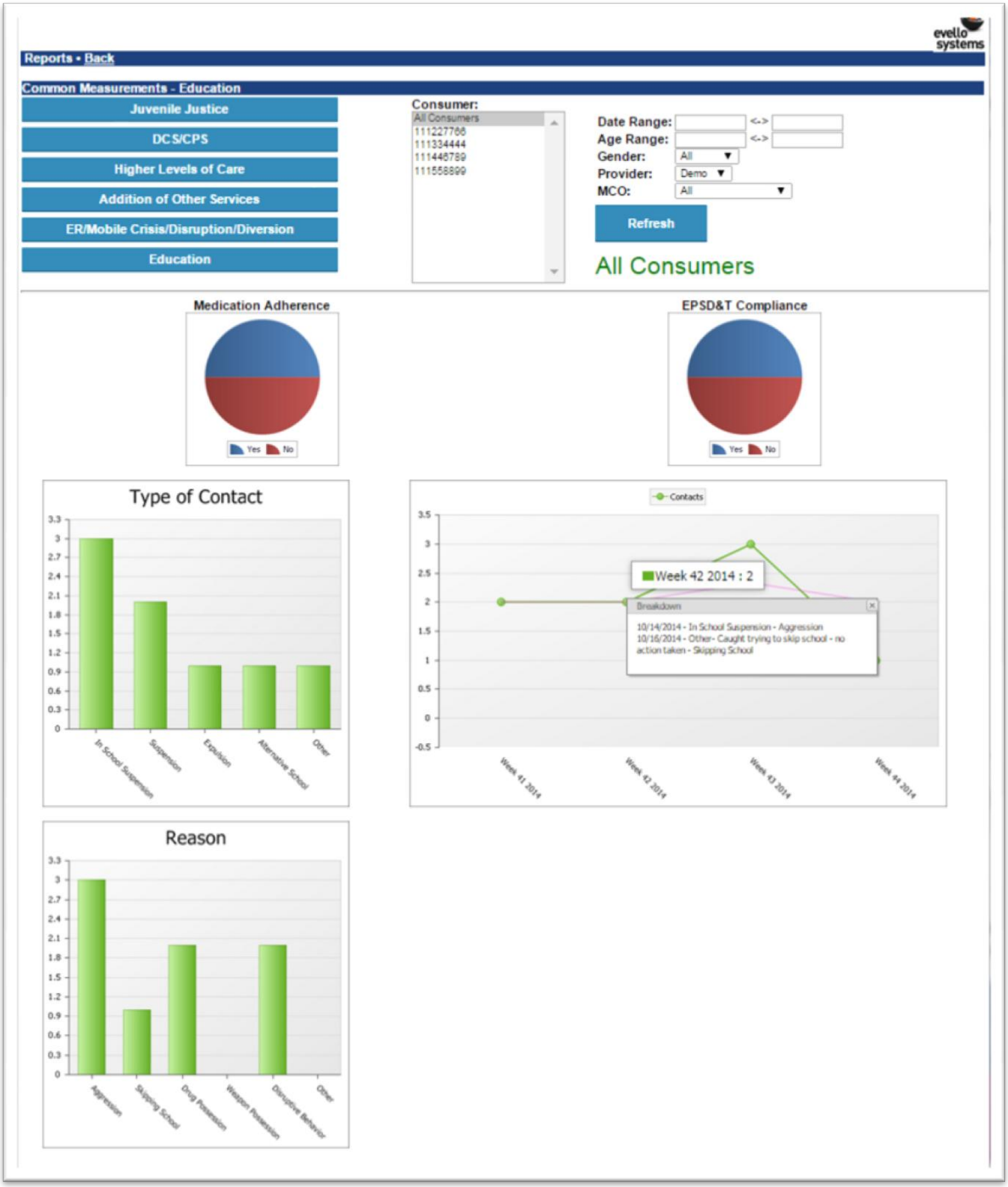
Gender: All

Provider: Demo

MCO: All

All Consumers

This report view can quickly be converted to show the number of times consumers have gotten into trouble at school and what the reasons were.



Consumer:
All Consumers
111227766
111334444
111446789
111558899

Date Range: <->
Age Range: <->
Gender: All
Provider: Demo
MCO: All

All Consumers

Week 42 2014 : 2

Breakdown
10/14/2014 - In School Suspension - Aggression
10/16/2014 - Other- Caught trying to skip school - no action taken - Skipping School

In this final screenshot, a report is being run to show the results of the nationally recognized Caregiver Strain for parents and caregivers of the consumers enrolled in the pilot.

**Caregiver Strain**

**Consumer:**

- All Consumers
- 111227766
- 111334444
- 111446789
- 111558899

**Date Range:** <->
**Age Range:** <->
**Gender:** All
**Provider:** Demo
**MCO:** All

All Consumers

🟩 - Low 🟨 - Medium 🟥 - High

Objective Strain 2.55 + Subjective Internalized Strain 3.09 + Subjective Externalized Strain 2.57 = Global Strain 8.21

Global Strain

All data shown in the previous screenshots was fictitious and created strictly for demonstration purposes.

**Summary**

Organization of the TennCare Pilot was begun in 2013. Evello Systems was introduced to the project in May of 2014. Treatment of the first consumers participating in the pilot began in November of 2015. As of today, 02/10/2015, Evello Systems technologies are used on a daily basis to gather, aggregate and report on all data associated with the treatment of the consumers in this pilot.

Please contact us directly for more information or if you would like to speak with someone directly involved in the TennCare pilot at the Provider, MCO, or Bureau of TennCare level.

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*Journal of Prevention & Intervention in the Community*, 40:325–334, 2012
Copyright © Taylor & Francis Group, LLC
ISSN: 1085-2352 print/1540-7330 online
DOI: 10.1080/10852352.2012.707463

# Reducing Adverse Childhood Experiences (ACE) by Building Community Capacity: A Summary of Washington Family Policy Council Research Findings

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*Community capacity for organization and collaboration has been shown to be a powerful tool for improving the health and well-being of communities. Since 1994 the Washington State Family Policy Council has supported the development of community capacity in 42 community public health and safety networks. Community networks bring local communities together to restructure natural supports and local resources to meet the needs of families and children, and increase cross-system coordination and flexible funding streams to improve local services and policy. In this study, researchers sought to demonstrate the strong impact of the community networks' capacity to interrupt health and social problems. Findings suggest that community networks reduce health and safety problems for the entire community population. Further, community networks with high community capacity reduced adverse childhood experiences (ACE) in young adults ages 18–34.*

*KEYWORDS* adverse childhood experiences (ACE), community capacity, cost savings, health, social services

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Communities vary greatly in the number and severity of health and safety problems they face and the resources available to solve these problems (Longhi & Porter, 2009). Inter-related problems, such as domestic violence, infant mortality, child abuse, out-of-home placement, youth substance abuse, youth suicide, and school drop-out, are difficult for communities to address because of the complexity of funding streams and programs (Kania & Kramer, 2011), multigenerational transmission (Anda & Brown, 2010), and limited capacity to implement comprehensive solutions (Schorr & Farrow, 2011).

Research shows a strong relationship between adverse childhood experiences (ACE) and high-risk behaviors, diseases, disabilities, and workforce issues (Felitti et al., 1998). Studies demonstrated that stressful or traumatic childhood experiences such as abuse, neglect, witnessing domestic violence, or growing up with alcohol/substance abuse, mental illness, parental discord, or crime in the home are a common pathway to social, emotional, and cognitive impairments that lead to increased risk of unhealthy behaviors, violence or re-victimization, disease, disability, and premature mortality. ACE tend to co-occur or cluster. As an individual's ACE accumulate, their risk of numerous health and social problems increases exponentially (Felitti et al., 1998). Breakthrough research in neurobiology has shown that ACE disrupt neurodevelopment and can have lasting effects on brain structure and function (Anda & Brown, 2010).

The accumulation of ACE appears to be higher in those seeking social services. Between 21% and 67% of behavioral and physical health problems that cause people to seek social services are attributable to ACE (Chapman, Dube, & Anda, 2007). ACE attributable problems cross generational, agency and service sector boundaries. Because ACE have multidimensional origins and effects, we proposed an integrated, holistic, and long-range population-focused strategy to effect change. Reducing ACE has the potential to decrease the prevalence of many health, disability, education, and employment problems, resulting in significant cost savings for government, private, and public sectors (Anda & Brown, 2010). This article proposes that the development of community capacity is a potential intervention for reducing ACE and subsequent needs for social and health services.

## COMMUNITY CAPACITY

Community capacity (CC) is described as the empowerment of communities to come together, share responsibility for alleviating crises, improve services, and build healthy environments for families and children (Chaskin, 1999). Local communities appear able to develop the cross-system infrastructure, integrated service delivery system and protective community living environments that may reduce health and safety problems, and the prevalence and impact of ACE (Lavarack, 2006; Porter, 2010). Research conducted by the

Family Policy Council (FPC) in Washington State suggests that strong self-directed community networks have the potential to bring together government, private and public agencies, citizens, and resources to build supports for families and communities (Porter, 2010). Building CC may be an effective strategy to reduce the prevalence of ACE and related risk behaviors (Laverack, 2006). Key dimensions of the Family Policy Council's model for CC include the development of a shared focus, collaborative leadership, continuous learning and improvement, and a system-wide focus on results (Porter, 2010). Each of these dimensions is described below:

- FOCUS: Strategic, shared, result-based focus on inter-related child and family problems
- LEADERSHIP: Collaborative leadership with whole community, leveraged resources, and sustainable efforts
- LEARNING: Innovation and learning from changing conditions and experiences
- RESULTS: Careful attention to measured outcomes and results-based decision making

Comparing the dimensions with other CC research (Flaspohler, Duffy, Wandersman, Stillman, & Maras, 2008; Smith, 2003; Public Health Agency of Canada, 2011; Laverack, 2006; Lempa, Goodman, Rice, & Becker, 2008) shows alignment with key CC aspects emerging from the latest quantitative and qualitative research (Longhi & Porter, 2009).

Community networks convene and empower the local citizenry to work together to solve the communities problems. They do not run programs, nor directly deliver services, rather they create collaboratives among local service providers from multiple disciplines to best align resources and services to meet local community needs. Thus, we view this intervention as an element of a larger complex system of relationships, processes, and events, rather than simply the implementation of specific programs within communities. Tracking and disseminating outcomes of local interventions is crucial for community networks to build and sustain CC. Local participation in outcome research and reporting motivates communities to change actions based on results—building rapid improvement cycles (Schorr & Farrow, 2011; Anderson-Lewis et al., 2011)—and improves the network's CC. Increasing CC is intended to reduce health issues and service needs, and subsequent service costs (Trickett et al., 2011).

Researchers have long recognized that the evaluation of community-level intervention is complicated. Randomized procedures are difficult to apply to complex, multicausal community interventions including embedded variables of local culture, knowledge and involvement (Trickett et al., 2011). However, over 12 years, the FPC has worked with local community networks on participatory action research and learning to define both quantitative and qualitative variables and measures for developmental evaluations that assess local effectiveness and results. The research described in this article uses this developmental approach (Patton, 2011).

## PRESENT STUDIES

The current article describes two Washington State studies looking at the relationship of CC, problem behaviors, and ACE. Both studies were designed to assess the effectiveness of the community networks in reducing chronic social problems over time. Study one looked at county level changes in community health and safety problems over a 10-year period. The hypothesis was that communities with funded community networks would show greater reductions in community health and safety problems than unfunded networks. Communities with funded networks were rated as having higher CC than were communities with unfunded networks, and thus changes in health and safety problems in those networks was seen as a proxy for the effects of CC on reducing health and safety problems. Study two directly assessed the impact of high CC networks on community ACE prevalence. The hypothesis was that strong self-directed communities, high in CC, would show reduced ACE prevalence in their young-adult population, ages 18–34. This age group was chosen because they were the first generation exposed during childhood to the full impact of community network efforts. Therefore, changes in ACE in this population may be due to the presence of high CC community networks.

## METHODS

### Study 1 Research Design

#### PARTICIPANTS

In this study, 29 funded and 10 unfunded networks were compared. In 2001, due to state funding cuts, the FPC defunded some of the existing community networks. Networks were defunded based on evaluation that they had not yet built a minimum level of CC. As a result, the defunded networks provided a comparison group for the analyses.

#### MEASURES

*Severity index.* The FPC studies trends in outcomes across community networks using a set of 15 key standard social and health indicators (i.e., out-of-home placements; loss of parental rights; child hospitalization rates for accident and injury; high school dropout; juvenile suicide attempts; juvenile arrests for alcohol, drugs, and violent crime; juvenile offenders; teen births;

low birth weights, no third trimester maternity care, infant mortality; and fourth grade performance on standardized testing). The data used to calculate these indicators is uniformly collected and used by state and federal government agencies. A statewide database was created that combined these indicators from 1997 to 2007, and county-level rates were calculated for each indicator. For this study, a severity index was created by comparing these county rates and calculating quartiles for each indicator. A rating of 1 was given to each county for each of the fifteen indicators that fell in the worst quartile of the statewide distribution. The severity index can range from 0–15 for each county and represents the "pile-up" of problems within the county. It is used as a measure of the effectiveness of community networks in reducing multiple inter-related health and safety problems. Because county rates fluctuate dramatically from year to year, for this study three year averages were calculated at the beginning and end of the evaluation period in order to create stable baseline and end of period rates. For baseline, rates were averaged across 1997, 1998, and 1999. For the end of the period, rates were averaged across 2004, 2005, and 2006.

*Procedures.* *T* tests were run comparing the two groups of counties on changes in the Severity Index. Additional analysis looked at possible confounding socioeconomic differences between counties, such as changes in the rates of food stamp and welfare use, unemployment, racial/ethnic composition, population size, adult crime, and divorce.

## Study 2 Research Design

### PARTICIPANTS

In this study, Behavioral Risk Factor Surveillance System (BRFSS) survey data from 4,585 respondents was analyzed to compare county differences in ACE rates. Analyses included the 2,109 respondents living in 10 counties with high CC networks and 2,476 respondents living in 28 low CC network counties.

### MEASURES

*Community capacity index.* CC is rated by external reviewers based on biannual reports submitted by community networks to the FPC. Reviewers are state agency staff and contractors who are independent of community networks and county government. Reviewers use a standard method to rate community networks. The method uses a 5-point Likert scale to rate four dimensions of CC: focus on inter-related problems, learning, community strategic leadership, results-based decision making. The CC Index is computed by adding scores across each dimension for each rater and then averaging the ratings across reviewers. A 10-year CC average score was calculated for each network by averaging the 5 CC scores within the 10-year period.

Inter-rater reliability was calculated by correlating scores between individual raters with the average score of that rater group. An analysis of ratings showed good inter-rater reliability among the reviewer (the mean correlation for each possible group of raters averaged between $r = 0.70$ and $r = 0.80$). The distribution of the 10-year average CC score across networks was broken into quartiles. Networks in the top quartile were designated as "high CC" networks, and the networks in the lowest three quartiles were designated as "low CC" networks.

*Adverse childhood experiences.* In 2009, ACE questions were added to the Centers for Disease Control and Prevention (CDC)–funded BRFSS in Washington State. The BRFSS is a state-based survey system collecting data on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury. A disproportionate stratified random sampling (DSS) method is used.  Once a household is selected, one adult (aged 18 or older) is randomly selected to be interviewed.  The questionnaire is asked in either English or Spanish. Starting in 2008, the land-line sample was supplemented by a smaller cell phone only sample. The ACE questions in the BRFSS module were based on the methods of the original Kaiser–CDC ACE Study and pertained to the respondents' first 18 years of life (Felliti et al., 1998). The few differences from the original ACE Study were determined from cognitive testing, focus groups, and field testing to tailor the questions for telephone survey use (Anda & Brown, 2010). ACE scores are calculated by summing all of the ACE questions that are endorsed by a respondent (1 = yes, 0 = no).

*Procedures.* Adult ACE prevalence was compared in communities with higher and lower CC (measured by CC ratings). Linear regression was used to look at the effects of age and CC on community ACE prevalence, and at the effects of CC on ACE prevalence in 18–34-year-olds. Additional logistical regression analyses looked at community prevalence of high ACE scores (3 and above).

## RESULTS

### Study 1

Community networks lowered trends of social and health problems. $T$ tests showed a significant difference in the severity index between funded and unfunded networks, $T = 2.51$, $p < .02$. Table 1 shows that funded community networks showed greater improvements in problem rates over time than did unfunded networks. To explore whether these differences were due to underlying socioeconomic differences in communities, a series of $t$ tests was run. Table 1 also shows that differences between the two community groups on changes in food stamp and welfare use, unemployment, adult arrests, divorce, population size, and race/ethnicity were not significant.

**TABLE 1** *T* tests for Differences Between Funded and Unfunded Counties Between 1997 and 2006

| County variables | Mean for funded counties | Mean for unfunded counties | *t* |
|---|---|---|---|
| Change in severity index | –0.41 | 1.00 | 2.51* |
| Change in food stamps | 26.57 | 21.07 | –0.72 |
| Change in welfare grants | –22.02 | –41.65 | –1.90 |
| Change in unemployment | 0.25 | –0.42 | –1.28 |
| Change in race/ethnicity | 5.30 | 2.77 | –1.72 |
| Change in population | –3.61 | –1.70 | 0.55 |
| Change in adult crime | –0.16 | –0.11 | 0.23 |
| Change in divorce rates | –0.87 | –0.90 | –0.17 |

*Note*. *Significance level $p < .05$.

## Study 2

Community networks with high CC showed ACE reduction in the youngest generation. We explored the main effects of CC and age on ACE prevalence. ACE were higher in younger adults, $B = -.03$, $p < .00$, and higher overall in communities with high CC, $B = .16$, $p < .02$. However, for young adults (age 18–34) ACE prevalence was significantly lower in higher capacity communities, $B = -.53$, $p < .00$. Looking specifically at comparisons of the prevalence of high ACE individuals (three or more ACE) and age the findings showed a significant effect for age. The number of individuals with three or more ACE was higher in younger adults, $B = -.028$, $p < .00$, and in high CC communities, $B = .24$, $p < .00$. For young adults, the number of individuals with three or more ACE was significantly lower in higher capacity communities, $B = -.64$, $p < .00$.

# DISCUSSION

The findings of this secondary data analysis demonstrate that building CC had a positive impact on reducing multiple child and family problems and on reducing ACE prevalence. In Study 1, counties with funded community networks showed significant improvement in the Severity Index. Rates of major social problems improved over time. The same level of improvement was not seen in counties where the community network lost funding. Further, these improvements were not related to county level differences in socioeconomic factors. This suggests that the work of funded community networks had a positive effect in reducing county level health and safety problems, and that CC development processes led by funded community networks was a key to success.

This was tested directly in Study 2, where analysis compared networks on CC. The ACE prevalence of young adults (age 18–34) was lower in communities with a high rating of CC. During the last 16 years, the FPC and community networks have been building CC to connect and align prevention resources in communities. The cohort of young adults was the first generation exposed during childhood to the full impact of these community network efforts. Therefore, changes in ACE in this population may be due to the presence of high CC community networks in these areas. Further, the prevalence of high (three or more) ACE scores was lower among young adults in high capacity communities when compared with low capacity communities. Not only do high CC networks appear to reduce ACE prevalence for young adults overall, they appear to specifically reduce the number of young adults with high multiple ACE.

There are limitations to these findings. The unit of analysis in these studies is county-level data. Direct measures of individual change are not possible, and it may be that additional factors contributed to changes in community rates. The ACE questions are being asked annually, and we expect within the next year to have a large enough sample size to begin studying ACE rates in sub-county areas, such as school districts and locales. We believe this will allow us to include additional community characteristics in future analyses. ACE are also measured using retrospective questionnaires. Adults may have incomplete memories of ACE that happened in early childhood and underreport ACE events. However, one would expect that this would affect the ACE rates overall and not differentially based on CC. Finally, we are not yet able to describe what mechanism is involved in CC that decreases health and safety problems and ACE prevalence. Networks are unique in their locations, participants, and problem-solving approaches. We are working on a theoretical framework and series of case studies to describe the common core attributes of networks with high CC.

## IMPLICATIONS FOR POLICY, PRACTICE, AND RESEARCH

Washington State is moving forward to capitalize on the infrastructure created by the FPC and the community networks. Work is currently underway to create a public–private partnership focused on ACE-reduction, develop and facilitate a research consortium, conduct an actuary study of generated savings, and influence national policy through the results that have been demonstrated in Washington State. Moving this work forward calls for a network of research partnerships. This network would help inform and shape a comprehensive research approach to study and document the development of CC across networks and network interventions to reduce ACE. In addition, the cumulative cost reductions of the community networks have not been well studied and documented. Preliminary analysis showed significant cost savings in deep-end social and health services caseloads, warranting more rigorous study. The associated costs to social, health, and educational service organizations are astronomical—as are potential savings. Preventing just 244 foster placements in Washington can save over 7 million dollars, and documented reductions in only a few ACE-related problems (teen births, school dropout, juvenile offenders, out of home placements) has been estimated to save over

27 million dollars a year (Schueler, Goldstine-Cole, & Longhi, 2009). However, a more robust and actuarially driven evaluation model is needed to fully understand financial impacts of the various strategies on numerous systems (i.e., child welfare, juvenile justice, jails and corrections, mental health, chemical dependency, health, etc.) over time (Schueler et al., 2009).

## CONCLUSION

The effects of ACE are firmly supported by the literature (Anda & Brown, 2010). This study highlights one potential solution, building community capacity (CC), to reduce the impact of ACE in the current generation and the number of ACE experienced by the next. Further evidence needs to be gathered and shared about the strength of CC in reducing ACE, as well as other interventions. It is becoming clear that "silo-ed" interventions, focused on a specific problem or set of problems, will not result in the kinds of impacts we want for our communities. Interventions focused on ACE reduction will need to be multidisciplinary, multilevel, and multiyear. Communities are serving as laboratories in ACE-reduction efforts, and should be studied to identify practice-based interventions (Schorr & Farrow, 2011). Reducing ACE has the potential to significantly bend the cost curve of health care and social services. FPC research suggests that the intersection and alignment of all formal and informal services and resources lying within self-directed communities is a powerful intervention to reduce ACE prevalence (Porter, 2010). In these difficult economic times, when programs are being reduced and eliminated at an alarming rate, a focus on building CC to reduce, prevent and mitigate ACE effects and prevent the need for more expensive interventions may be the only sustainable financial path. Currently, ACE are primarily mentioned in national prevention strategies tied to family violence and injury. While extremely important concerns, ACE are also powerful determinants of health, education, employment, and economic well-being. The broader impact of ACE should also be part of the national agenda regarding healthcare reform, education reform, the productivity of the workforce, and economic well-being and recovery.

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