



**Preventing Childhood Adversity
to Ensure Citizen Readiness**

How Adverse Childhood Experiences (ACEs) impact productivity, crime,
and military eligibility in Colorado

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62%

of Colorado adults report at least one adverse childhood experience (ACE)

Summary

In the United States, nearly two-thirds of adults report having at least one adverse childhood experience (ACE), which can range from parental divorce to child abuse.¹ In Colorado, 62 percent of adults report at least one ACE and, of those individuals, 15 percent report four or more ACEs.² In the past few decades, researchers have documented the effects of early adversity on health and well-being throughout life. This report discusses the impact of ACEs on Coloradans’ “citizen readiness”—whether they are workforce-ready, crime-free, and military-eligible—and the implications for the economy, public safety, and national security.

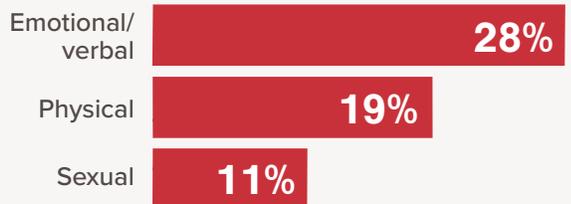
Why is childhood adversity so harmful?

During the early years of life, rapid physical and mental development occurs. For example, during early childhood, more than

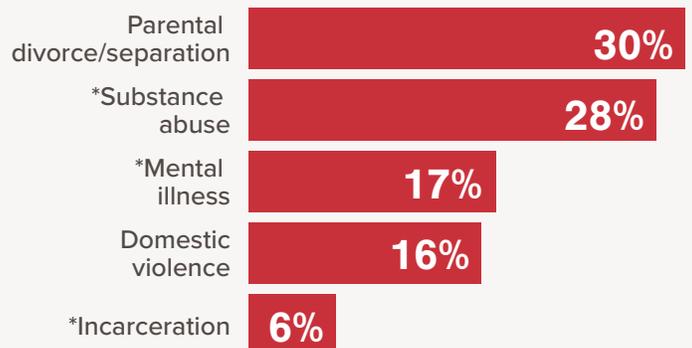
Prevalence of ACEs in Colorado

15 percent of Colorado adults report four or more of the following adverse childhood experiences.

Abuse in childhood³



Household dysfunction in childhood



³Household member
Source: Colorado Office of Early Childhood, May 2017

one million new neural connections are formed per second.⁴ Adverse experiences, such as witnessing domestic violence or parental drug abuse, can induce toxic stress—a “prolonged activation of the stress response systems” that impairs brain and immune system development.⁵

The effects of early adversity carry into adulthood. Research on ACEs and long-term outcomes began in 1998 as a result of a Centers for Disease Control and Prevention (CDC) and Kaiser Permanente effort that collected data on more than 17,000 adults in southern California.⁶ Since then, a number of studies utilizing the data have demonstrated that ACEs can negatively affect health, well-being, and productivity throughout life.

How ACEs impact citizen readiness in Colorado

1. Early adversity lowers adult productivity

There is a shortage of skilled workers in Colorado. According to a recent ReadyNation report, nearly half (47 percent) of Colorado jobs are middle-skill (requiring more than a high school diploma but less than a four-year degree), yet only 36 percent of workers have the educational credentials to fill them.⁷ Early adversity is part of the problem. One study found that **individuals who reported four or more ACEs had a 50 percent lower likelihood of completing high school and were half as likely to hold a middle-skill job** (10 percent vs. 22 percent) compared to individuals who grew up in the same neighborhood and attended the same schools but reported no ACEs.⁸

The strong connection between ACEs and chronic disease may explain reductions in productivity. A recent study found that Colorado adults with four or more ACEs were

more than twice as likely to have a chronic disease and 5.5 times as likely to suffer from depression compared to adults with no ACEs.⁹ Research shows that individuals with chronic disease and/or depression are less productive on average compared to those without the illnesses.¹⁰ In fact, a study based on the original ACEs data found that individuals who experienced four or more ACEs were 2.4 times more likely to miss work as a result of poor physical health, stress, or feeling depressed.¹¹

These issues have bottom-line impacts on Colorado’s businesses and economy. Chronic disease alone costs the Colorado economy roughly \$34 billion annually in health care spending and \$13 billion in lower productivity.¹²

2. Early adversity increases the risk of crime

Crime is a growing problem in Colorado. Nearly 204,000 crimes were reported in the state in 2016—a 5.5 percent increase compared to 2015.¹³ Both violent and property crimes are rising. Early adversity is a substantial risk factor for involvement in crime. One study demonstrated that **the odds of an arrest by age 18 were 3.1 times higher among individuals with four or more ACEs**. By age 25, their odds of a felony charge were 2.8 times higher compared to youth with no ACEs.¹⁴

Child abuse and neglect in particular can increase future involvement in crime. One study found that being abused or neglected as a child doubled the risk of engaging in criminal activity in adolescence.¹⁵ Maternal depression (in the ACE category of household member mental illness) can also lead to a heightened risk of crime by increasing externalizing behaviors in children.¹⁶ Externalizing behaviors, such as physical

“ 15 percent of Colorado adults report more than four adverse experiences as a child. By addressing the root causes of crime, like ACEs, we can build safer communities.



Sheriff Jeff Shrader
Jefferson County Sheriff's Office

aggression, disobeying rules, and destroying property, are predictors of later crime.¹⁷

3. Early adversity curtails military eligibility

Early adversity also prevents young adults from qualifying to serve in the armed forces. According to Department of Defense data, **70 percent of young adults in Colorado would not qualify for military service if they tried to enlist** (nationally, the rate is 71 percent).¹⁸ There are three main reasons: 1) obesity and other health problems, 2) failure to meet educational requirements, and 3) a record of crime or drug abuse.

As previously discussed, childhood adversity reduces military eligibility by affecting educational and criminal outcomes. ACEs also impede military eligibility by increasing the risk of drug abuse and obesity:

- Drug abuse: A study based on the original ACEs data found that nearly 14 percent of adolescents with four or more ACEs initiated illicit drug use, compared to only four percent of adolescents without ACEs.¹⁹ Other studies corroborate these results, finding that **individuals with four or more ACEs have a 3.5 to 10 times higher risk of using illicit drugs** or reporting a substance abuse problem.²⁰
- Obesity: Two studies found that **having four or more ACEs doubled the percentage of individuals who were severely obese** compared to no ACEs (12 percent vs. 5.5 percent).²¹ Another study found that physical abuse in childhood increased the risk of obesity by 39 percent.²² There are many possible reasons why early adversity relates to obesity risk, including the fact that “early life stress exposure may disrupt hormones that regulate appetite, metabolism, and fat storage.”²³

Policy Recommendations

1. Invest in evidence-based, voluntary home visiting programs

Voluntary early childhood home visiting programs work with at-risk parents to establish positive parenting practices that reduce ACEs. National studies of the Nurse-Family Partnership (Colorado's largest home visiting program) found that families who participated had half as many verified incidents of child abuse and neglect compared to the control group.²⁴ Colorado's home visiting programs funded through the federal Maternal, Infant and Early Childhood Home Visiting (MIECHV) program currently support more than 4,000 at-risk families. State-funded home visiting programs serve additional families, but with more than 315,000 families who could benefit from home visiting services, the need far outstrips the supply.²⁵

2. Screen children for ACEs and provide necessary supports

Identifying children who are experiencing adversity and connecting them with appropriate services is critical to preventing negative long-term outcomes. Colorado's children and families would benefit from a statewide system that ensures timely screening for ACEs and referral to proven treatments.²⁶ Screening for ACEs could occur in the primary care setting as well as early childhood settings like preschools and child care centers.

3. Provide mental health support in child care and preschool programs

Most preschool-aged children exhibit a normal level of disruptive behavior. But there are some children who have severe and/or frequent challenging behaviors who require specialized support to avoid expulsion from preschool and longer-term problems. Early childhood mental health consultation programs help these children by placing highly-trained consultants in child care centers and preschools to work with teachers and parents to address behavior problems and build children's social-emotional skills.²⁷ In Colorado, there is a shortage of such professionals and "a lack of incentives and supports for professionals to seek specialized training."²⁸

4. Improve screening and treatment for maternal depression

Improved screening for maternal depression is also necessary to mitigate the relationship



between ACEs and crime. Currently, Colorado's Department of Health Care Policy & Financing allows reimbursement for one screening for maternal depression in the child's first year of life.²⁹ Colorado officials should expand this policy to allow for multiple screenings for maternal depression in the first year of the child's life and continuing into early childhood. Research shows that such screenings can help improve recognition of depression and the likelihood of treatment.³⁰ Screening should be accompanied by evidence-based, cost-effective treatments like Cognitive Behavioral Therapy (CBT). Therapy can also be combined with home visiting programs. After three months in the Moving Beyond Depression program delivered through home visits, only 29 percent of mothers continued to have a major depressive disorder, compared to 70 percent of mothers in the control group.³¹

Conclusion

Mounting evidence shows that childhood adversity is related to both individual and societal problems, including lower productivity, increased crime, and reduced military eligibility. Colorado's leaders can take a proactive approach to preventing the long-term consequences of ACEs by providing early childhood supports and improving access to mental health screenings and treatments for both children and parents.

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