

A Healthy Early Childhood Action Plan:

POLICIES FOR
A LIFETIME
OF WELL-BEING

2015



Acknowledgements

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A Healthy Early Childhood Action Plan: *Health Policy* SERIES

A Healthy Early Childhood Action Plan:

POLICIES FOR A LIFETIME OF WELL-BEING

There is growing scientific and medical evidence that investing in keeping children healthy when they are young leads to payoffs throughout their entire lives. A healthy start can help put a child on the path toward achievement in school, career, community, family and life. Research shows that high-quality preventive healthcare; nurturing, stable caretakers and relationships; good nutrition and physical activity; positive learning experiences; and a safe home, neighborhood and environment can also have a positive long-term impact on a child's development.^{1, 2, 3, 4}

Conversely, unhealthy conditions and severe prolonged or repeated periods of stress, disruption and trauma can harm and alter a child's body and brain. For example, the nervous, endocrine and immune systems react to stress by releasing hormones and cortisol which cause inflammation throughout the body. The impact is particularly extreme for young children who are in their earliest and most dramatic stages of development, and can have a negative effect on both physical well-being and development of the brain. Furthermore, the impact is both immediate — diminishing the physical, mental, emotional and behavioral health of young children — and long-term — as the effects manifest and emerge at different periods throughout life as children age. Genetics and experiences work together to influence a person's health — increasing or decreasing risk for different conditions and problems. Prolonged “toxic stress” — strong, frequent, extended adversity — and trauma can increase a child's

risk for developing a range of physical, mental and behavioral health problems.

- **Physical health:** Negative experiences in early childhood — and even prenatally — can greatly increase an individual's lifelong risk for hypertension, diabetes, heart disease, stroke and many other forms of chronic diseases.
- **Brain development:** The foundation for a person's cognitive, social, emotional, mental and behavioral health is established in early childhood and during pregnancy. “Toxic stress” can permanently change the brain's architecture, as the prolonged periods of high levels of stress hormones and unhealthy levels of cortisol exceed a tipping point where a person's ability to manage risk diminishes. The outcome is increased likelihood for cognitive and developmental delays, depression, anxiety, aggression, attention deficit/hyperactivity disorder (ADHD) and other mental and behavioral health problems.

Four decades of research have shown that effective, targeted policy approaches can make a difference and help young children get off to a healthier start by 1) reducing the risks and hazards they are exposed to and 2) promoting positive protective factors by building safe, stable nurturing relationships and environments.

Investment in the early health of children has been shown to reduce the risk for: chronic illnesses, shorter and less healthy lives, obesity and eating disorders, difficulty in maintaining healthy relationships, poor school performance, behavioral problems in school, dropping out of high school, the need for special education and child welfare services, mental and behavioral health problems like depression and anxiety, alcohol and drug abuse, exposure to harmful environmental hazards, suicidal thoughts and attempts, teen pregnancy, sexually transmitted diseases (STDs), aggression and violence, domestic abuse and rape, not acquiring key parenting skills or support for when they have children

themselves and difficulty in securing and maintaining a job.^{5,6,7,8}

Reducing risks and building protective factors helps the individual children and their families while also reducing the burden on the nation’s social service, healthcare, education and public health systems and costs. James Heckman, Ph.D., Nobel Laureate in Economics, the National Institutes of Health (NIH) and a range of other experts have found that investing in early childhood development generates a strong return on investment — and focusing on upstream prevention of adverse experiences in the early years is more life- and cost-effective than remediation.^{9,10,11,12} While it is important to provide and sustain services across a person’s lifespan, the research shows that the greatest returns come from investing in early childhood — from birth to age 5 — and, while all children benefit from early childhood development programs, children living in families in poverty and who have other disadvantages can benefit the most.¹³

PRESENTING
THE HECKMAN EQUATION

INVEST in early education for disadvantaged children

+ DEVELOP cognitive skills, social abilities and healthy behaviors early

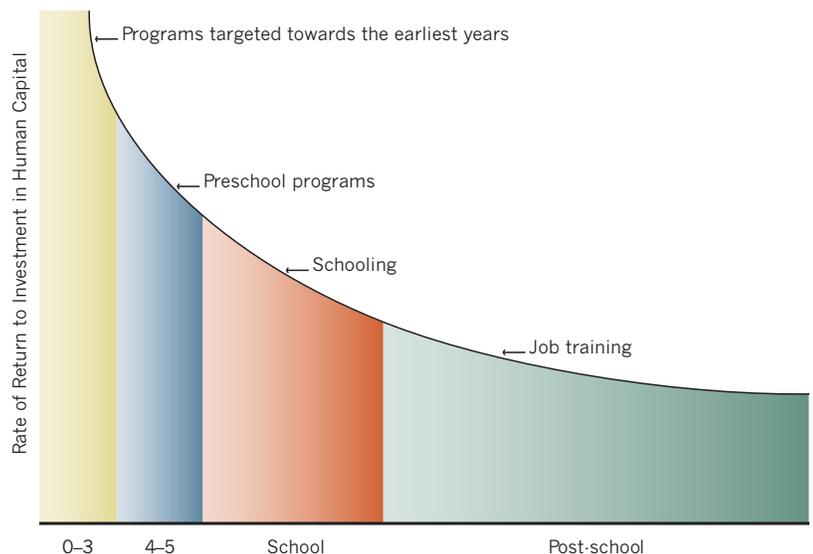
+ SUSTAIN early development with effective education through to adulthood

= GAIN a more capable and productive workforce

LEARN MORE ABOUT THE BENEFITS OF QUALITY EARLY CHILDHOOD EDUCATION AT HECKMANEQUATION.ORG

Source: *The Heckman Equation: A Solution for Better Education and Health Outcomes, Less Crime and Poverty and Greater Economic Prosperity*. In Heckman: *The Economics of Human Potential*. www.heckmanequation.org

Returns to a Unit Dollar Invested



Source: Heckman (2008)



The increasing body of research is a wake-up call to the public health community. To date, much of the focus on improving health has been on ensuring children have access to high-quality, regular healthcare. But, the evidence shows that this is not enough. Access to healthcare is just one of many factors that influence and shape the direction a child's health takes as they grow. This early investment in programs in early childhood helps mitigate the need for increased social and health services as children grow.

The most successful approach to improving the short- and long-term health and well-being of children requires thinking more broadly about the context of the family and environment — where they live, learn and play.

In this report, the Trust for America's Health (TFAH) examines how to increase the public health approach to child development by looking at national, state and local strategies, policies and programs that have a high impact for improving health and well-being across a range of sectors, and how to better bring those sectors together to develop partnerships that have a better chance of achieving common goals.

Government policies and programs are important for improving health and opportunities for young children, but it also requires cooperative efforts from a wide range of partners, including parents, families, pediatricians and a range of other healthcare providers, hospitals, insurers, social service providers, childcare and early education providers, schools, the foster care system, community- and faith-based groups and employers. This report provides the public, policymakers and a broad and diverse set of partners with an objective, nonpartisan, independent analysis of the status of early childhood policies; encourages greater transparency and accountability; and recommends ways to ensure the public health system and partners can work together across boundaries to accomplish the shared objective of a healthy start for America's children.

CHILDREN ZERO-TO-5 IN THE UNITED STATES

- There are 24 million children between zero and 5 in the United States.¹⁴
- Nearly half of young children (11.1 million) live in low-income families (with an income up to 200 percent of the federal poverty level (FPL)), around

one-quarter (5.7 million children) live in poverty, and, of children in poverty, nearly half live in deep poverty (less than half of the federal poverty level).^{15,16} The FPL for a family of four in 2013 was \$24,624, and in 2015 \$24,250.¹⁷

40 YEARS OF RESEARCH: POSITIVE RESULTS FOR EARLY CHILDHOOD PROGRAMS^{18, 19}

Types of Interventions	Increased via Early Childhood Programs	Decreased via Early Childhood Programs
Individual-Based Interventions*	<ul style="list-style-type: none"> Child health Normalized cortisol levels Language development Cognitive function Emotional regulation Prosocial behavior Social competence Later age of first sexual experience 	<ul style="list-style-type: none"> Baby irritability Depression and anxiety Early aggression Lifelong aggression Attention Deficit Hyperactivity Disorder Antisocial behavior Conduct problems Delinquent, violent and criminal behaviors Driving under the influence Initiation and use of tobacco, alcohol and other drugs Risk of substance abuse Likelihood of selling drugs Teen pregnancy STDs Thoughts of suicide and attempts Mental health problems Poor nutrition, insufficient physical activity and obesity
Family-Based Interventions*	<ul style="list-style-type: none"> Maternal and perinatal healthcare Maternal concern Support, nurturing and monitoring of a child Family problem solving capabilities Proactive family management Parental involvement Maternal graduation rates Maternal work history 	<ul style="list-style-type: none"> Prenatal smoking Subsequent pregnancies Childhood accidents and poisonings Parental/caregiver stress Maternal depression Maternal impairment due to substance abuse Domestic violence Child abuse and neglect
School- and Work-Based Interventions*	<ul style="list-style-type: none"> Social-emotional development Social skills School academic achievement Cooperative, team learning style School behavior, competence and socialization Commitment to school High school completion College attendance Employment Time present at work Physical, mental and behavioral health 	<ul style="list-style-type: none"> Harsh/critical teachers Disruptive behavior Absenteeism Poor nutrition, insufficient physical activity and obesity
Health- and Social Service-Based Interventions*	<ul style="list-style-type: none"> Awareness of and access to community services and supports 	<ul style="list-style-type: none"> Need for social services Special education Child protective services Mental health and drug abuse services Criminal justice involvement Emergency healthcare services and long-term healthcare costs Income support and unemployment benefit costs

* NOTE: Summary of a wide range of research projects – with different populations, time frames, locations, delivery and other factors.

KEY PREVENTION STRATEGIES — TARGETED TRANSITION POINTS^{20, 21}

Developmental Period	Potential Risks	Strategies	Opportunities for Engagement — Potential for Establishing Connections to Wider and Ongoing Support Systems
Preconception and Prenatal	<ul style="list-style-type: none"> • Women’s and maternal health problems • Mental health, maternal depression and substance abuse • Inadequate prenatal care 	<ul style="list-style-type: none"> • Ongoing well care exams and preventive care for women of childbearing age • Access to quality healthcare and social services • In-home nurse visits 	<ul style="list-style-type: none"> • Preventive healthcare and targeted social service supports • Special Supplemental Nutrition Program for Women, Infant, and Children Program (WIC) • Prenatal healthcare visits • Community Health Centers • Home visiting programs • Continuing education programs for pregnant teens and teen mothers
Infancy and Toddlerhood	<ul style="list-style-type: none"> • Insecure attachment to caregiver • Inappropriate expectations for the child • Harsh discipline • Lack of or limited breastfeeding and proper nutrition 	<ul style="list-style-type: none"> • Parenting classes on developing warm, supportive relationships, understanding child development and managing child behavior • Establishing medical homes • Safe and beneficial out-of-home services as needed • Support for good nutrition and increased physical activity 	<ul style="list-style-type: none"> • At Birth — in the Hospital or via healthcare provider • Pediatric well care exams — pediatricians, Community Health Centers, Medicaid medical homes, other medical providers • WIC, SNAP and CACFP • Home visiting and targeted parent skill-building classes • Early Head Start • High quality, affordable home and center based child care • Trauma-informed child welfare systems and high quality foster care homes. • Income support, such as TANF, EITC, Child Tax Credits, Dependent care tax credits
Preschool	<ul style="list-style-type: none"> • Delayed school readiness • Delayed social-emotional-behavioral development — including self-regulation • Physical well-being concerns — including inappropriate nutrition and insufficient activity 	<ul style="list-style-type: none"> • Positive early learning in preschool highlighting math and language concepts and home assignments for parents and children • Preschool focus on social-emotional learning • Parent, teacher classes on setting limits and boundaries 	<ul style="list-style-type: none"> • High quality child care and early education programs, including health services • Medical visits • Continuation of social and financial support programs and services • WIC, SNAP, CACFP
Elementary	<ul style="list-style-type: none"> • Delayed academic progress • Delayed social-emotional-behavioral development — including self-regulation • Physical well-being concerns — including inappropriate nutrition and insufficient activity 	<ul style="list-style-type: none"> • Added academic support and tutoring • Training teachers on classroom management • Developing collaborative relationships between school and home • Placement in pro-social peer groups and positive behavior classroom programs 	<ul style="list-style-type: none"> • High quality schools and programs, including health services in schools • Mental health and prevention of substance abuse for children and parents • Continuation of social and financial support programs and services
Ongoing			<ul style="list-style-type: none"> • Income, nutrition and housing assistance programs • Care coordination and no wrong door approaches for health and social service programs — supporting families to access and receive range of assistance they are eligible for

ECONOMIC BENEFITS OF PROMISING EARLY CHILDHOOD PROGRAMS^{22, 23}

Program	Description	Return on Investment
Nurse-Family Partnership	Home-visiting health and social service program for at-risk new mothers from pregnancy to child reaching 2 years old	\$2.88 for \$1 invested for all families; \$5.70 for \$1 invested for high-risk families <i>[Note: participants followed until 15 years old.]</i>
Carolina Abecedarian Project	Early education intervention — including connecting to broader health and social services support, and emphasizing social, emotional and cognitive development activities	\$3.23 for \$1 invested (healthcare provided but effects not included in analysis) <i>[Note: participants followed until 37 years old.]</i>
High/Scope Perry Preschool Project	Intensive developmental early childhood education program for low-IQ children combined with home visiting	\$5.15-\$8.74 for \$1 invested <i>[Note: participants followed until 47 years old.]</i> \$17.07 for every \$1 invested <i>[Note: participants followed until 40 years old.]</i>
Chicago Child-Parent Center Program	Preschool program for children in high-poverty families emphasizing parent participation, child-centered, individualized approach to social and cognitive development	\$7.14 for every \$1 invested <i>[Note: participants followed until age 21.]</i>
Seattle Social Development Project	School-based program supporting positive behavior, problem solving and healthy behavior	\$3.14 for every \$1 invested
Good Behavior Game	Classroom-based, teacher-led behavior management strategy to help reduce aggressive behavior in students in the early elementary grades by rewarding good behavior	\$25.92 for every \$1 invested
Child Development Project	Comprehensive elementary school based intervention focusing on students' social, ethical and intellectual development	\$28.42 for every \$1 invested
Center for Benefit-Cost Studies of Education at Columbia University's Teachers College: Review of Six Social-Emotional Learning Interventions	Evaluation of six prominent interventions, including: 4Rs: learning and literacy program to combat aggression/violence Positive Action: school curriculum/activities to promote positive thinking, actions and self-concept Life Skills Training: classroom intervention to reduce substance abuse/violence Second Step: social skills curriculum to improve problem-solving/emotional management Responsive Classroom: improve teacher efficacy to influence social-emotional skills and school community Social and Emotional Training: classroom intervention to support cognitive and SE competencies	\$11 for every \$1 invested ²⁴
Community Asthma Initiative	A nurse and community health worker model to work with families and provide case management services, home environmental assessments and asthma management and medication education	\$1.46 for every \$1 invested return for insurers \$1.73 for every \$1 return for society
Lead Paint Abatement	A review of studies on lead abatement initiatives showed effective returns in reducing costs for medical treatment, lost earnings, tax revenue, special education, lead-lined ADHD cases and criminal activity	\$17-\$221 for every \$1 invested ²⁵

* NOTE: Summary of a wide range of research projects – with different populations, time frames, locations, delivery and other factors.

POTENTIAL FOCUS AREAS FOR PREVENTION AND SAVINGS

Evidence-based research has shown that early childhood programs — and/or prenatal and family-based early child programs — can help significantly reduce spending in all of the following areas:

Area of focus	Current spending	Numbers Impacted
Children and Teen Mental Health²⁶	<p>\$13.8 billion annual</p> <ul style="list-style-type: none"> • \$2,465 mean spending per capita • 48.8% by Medicaid 	<ul style="list-style-type: none"> • #1 most expensive child health condition — 5.6 million children treated annually
Childhood Asthma²⁷	<p>\$11.9 billion annual</p> <ul style="list-style-type: none"> • \$969 mean spending • 49.1% by Medicaid 	<ul style="list-style-type: none"> • #2 most expensive child health condition — 12.3 million children treated annually
Trauma- and Injury-Related Disorders²⁸	<p>\$5.8 billion annual</p> <ul style="list-style-type: none"> • \$869 mean spending • 18% by Medicaid 	<ul style="list-style-type: none"> • #3 most expensive child health condition — 6.7 million children treated annually
Childhood Obesity	<p>\$19,000 incremental lifetime cost of an obese child compared to a normal weight child²⁹</p>	<ul style="list-style-type: none"> • 14.7% of WIC participants ages 2 to 4 are obese, more than 8% of all children ages 2 to 5 are obese^{30, 31} • 16.9% of children (ages 2 to 19) are obese • 31.8% are either overweight or obese³²
Preterm Births^{33, 34, 35}	<p>\$26 billion annual</p> <ul style="list-style-type: none"> • \$21,500 average spending direct medical spending • \$77,700 direct medical spending if baby is under 3.3 pounds • \$51,600 lifetime cost (including developmental disability, labor market, etc. costs) 	<ul style="list-style-type: none"> • 1 in 8 children born before 37 weeks of gestation (3 weeks early or before)
Gestational and Pre-Existing Diabetes³⁶	<p>18% higher medical costs for gestational diabetes</p> <ul style="list-style-type: none"> • 36% by Medicaid <p>55% higher medical costs of pre-existing diabetes</p> <ul style="list-style-type: none"> • 43% by Medicaid 	<ul style="list-style-type: none"> • 6.4% women giving birth annually have pre-existing or gestational diabetes
Fetal Alcohol Spectrum Disorder (FASD)³⁷	<p>\$5.4 billion annually</p> <ul style="list-style-type: none"> • \$860,000-to-\$4.2 million lifetime cost per baby (medical, services, lost quality of life years, etc. cost per baby) 	<ul style="list-style-type: none"> • Around 40,000 babies born with symptoms annually. FASD is often under-diagnosed or misdiagnosed, so numbers are likely significantly higher³⁸
Drug Abuse During Pregnancy^{39, 40}	<p>\$53,000 per baby needing treatment for opioid drug withdrawal</p>	<ul style="list-style-type: none"> • 1 in 20 women take illegal drugs during pregnancy • 13,539 babies born with opioid drug withdrawal syndrome in 2009
Depression — Before, During and After Pregnancy — and Long-term Maternal Depression⁴¹	<p>\$83.1 billion annually — total depression costs</p>	<ul style="list-style-type: none"> • 1 in 10 Americans suffers from depression — rates higher in low-income, lower-education, unemployed, racial and ethnic minorities, no health insurance, women • 1 in 7 postpartum women suffer from depression⁴²
Majority of Chronic Health Conditions⁴³	<p>\$2.2 trillion of the \$2.8 trillion total spending (75 percent of total healthcare spending is on chronic care)</p> <ul style="list-style-type: none"> • Heart disease and stroke cost \$315.4 billion (direct and indirect spending) annually • Diabetes costs \$245 billion, (\$176 billion in direct medical costs and \$69 billion in decreased productivity) annually • Arthritis and related conditions cost about \$128 billion (\$81 billion in direct medical costs and \$47 billion in lost earnings) annually • Obesity costs \$147 billion in direct medical costs annually • Smoking costs more than \$289 billion (\$133 billion in direct medical costs and \$156 billion in lost productivity from premature death) annually • Excessive alcohol consumption costs \$223.5 billion (losses in workplace productivity, healthcare expenses, and crimes) annually 	<ul style="list-style-type: none"> • More than half of Americans have one or more chronic disease — CDC says majority of chronic diseases are preventable • 33% are obese; 66% are obese or overweight • 20% smoke • 10% have diabetes • 53 million have arthritis • 88,000 deaths per year from excessive drinking

POTENTIAL FOCUS AREAS FOR PREVENTION AND SAVINGS

Evidence-based research has shown that early childhood programs — and/or prenatal and family-based early child programs — can help significantly reduce spending in all of the following areas:

Area of focus	Current spending	Numbers Impacted
Substance Abuse ⁴⁴	\$510.8 billion annually	<ul style="list-style-type: none"> • 21.6 million Americans ages 12 and older needed treatment for a substance abuse problem⁴⁵
Sexually Transmitted Infections ⁴⁶	\$16 billion annually	<ul style="list-style-type: none"> • 20 million new infections annually • 110 million total infections • Eight most common infections include chlamydia, gonorrhea, hepatitis B virus (HBV), herpes simplex virus type 2 (HSV-2), human immunodeficiency virus (HIV), human papillomavirus (HPV), syphilis and trichomoniasis.
Child Welfare System ⁴⁷	\$29.4 billion annually <ul style="list-style-type: none"> • \$13.6 billion federal funds • \$12.5 billion state funds • \$4.4 billion local funds 	<ul style="list-style-type: none"> • Around 640,000 children spend time in out-of-home care each year^{48, 49} • Children remain in foster care an average of two years • 678,000 children are maltreated annually (reported and substantiated abuse or neglect)⁵⁰
Special Education ⁵¹	\$77.3 billion annually <ul style="list-style-type: none"> • 21% of total elementary and secondary education spending • \$50 billion on special education services • \$27.3 billion on general education funds to support special education students 	<ul style="list-style-type: none"> • Around 13 percent of children receive special education services annually
Teen Pregnancy ⁵²	\$9.4 billion annually (increased healthcare, foster care, incarceration, lost tax revenue) <ul style="list-style-type: none"> • \$1,682 average annual cost to taxpayers associated with a child born to a teen mother during each year from birth to age 15 	<ul style="list-style-type: none"> • 372,000 births to women under the age of 20
Child Maltreatment ^{53, 54, 55}	\$124 billion (approximately) — total lifetime estimated cost associated with one year of confirmed cases of child maltreatment <ul style="list-style-type: none"> • 69.2% lifetime lost productivity of the children; 20.2% healthcare costs; 3.7% special education costs; 3.6% child welfare costs; 3.2% criminal justice costs 	<ul style="list-style-type: none"> • 678,000 victims of child maltreatment annually
Juvenile Justice ⁵⁶	\$5.7 billion annually (incarcerations) <ul style="list-style-type: none"> • \$240.99 per day per youth 	<ul style="list-style-type: none"> • 93,000 youth in juvenile justice facilities — with 64,550 committed to residential facilities and 26,344 detained
Criminal Justice — Adults ^{57, 58}	\$15 billion losses to the victims and \$179 billion government expenditures (police protection, judicial and legal activities and corrections) annually <ul style="list-style-type: none"> • \$80 billion state and federal spending for incarcerations 	<ul style="list-style-type: none"> • 2.4 million incarcerated each year • 7 million in some form of correctional supervision
Costs of Growing Up in Poverty	\$500 billion annually (lost potential earnings, involvement with criminal justice system, costs associated with poor health outcomes) ⁵⁹	<ul style="list-style-type: none"> • 1 in 5 (16 million, 22%) children live in poverty in the United States.⁶⁰ (Poverty level is \$23,550 annually for a family of four) • 45% of children live in low-income families (\$47,100 annually for a family of four)

TRAUMA AND TOXIC STRESS

There is a large body of research showing the damaging effects that extreme or prolonged periods of stress can have on learning, behavior and health. Coping with normal life stress is healthy and important for development, and when children have strong foundations of nurturing, stable and safe relationships and living environments, the impact of stress is buffered and they tend to develop healthy stress response systems.

However, if a child experiences one or more traumatic events, or is exposed to ongoing trauma or “toxic stress,” it can disrupt brain and nervous system development and increases the risk for stress-related diseases, cognitive impairment and behavior problems. The impact is particularly strong on infants and young children who are in the early phases of brain and body development.

- Traumatic events can include violence, abuse, neglect, loss, disasters, war or other emotionally harmful experiences.⁶¹
- Toxic stress can occur when children experience not just one traumatic event but rather they are exposed to repeated and ongoing traumas, such as physical, sexual or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence in the home or in their neighborhood, and/or the accumulated burden and stress of family economic hardship.⁶² The Center for the Developing Child at Harvard University defines toxic stress as being “associated with strong and prolonged activation of the body’s stress management system in the absence of the buffering protection of adult support. Precipitants include extreme poverty in conjunction with continuous family chaos, recurrent physical or emotional abuse, chronic neglect, severe and enduring maternal depression, persistent parental substance abuse or repeated exposure to violence in the community or within the family.



The essential feature of toxic stress is the absence of consistent, supportive relationships to help the child cope and thereby bring the physiological response to threat back to baseline.”⁶³

Toxic stress and traumatic experiences can increase:

- An individual’s likelihood to engage in risky behaviors, such as smoking, eating disorders, substance abuse and high-risk sexual behaviors leading to teen pregnancy and sexually transmitted infections;
- The risk for health problems, such as heart disease and diabetes, or mortality at an earlier age; and
- The risk for social, mental health, behavioral and cognitive problems, which can lead to low academic performance and behavior problems in school and difficulty in establishing fulfilling relationships, maintaining employment and becoming productive members of society.⁶⁴

Support from caring adults and protective systems have been shown to help buttress or reduce the negative effects that trauma and toxic stress can have. Programs and services that help give parents and caregivers additional resources, skills and support can help them in turn provide safe, stable and nurturing environments for their children. As part of building protective factors, strategies should support development of positive coping skills in children — such as self-regulation, which is a skill used to alleviate forms of stress by using goal-directed actions, such as organizing behavior; controlling impulses; and managing cognition, emotion and behavior constructively.⁶⁵ Programs and services must also account for the fact that the parents and caregivers may also have a history of toxic stress, traumatic experiences and lower-levels of information and education. Therefore, programs and services should provide a wider system of support and resources for families through social services and high quality early child care and education.

ADVERSE CHILDHOOD EXPERIENCES (ACEs)

Adverse Childhood Experiences can have a profound impact on the physical, mental, behavioral and social-emotional health throughout an individual's lifespan.

The Centers for Disease Control and Prevention (CDC) and Kaiser Permanente conducted a groundbreaking, long-term series of studies on ACEs, finding that:

- More than half of children experience an adverse event during childhood — and many experience multiple co-occurring adverse events: 52 percent of children experienced at least one serious adverse event during childhood, 27 percent experienced at least two, 14 percent experienced three and 7 percent experienced four or more. Adverse experiences were defined as abuse (emotional, physical or sexual); neglect (emotional or physical); or household dysfunction (mother treated violently, substance abuse or mental illness in the home, parental separation or divorce or incarcerated household member).^{66, 67}
- ACEs increase a child's risk for a series of health and social problems, and the risk for these problems increases in a strong and graded fashion with the increase in the number of ACEs a child experiences including for: alcoholism and alcohol abuse, chronic obstructive pulmonary diseases (COPD), depression, fetal death, health-related quality of life, illicit drug use, Ischemic heart disease (IHD), liver disease, intimate partner violence, multiple sexual part-

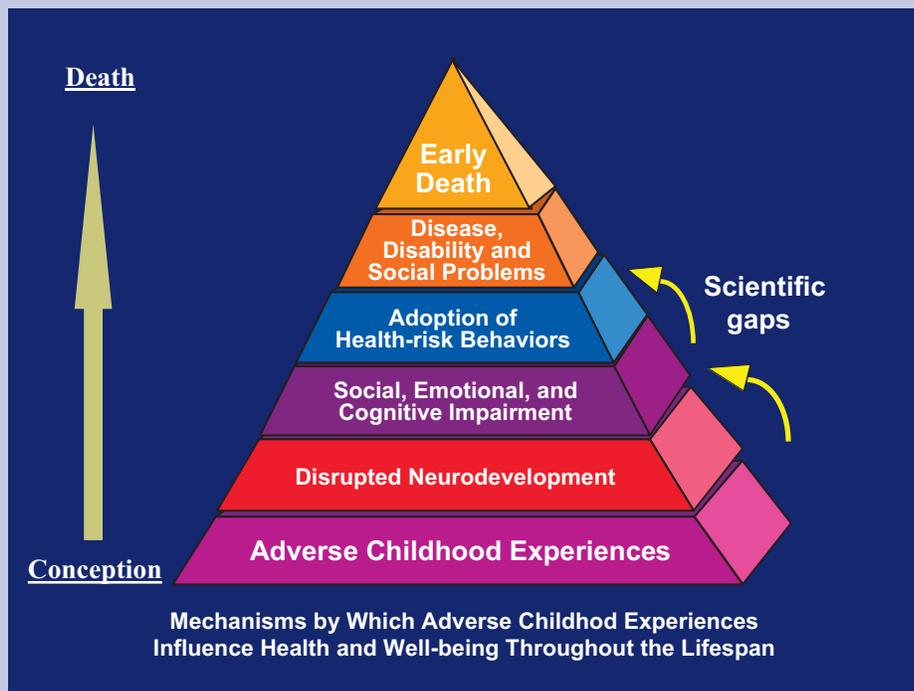
ners, STDs, smoking, suicide attempts, unintended pregnancies, early initiation of smoking, early initiation of sexual activity and adolescent pregnancy.

The most commonly reported ACEs were physical abuse (28.3 percent), substance abuse in the household (26.9 percent), sexual abuse (24.7 percent for girls and 16 percent for boys) and parent divorce or separation (23.3 percent).⁶⁸

Ten states and Washington, D.C. that have conducted surveys on the impact of ACEs found that 44.1 percent of adults reported experiencing one to three adverse events during their childhood, 12.7 percent reported four to six ACEs,

and 2.6 percent reported seven to nine ACEs.⁶⁹ Having adverse experiences was associated with greater odds of fair or poor health, frequent mental distress, disability, myocardial infarction, asthma and diabetes than for those with no ACEs. There was a linear relationship between the number of ACEs experienced and higher odds for poor health conditions.

In the survey in Iowa, individuals who experienced four or more ACEs were more than twice as likely to develop arthritis, asthma, COPD, diabetes, heart disease, kidney disease, stroke and vision problems than individuals who did not experience any ACEs.⁷⁰



SOURCE: Centers for Disease Control and Prevention (CDC).

ACEs = ADVERSE CHILDHOOD EXPERIENCES

The three types of ACEs include

ABUSE



Physical



Emotional



Sexual

NEGLECT



Physical



Emotional

HOUSEHOLD DYSFUNCTION



Mental Illness



Mother treated violently



Incarcerated Relative



Substance Abuse

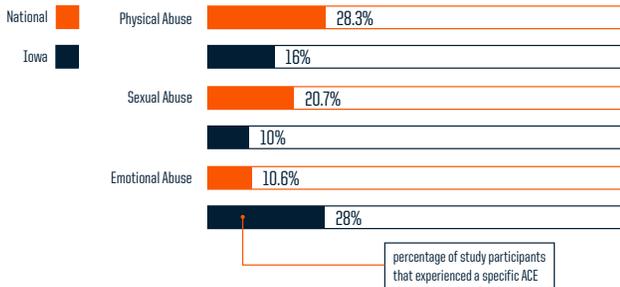


Divorce

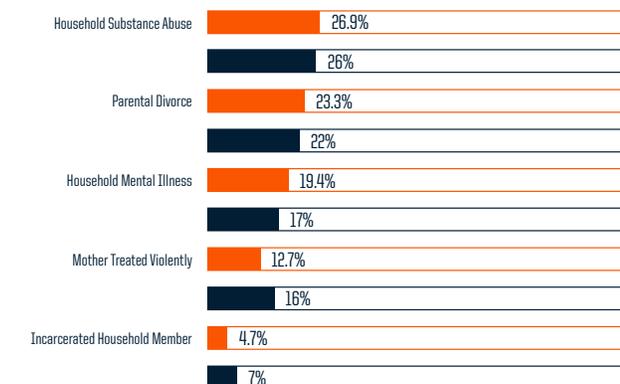
HOW PREVALENT ARE ACEs?

The Initial ACE study¹ and an analysis of Iowa's Behavioral Risk Factor Surveillance System (BRFSS)² participants revealed the following estimates:

ABUSE

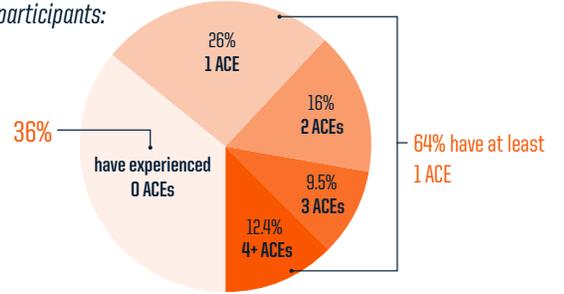


HOUSEHOLD DYSFUNCTION

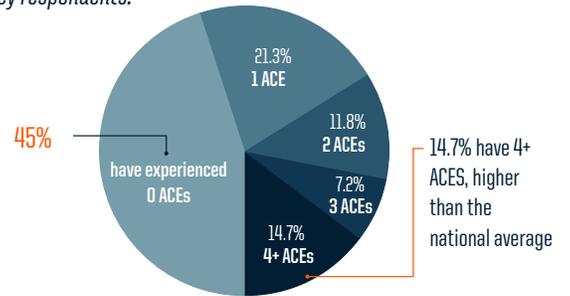


SOURCE: IOWA ACEs 360 Research

Of 17,000 ACE study participants:

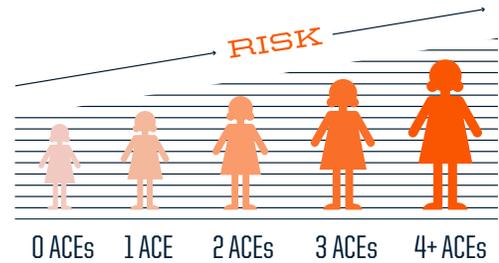


Of 6,361 Iowa BRFSS survey respondents:

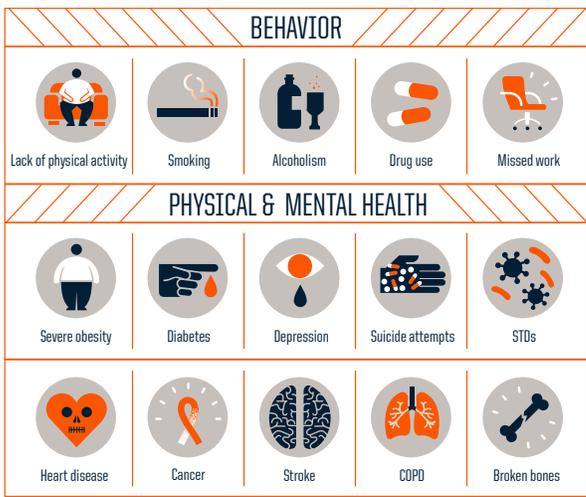


WHAT IMPACT DO ACEs HAVE?

As the number of ACEs increases, so does the risk for negative health outcomes



Possible Risk Outcomes:



DISCRIMINATION AND TOXIC STRESS

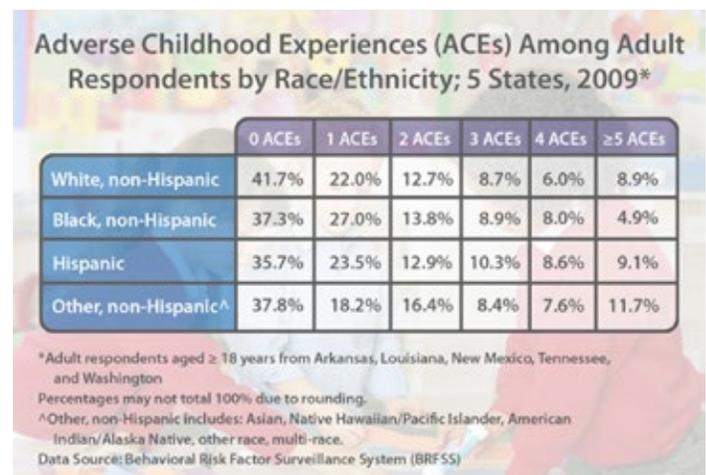
The psychological impact of chronic racial and ethnic discrimination can contribute to toxic stress and adversely impact health.⁷¹

- Blacks have higher rates of a range of chronic health conditions, sustain earlier deterioration of health, and have a life expectancy of four to six years less than for Whites.^{72, 73} According to an analysis by the Center on the Developing Child at Harvard University, “this finding is consistent with research suggesting that the ‘weathering’ of the body under conditions of chronic stress reflects an acceleration of normal aging processes.”⁷⁴

- Health inequalities cost the country an estimated \$60 billion in medical costs, \$13 billion in lost productivity and \$250 billion in premature deaths each year (based on 2003 to 2006 spending).^{75, 76} The 2011 National Prevention Strategy (NPS), authored by the Surgeon General and a range of health experts, found that inequalities in health are often linked to healthcare and social, economic or environmental disadvantages that contribute to toxic stress — such as less access to good jobs, unsafe neighborhoods and lack of affordable transportation options.⁷⁷

ACEs BY RACE/ETHNICITY

All races and ethnicities experience significant rates of adverse childhood experiences. However, an analysis of ACEs in five states found that the risk for different types of ACEs varies by race and ethnicity (across the five states, there was little variation).⁷⁸ For instance, among Latinos, rates of physical abuse, household member with a substance abuse problem and witnessing domestic violence were the highest. For Blacks, rates of a household member in prison and parents who were divorced or separated were the highest, while rates of physical and verbal abuse were the lowest. For individuals with less than a high school education rates were higher for physical abuse, an incarcerated family member, substance abuse in the household and parents who were separated or divorced compared with individuals with more than a high school education.



SOURCE: Centers for Disease Control and Prevention.

Types of ACEs by Race/Ethnicity⁷⁹

Race or Ethnicity	Verbal Abuse	Physical Abuse	Sexual Abuse	Mentally Ill Household Member	Household Member in Prison	Substance Abusing Household Member	Parents Divorced or Separated	Witness Domestic Violence
Total/All	25.9%	14.8%	12.2%	19.4%	7.2%	29.1%	26.6%	16.3%
White	26.9%	14.6%	11.9%	20.6%	6.2%	29.1%	25.2%	15.1%
Black	16%	8.4%	11%	11.4%	12.9%	26.3%	37.9%	17.7%
Hispanic	26%	19.8%	14.8%	16.8%	9.5%	33.4%	25.7%	21.7%
Other	31.4%	21.9%	14.7%	22.4%	6.6%	29.4%	24.6%	23%

Note: Red = Highest per category. Different numbers of items have been used to assess physical abuse in different ACEs studies, contributing to significant variations in findings across different studies.

Types of ACEs by Race/Ethnicity⁷⁹

Race or Ethnicity	Verbal Abuse	Physical Abuse	Sexual Abuse	Mentally Ill Household Member	Household Member in Prison	Substance Abusing Household Member	Parents Divorced or Separated	Witness Domestic Violence
< High School	26.5%	20.4%	15.7%	19.2%	16.6%	37.7%	37%	22.6%
High School	21.7%	13.9%	10.8%	16.7%	9.2%	28.9%	29%	17.5%
>High School	27.7%	14.3%	12.3%	20.7%	4.9%	27.9%	24%	14.9%

Note: Red = Highest per category. Different numbers of items have been used to assess physical abuse in different ACEs studies, contributing to significant variations in findings across different studies.

STRENGTHENING FAMILIES: PROTECTIVE FACTORS FRAMEWORK

The Center for the Study of Social Policy developed a framework summary of protective factors, which includes:⁸¹

- **Parental Resilience:** Managing stress and functioning well when faced with challenges, adversity and trauma (including general life stressors and parenting stressors);
- **Social Connections:** Positive relationships that provide emotional, informational, instrumental and spiritual support;
- **Knowledge of Parenting and Child Development:** Understanding child development and parenting strategies that support physical, cognitive, language, social and emotional development (including age-appropriate and developmental expectations, being attuned and emotionally available, nurturing, responsive, predictable, interactive, and having a safe and educationally stimulating environment);
- **Concrete Support in Times of Need:** Access to concrete support and services that address a family's needs and help minimize stress caused by challenges (including navigating and accessing service systems and building financial security); and
- **Social and Emotional Competence of Children:** Family and child interactions that help children develop the ability to communicate clearly, recognize and regulate their emotions and establish and maintain relationships.

AGENCY FOR FAMILIES AND CHILDREN (ACF): BUFFERING GRANTS ⁸²

In 2011, ACF and the Office of Planning, Research and Evaluation (OPRE) awarded five-year “Early Head Start University Partnership Grants: Buffering Children from Toxic Stress” to six grantees (New York University, University of Colorado Denver, University of Delaware, University of Denver, University of Maryland School of Social Work and Washington University). The grants have three goals:

- To identify the children and families most vulnerable to stress;
- To augment Early Head Start services with parenting interventions aimed at ameliorating the effects of chronic stress on children's development; and
- To advance applied developmental neuroscience.

Parent-child early intervention programs are being implemented (e.g. Attachment & Behavioral Catch Up, Microsocial Video-Coaching, Promoting First Relationships) either at home or at an Early Head Start facility. The consortium formed between the grantees and staff from OPRE and Early Head Start are measuring common risk and protective factors across all the projects (e.g. individual psychosocial characteristics, including poverty, financial hardship, parental stress, anxiety; neighborhood characteristics; substance abuse). Research results will then inform the role Early Head Start plays in promoting parenting practices that buffer children from toxic stress.

PROTECTING CHILDREN IN DISASTERS: COPING AND RECOVERING

Children are particularly vulnerable to both the physical and mental health impacts of disasters. They are more likely than adults to get sick or injured and require assistance, and may experience stress more acutely because they do not understand the situation.⁸³ In particular, children who face challenges on an everyday basis — disabilities, chronic conditions, unstable housing or transportation, violence at home — are at extreme risk when disaster strikes.

Protective factors in communities and among individual children have a profound impact following disasters. One recent study, which followed 650 children in the seven years since Hurricane Katrina, found that

preexisting disadvantage, such as poverty, contributed more significantly to children's post-disaster outcomes than individual or personal factors.⁸⁴ Functioning schools, childcare facilities and safe places to learn and play are among the most widely-reported protective factors for helping children cope after a disaster.⁸⁵ One intervention found that schools were an important influence in supporting recovery following the Joplin, MO tornado, including addressing mental health issues.⁸⁶ Individual protective factors, such as strong support from families and teachers, academic achievement and low levels of anxiety, may also promote resilience following a trauma.^{87,88}

TRAUMA-INFORMED SYSTEM OF CARE

There are a range of efforts across the medical, public health, mental health and justice fields to develop a trauma-informed system of care, acknowledging and responding to the role of trauma in the development of emotional, behavioral, educational and physical difficulties in the lives of children and adults.⁸⁹

The approach is a paradigm shift toward understanding that individuals are often in need of help, support or new skills, rather

than focusing first on punitive measures. For instance, instead of asking “what did you do?” ask “what happened to you?” to a child who may be having problems or is acting out. Trauma-informed systems of care work to promote recovery and resilience for individuals and families, using interventions specific to the trauma they experienced and finding ways to reduce re-traumatizing people through their experiences in services and systems.

CHILDREN IN AMERICA: SHIFTING DEMOGRAPHICS

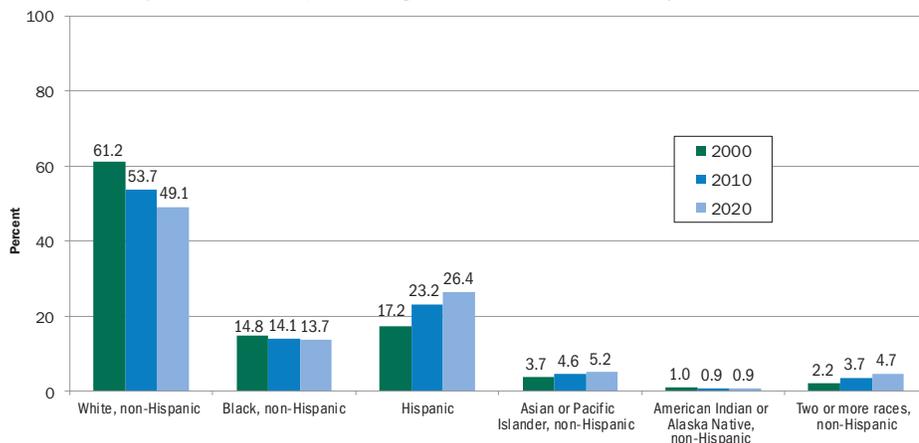
Half of children under the age of one in the United States are racial or ethnic minorities — and, as of 2014, more than half of children enrolled in U.S. public schools are minorities.^{90,91} By 2019, more than half of Americans under the age of 18 will be a minority.

The shift in demographics have a number of implications. Currently, there are significant barriers of equal opportunity that are blocking many Americans from reaching their potential. Creating a healthier and

more prosperous nation, where everyone has the change to thrive, is in the best interest of everyone — and addressing these inequalities represents significant potential savings to U.S. businesses and the economy.

A key set of concerns is that minority children are more likely to live in poverty or low-income families, to not have any or comprehensive employer-based health insurance through their family, and to experience toxic stress.⁹²

Percentage Distribution of Children Under Age 18, by Race and Hispanic Origin, 2000, 2010, and Projected 2020



Note: Data reflect new race categories from the 2000 decennial census and only include those respondents who identified with a single race. Those who chose multiple races are included in 'all other races.' Other races also includes American Indians and Pacific Islanders. Those of Hispanic origin may be of any race.

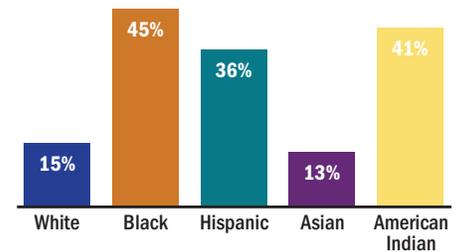
Source: Data for 1980-2011 and projections from Federal Interagency Forum on Child and Family Statistics. (2012). America's Children: Key National Indicators of Well-Being, 2012, Tables POP1 and POP3. <http://www.childstats.gov/americaschildren/tables.asp> Federal Interagency Forum on Child and Family Statistics, Washington, DC: U.S. Government Printing Office.



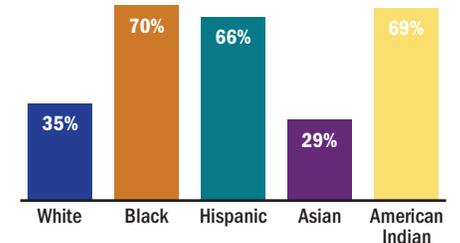
Children Ages 3 and Younger Living in Poverty and Low-Income Families by Race/Ethnicity⁹³

Source: National Center for Children in Poverty.

Living in Poverty: 45 percent of Black, 41 percent of American Indian, 36 percent of Hispanic, 15 percent of White and 13 percent of Asian American children.



Living in Low-Income Families: 70 percent of Black, 69 percent of American Indian, 66 percent of Hispanic, 35 percent of White and 29 percent of Asian children.



Note: Low-Income = Income up to 200 percent of FPL.

Children Covered by Medicaid or Children's Health Insurance Program (CHIP) by Race/Ethnicity

Around one-third of all children are covered by Medicaid or CHIP — including approximately one-fifth of White children and half of Hispanic and Black children.⁹⁴

Recommendations for a Public Health Approach to Early Childhood

Building a generation of healthy children should be a top national priority. Investing in young children will yield a country of happier, healthier, more productive adults.

Unfortunately, too many children face serious forms of adversity — and not enough has been done to protect them from the risks they face or build a foundation of protective factors that can help them manage or cope with challenges they or their families face.

There are many proven policies, programs and strategies aimed at helping to reduce adversity, increase resiliency and set children on a trajectory for a lifetime of good health and well-being. However, few of these are sufficiently supported or tested at the level needed to deliver them broadly — and to preserve the quality of programs as they scale. And, there are few mechanisms in place to ensure that the lessons learned from evaluations of real-world programs and scientific advances get incorporated into wide-scale use.

The advances in understanding how reducing risks — including toxic stress

and ACEs — and promoting protective factors can improve the lives and health of children make it more imperative that the fields of public health and healthcare take an increasing role in developing and supporting early childhood programs and policies. A public health approach stresses the importance of prevention — dealing with issues early — and building partnerships and leveraging resources across systems and sectors. It supports health and well-being — not just through healthcare or social service systems — but as a regular part of life — where children and their families live, learn, work and play. Prevention approaches can pay dividends in return by avoiding the development of more costly and complex problems as children age. While many evidence-based programs and policies exist, increased resources and technical support are needed to take them to scale and address the needs

of different communities to benefit children and families across the country.

TFAH has developed a set of recommendations, goals and roles that the health sector can and should promote and support to ensure early childhood well-being is a higher national priority, including:

- 1. Building beyond the traditional healthcare system — integrating health and other social supports, including accountable health communities for children;**
- 2. Promoting protective, healthy communities and establishing expert and technical assistance backbone support to help spread and scale programs in every state; and**
- 3. Increasing investments in core, effective early childhood policies and programs.**

A range of experts and organizations have been consulted or cited in the development of this report — including the Alliance for Early Success, American Academy of Pediatrics, America's Pediatric Dentists, American Academy of Pediatric Dentistry, American Dental Hygienist Association, Children's Dental Health Project, American Public Health Association, Annie E. Casey Foundation and Casey Family Programs, Association of Maternal and Child Health Programs, the Association of State and Territorial Health Officials, Center on Budget and Policy Priorities, Center on the Developing Child at Harvard University, Center for Housing Policy, Center for Law

and Social Policy, Center for the Study of Social Policy, Child Care Aware, Child & Family Policy Project, Child Trends, Children's Defense Fund, Children's Hospital Association, Coalition for Community Schools, Council for a Strong America, Families USA, Family Voices, First Five Years Fund, First Focus, Food Research & Action Center, Green & Healthy Homes Initiative, National Center for Healthy Housing, Healthy Futures, Healthy Schools Campaign, the Heckman Equation, Institute of Medicine's (IOM) Committee on the Evaluation of Children's Health, March of Dimes, the National Association of Community Health Centers, the National

Association of County and City Health Officials, National Center for Children in Poverty, National Institute for Early Education, National Institute for Health Care Management, National School Readiness Indicators Initiative, National Women's Law Center, Nemours, No Kid Hungry, Ounce of Prevention, Pew Center on the States Pre-K Now campaign, The Prevention Institute, Robert Wood Johnson Foundation (RWJF) Commission to Build a Healthier America, Save the Children, Society for Research in Child Development, U.S. Breastfeeding Committee, Urban Institute, ZERO TO THREE and a host of additional national, state and local organizations.

SECTION 1:

A Healthy Early Childhood Action Plan *Building Beyond Traditional Healthcare*



Building Beyond Traditional Healthcare

Integrating Health and Other Social Support, Including Accountable Health Communities for Children

The healthcare system serves as an important foundation for reaching nearly every child in America and their parents or guardians. Most women receive some sort of prenatal care, most children are born in the hospital system and a majority of children attend at least some portion of recommended infant and toddler well-care health exams. Pediatricians and early child health providers are among the most trusted and respected authorities in the nation.⁹⁵

Early intervention during young childhood can help mitigate the impact of a range of health and social concerns. In the AAP's call to action for a Toxic Stress-Informed Federal Policy Agenda, the AAP recommends for "pediatricians to engage with multi-sectorial community partners in the promotion and implementation of initiatives that support healthy, resilient children."⁹⁶

Achieving this will require new approaches to coordinate traditional medical care with social services and community-based public health programs.

To truly improve health outcomes for children, a fully integrated healthcare approach is required that addresses physical and behavioral health needs, links children and their families to social services and coordinates with community-wide interventions.

RECOMMENDATIONS

Every child should have access to high-quality and affordable healthcare. The first step in the process is to ensure all children have regular access to high-quality healthcare. Strong healthcare during the first years of life is crucial to ensure infants, toddlers and young children get off to a healthy start. Health reform models should be leveraged to improve healthcare access and quality for children — and their families.

The American Academy of Pediatrics calls for efforts to “ensure optimal health, including physical, mental and behavioral health, through access to affordable and high-quality healthcare” as an important component of fostering resilience in children, particularly for children who are affected by toxic stress.⁹⁷ Good healthcare requires affordable quality health insurance coverage; high quality, consistent care from high-performing providers; coordination of healthcare, including with other social services and needs; and ensuring accessible, quality prenatal healthcare and healthcare for parents.

- Nearly 7 percent of U.S. children are uninsured and many more children have limited coverage with high premiums, high deductible, out-of-pocket requirements or providers who do not accept their insurance, including some employer-based insurance plans that do not cover dependents. Uninsured children or families with limited insurance coverage are more likely than insured children to delay or have unmet medical needs, such as untreated asthma, diabetes or obesity. In addition, uninsured children are more likely than insured children to perform poorly in school. Enrolling children in health coverage has been associated with greatly improved school performance.^{98, 99}
- Around half of all children are enrolled in public insurance plans — Medicaid or the Children’s Health Insurance Program at some point in any given year.^{100, 101} Around 32 million children are enrolled in Medicaid and 8.4 million in CHIP at some point in any given year.^{102, 103} The federal government and states combined spending on Medicaid services as of Fiscal Year (FY) 2014 was more than \$475 billion. Children account for nearly half of all Medicaid enrollees but just one-fifth of Medicaid spending (around \$82 billion).¹⁰⁴ Forty-three million were covered by their parents’ or guardians’ employer-based private insurance in 2012.¹⁰⁵
- A number of studies have shown that Medicaid has helped improve the health of millions of Americans by improving access to preventive and primary care and by protecting against serious diseases. For example, expansions of Medicaid eligibility for low-income children in the late 1980s and early 1990s led to a 5.1 percent reduction in childhood deaths, and expansions of Medicaid coverage for low-income pregnant women led to an 8.5 percent reduction in infant mortality and a 7.8 percent reduction in the incidence of low birth weight.¹⁰⁶

- Having health insurance coverage does not necessarily translate into regularly accessible and high-quality care. Once a family is insured, navigating the medical system and understanding when and how to find appropriate care can still be a challenge. Many top-rated doctors and specialists have long waiting periods for getting appointments and short time periods to spend per appointment. A study of low-income families found they also reported challenges in being able to access or get appointments with doctors, compounded by difficulties in obtaining transportation to get to many doctors' offices, or trouble getting time off from work to go to appointments.¹⁰⁷

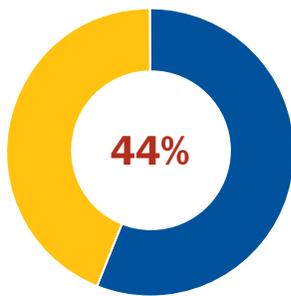
bring together all the relevant health and social services providers (along with community representatives) to determine the needs in the community, identify health and social services that are available, coordinate their delivery and, for policymakers, identify any gaps that need to be filled. The relatively small cost of investing in efforts to coordinate services to prevent problems upfront reduces later costs by avoiding and reducing health and social service problems;

- Create or expand data and tracking systems to assure better coordination across providers of the many services needed and to assure that for children and their families there will be “no wrong door” for accessing them; and
- Encourage braiding of funding across Medicaid, CHIP and federal, state, local and philanthropic funding streams to simplify the delivery of services, assure better coordination for investment of children in each community and reduce the administrative reporting and accounting burden on providers.

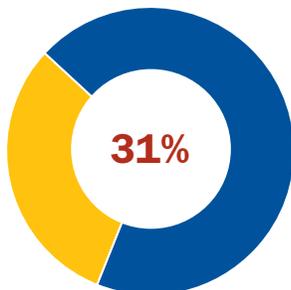
- Across the system, quality of care is inconsistent. In the largest study conducted of healthcare quality for children, patients did not receive the recommended type or level of care half of the time when they visited the doctor.¹⁰⁸ Quality of care was highest for acute problems (68 percent receiving recommended care) and lowest for preventive care (41 percent receiving recommended care). Children with asthma received 46 percent of the care they needed overall, with only 44 percent of children with persistent asthma receiving a prescription for recommended anti-inflammatory medication. Only 31 percent of children ages 3 to 6 were weighed and measured during regular check-ups.¹⁰⁹

The Centers for Medicare and Medicaid Innovation (CMMI) should support the development of Accountable Health Communities for children — along with the models they have been developing for adults to focus more strongly on improving children’s overall health by better integrating community health programs and resources with healthcare services. This includes moving beyond traditional fee-for-service care and instead focus on improving outcomes and containing costs — which helps provide new opportunities and mechanisms for supporting a more comprehensive approach to expanding early identification and intervention care for young children and their parents.

Percent of Children with Persistent Asthma who Received a Prescription for Recommended Anti-inflammatory Medication



Percent of Children Ages 3 to 6 who were Weighed and Measured During Regular Check-ups



The Centers for Medicare & Medicaid Services (CMS) — as the principal payer for around half of U.S. children’s health services — should support and assess models that:

- Use healthcare funds to support coordinating services, such as through an integrator or bridge organization, to

RECOMMENDATIONS

Build systems to help identify and provide support for children’s needs beyond the traditional medical system, but that have a major impact on health. A more “whole health” oriented approach would require building support to enhance and expand the current screenings that are routinely done to include a wider range of concerns that can impact the health of both children and their parents, care coordination to ensure families are referred to and follow up to receive recommended services or care, integration with electronic health records (EHRs) and health information technology (HIT) and expanded community health initiatives to provide support for families in their daily lives. Some key systems of support are:

Enhanced Screenings and Connection to Care: Creating strong, effective health assessment tools to help routinely identify risks, adverse experiences and toxic stress that children and families face in their daily lives, which would be integrated with and be able to connect families with other systems such as child care, education and social services — to achieve more coordinated care for children across sectors and needs.

Increased effort should be made to assure all children have access to good care where their physical, mental, social and emotional growth is tracked to determine whether they are reaching established milestones and are getting routine vaccinations at expected ages. It is critical that children have access to quality and consistent medical care in order to help identify problems that arise and strategies and services that may be available to help parents and children.

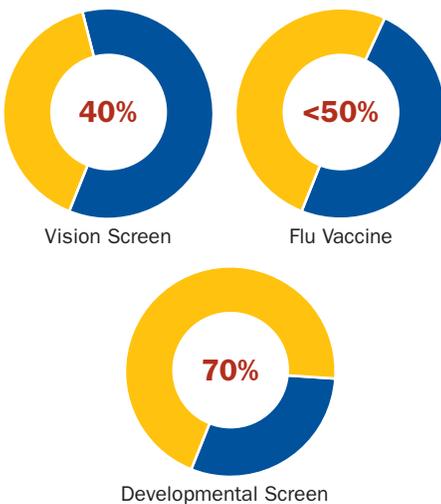
Early and periodic well-care visits and screenings can help identify physical, mental, behavioral and developmental delays and disabilities in young children. Early identification of problems or risks for problems can help connect children

and their families with needed care and services. Early intervention can also help prevent, delay or mitigate the impact of different health conditions, and put a child on course for better health throughout their entire life. Health providers can also help screen parents’ well-being and a child’s living and environmental conditions to help identify and mitigate potential risks, such as by connecting families to help, medical services and a range of other support services.

The current screening systems are important for tracking a baseline for physical, mental, social and emotional growth of most children in the United States.¹¹⁰

- **Early Periodic Screening, Diagnostic and Treatment (EPSDT):** Medicaid’s child health program was developed to insure that young children from low-income families receive the unique and appropriate health, mental health and developmental services they need.¹¹¹ It sets a schedule for comprehensive well-care exams that infant, toddlers and young children should receive and requires checking for the achievement of physical, mental and developmental milestones,

Percent of Children Who Did Not Receive Required Care or Services



screening for hearing, vision, dental, lead-exposure and other potential problem areas and helps ensure children receive recommended vaccinations on time. Despite the requirement, only 17 states and Washington, D.C. met CMS’s goal of EPSDT screening of at least 80 percent of children ages 1 to 2 enrolled in Medicaid. The number drops to only 2 states reaching the 80 percent goal for 3- to 5-year-olds.

EPSDT also requires comprehensive coverage of follow up needed care — including access to physical and mental health therapies, dental and vision care, personal care services and durable medical equipment.¹¹² However, many children still do not receive the required care or services due to lack of access, follow-up support or other issues. For instance, 40 percent of children did not have a vision screen, over half did not get a flu vaccine and almost 70 percent of children did not get a developmental screen.¹¹³ States are given flexibility to create their own guidelines for dental periodicity schedule, which may not adhere to recommended oral health best practices.¹¹⁴

- **Childhood Screenings and Care by Private Insurers:** Under the ACA, private insurance companies are required to cover a set of preventive services — such as regular pediatrician visits, immunizations, developmental assessments, hearing and vision screening and nutrition counseling — such as recommended by the AAP through the Bright Futures Initiative.¹¹⁵
- **Birth to 5: Watch Me Thrive!** is a federal nationwide initiative developed to help raise awareness and appropriate expectations for child development from birth to 5 years.¹¹⁶ It outlines developmental milestones and

promotes universal screening, early identification of possible delays and concerns and support for developmental delays. The initiative has published a compendium of screening measures for children that meet specific effectiveness requirements.

There is the strong potential to build on these screening efforts — first, to make sure required health screenings and follow up care happen as required — but also to incorporate and make screening and follow up services for toxic stress and adverse childhood experiences routine practice.

There are a growing number of tools that can be used to build from to create effective screenings for a range of issues that impact health beyond the core Bright Futures, EPSDT and other screening programs — to help identify whether a child and family are at risk for adverse events and if they are experiencing elements of toxic stress or living conditions that could adversely impact health. Some existing resources to build from include health risk appraisals, which are a systematic approach for collecting information from individuals to identify risk factors, providing individualized feedback and linking the person to at least one intervention to promote health, sustain function and/or prevent disease.¹¹⁷ The AAP’s Safe Environment for Every Kid (SEEK) program helps screen for potential abuse, parental depression and substance abuse, smoking in the home and other risk factors,¹¹⁸ and screens parents for their experience with ACEs to help identify risks and support they may need. The SEEK tool and screening parents for their ACE scores are model approaches designed to help screen for issues that can be highly sensitive for families and ensure screenings are used as part of a continuum of a trauma-informed approach aimed at providing supportive help.^{119, 120}

RECOMMENDATIONS

There are also pilot health risk assessment programs within Medicare and the U.S. Veteran's Affairs Department, including for reviewing social and economic circumstances, adverse life events, individual risky behaviors and social cohesion and integration.

A review by the Agency for Healthcare Research and Quality (AHRQ) focuses on the need for screening tools to be high-quality, evidence-based and consistent, and the importance of ensuring privacy protection and support so the expectation is not on primary care doctors themselves to necessarily conduct the screenings.¹²¹ Many of these approaches can be supported by using technology, such as electronic tablets or computers in waiting rooms where patients can input their own information, or having support, such as medical assistants, conduct the questionnaires.

Care Coordination: Building a coordinated care and case worker system can help ensure children and their families receive the care and services they need — both through the health system and across other social services — by providing specific referrals to services and programs in a local community as well as follow up case management to ensure patients access and use the services. New health reform payment systems and incentives provide increased opportunities to support this type of care, such as fees for coordinated care from patient-centered medical/health homes or reductions in recurring hospital admittances or emergency room visits.

There are increasing models that help provide support for care coordinators as part of healthcare practices. In these cases, the case manager or coordinator can provide patients with referrals to

relevant types of care and services or resources within their community. They can also then follow up to ensure patients have connected with the intended care or service. For instance, some existing programs have built in follow up — such as contact every 10 days until the patient has taken the recommended next steps. According to an AHRQ review, good outcomes from using health assessments are dependent on whether there is follow up with appropriate preventive services and linkages between the primary care and community setting.¹²² Referrals can range from connections to child care to housing support to nutrition assistance and counseling — and can be to either government-supported programs or community- or privately-sponsored programs, such as through the United Way or YMCA.

Emerging models can help provide resources for care coordinators or case managers, such as:

- One is to use a portion of the payment fee from Patient-Centered Medical Homes (PCMH) intended to provide targeted case management and coordinated care to ensure healthcare, social services and educational support for children are working together to improve overall well-being.¹²³ And/or states have the ability to test pilot demonstration projects through Medicaid and CHIP for innovative service delivery that can improve care and reduce costs under Section 1115 of the Social Security Act, which could potentially be used to provide support for care coordination for Medicaid and CHIP patients; through the Medicaid Health Home demonstrations; and/or through classic targeted case management.



- Some hospitals, healthcare systems and insurers are creating care coordinator positions and systems to help connect patients to services and support, in part to help prevent problems that contribute to their readmissions and emergency room penalty costs. For instance, for a fraction of the costs saved for reducing the number of recurring asthma emergency room visits, hospital care coordinators can proactively connect patients at high risk for environmental asthma triggers to home remediation services or housing support options.¹²⁴
- In the Health Leads model, physicians help identify and write prescriptions for basic care needs that go beyond traditional healthcare.¹²⁵ Patients have Health Leads advocates — who are volunteer medical students — to work with patients to navigate the system, including tracking down phone numbers, printing maps, securing transportation and completing applications. The advocates follow up with patients regularly by phone, email and/or during clinic visits. Relationships may be long- or short-term depending on a patient's needs and preferences.
- For pediatricians with individual or small group practices, the model of pooling resources to support shared case managers can be explored, such as how many of these practices have done for the management of EHR systems. This can be supported regionally and/or through provider insurance networks, particularly since they can help result in reduced costs to the system.

Integration with EHRs: There must also be a mechanism for being able to systematically collect and be able to follow up on the information acquired from screenings. For instance, the IOM recently released their recommendations for Capturing Social and Behavioral Domains and Measures in Electronic Health Records, stressing the importance of systematically collecting information in a standard form to assess social and behavioral factors that are harming health, to be able to have a routine system to connect patients to care and services and to identify patterns of concerns within a community. Stringent privacy protections are in place, but every effort must be made to ensure they are carefully practiced and enforced so confidential patient information is safeguarded.

Community Programs and Services: Identifying health risks not only helps individual patients, but tracking the patterns of needs in particular community can help health officials better understand how to develop and target the types of services, programs and education most needed in different areas and the levels of resources that should be devoted to providing this support. Tracking patterns of the specific needs within particular neighborhoods and using that information to build and target community-based health programs and other social services and ensuring the screenings are used to identify risks and concerns provide support for families and are not used to support punitive action, such as higher premiums for having higher health risks.

RECOMMENDATIONS

Focusing on a two generation approach to healthcare — and social service support. Improving the health of children includes ensuring their parents and caretakers are also in good health — so they can provide good care and a supportive, protective environment for their children. An important component of building quality care for children means providing strong preconception, prenatal and ongoing healthcare and other support for parents — including a system that connects families to services and other support as needed. Some key elements of promoting this approach are:

- Including screening for risks and adverse experiences for the whole family — as part of the expanded screening for children — and connecting parents with physical and mental health and substance abuse treatment services as well as social services and resources as needed to help them be able to provide healthy environments and build safe, strong, stable relationships with their children; and
- Ensuring women of childbearing age and all pregnant women have quality, accessible, affordable healthcare, mental healthcare and access to social service support as needed.





RECOMMENDATIONS

Modernizing and expanding the availability of mental health and substance abuse treatment services — for both parents and children: Historically, there has been a lack of emphasis for strong mental health services and support in the United States. Increased investment and decreased stigmatization would help support families while also fostering positive social networks and connections. Serious advances are needed in expanding the availability and payment of services — and incentives to recruit, train and sustain a well-qualified and credentialed healthcare workforce. Some key areas of focus include:

- Expanding mental health and substance abuse services and treatment coverage by public and private insurers — including supporting family-based treatment and offering services for parents and children in addition to treatment. All states should work to ensure that coverage of the Essential Health Benefits package in their respective Insurance Marketplaces, insurance plans outside of the Marketplaces and plans in traditional Medicaid programs offer benefits covering ongoing mental health treatment support and the full continuum of care for substance abuse disorders;
- Supporting coverage of effective community-based support programs and services;
- Emphasizing screening and providing support for prenatal and postpartum depression — as well as the increased risk many parents face for depression and isolation when caring for young children. WIC and other assistance programs for families with young children should include depression screening; and
- Expanding the Screening of Brief Intervention and Referral to Treatment (SBIRT) approach to substance abuse across primary care settings.

RECOMMENDATIONS

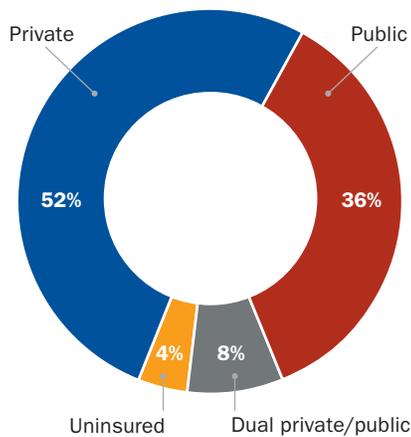
Expanding the focus of a trauma-informed approach across a wider range of federal, state and locally supported services. For children and families experiencing toxic stress, accessing and navigating the health, education and social service systems can often compound their stress. Along with improved care coordination, new models of trauma-informed care have been developed to be sensitive to challenges that many families face — ranging from having fewer economic resources and lower educational attainment to experiencing abuse or mental illness. Efforts should be intensified to infuse and implement a trauma-informed approach across government policies and programs. To date, much of the policy focus has been on programs serving women and children who have experienced or are exposed to violence and/or are part of the child welfare system. This should be expanded to address additional and different types of trauma beyond violence — including other causes of toxic stress and adverse childhood experiences — and infusing a trauma-informed approach across a wider range of health services, social services and the education system. A comprehensive public health approach to trauma should be taken across federal, state and local programs by establishing practices and providing trainings that make early identification and intervention a common practice and creating a trauma-informed system of care that is respectful, sensitive, and culturally competent and does not add additional stress or trauma to individuals.

- Efforts should be intensified to support trauma-informed care and services by making use of existing grants and Medicaid programs and support — including additional incentives and encouragement to state agencies and Medicaid programs to take advantage of support and opportunities. Some current federal initiatives aimed at increasing trauma-informed approaches across healthcare and social services include:
 - A Federal Partners Committee on Women and Trauma, supported by Substance Abuse and Mental Health Services Administration (SAMHSA), convened agencies across the federal government, with efforts summarized in a report on *Trauma-informed Approaches: Federal Activities and Initiatives*, to identify ways to infuse these strategies across federally-supported programs, with a particular focus on trauma experienced through domestic and community violence or for women serving in the armed forces or are military veterans.¹²⁶
 - A joint letter was issued from the Department of Health and Human Services (HHS), ACF, CMS and SAMHSA in 2013 to state agency directors to encourage use of trauma-focused screening, functional assessments and evidence-based practices to improve social-emotional health among children in the child welfare system. This included outlining possibilities to use support from grants and waivers from child welfare and SAMHSA to build capacity to screen for trauma and deliver trauma-informed services, and for using Medicaid to support services to meet children’s trauma-related behavioral health needs, including cognitive behavior therapy, crisis management services, Alternative Benefit Plans, Home and Community-Based Services, Health Homes, Managed Care, Integrated Care Models and research and demonstration projects.^{127, 128}
 - In addition to health and social services — efforts should be made to encourage early education and child care settings to adopt trauma-informed approaches to discipline policies and procedures — that focuses on providing support and needed services to help address how behavioral concerns are often linked to other factors.¹²⁹
- Community and childhood resilience must be improved and become a higher priority in federal, state and local emergency preparedness efforts — to provide help to children and their families so they can better cope and recover from acute emergencies and trauma. Many lessons have been learned in the wake of disasters — ranging from Hurricane Katrina to Superstorm Sandy to the H1N1 pandemic flu outbreak — about how to better protect and provide support for children and communities, including understanding underlying and ongoing needs of a community. Despite being an identified priority, it remains one of the most complex and under addressed areas of disaster preparedness and recovery efforts.^{130, 131, 132}

RECOMMENDATIONS

Improving services and care coordination for Children and Youth with Special Healthcare Needs (CYSHCN): Approximately 15 percent of children in America have special healthcare needs — ranging from chronic conditions that include asthma and diabetes to children with autism to spina bifida or other congenital disorders to children with behavioral or emotional conditions. The challenges of navigating the range of healthcare, social service, mental health, education, community-based systems and other systems can be particularly complex, expensive and time consuming for families with CYSHCN.^{133, 134, 135}

Distribution of Insurance Coverage for CYSHCN



Nearly half of CYSHCN are covered by public insurance (36 percent), are dual private-public covered (8 percent) or are uninsured (4 percent).¹³⁶ The other half of families with private or employer-based insurance may have limits on coverage, particularly for dependents, and so many families with CYSHCN are also underinsured.

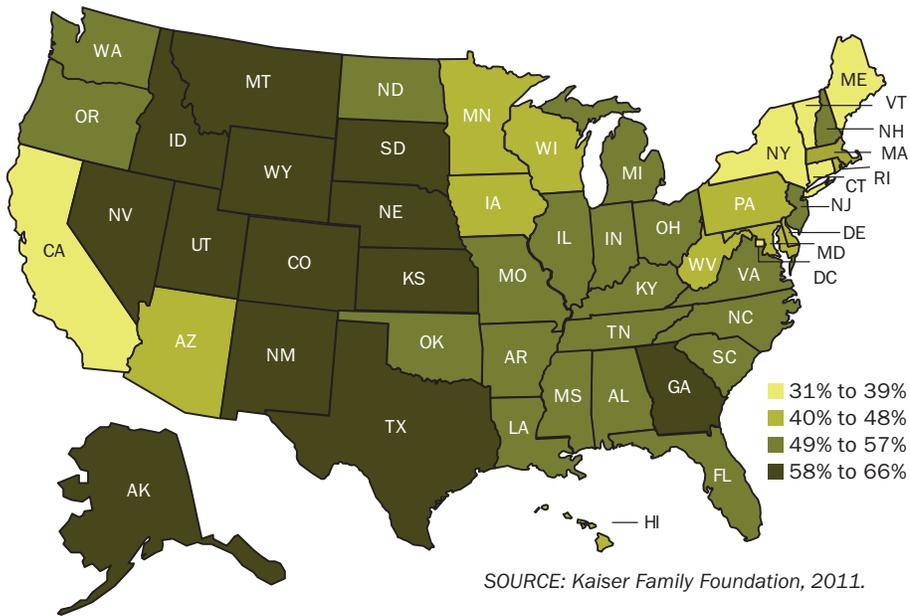
The Catalyst Center for Improving Financing of Care for Children and Youth with Special Health Needs has identified a set of recommendations to provide information and increased support to help more eligible families access public health insurance and programs — and for increasing access to care coordination and case management with support from the Maternal and Child Block Grants (Title V) and/or Medicaid and CHIP (case management is not currently supported in all state CHIP programs).¹³⁷

The Association of Maternal & Child Health Programs (AMCHP) and the

Lucile Packard Foundation for Children's Health convened a set of experts and parents to develop a National Consensus Framework for Improving Quality Systems of Care for Children and Youth with Special Healthcare Needs Project, including recommendations for reaching a more comprehensive, integrated and higher-quality system through:¹³⁸

- Strong parent and family engagement and partnerships;
- Using a medical home model, including care coordination;
- Ensuring access to specialists and continuity of care as high priorities;
- Safeguarding what is working well while continuing to strengthen systems;
- Ensuring adequate financing, inclusion of key benefits in healthcare coverage, provider training and other support; and
- Developing and using standards to help strengthen the systems of care.

Children (ages 1 to 18) Enrolled in Medicaid by State, 2011



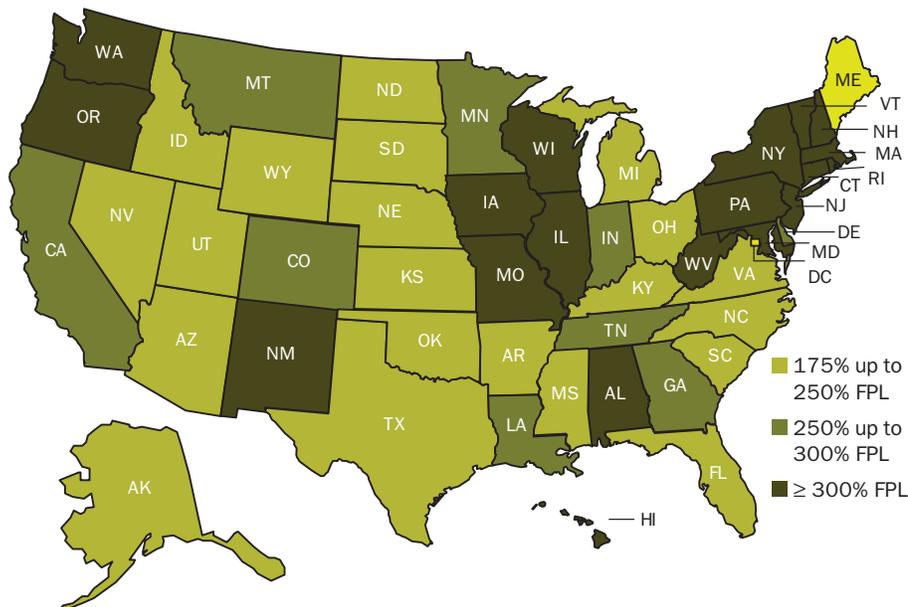
SOURCE: Kaiser Family Foundation, 2011.

CHILD HEALTHCARE COVERAGE AND SCREENINGS — SOME KEY STATE TRENDS

Children Enrolled in Medicaid

Nationally, 48 percent of children ages zero to 18 were enrolled in State Medicaid programs in 2011 (at least at some point during the year). State enrollment rates ranged from a low of 31 percent to a high of 66 percent.¹³⁹

Income Eligibility Levels for Children in Medicaid/CHIP, January 2015



NOTE: The federal poverty level for a family in 2015 is \$20,090. Thresholds include an income disregard equal to five percentage points of the FPL.

SOURCE: Based on the results from a national survey conducted by the Kaiser Family Foundation and the Georgetown University Center for Children and Families, 2015.

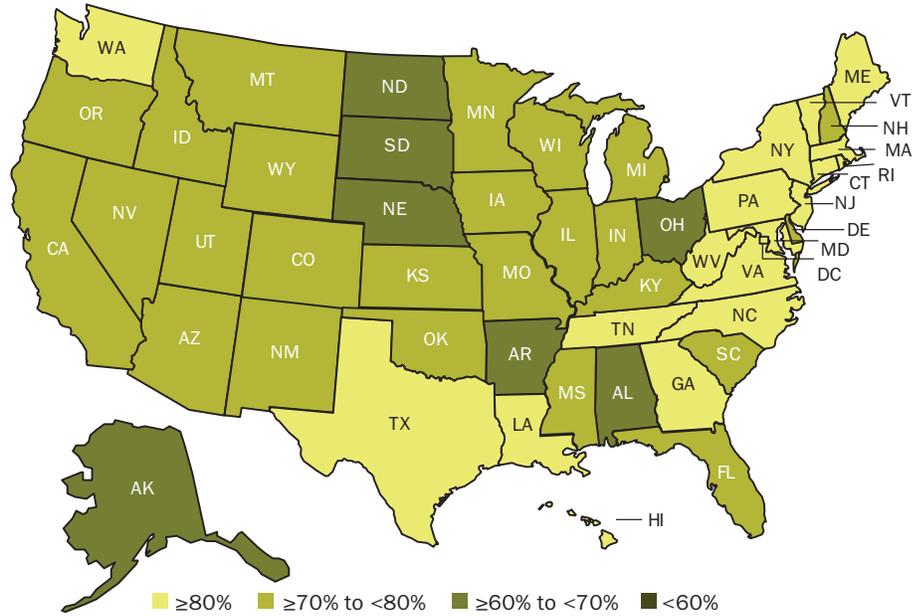
Child Medicaid Coverage Levels

States are required to cover certain mandatory populations under Medicaid to qualify for federal matching funds — children in families with income below 138 percent of the Federal Poverty Level (around \$32,918 annual for a family of four) are eligible for Medicaid coverage — but each state has flexibility to set the amount, duration and scope of services beyond the minimum requirements.¹⁴⁰ Nineteen states and Washington, D.C. have elected to provide coverage to children in families at or above 300 percent FPL — extending their coverage to families classified as low-income who often do not have employer-based insurance and/or struggle to afford quality healthcare coverage.¹⁴¹

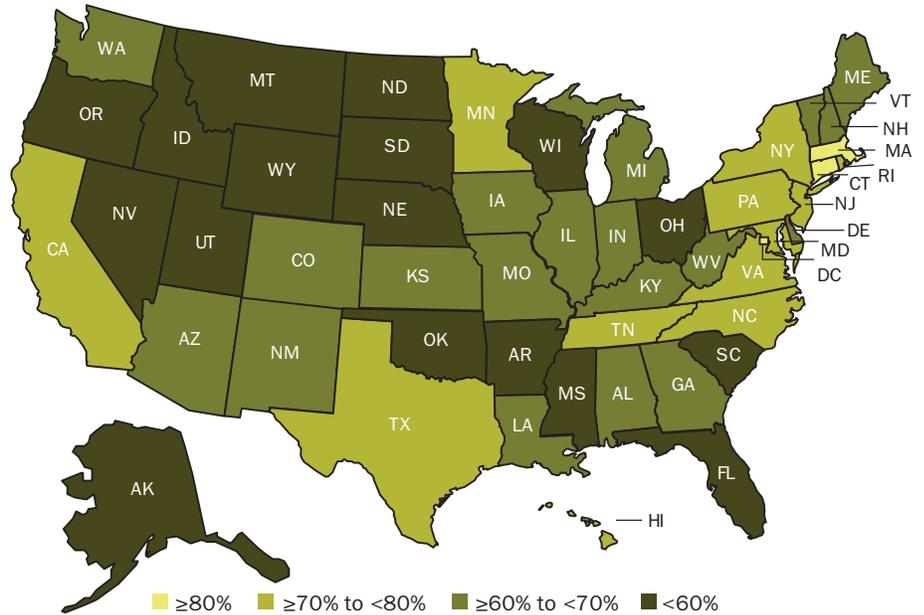
Early and Periodic Screening, Diagnosis, and Treatment Screening Rates By State

The most basic measure of a successful EPSDT program is its participation rate, to ensure that children are receiving periodic preventive health screens. In 1990, the Centers for Medicare and Medicaid Services established a screening participation goal of 80 percent of Medicaid-enrolled children to receive at least one developmentally-appropriate health screen each year during a well-child visit, to be achieved by 1995.¹⁴² Nineteen states and Washington, D.C. met the national established goal of screening 80 percent of 1- to 2-year-olds, while two states (Massachusetts and Rhode Island) met the goal of 3- to 5-year-olds.

EPSDT Participation Rate of Children (1- to 2-year-olds) Receiving at Least One Initial or Periodic Screen by State, 2014

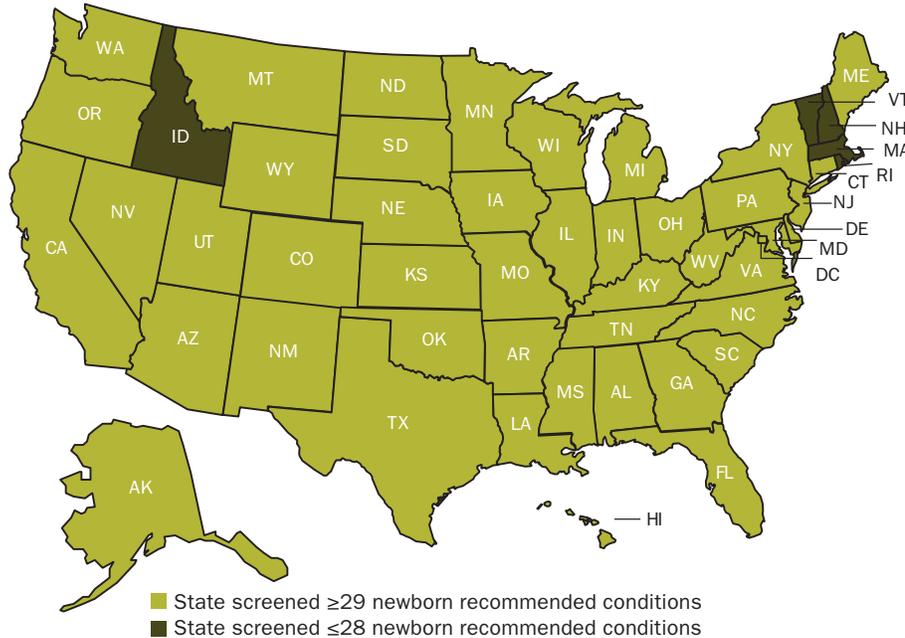


EPSDT Participation Rate of Children (3- to 5-year-olds) Receiving at Least One Initial or Periodic Screen by State, 2014



SOURCE: Centers for Medicare & Medicaid Services, 2015.

Newborn Screening: Recommended Uniform Screening Panel of Core Conditions

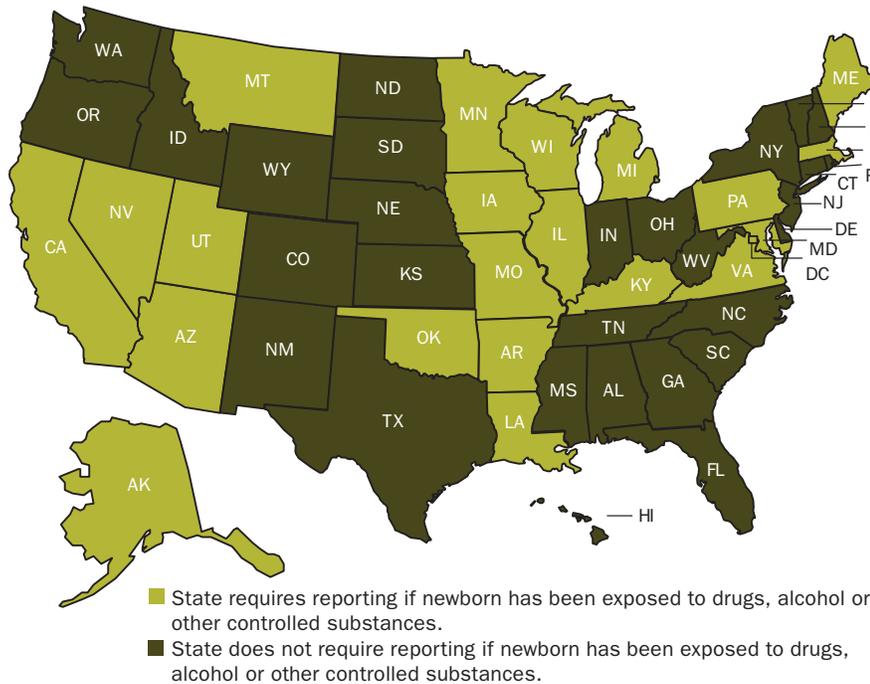


SOURCE: Association of Public Health Laboratories, NewSTEPS, 2013.

Newborn Screenings

All states require screening of all newborns for 26 possible congenital or other physical and intellectual concerns. The March of Dimes recommends an expanded list of at least 32 recommended screening.¹⁴³ Forty-five states and Washington, D.C. screen all newborns for at least 29 of these 32 recommended conditions.¹⁴⁴

Newborn Screening for Substance Abuse Exposure



SOURCE: Child Welfare Information Gateway, 2012.

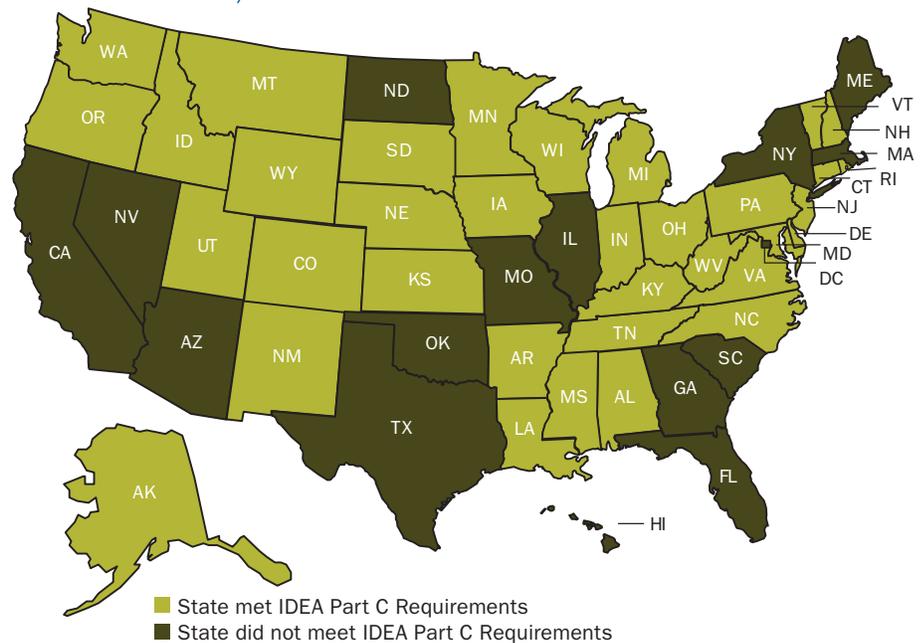
Newborn Screening — Substance Abuse Concerns

Twenty-one states and Washington, D.C. have specific reporting procedures for infants who show evidence at birth of having been exposed to drugs, alcohol or other controlled substances, which can help identify parents who need treatment and connect families and children with support services.^{145, 146} This can help ensure infants get treatment as early as possible to help with withdrawal or early intervention for other medical and developmental problems. In addition, it helps to identify parents who need help or treatment for substance abuse disorders and to connect the child and parents with ongoing services, monitoring and support.

Infant and Toddler Disability Screening: Individuals with Disabilities Education — Part C

Part C of Individuals with Disabilities Education Act (IDEA) helps provide screening services for children from birth to age 2 for disabilities and helps connect families with early intervention services.¹⁴⁷ The goals of IDEA Part C are to enhance the development of infants and toddlers with disabilities, reduce educational costs by minimizing the need for special education through early intervention, minimize the likelihood of institutionalization and maximize independent living and enhance the capacity of families to meet their child's needs. An assessment released in June 2014 by the U.S. Department of Education found that 35 states met the requirements of IDEA Part C — which includes being able to ensure that early intervention will be administered for every eligible child and his or her family.¹⁴⁸

Infants and Toddlers Disability Screening: Individuals with Disabilities Education Act Part C, 2014



NOTE: Puerto Rico met IDEA Part C requirements in 2014.
SOURCE: U.S. Department of Education, 2014.

CHILDREN'S HEALTH INSURANCE PROGRAM

The Children's Health Insurance Program, or CHIP, was created in 1997, and covers families who earn too much to qualify for Medicaid but not enough to be able to purchase health insurance coverage on their own. Unlike Medicaid, CHIP is not an entitlement program, and states vary dramatically in their CHIP eligibility requirements. CHIP is a federal-state partnership designed to give governors broad flexibility in administering their CHIP programs. The federal government provides enhanced matching payments to states to operate their CHIP programs and states must meet minimum benefit

requirements. With the exception of Arizona, CHIP enrollment is open in all states. The ACA preserves this base of children's coverage by requiring states to maintain eligibility and enrollment policies in place at the time the ACA was enacted (March 23, 2010) until September 30, 2019 for children in both Medicaid and CHIP.¹⁴⁹

CHIP was reauthorized in 2015, increasing new federal funding for FY 2016 (\$19.3 billion) and FY 2017 (\$20.4 billion) — totaling \$39.7 billion; and permanently adjusts the Medicare physician formula

preventing cuts in provider reimbursement. The reauthorization also extends qualifying states options; express lane eligibility; CHIPRA's Child Enrollment Contingency Fund and Child Health Quality Provision; increases funding for outreach and enrollment, Childhood Obesity Demonstration Project and renews funding for the Maternal, Infant; provides new funding for Early Childhood Home Visiting Programs, support for family-to-family health information centers; permanent authorization of transitional medical assistance, and grants to community health centers.^{150, 151}

CHILDHOOD HEALTH SPENDING

Child health spending: Direct United States spending for children’s medical care and treatment totaled \$117.6 billion in 2011 (ages 0 to 17, public and private payers).¹⁵²

Five most expensive child health conditions: 1) mental disorders (5.6 million children; \$13.8 billion annually); 2) asthma/COPD (12.3 million children; \$11.9 billion annually); 3) trauma-related disorders including injury and post-disaster care (6.7 million children; \$5.8 billion annually); 4) acute bronchitis and upper respiratory infections (11.5 million children; \$3.3 billion annually);

and 5) middle ear infections (7.5 million children; \$3.2 billion annually).

Annual spending per child (ages 0 to 18) covered by private insurance: \$2,437¹⁵³

- **Annual spending per infant/toddler (ages 0 to 3) covered by private insurance:** \$4,446 (top costs on care after birth, immunizations)
- **Annual spending per young child (ages 4 to 8) covered by private insurance:** \$1,653

Annual spending per child (ages 0 to 18) covered by Medicaid: \$2,502¹⁵⁴

HEALTH CONCERN	NUMBER OF CHILDREN
Children with special healthcare needs — including one or more chronic physical, developmental, behavioral or emotional condition — requiring health and related services of a type or amount beyond that required by children generally. ^{155, 156} Can range from congenital conditions to asthma to autism.	Around 15 percent
Have or are at risk for a developmental delay or disability. ¹⁵⁷	Around one in four children ages 0 to 5
Babies born with a birth defect (health condition present at birth). ¹⁵⁸	Around one in 33 — or 120,000 annually
Obesity and overweight. ¹⁵⁹	More than one in 10 (8.4 percent) children are obese and an additional 23 percent are overweight — of children ages 2 to 5
Do not receive all recommended vaccinations. ¹⁶⁰	Around 10 percent of preschoolers, ages 19- to 35-months-old
Tooth decay or cavities (early childhood caries (ECC)). ECC is the number one chronic disease affecting young children. ^{161, 162} An estimated \$40 billion or more is spent per year on the treatment of dental caries and Medicaid alone pays between \$100 million and \$400 million each year to treat ECC in children. ¹⁶³	More than one-quarter of children ages 2 to 5

CASE STUDIES

Community Health Centers — Beyond Clinical Care

The Institute for Alternative Futures (IAF) and the National Association of Community Health Centers (NACHC), with support from The Kresge Foundation, conducted a review of *Community Health Centers Leveraging the Social Determinants of Health*, which examined how some Community Health Centers (CHCs) connect patients with services, resources and support in their neighborhoods and help strengthen the base of available programs within a community to encourage similar activities throughout the CHCs and CHCs can help serve as a model for other providers across the socio-economic spectrum.¹⁶⁴

In 2012, CHCs served more than 21 million low-income Americans around the country, including one in every three children who live below the poverty level.¹⁶⁵

Most CHCs are acutely aware of the interconnection that their patients' economic and social circumstances have with their health. Some examples of the types of referrals or "prescriptions" that many CHCs routinely make for patients are: health education programs; a range of available assistance programs, such as Medicaid,

the Women, Infant and Children Program, Supplemental Security Income, Supplemental Nutrition Assistance Program (SNAP), state Temporary Assistance for Needy Families programs, and related assistance programs; individual or parenting education sessions; assistance in locating suitable shelter, moving cost support or rent subsidies; Head Start or other child care services; counseling for health risk behaviors; employment and education counseling; and environmental health and healthy housing risk reduction services. CHCs also maintain national partnerships with the Reach Out and Read, Health Leads and Medical-Legal Partnership programs. Support for these referrals and follow up programs often rely on government and philanthropic grants, partnerships within communities and income-generating efforts.

IAF has developed a set of in-depth case studies as well as a database of specific efforts, programs and activities by community health centers to leverage the social determinants of health — many of which focus on efforts to improve the health of children and their families, available at: <http://www.altfutures.org/leveragingSDH>.

Single Stop¹⁶⁶

Single Stop was created to provide low-income Americans with one place they could go to access funds and services. Currently, they work with 70 community-based organizations (CBOs) — which range from job training programs to after-school programs to libraries to settlement houses to health clinics to other neighborhood organizations — in California and New York. At these locations, Single Stop staff work with people and families to help them access social services and other community resources. Additionally, Single Stop trains CBO workers on their model and how to access important

services, which then empower the locations to provide wraparound care. The combined efforts connect hundreds of thousands of low-income Americans to 1.5 million nonprofits and federal, state and local programs such as WIC, child care, food stamps, and many others. Since 2007, the organization has reached nearly one million households and linked them to \$3 billion in resources and services. Through all their programs and locations, the model has demonstrated a return of \$20 for every \$1 invested.

Project DULCE¹⁶⁷

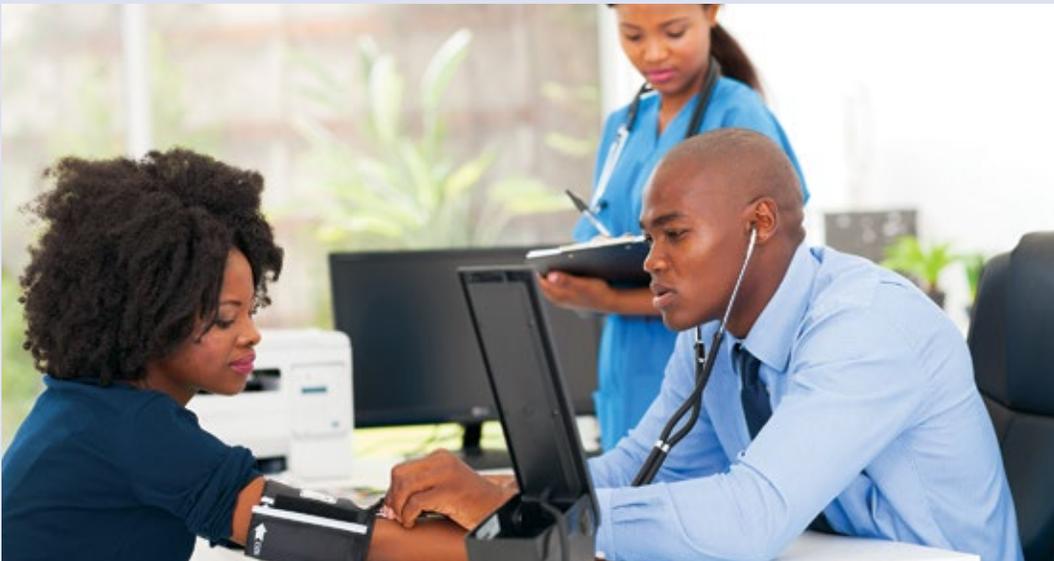
Project DULCE (Developmental Understanding and Legal Collaboration for Everyone), a Boston Medical Center program, provides families of newborns, and their siblings, with medical services, support for any unmet legal needs and age-related information on child development. DULCE uses a Strengthening Families intervention model in the primary care setting through the Patient Center Medical Home. The program has three components — Healthy Steps where family specialist provide

extra family support during the first 6 months of a child's life through routine visits, home visits or telephone check-ins; Medical Legal Partnership (MLP)|Boston train the DULCE Family Specialist to identify legal and social needs that may affect a child's development and health and how to respond to those needs; and community involvement of local agencies collaborating. The program plans to recruit 480 families within 16 months.

Two-Generation Approach¹⁶⁸

Instead of focusing on the parent or the child separately, two-generation approaches focus on creating opportunities for and addressing the needs of vulnerable parents and children in concert. As such, two-generation approaches can be applied to public policies, programs, systems and research. And a successful two-generation approach places education at the core, provides economic support and encourages social capital to build resiliency. One example, the Jeremiah Program, provides safe and affordable housing, quality early childhood education (ECE), skills training, career support, mentoring and education to single mothers. One participant, Shandrell is completing her Bachelor's degree while he

daughter goes to a quality early childhood education center in the building they live in. The site they live in is an 88,000-square-foot campus with 38 apartments, computer labs, a child-development center, four classrooms, a library, and a playground. Jeremiah Program has two fully operational sites in Minneapolis and St. Paul, serving 300 women and children. The program plans to open campuses in Austin and Fargo-Moorhead (on the border of Minnesota and North Dakota). So far, 55 percent of Jeremiah women graduate with an associate's degree and 45 percent complete a Bachelor's degree. And, all children enrolled in the program perform at the appropriate developmental level.



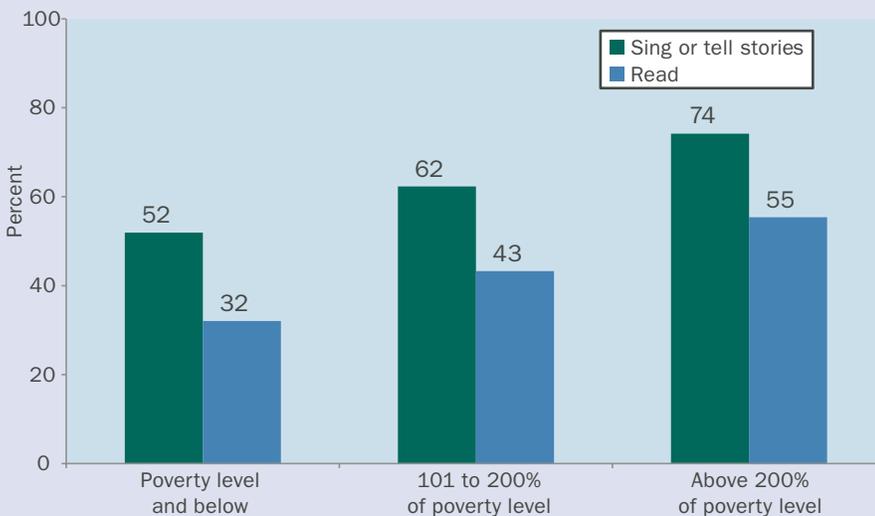
Assuring Better Child Health and Development Project¹⁶⁹

Assuring Better Child Health and Development (ABCD) was created to improve the quality of child development services in primary care medical practices. The first ABCD project began in 2000 by providing grants to North Carolina, Utah, Vermont and Washington State. The states were required to improve developmental screening and referral for children ages birth to 5-years-old. The second ABCD project launched in 2003 in California, Illinois, Iowa, Minnesota and Utah, and, for four years, helped the states build the capacity of Medicaid programs to deliver care focused on mental development. The third project, also known as the ABCD Screening Academy, began in 2007 and provided assistance to 21 states and territories. It primarily focused on

increasing the use of a general developmental screening tool as part of well-child care visits at primary care providers. The most recent iteration of ABCD, which began in October 2009 in Arkansas, Illinois, Minnesota, Oklahoma and Oregon, aims to develop and test sustainable models for improving care coordination between primary care providers and others who support childhood development. In North Carolina, the ABCD project has been credited with changing state Medicaid policy to require providers to use a standardized screening tool and list a specific code on their claim to demonstrate that these services were delivered. In total, ABCD was found to significantly increase the occurrence of developmental screening in 70 percent of well-child visits in North Carolina.

Reach Out and Read — American Academy of Pediatrics¹⁷⁰

Percentage of Children, Ages Birth through Two, Who Had a Family Member Read, Sing, or Tell Them Stories Everyday in the Past Week, by Poverty Level: 2011/12



SOURCE: Child Trends' analysis of the National Survey of Children's Health

Reach Out and Read is an evidence-based nonprofit comprised of pediatric care providers who use pediatric exam rooms to promote early literacy and school readiness. The participating providers are trained to speak with parents about the importance of reading aloud every day. Reach out and Read helps providers incorporate these practices into regular pediatric checkups, and, in the waiting, room, display books, signs and other information to create a literary-rich environment. When possible, there are also volunteer readers present to engage children and model positive reading behaviors for parents. At a checkup, the provider gives every child 6 months through 5 years a book to take home and keep. Founded in Boston City Hospital in 1989, the Reach Out and Read model is now in all 50 states, with 30,000 providers at nearly 5,000 sites distributing 6.5 million books per year. The program serves more than one-third of all children living in poverty. Studies have shown that Reach Out and Read preschoolers score three to six months ahead of their peers on vocabulary tests, and Reach Out and Read families read together more often and children enter kindergarten better prepared.

BUILDING TOWARD INTEGRATED CARE: PILOT APPROACHES

- One major initiative, Moving Healthcare Upstream (MHCU), focuses integrating healthcare with other sectors, services and areas of concern.¹⁷¹ The effort, supported by The Kresge Foundation and led by collaborators at UCLA and Nemours, aims to identify, support, connect and highlight innovative, multi-sector and multi-disciplinary partnerships to improve children's health. The approach focuses on complementing quality healthcare with services and supports from other sectors that address "upstream" factors that influence health in people's daily lives, where children and their families live, learn, work and play — including factors that contribute to toxic stress and increased risk for ACEs. By creating partnerships with shared visions and goals across sectors, these efforts can help achieve objectives of the Triple Aim (improving healthcare quality, improving population health and reducing unnecessary healthcare costs), including improved community-wide health and patient care and lower costs.
- Prevention Institute supports building an end-to-end approach for a Community-Centered Health Home Model (CCHH), consisting of an inquiry, analysis and action phase.¹⁷²

They identified the need for developing incentives and processes in order to achieve systemic, widespread use of the model, including: provider and staff training and tools; adoption and use of standardized, scalable screening tools supported by health IT; dedicated staff and relationships with community partners to assess needs, match patients to resources and facilitate consistent and proactive care; and increase support and advocacy for community prevention programs.¹⁷³ Their analysis found that a lack of sufficient community-based health programs was one major obstacle to the process. Currently, existing community health programs subsist on limited resources from federal, state and local governments, insurers and providers, hospitals and community benefit programs, schools, employers, community groups and philanthropies. In addition, as of January 2014, state Medicaid agencies have the option to reimburse for preventive services provided by providers who are not licensed by the state, if the services are recommended by a physician or other licensed practitioner, which can include community-based preventive services provided by community health workers.

PRECONCEPTION AND PRENATAL HEALTH AND CARE

The health of parents has a strong impact on the health of young children.

Significant research has shown that, in particular, a mother's health before she becomes pregnant and during pregnancy has a direct influence on the health and development of a baby.

In addition, postpartum health — in the time period after a baby is born — and the ongoing health of a mother and/or father affect the parent's ability to be a stable, nurturing caregiver and to make and model healthy decisions for their children.

Preconception Care

Approximately 62 million American women are of childbearing age. By the age of 25, about half of all women in the United States give birth; by the age of 44, 85 percent of women give birth.¹⁷⁴ Traditionally, health-care for pregnant women has started when a woman recognizes that she is pregnant.

But, many experts now believe that prenatal care, which usually begins during the first three months of pregnancy, comes too late to prevent many serious maternal and childhood health problems. The first few weeks after conception are critical for healthy fetal development. During this time, poor nutrition, lack of folic acid, tobacco smoke, excessive alcohol, toxic chemicals, obesity, diabetes and other risks can increase risk for miscarriage, birth defects and slow fetal growth and development. Many women do not realize that they are pregnant until weeks after conception.



Increasing rates of obesity, type 2 diabetes and physical inactivity, and factors like smoking rates and lack of access to care, mean many women in their childbearing years face serious health risks, often without knowing it. Currently, around a third of births have some form of complications, many of which are related to a mother's health.¹⁷⁵ In addition, prematurity and low birth weight babies are often related to the mother's health problems, such as diabetes, obesity or high blood pressure.

Many experts recommend women of childbearing age receive regular well-care and preventive healthcare — including screen-

ing for chronic conditions, preconception risk screening and family planning.

The ACA included a number of provisions to help improve women's health including requiring coverage of many preventive healthcare services, ending the practice of allowing insurers to charge more for women under a "gender rating" and eliminating the ability of insurers to deny coverage to individuals with pre-existing conditions and for putting a lifetime cap on coverage. States were also given the option to offer a range of services that include testing for sexually transmitted infections and family planning, without having to request a waiver.

FAMILY PLANNING

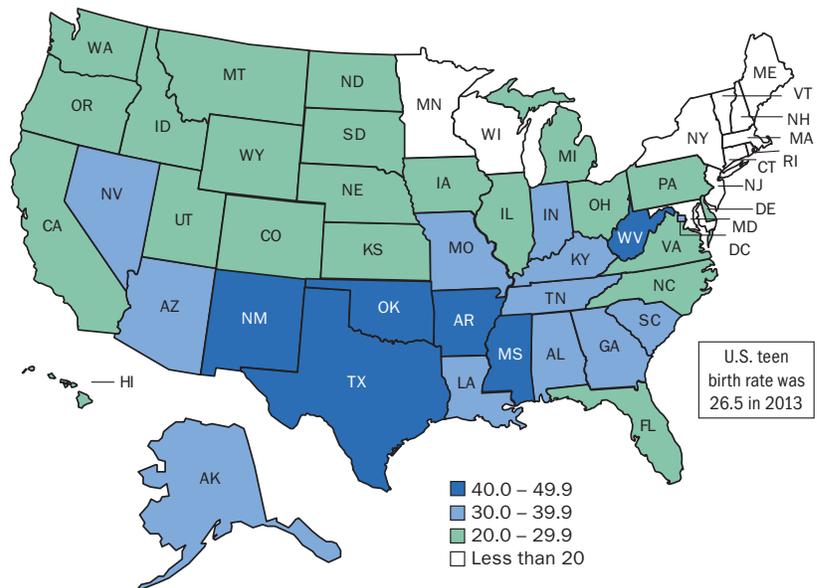
Nearly half (49 percent) of pregnancies in the United States are unplanned each year, according to CDC.¹⁷⁶ Unintended pregnancy rates are highest among lower education, lower income and cohabitating women.

Unintended pregnancy can pose a number of health risks. For example, it can delay prenatal care, women may not be take recommended vitamins and folic acid in early stages of pregnancy and may continue behaviors such as drinking alcohol or smoking, which they are strongly recommended to avoid during pregnancy.

Rates of unintended pregnancies are also high for teens — of the approximately 305,000 births to teens, ages 15- to 19-years-old, annually — more than four out of five are unintended.¹⁷⁷ In addition, around one in six (17 percent) births to 15- to 19-year-olds were “repeat births” — to females who already had one or more babies.

According to CDC, teen childbearing has potential negative health, economic and social consequences for mother and child.¹⁷⁸ Repeat teen childbearing further constrains the mother’s education and employment possibilities. Only around 40 percent of teen mothers complete high school, and less than two percent complete college by age 30.¹⁷⁹ In addition, rates of preterm and low birth weight are higher in teens with a repeat birth, compared with first births.

Teenage Birth Rate for 15- to 19-Year-olds, per 1,000 Population, by State, 2013



SOURCE: Martin, J. A., Hamilton, B. E., Ventura, S. J., & Osterman, M. J. K. S.C., & Mathews, T.J (2015). Births: Final data for 2013. Hyattsville, MD: National Center for Health Statistics.

The federal government has a number of family planning programs and initiatives. HHS’s Office of Adolescent Health helps support a number of evidence-based teen pregnancy prevention programs, the Family Youth Service Bureau supports the Personal Responsibility Education Program (PREP) to help prevent teen pregnancies and the Title X National Family Planning Program helps provide a broad range of family planning and related preventive health services for millions of low-income or uninsured individuals.^{180, 181}

Family planning can also help inform decisions about the impact of spacing out

pregnancies on the health of the mother and baby. One-third of U.S. pregnancies occur within 18 months of a previous birth, which puts both the mother and subsequent baby at risk for a range of serious health complications. Short birth spacing (18 months or less) is found to be strongly linked to unintended pregnancies, and being between 15- and 19-years-old at the time of conception.¹⁸² To reduce the risk of pregnancy complications and other health problems, research suggests mothers should wait at least 18 to 24 months but less than five years before attempting a second or subsequent pregnancy.^{183, 184}

Prenatal Care

Healthcare during pregnancy includes health screenings and individually-tailored advice about nutrition, activity, weight gain and other ways to stay healthy — and information about the harms of tobacco use and substance abuse.¹⁸⁵

Medicaid and CHIP provide coverage for eligible women who do not have private insurance coverage. Babies whose mothers gained Medicaid coverage during pregnancy have positive long-term health effects — with fewer preventable hospitalizations, fewer hospitalizations related to endocrine, nutritional and metabolic diseases and immune disorders as adults and had lower rates of obesity as adults.¹⁸⁶ WIC programs also provide important prenatal and ongoing postpartum support the health and well-being of both the mothers and babies.

Mothers with low incomes or who have lower levels of education are at increased risk for:

- Inadequate access to medical care, including family planning and unplanned pregnancies;

- Exposure to harmful environmental risks, including the direct effect of toxic pollutants, violence and stress, combined with a lower likelihood of taking action to avoid potential harms;
- Poor health behaviors during pregnancy, such as consumption of tobacco, alcohol and illicit drugs, being overweight and not seeking or receiving recommended prenatal care; and
- Poor overall (underlying) health, including mental health and nutrition (obesity and/or poor nutrition).¹⁸⁷

Around 12 percent (one in eight) of babies born to disadvantaged mothers were considered low birth weight (under 5.6 pounds) compared to around 4 percent (one in 32) of babies born to more advantaged mothers.¹⁸⁸ There have, however, been notable improvements in the disparities in the health of babies of advantaged and disadvantaged mothers over the past 20 years — in 1989, more than 16 percent (one in six) babies born to disadvantaged mothers were low birth weight.



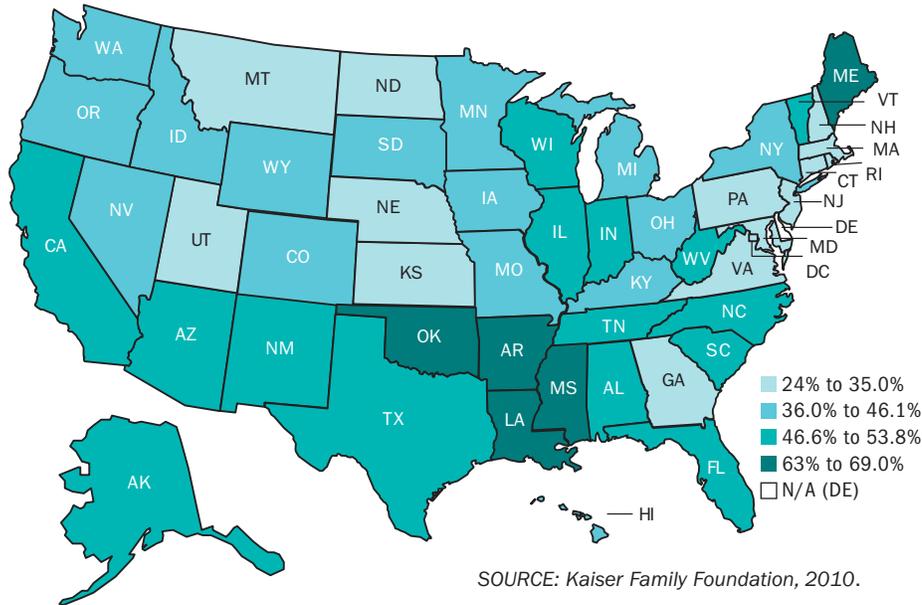
HIGH-RISK PREGNANCY HEALTH RISKS

Risks	Current Prevalence	Heightened Health Concerns
Poor or Inadequate Nutrition	<ul style="list-style-type: none"> • More than 1,972,000 women received WIC, this includes women that are pregnant (during pregnancy and up to six weeks after birth or end of pregnancy), postpartum (up to six months after birth or end of pregnancy) or breastfeeding (up to the infant's first birthday).¹⁸⁹ • 34% of households with food insecurity are headed by single women with children.¹⁹⁰ Individuals who live in food insecure households are at greater risk of being malnourished. 	<ul style="list-style-type: none"> • Increased risk for gestational diabetes and obesity during pregnancy.¹⁹¹ • Increased risk for abnormal brain development, diabetes, hypertension and heart disease, obesity and lower IQ in babies. • Lack of key vitamins and nutrients can increase risk for a range of health problems — for instance, poor iron intake can lead to preterm births, low birth weight and infant mortality — and sufficient levels of folic acid prior to conception can reduce neural tube defects by up to 50%, while inadequate folic acid intake increases risk for unhealthy development of the brain, spinal cord and skull, and can lead to increased risk of infant mortality.¹⁹²
Obesity	<ul style="list-style-type: none"> • 31.8% of women under the age of 40 are obese.¹⁹³ 	<ul style="list-style-type: none"> • Increases risk for gestational diabetes, high blood pressure, preeclampsia, prematurity, and cesarean delivery. • Children of mothers who are obese during pregnancy are at increased risk for birth defects, birth injuries, large birth weight and childhood obesity.¹⁹⁴
Gestational and Pre-Existing Diabetes ¹⁹⁵	<ul style="list-style-type: none"> • 6.4% of women giving birth annually (250,000). • Gestational diabetes: 18% higher costs than normal pregnancy. • Pre-existing diabetes: 55% higher costs than normal pregnancy. • Medicaid covers 43% of mothers with pre-existing diabetes and 36% of mothers with gestational diabetes. 	<ul style="list-style-type: none"> • Increased risk for miscarriage, hypertension, preterm birth, preeclampsia and eclampsia, urinary and amniotic cavity infections, Cesarean delivery, and other concerns.¹⁹⁶ • Infants experience higher risk of low blood sugar, loss of oxygen and birth asphyxia, respiratory distress syndrome, endocrine and metabolic disturbances, congenital anomalies, jaundice and large body size. • Women with gestational diabetes are more than 7 times as likely to develop type 2 diabetes, with a 35% to 65% chance of developing diabetes within 10 to 20 years.¹⁹⁷
Tobacco Use During Pregnancy	<ul style="list-style-type: none"> • Smoking during pregnancy result in around 1,015 deaths annually during 2005-2009.¹⁹⁸ • Around 20% of women report smoking during the 3 months prior to pregnancy.¹⁹⁹ • 55% of women who smoked reported quitting during pregnancy.²⁰⁰ • Approximately 10% of women reported smoking during the last three months of pregnancy. 	<ul style="list-style-type: none"> • Increased risk for pregnancy complications, premature birth, low birth weight, some forms of birth defects, miscarriage, stillbirth, and sudden infant death syndrome (SIDS).²⁰¹ • Increased risk child will develop ADHD as they age.²⁰² • Secondhand smoke exposure increases risk of low birth weight.
Fetal Alcohol Spectrum Disorder ^{203, 204}	<ul style="list-style-type: none"> • 400,000 babies annually with symptoms (rate significantly under-diagnosed — estimates as many as 85% of children with FASD not diagnosed).²⁰⁵ • \$5.4 billion cost to economy (as of 2004).²⁰⁶ • \$860,000-to-\$4.2 mil per individual (at minimum end): \$300,000 direct medical, \$550,000 in lost quality of life years (reduction of 17% or 11 years). 	<ul style="list-style-type: none"> • Leading known cause of mental retardation and preventable cause of birth defects. • Children exposed to alcohol in utero are at risk for growth deficiencies, facial deformities, central nervous impairment, behavioral disorders, and impaired intellectual development. • Increases the risk of miscarriage, low birth weight and stillbirth. • Increased risk for abuse as children. • Many children with prenatal alcohol exposure need special education services, and few are able to live independently as adults. • Increases risk for criminal activity.

HIGH-RISK PREGNANCY HEALTH RISKS

Risks	Current Prevalence	Heightened Health Concerns
Drug Exposure ²⁰⁷	<ul style="list-style-type: none"> • 13,500 babies born with opioid drug withdrawal syndrome in 2009 (including prescription painkillers) — nearly triple from the number in 2000.²⁰⁸ • Around 1 in 20 women take “street” or illegal drugs during pregnancy.²⁰⁹ • \$53,000 per baby for immediate medical costs for treating a baby diagnosed with opioid withdrawal syndrome (neonatal abstinence syndrome (NAS) — babies are born addicted through their mothers). Medicaid covers 77% of these costs.²¹⁰ 	<ul style="list-style-type: none"> • Babies at increased risk for prematurity, low birth weight, decreased head circumference, miscarriage or still birth. • Prenatal exposure to marijuana associated with difficulties in brain functioning. • Prenatal exposure to methamphetamine increases risk for birth defects, fetal death, growth retardation, premature birth, low birth weight, developmental disorders, and hypersensitivity to touch. • Many children show symptoms as they grow — older children exposed to drugs prenatally may exhibit cognitive deficits, learning disabilities, and poor social adjustment. • As they age, children exposed to cocaine prenatally can have difficulty focusing attention, be more irritable, have more behavioral problems, have difficulty sorting out relevant vs. irrelevant stimuli, making school participation and achievement more challenging.
Depression During Pregnancy	<ul style="list-style-type: none"> • Estimated 25% of postpartum depression starts during pregnancy.²¹¹ 	<ul style="list-style-type: none"> • Children from urban areas where mothers suffered from depression during pregnancy have increased rates of antisocial and violent behavior later in life.²¹² • Children of mothers who were depressed during pregnancy were 1.28 times more likely to have depression at age 18.²¹³ • Children of mothers who were depressed during pregnancy are at increased risk for vulnerability to cardiovascular and related diseases as they age.²¹⁴
Toxic Stress During Pregnancy	<ul style="list-style-type: none"> • 46 million Americans (15%) live in poverty, 20 million (6.6%) live in deep poverty (50% of poverty level or below).²¹⁵ 	<ul style="list-style-type: none"> • Increased risk for congenital malformations, low birth weight and reduced gestational age. • Increased risk for difficult temperament, sleep problems and lower cognitive performance and increased fearfulness in infants and toddlers.²¹⁶ • Increased mixed handedness and reductions in brain grey-matter density, which can be associated with neurodevelopment and psychiatric disorders, and cognitive and intellectual impairment. • Increased risk for emotional problems, anxiety, depression and symptoms of ADHD and conduct disorders as children reach the ages of 3 to 16. • Increased risk for schizophrenia in children, and possible increased risk for autism. • Severe stress during pregnancy may be associated with altering chromosome developments leading to a reduced life span.²¹⁷

Percent of Births Covered by Medicaid



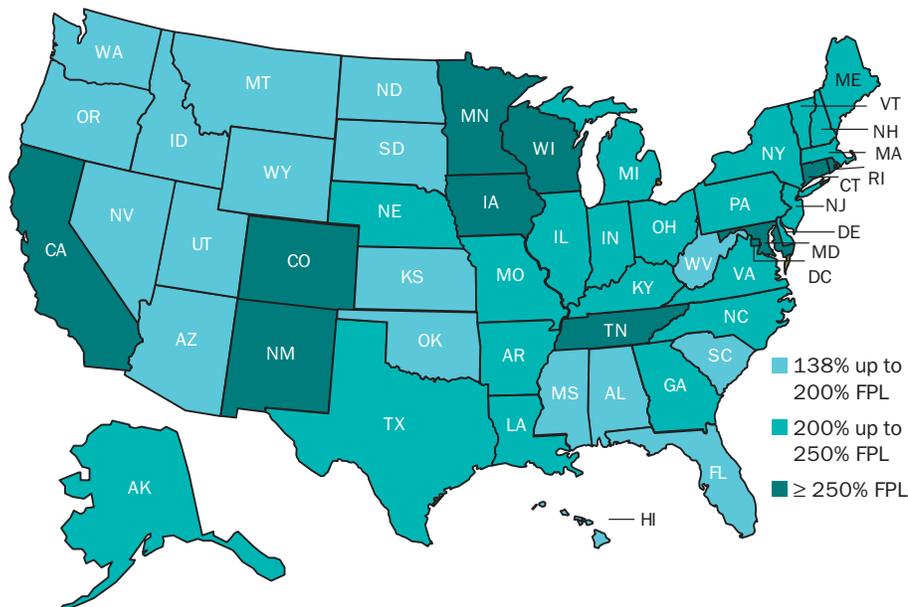
SOURCE: Kaiser Family Foundation, 2010.

PRENATAL COVERAGE AND CARE — SOME KEY STATE TRENDS

Births Covered by Medicaid

Nearly half — 45 percent — of all U.S. births are covered by Medicaid.^{218, 219} However, rates varied significantly by state, with only 24 percent of births covered by Medicaid in Hawaii to 69 percent in Louisiana.^{220, 221}

Medicaid/CHIP Income Eligibility Levels for Pregnant Women, January 2015



NOTE: The federal poverty level for a family of three in 2015 is \$20,090. Thresholds include an income disregard equal to five percentage points of the FPL.

SOURCE: Kaiser Family Foundation, 2015.

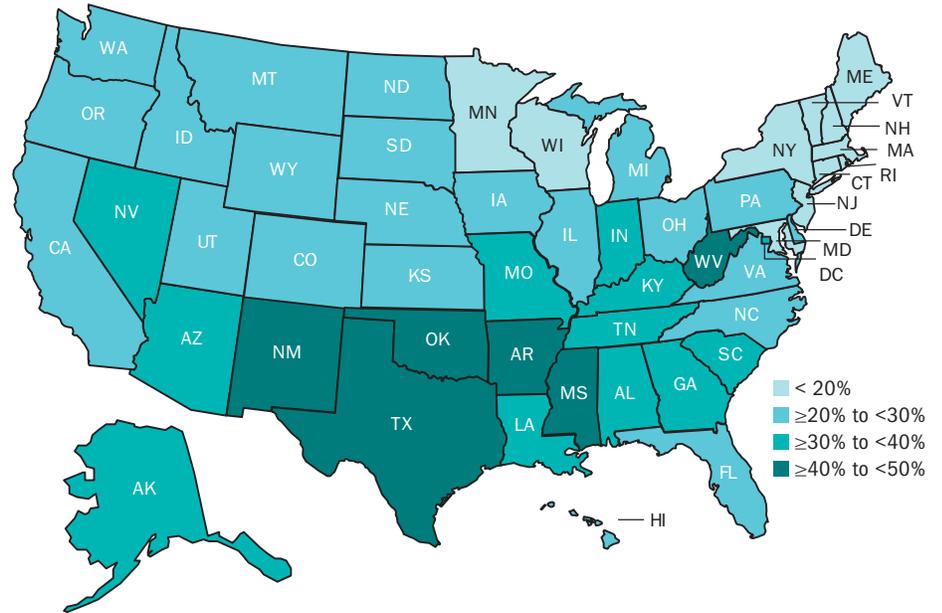
Prenatal Medicaid and CHIP Coverage

As of April 1, 2015, 32 states and Washington, D.C. covered pregnant women at or above 200 percent FPL under Medicaid or CHIP.²²²

Teen Pregnancy Rates

There were 26.5 births for every 1,000 teenager females ages 15 to 19 in the United States in 2013 — for a total of more than 273,000 babies.²²³ Nearly 89 percent of these were outside of marriage. One in six of these births were to a teen who already has at least one baby. The teen birth rate has declined significantly from 61.8 per every 1,000 teen females in 1991.

Teenage Pregnancy Birth Rates (per 1,000) for 15- to 19-Year Olds, 2013



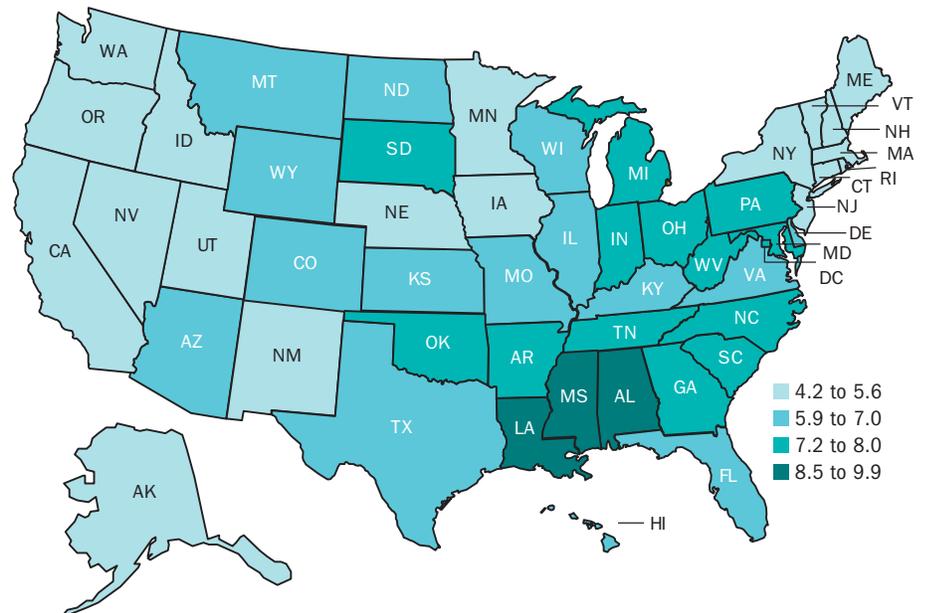
NOTE: U.S. teen birth rate was 26.5 in 2013.

SOURCE: U.S. Department of Health and Human Services, 2015.

Infant Mortality

Over the last half-century, the United States has substantially reduced the country's infant mortality rate from 26 deaths per 1,000 in 1960 to 6.9 deaths per 1,000 in 2000.^{224, 225} But rates have not improved significantly since then — remaining stagnant at around 24,500 infant deaths per year during the past decade.²²⁶ Black infants die at more than twice the rate of Whites (13.7 deaths per 1,000 live births versus 5.7 per 1,000). The United States is ranked 27th in infant mortalities among industrialized countries. The leading causes of infant deaths are congenital malformations, chromosomal abnormalities, disorders related to short gestation and low birth weight and sudden infant death syndrome.

Infant Mortality Rates (Deaths per 1,000 Live Births) by State, 2011-2013



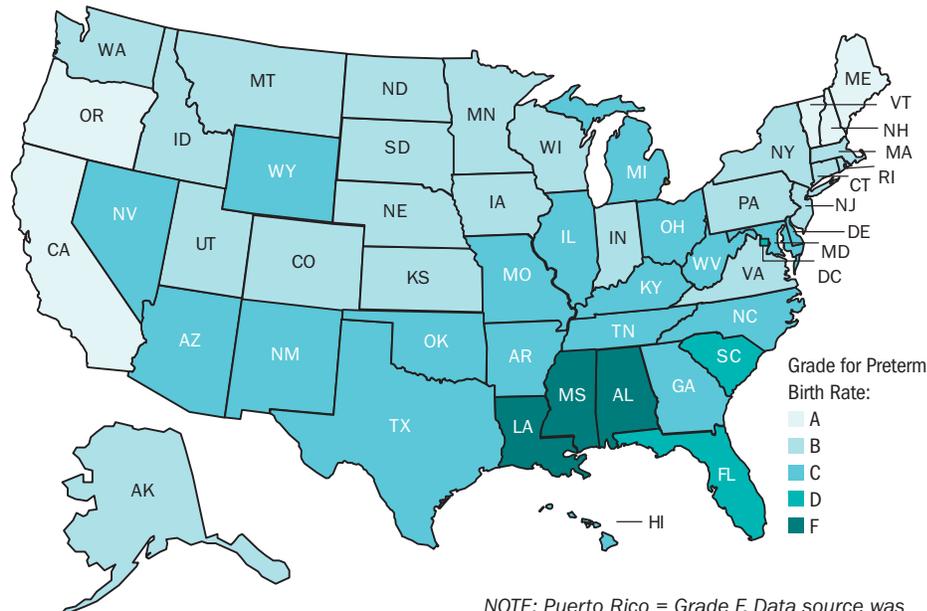
SOURCE: Kaiser Family Foundation, 2011-2013.

Preterm Babies

One in nine children in the United States are born prematurely — before 37 weeks of gestation or 3 weeks early. Premature births put children at an increased risk for a range of health conditions, including mental retardation, cerebral palsy, hearing loss, vision impairment and a range of developmental delays and disorders. Experts estimate that premature births cost the country \$26.2 billion annually, \$51,600 per baby, in direct medical and lifetime added costs.²²⁸ ²²⁹ Preterm birth rates are significantly higher for Blacks (16.5 percent), Hispanics (11.6 percent) and Native Americans (13.4 percent) than for Whites (10.3 percent).²³⁰

Improved healthcare before and during pregnancy can help identify and manage conditions that contribute to premature birth. In addition, improved education of obstetricians and gynecologists about the

Premature Birth Report Cards by State, 2014



NOTE: Puerto Rico = Grade F. Data source was from the National Center for Health Statistics, 2013 preliminary data. A $\leq 9.6\%$; B $> 9.6\%$ and $< 11.3\%$; C $\geq 11.3\%$ and $< 12.9\%$; D $\geq 12.9\%$ and $< 14.6\%$; F $\geq 14.6\%$.

SOURCE: March of Dimes, 2013.²²⁷

importance of not delivering children early unless it is absolutely medically necessary can help reduce preterm birth rates.

PREMATURITY – BIRTH AND BEYOND – LIFETIME, LIFELONG COSTS

Short and Long Term Increased Risks	Estimated Increased Cost Implications	Health and Developmental Concerns
Baby Direct Medical Costs	\$16.9 billion	In addition to neonatal costs, many premature children are at risk for a number of lifelong health conditions. Four top lifelong development conditions associated with prematurity include: Lifetime Incremental Direct Medical Costs By Developmental Disability Per Person Mental Retardation — \$123,205 Cerebral Palsy — \$83,169 Hearing Loss — \$23,209 Vision Impairment — \$32,058
Mother Labor and Delivery Costs	\$1.9 billion	
Early Services for Children (ages 0-3)	\$611 million	Early intervention services for children birth to age 3 with disabilities and developmental delays — such as help with physical, thinking, communication, social and self-help skills.
Special Education Services (ages 3-21)	\$1.1 billion	Around one in three children born prematurely need special education services at some point during their school years (around \$2,200 per year per child). Learning problems may not appear until elementary or middle school — or sometimes can go undetected. Research studies show children who were born prematurely are more likely to have learning and behavior problems in childhood. (A baby's brain develops rapidly at the end of pregnancy — at 35 weeks a baby's brain weighs only two-thirds of what it does at 39 weeks.)
Lost Productivity — Household and Labor Market	\$5.7 billion	Premature birth can affect a person's ability to work, the amount of work he or she can do, or both because of long-term health conditions and disabilities.

CASE STUDIES

Ohio's Collaborative to Prevent Infant Mortality²³¹

In 2009, the Ohio Infant Mortality Task issued a report on Ohio's infant mortality/disparities. Based on the report's recommendations, the Ohio Department of Health formed the Collaborative to Prevent Infant Mortality, which now includes 75 organizations that span government, medicine, public health, business, advocacy and others. The Collaborative has primarily focused on addressing disparities in mortality rates, as there are 13.93 deaths per 1,000 live births for Blacks and just 6.37 deaths per 1,000 live births for Whites. Following the forming of the collaborative, Governor John Kasich made healthy pregnancies a priority and brought all of the relevant agencies together with the Collaborative to create programs that would improve

birth outcomes and the services provided to at-risk mothers. Some of the new initiatives include:

- **Expanding Eligibility for Pregnant Women:** by providing temporary Medicaid coverage that will enable a pregnant woman to receive medical attention earlier in the pregnancy, which is associated with better birth outcomes.
- **Strong Start/Enhanced Maternal Care for High-risk Pregnancies:** because a majority of women on Medicaid are served through managed care plans, Ohio Medicaid negotiated new contracts with the plans to include enhanced care and inter-conception requirements for at-risk women.

Text4baby²³²

Text4baby is a free cell phone text messaging service for pregnant women and new moms. Women who text BABY or BEBE (for Spanish language texts) to 511411 will receive messages that contain information on how to have a healthy pregnancy and a healthy baby. Specifically, the free service focuses on breastfeeding, car seat safety, emotional well-being, exercise and fitness, immunizations, nutrition, prenatal care, smoking cessation and many other health-related topics. In the first two years of launch, more than 280,000 women were

enrolled, with 96 percent reporting they would recommend the service. Women learn about the program, primarily, from the 700 partners — health plans, local health departments, government agencies, business, nonprofits, federally qualified health centers, colleges and universities, healthy start programs, head start/early head start programs, hospitals, clinics and others — who help promote the service. In developing the individual text messages, the AAP reviewed the content and has subsequently encouraged their members to promote it in their pediatric practices.

MENTAL HEALTH SUPPORT AND SUBSTANCE ABUSE PREVENTION AND TREATMENT

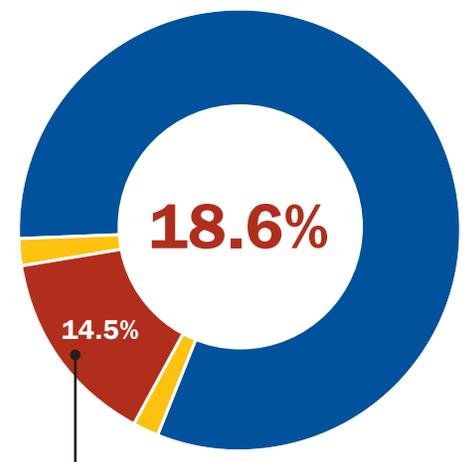
Children who grow up in an environment where a member of the family has a mental illness or abuse alcohol or drugs can have lifelong health consequences.²³³ Having a parent with a mental health or substance abuse disorder is considered to be an adverse childhood experience. Parents with these disorders may have difficulties in bonding with their children, responding appropriately to children's needs and are more likely to abuse their children. These parents are more likely to be experiencing multiple sources of stress themselves, including low socio-economic status, single parenthood, lack of social support and resources and mental health problems such as depression or to have experienced abuse when they were growing up.²³⁴

- An estimated 10 percent to 20 percent of mothers will be depressed at some time during their lives. About one in 11 infants are impacted by their mothers' major depression in their first year of life.²³⁵
- In households below the poverty threshold, one in four mothers of infants experiences moderate-to-severe levels of depressive symptoms.²³⁶ Teen mothers are more likely than older mothers to have postpartum depression.²³⁷
- Children of depressed mothers are more likely than other children to have behavior, academic and health problems, including mental health problems. Child development and behavior consequences worsen with long-term, severe maternal depression. For children between 28 and 50 months old, maternal depression has been linked to delays in cognitive and motor development. Five-year-old children whose mothers experienced frequent and/or severe depression were more likely to have behavioral problems and lower vocabulary scores than those

whose mothers who had less chronic and/or severe depression.²³⁸

- Harsh forms of discipline — physical and emotional — by parents can negatively impact a child's ability to regulate their own emotions and leads to increased aggression in the child.²³⁹ The parents' dysregulation of their own emotions through harsh or punitive parenting also has been shown to affect the ability of children to regulate their own emotions. Use of physical punishment to discipline children has been linked to a range of mental health problems and is opposed by the AAP. It has been linked to increased risk for mood disorders, anxiety disorders, alcohol and drug abuse, several personality disorders, lower receptive vocabulary scores and "incompetent" peer relations and poor behavior in school.^{240, 241}
- More than 60 percent of infants and 40 percent of older children in out-of-home care are from families with active alcohol or drug abuse.²⁴²
- Significant gaps exist in the country's mental health and substance abuse prevention and treatment systems. While 18.6 percent (43.7 million) of adults have a mental disorder, only 14.5 percent (34.1 million) of them receive some form of treatment, and that treatment is often inadequate, fragmented and is either not covered or limitedly covered by insurance.^{243, 244} Around 21.6 million Americans ages 12 and older needed treatment for a substance abuse problem, but only 2.3 million — around one in 10 — received treatment at a substance abuse facility.²⁴⁵ There also continues to be stigma in many communities around mental health services that can deter individuals from seeking care.

Percent of Adults Who Have a Mental Disorder



Percent of Adults with a Mental Disorder Who Receive Treatment

The foundations of mental health start in early childhood. Mental health programs not only need to support parents, but also mental health in early childhood. Many children are able to weather adversity and even overcome the severe challenges that they may face, from persistent abuse to extreme poverty, but it requires building those abilities in the early years. Some keys to establishing early mental health include the ability to develop self-regulation, emotional adaptability, the ability to relate to others and self-understanding and awareness.²⁴⁶ Early support and treatment help not only in the immediate childhood years but also reduces risk for ongoing physical, mental, socio-emotional and behavioral problems — and risk for future substance abuse. Half of the mental and substance abuse disorder cases start by the age of 14.²⁴⁷

According to the Substance Abuse and Mental Health Services Administration, a comprehensive strategy to support mental and behavior health, reduce the risk for substance abuse and improve recovery includes:

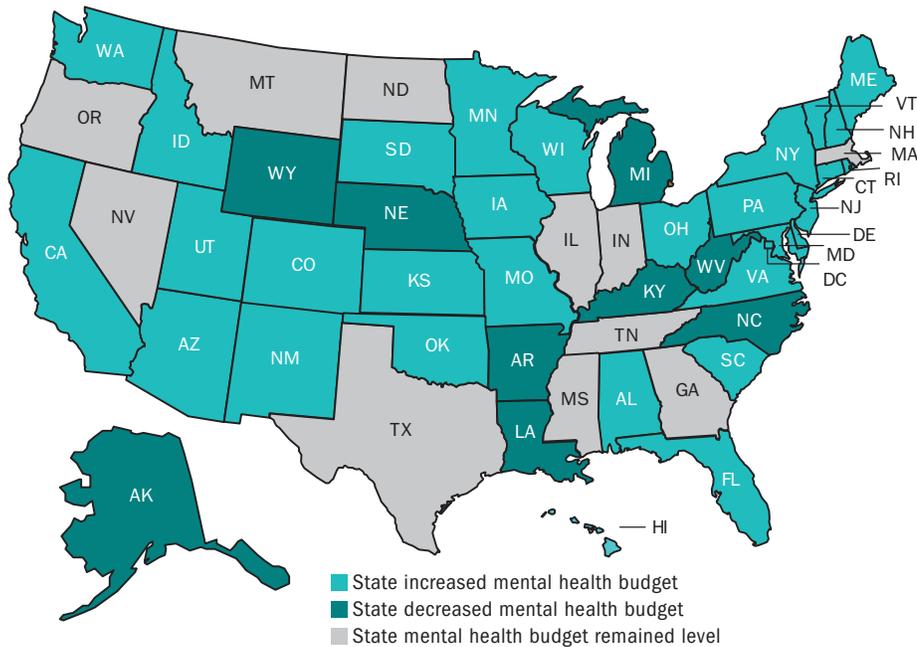
- Health: overcoming or managing one's disease(s) as well as living in a physically and emotionally healthy way;
- Home: a stable and safe place to live;
- Purpose: meaningful daily activities, such as a job, school, volunteerism, family caretaking or creative endeavors, and the independence, income and resources to participate in society; and
- Community: relationships and social networks that provide support, friendship, love and hope.²⁴⁸

Effective strategies to improve outcomes include clinical preventive services, early intervention services focusing on prevention and public health approaches and community-based programs.

Evidence suggests that intensive therapies that focus on mothers' mental health and their interactions with their young children can improve child outcomes.²⁴⁹ Some health providers have increased screening as part of prenatal visits — such as through Screening, Brief Intervention and Referral to Treatment services. State Medicaid agencies may, but are not required to, include SBIRT in their programs.²⁵⁰ In cases where a child is removed from a parent at birth — or after — due to substance abuse or other factors — it is important to recognize that being removed from a parent is another traumatic experience and it is essential to build a strong system of support for these children. An effective child welfare system takes into account providing safe, stable, nurturing environments throughout the process — including available, well-funded foster homes with well-trained and supportive staff and professionals.

The ACA and the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008 have significantly changed the accessibility and affordability of mental and substance abuse treatment services for millions of Americans by defining these services as essential benefits and requiring that they be covered on parity with general medical and surgical care under individual, group and Medicaid expansion plans.²⁵¹ But, even with these changes, private and public insurance still varies dramatically, and coverage is often limited and does not match what is needed to provide effective and ongoing treatment. In addition, the parity law only applies to employers that provide mental health coverage and have employees of 50 or more. Only around 7.4 percent of all health spending in the United States is devoted to mental health treatment services and one percent is devoted to substance abuse treatment.²⁵²

State Mental Health Budget, Fiscal Year 2015



SOURCE: National Alliance on Mental Illness, FY 2015.

State Mental Health Funding

State mental health budgets experienced significant cuts during the recession — decreasing by \$4.35 billion from FY 2009 to FY 2012. In FY 2015, only 29 states and Washington, D.C. increased mental health funding, while eight states had level funding and 13 decreased funding.²⁵³

While prevention — strengthening community programs and support systems to help improve protective factors and reduce risks for individuals — is a top goal of SAMHSA, there has traditionally been very limited support aimed at preventing mental and substance abuse problems, with around a half a billion dollars total to support mental health and substance abuse prevention and a Prevention Preparedness Communities initiative.²⁵⁴

Project LAUNCH (Linking Actions for Unmet Needs in Children’s Health) is one of SAMHSA’s prevention initiatives and involves collaborating with other

agencies to improve the well-being of children ages birth to 8 by addressing various developmental components — physical, social, emotional, cognitive and behavioral.²⁵⁵ It involves five core prevention and promotion strategies, including: child screenings and assessments; home visits; mental health consultations; family and parenting skills training; and integrating behavioral health into primary care settings — and works to improve coordination across child-serving systems, build infrastructures and increase high-quality prevention and wellness promotion services.

CASE STUDIES

Crittenton Children's Center at Saint Luke's Health System²⁵⁶

Head Start-Trauma Smart (HSTS) was created by Crittenton Children's Center — a mental health provider in Kansas City, Missouri— to help children, ages 3 to 5, handle complex trauma (violence, arrest/incarceration, substance abuse, homelessness, death and others). In 2007, local Head Start staff realized there were large numbers of funerals occurring within their families, yet not much corresponding programs and services to help children deal with these events. HSTS was created to fill this void by combining four main components:

- HSTS therapists train all of the people (care givers, Head Start staff, day care providers, neighbors, grandparents, etc.) who are part of a child's life to help the child identify and share feelings. This includes props or games to help children develop self-regulation and appropriate competencies.

- Intensive Individual Trauma-Focused Intervention, which includes short therapy sessions for children and their families. Because it is difficult for an entire family to take part, therapists make weekly phone calls, send notes to parents and, sometimes, make home visits.
- HSTS therapists provide classroom consultation to all teachers and children, during which the therapist is able to bring the skill-based training into the classroom and support the teacher.
- Peer Based Mentoring for teachers and others to help sustain progress.

An article in the *Journal of Child and Family Studies* found that HSTS resulted in significant benefits for children by reducing attention deficit, defiant and externalizing problems and hyperactivity—all of which are important for improving academic performance.

Early Detection, Intervention and Prevention of Psychosis in Adolescents and Young Adults (EDIPPP)²⁵⁷

The Early Detection, Intervention and Prevention of Psychosis in Adolescents and Young Adults is a project funded by the Robert Wood Johnson Foundation that focuses on the mental health needs of adolescents and young adults. The initiative connects with those who interact directly with youth (family, teachers, social workers, doctors and nurses) and works to educate these people on the early signs of severe mental illness to help identify at-risk teens and young adults.

By educating and helping those closest to at-risk individuals, EDIPPP is then able to engage and treat these young people earlier. A recent study of EDIPPP found that the initiative is able to help families better support someone with mental illness and patients succeed in school and work. According to the study, the early intervention helped at-risk individuals stay in school, remain employed and maintain personal connections.

Public Health: *Promoting Protective, Healthy Communities*

Public Health:

Promoting Protective, Healthy Communities — and Establishing Expert and Technical Assistance and Support to Help Spread and Scale Programs in Every State

Strong communities and connections within a community — where neighbors know and support each other, where there is strong involvement in community activities and where resources and amenities are readily available — have been shown to help improve health and general well-being.

Community engagement and strong, supportive social networks can serve as a buffer against stressors that can negatively impact both physical and mental health.²⁵⁸ Keys to successful community engagement efforts include collaboration and shared leadership from within a community itself.

Public health departments and experts should take an increased role in working with and across different programs in communities — as Chief Health Strategists. To be effective in improving children’s health in neighborhoods, workplaces and

schools, health officials must build and foster strong partnerships with sectors beyond the healthcare system, such as education and transportation. At the federal level, the National Prevention Strategy has helped identify ways to incorporate health goals and priorities into policies, programs and services across Cabinet agencies. Many state and local state health agencies, hospitals and healthcare providers are increasing efforts to build cross-sector collaborations and coalitions to strengthening the health and well-being of children in their communities.



RECOMMENDATIONS:

Improve the collection, analysis and integration of child health, well-being and services data to be able to better assess trends and target services and programs: Currently, most communities do not have enough quality information to develop strategies and target programs in the most effective and efficient ways possible. There needs to be more systematic and standardized systems for collecting and correlating data — to do needs assessments, measure results and assure accountability of efforts. A better understanding of how child and maternal health trends, patterns of underlying risk and protective factors, social service supports, income and nutrition assistance programs interrelate are important to be able to 1) match the most appropriate types of programs with community needs; 2) understand how to evaluate the effectiveness of programs and adjustments that may need to be made; and 3) ensure accountability and demonstrate the ongoing value of programs and services. This data collection and analysis can functionally serve as electronic health record at a community level — and are essential to effectively determine strategies, deliver programs, assess the impact of efforts and determine how to best allocate resources.



RECOMMENDATIONS:

Strengthen the role of federal, state and local health departments as the chief health strategist in communities: Public health departments must partner with health providers, hospitals and across a wide range of sectors — to develop new policies and programs, or adapt existing policies and programs — to help improve the overall health of a community.

To achieve this, health departments should proactively work to partner across other sectors. Public health experts can help provide guidance about best practices and evidence-based strategies — serving as a health advisor to existing efforts or to help fill leadership and resources where voids may exist. The goal is to maximize collective impact — where sectors work together and collaborate — leveraging and aligning the strengths and efforts of many groups to achieve change that no single sector or group can achieve alone. Special emphasis should be placed on strategies and initiatives that have been shown to help improve the health and well-being of young children — and public health departments and experts should be an integral part of state and local task forces and communities — and help bring additional support, perspective and resources.

By helping work across sectors to build partnerships, public health can help bring increased focus on the identification, implementation, coordination and evaluation of cost-benefit community prevention programs and activities. There must be greater focus on ensuring efficient, effective practices for structure, organization,

finance and delivery of programs and services — including working across sectors to find opportunities to blend and braid programs, grants and sources of financing to reduce bureaucracy and leverage resources for maximum impact for improving health along with achieving other positive goals. Some key priorities include:

- Including health impact assessments as part of new developments and redevelopment efforts — with an emphasis on understanding the potential impact changes in neighborhoods and communities can have on the health of children. Community participation should be required as part of development projects — and the potential environmental and health impact on low-income communities, communities of color and communities with high concentrations of children must be considered;
- Prioritizing and bringing a health perspective to initiatives that can help reduce toxic stress within high risk communities — such as by supporting inclusive housing policies and Smart Growth best practices, which includes mixed-income and mixed-use housing to

expand the availability of affordable housing near quality amenities, such as high-performing schools, public transportation, job centers, full service grocery stores and other location-efficient areas that provide support for families;

- Increasing support for policies and programs that give all children and their families the ability to afford and access nutritious food and safe places to be physically active — by bringing effective nutrition, physical activity and community-based obesity prevention programs to scale and targeting more intensive efforts toward communities where food insecurity and obesity rates are highest and there are marked inequalities; and
- Supporting a preventive approach to harmful environmental exposures at the federal, state and local levels — with particular emphasis on protecting the most vulnerable subsets of the public, including children. Standards should be set to regulate air, food, water and homes — and smoking bans should be required in federally-supported housing.

RECOMMENDATIONS:

Establishing an expert and technical assistance and support organization in every state: To be successful and sustained over time, strategies, programs and services need end-to-end support including networks of experts, access to research and practices and multi-sector collaboration. One model is to have a public-private partnership “backbone” organization in a state that can 1) help provide needs assessments to match the best policy and program choices to specific community’s needs; 2) help ensure programs are adopted and implemented successfully by providing technical assistance and access to learning networks; 3) train and support a range of professionals from different backgrounds and sectors; 4) conduct regular evaluation — measuring results and ensuring accountability; and 5) perform continuous quality improvement and updates to improve programs. Technical support and ongoing data collection and analysis at a community level can help identify patterns of concerns — including risks and protective factors — and help understand where and how to direct programs and efforts. A backbone organization — housed at an academic center or a nonprofit organization — can provide assistance to support community-based multi-sector collaborations and coalitions — and to help identify and braid different funding streams.

CASE STUDIES

Promise Neighborhoods Research Consortium (PNRC)²⁵⁹

Promise Neighborhoods Research Consortium works to help high-poverty neighborhoods across the country utilize existing programs and expertise to improve community well-being. PNRC has identified dozens of evidence-based policies — from efforts to reduce bullying to creating tutoring programs to child mental health programs — that will be effective in improving community conditions. PNRC has also recognized 14 programs that can help

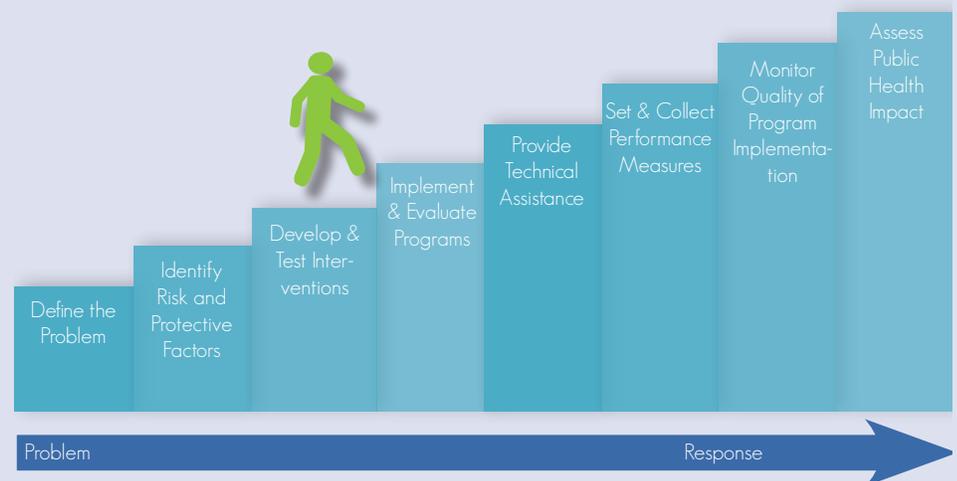
spur community change, including Big Brothers, Big Sisters, PATHS, Good Behavior Game and others. Lastly, PNRC has identified a number of low-cost and easily implemented strategies, for example: peer-to-peer tutoring, structured or organized play, mystery motivators/prize bowl and many others. Moving forward, PNRC is creating a network of neighborhood and community leaders and behavioral scientists who will work together.

Evidence-based Prevention and Intervention Support Center (EPISCenter)²⁶⁰

Evidence-based Prevention and Intervention Support Center is a state-level prevention support system that helps connect research, policy and the real-world practice of child and youth development programs. The center serves as a backbone organization that promotes the dissemination, high-quality implementation and sustainability of: community-level infrastructure for prevention planning; evidence-based programs and practices; and continuous improvement of locally-developed juvenile justice programs, which also provide much broader support for positive childhood and youth development. They help communities assess their specific needs; create a process to help communities identify and prioritize the risk and protective factors they want to focus on; and provide information about which programs and interventions can best address the identified needs — many of which start in early childhood and continue through youth — technical assistance and support for quality implementation of the programs and evaluations of efforts and continued community needs.

EPISCenter is a collaborative partnership between the Pennsylvania Commission on Crime and Delinquency (PCCD), the Pennsylvania Department of Human Services and the Bennett Pierce Prevention Research Center, College of Health and Human Development at Penn State University.

Translating Science to Practice



This diagram shows the multiple, coordinated steps involved in taking research from the lab into communities ("research to practice"). The first four steps show the research activities that lead up to introducing programs into the field. The last four steps show the translation and implementation activities that are undergone to run programs in "real-world" settings.

SOURCE: EPISCenter, 2014.



ENSURING GOOD NUTRITION AND PHYSICAL ACTIVITY FOR HEALTHY GROWTH

Good nutrition is one of the most important factors for health — particularly for infants, toddlers and young children who need an adequate intake of key nutrients while their brains and bodies are rapidly developing. Also, the foundations for building lifelong habits for being physically active begin to be established in these formative years. Nutrition and activity work together to help ensure children grow on a healthy course.

Currently, however, millions of American children are not getting adequate or recommended levels of quality nutrition or physical activity. Poor nutrition can result in hunger and obesity — and increases a child’s risk for physical, mental, behavioral, emotional, learning and dental problems — including making it hard to perform basic tasks and regulate their social-emotional behavior.²⁶¹ Also, many neighborhoods and child care options have limited access to safe, available places for children to play and be active — and increased options and availability of TV, tablets and other forms of screen time take away from time spent being active.

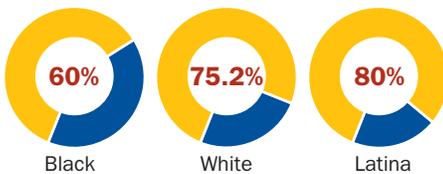
• Prenatal Nutrition and Low-Birth

Weight Babies: Prenatal nutrition is important for a baby to have normal brain and physical development. Insufficient amounts of key vitamins and nutrients can put babies at risk for a number of birth defects and abnormal growth.²⁶²

More than 30 percent of women of childbearing age are obese, and more than 6 percent of women giving birth annually have gestational or pre-existing diabetes, putting them at higher risk for pregnancy complications and lifelong health complications and their babies at higher risk for being premature, having a low or high birth weight and a series of other health problems, ranging from endocrine and metabolic disturbances and congenital abnormalities to longer-term developmental delays and obesity.^{263, 264}

- **Breastfeeding Gaps:** More than 23 percent of babies are never breastfed. Nearly half (49 percent) are breastfed at 6 months, but rates range from a low of 28.9 percent in Mississippi to a high of 66.5 in Vermont.²⁶⁵ The IOM and AAP recommend babies be breastfed exclusively for the first 6 months and should continue to receive supplemental breastfeeding through their first year of life.^{266, 267}
- Fewer than 60 percent (58.9 percent) of Black mothers breastfeed, compared to 75.2 percent of White and 80 percent of Latino mothers. Breastfeeding rates for Black mothers did increase from 47.4 percent in 2000 due to strong healthcare and public health campaigns and policies.²⁶⁸
- Only 27 percent of babies are still breastfed at 12 months.²⁶⁹

Percentage of Mothers who Breastfeed by Race and Ethnicity



● **Food Insecurity:** Around 16 million children — 21.6 percent — are considered “food insecure,” where their families do not have consistent access to adequate food due to lack of money or other resources.^{270, 271} One in four Black and Latino families are considered food insecure.²⁷² Low-income families spend a higher percentage of their household budget on food compared to higher income families — 16.1 percent for low-income families compared to 13.2 percent of middle-income and 11.6 percent for high-income families.²⁷³ Feeding America’s *Child Food Insecurity: The Economic Impact on our Nation* report²⁷⁴ found that child hunger has negative consequences for:

- **Health:** Hungry children are sick more often; more likely to be hospitalized (the costs of which are passed along to the business community as insurance and tax burdens); suffer growth impairment that precludes them from reaching their full physical potential; and incur developmental impairments that limit their physical, intellectual and emotional development.
- **Education:** Hungry children ages 0- to 3-years-old cannot learn as much, as fast, or as well because chronic under nutrition harms their cognitive development during this critical period of rapid brain growth, actually changing the fundamental neurological architecture of the brain and central nervous system; do more poorly in school and have lower academic achievement because they are

not well prepared for school and cannot concentrate; and have more social and behavioral problems because they feel bad, have less energy for complex social interactions and cannot adapt as effectively to environmental stresses.

- **Job Readiness and the Future Workforce:** Workers who experienced hunger as children are not as well prepared physically, mentally, emotionally or socially to perform effectively in the contemporary workforce; and create a workforce pool that is less competitive, with lower levels of educational and technical skills, and seriously constrained human capital.
- **Physical Inactivity:** Only one-quarter of U.S. children currently meet the national recommendations of 1 hour of moderate- to vigorous-physical activity every day by the time they reach the ages of 6 to 15.²⁷⁵ American earned a D- for overall physical activity in the 2014 U.S. *Report Card on Physical Activity for Children and Youth* by the National Physical Activity Plan Alliance and the American College of Sports Medicine.²⁷⁶
- According to the National Association of Sports and Physical Education (NASPE), each day, toddlers (2- to 3-year olds) should get at least 30 minutes of structured physical activity (adult-led) and at least 60 minutes of unstructured physical activity (free play); and not be inactive for more than 1 hour at a time (except for sleep-

ing).²⁷⁷ The Physical Activity Guidelines for Americans calls for children to get at least 60 minutes of physical activity per day, most of which should be moderate or vigorous in intensity.²⁷⁸

- Active children set lifelong health benefits of stronger muscles and bones and leaner bodies by controlling body fat; are less likely to become overweight or obese and to develop type 2 diabetes; and have lower risk for high blood pressure or high cholesterol levels.²⁷⁹
- Unsafe conditions and neighborhoods and limited knowledge about what the recommended types and amount of activity are at each stage of development can contribute to young children not being sufficiently active.
- Research has shown a positive association between physical activity and academic performance and better classroom behavior.^{280, 281}
- The IOM also recommends that parents and caregivers should limit young children’s screen time, since it promotes sedentary behavior and takes away from time that could be spent taking part in more physical activities.²⁸² The AAP specifically recommends no screen time for children under 2-years-old and less than one to two hours for children over the age of 2.²⁸³ In addition, the IOM recommends child care providers and parents keep children active throughout the day and ensure children sleep an adequate amount each night.

Active children set lifelong health benefits of stronger muscles and bones and leaner bodies by controlling body fat; are less likely to become overweight or obese.

PREVENTING CHILDHOOD OBESITY

It is easier and more effective to prevent overweight and obesity — focusing on helping every child maintain a healthy weight — than it is to reverse trends later. Starting in early childhood pays the biggest dividends — promoting good nutrition and physical activity so they enter kindergarten at a healthy weight and establishing healthy habits for life.

Childhood obesity rates have more than tripled since the 1980s. While rates have stabilized over the past decade, they remain high. Rates are highest among children from low-income families and there are persistent racial and ethnic inequities — often related to more limited access to affordable nutritious food and access to safe, convenient places to be physical activity contribute to increased rates of obesity among low-income young children.

- More than 8 percent of preschoolers in the United States were obese in 2011 to 2012, and an additional 23 percent of children ages 2 to 5 were overweight.²⁸⁴ By ages 12 to 19, 20.5 percent of children and adolescents are obese. A significant percentage — 2 percent — of young children (2- to 5-year-olds) are severely obese, 5 percent of 6- to 11-year-olds are severely obese and 6.5 percent of 12- to 19-year-olds are severely obese.²⁸⁵
- 3.5 percent of White, 11.3 percent of Black and 16.7 percent of Latino preschoolers are obese.²⁸⁶
- The obesity rate among preschool children from low-income families participating in the WIC program is higher than the national average, but

there are signs of progress. In 2011, 14.4 percent of 2- to 4-year-olds from low-income families were obese — an increase from 12.7 percent in 1999. However, from 2008 to 2011, obesity rates among this population decreased in 18 states and the U.S. Virgin Islands and increased in only three states.²⁸⁷

- Children who are overweight or obese are likely to be obese as adults. Being overweight or obese can put them at higher risk for health problems — such as heart disease, hypertension, type 2 diabetes, stroke, asthma and osteoarthritis — during childhood and as they age.²⁸⁸
- Significant numbers of infants, toddlers and preschoolers do not meet the CDC or AAP recommendations for a healthy diet or sufficient physical activity.²⁸⁹ For instance:
 - Around one-third of toddlers and preschoolers (ages 2 to 4) do not eat any fruits or vegetables in a given day, and only one-third meet the daily recommendation of five fruits or vegetables. French fries were the most eaten even vegetable by toddlers and preschoolers.
 - More than 46 percent of preschoolers (ages 24 to 47 months old) consumed sugar-sweetened beverages (SSBs) daily — including fruit drinks, soda, sweetened bottled water, sports drinks and energy drinks. More than 30 percent consumed fruit-flavored drinks and 8.2 percent consumed carbonated soda.²⁹⁰ More than 20 percent of toddlers consume SSBs daily — 20

percent consuming fruit-flavored drinks and 4.6 percent consuming carbonated soda. SSBs make up nearly 11 percent of children's total daily calories.²⁹¹ A clinical review by the AAP recommends that "because there is no evidence for the health benefits of sugar-sweetened beverages, health-promotion efforts in pediatric practice should aim at removing all sugar-sweetened beverages from children's diets."²⁹²

A number of key strategies can help prevent and address obesity by improving nutrition in child care, food assistance programs and schools; increasing physical activity before, during and after school; expanding healthcare coverage for preventing and treating obesity; making healthy affordable food and safe places to be active more accessible in neighborhoods, such as through Complete Streets and healthy food financing initiatives; increasing healthy food options via public-private partnerships; and creating and sustaining policies that help all children maintain a healthy weight.

In 2015, RWJF announced a renewed commitment of \$500 million over the next 10 years to expand efforts to help all children grow up at a healthy weight. One of the biggest lessons RWJF learned is the importance of starting off in childhood — to set the course and stay on track for a lifetime of better health. Building on key areas of work and progress accomplished, this commitment will focus on five big bets:

- Ensure that all children enter kindergarten at a healthy weight;

- Make a healthy school — and child care — environment the norm and not the exception across the United States;
- Make physical activity a part of the everyday experience for children and youth;
- Make healthy foods and beverages the affordable, available and desired choice in all neighborhoods and communities; and
- Eliminate the consumption of sugar-sweetened beverages among 0- to 5-year-olds.

Key recommendations from the *2015 State of Obesity: Better Policies for Healthier America* report from RWJF and TFAH included:²⁹³

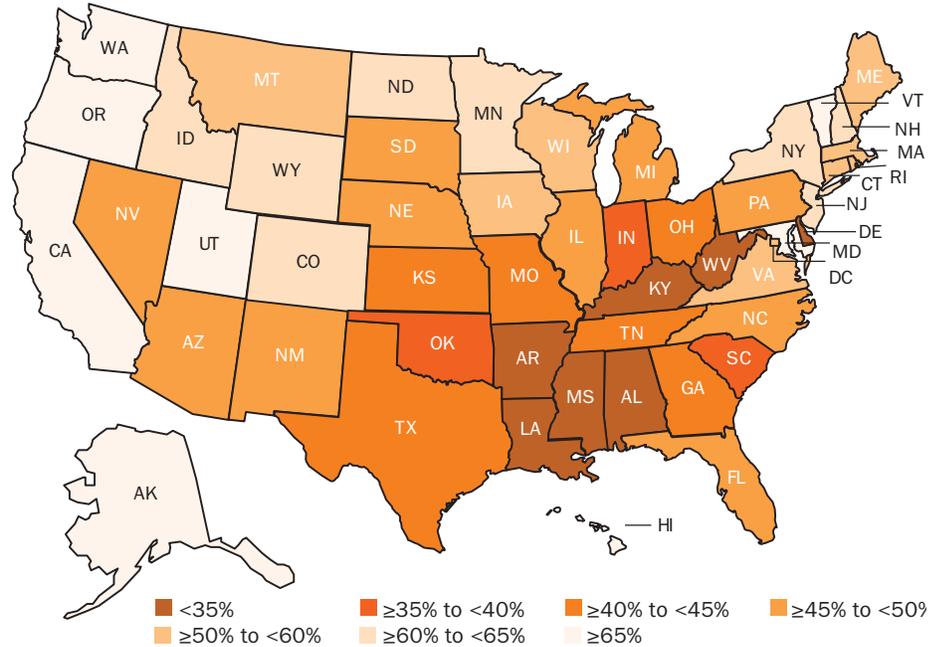
- 1) Bringing effective nutrition, physical activity and obesity-prevention community-based programs to scale with increased investments;
- 2) Incentivizing increased use of available preventive health services and community resources — and finds ways to better integrate healthcare with community-based programs, services and support that can help improve health beyond the doctor's office;
- 3) Targeting intensive efforts where obesity rates are the highest and where there are marked inequities in access to affordable healthy foods and opportunities for physical activity; and
- 4) Prioritizing developing partnerships — from education to transportation to housing to financing — that leverage and align the strengths and efforts of many groups in many sectors.

CHILDHOOD NUTRITION

Breastfeeding Rates

Nearly half (49 percent) of infants are breastfeeding at 6 months of birth, but rates range from a low of 28.9 percent in Mississippi to a high of 66.5 in Vermont.²⁹⁴

State Breastfeeding Rates at Six Months, 2014

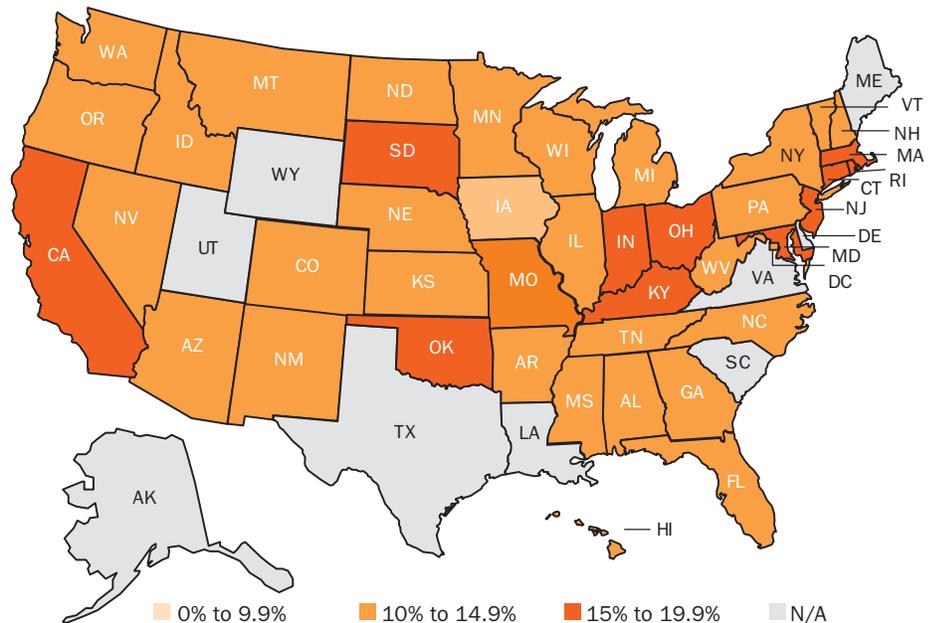


SOURCE: Centers for Disease Control and Prevention, 2014.

Obesity Rates: Low-Income 2- to 4-Year-Olds

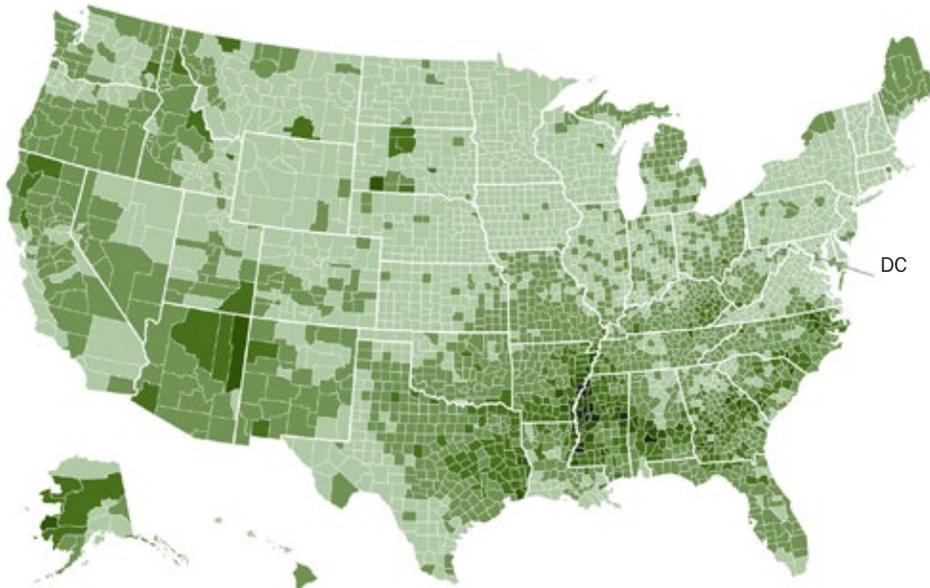
The Pediatric Nutrition Surveillance Survey (PedNSS), which examines children from the ages of 2 to 4 from low-income families participating in WIC, found that 14.4 percent of this group is obese, compared with 12.1 percent of all U.S. children of a similar age.²⁹⁵

Obese Rates for Low-Income 2- to 4-Year-Olds by State, 2011



SOURCE: Centers for Disease Control and Prevention, 2011.

Child Food Insecurity Rates by County, 2009-2013

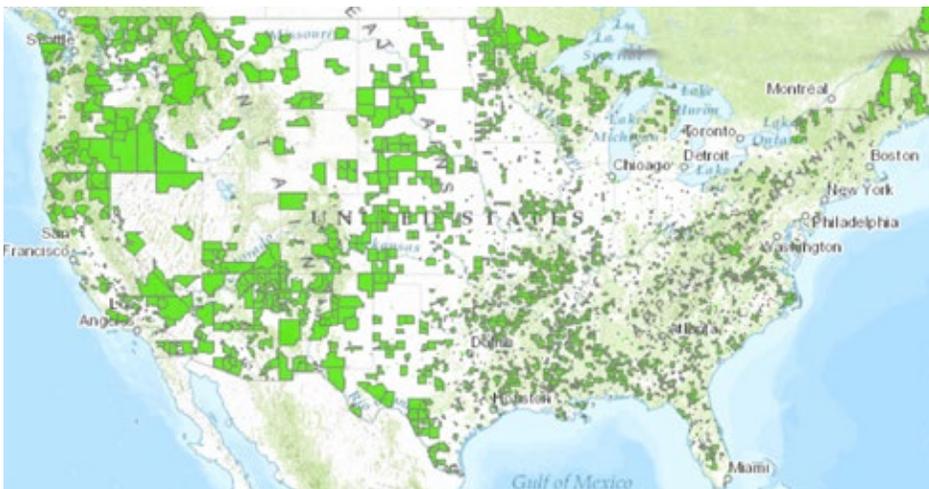


SOURCE: Feeding America, 2015.

Food Insecure Children

Food insecurity is particularly concentrated in different areas around the country — in 324 counties, the average food insecurity rate is 23 percent while in the other 2,810 counties, the average rate is 14 percent.^{296, 297} Fifty-two percent of the high food-insecurity counties are rural, 24 percent are metropolitan and 90 percent are in the South.

Communities without a Supermarket or Supercenter within 10 Miles of Home



SOURCE: U.S. Department of Agriculture, 2014.

Food Deserts

More than 29 million Americans live in “food deserts,” meaning they do not have a supermarket or supercenter within a mile of their home if they live in an urban area, or within 10 miles of their home if they live in a rural area — making it challenging to have access to healthy, affordable food.^{298, 299}

- Families living in lower-income neighborhoods and in communities of color are particularly impacted: ZIP codes with the highest concentration of Blacks have about half the number of chain supermarkets compared with ZIP codes with the highest concentration of Whites, and ZIP codes with the highest concentrations of Latinos have only a third as many.³⁰⁰ Many of these same neighborhoods also are struggling with high rates of obesity, unemployment and depressed economies.

SOME KEY NUTRITION ASSISTANCE PROGRAMS

Supplemental Nutrition Assistance Program

State SNAP participation rates ranged from 5.8 percent in Wyoming to 23.3 percent in Washington, D.C., as of September 2015.³⁰¹

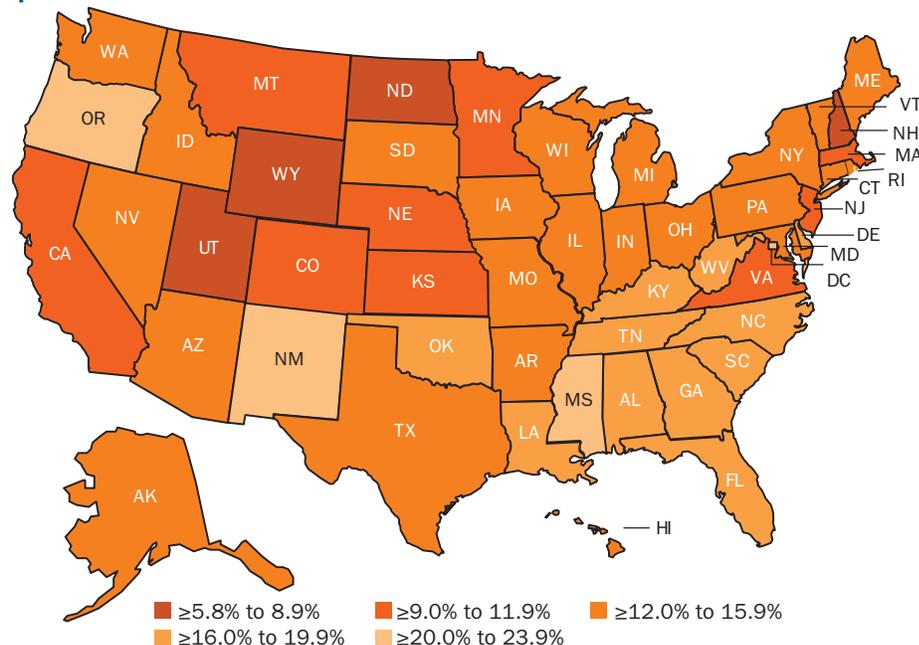
SNAP is the largest nutrition assistance program in the United States. It provided \$76 billion in benefits to 46.5 million Americans in FY 2014.³⁰² It is available to nearly all low-income households, and 70 percent of SNAP participants are families with children.³⁰³ The average SNAP benefit was around \$125 a month (in FY 2014) — around \$1.40 per person per meal.³⁰⁴

A needs-based formula determines the exact amount a family may receive. SNAP benefits can only be spent on food and non-alcoholic beverages. Nearly 90 percent of the food that SNAP households purchase is fruits and vegetables, meats, grains and dairy products.³⁰⁵

SNAP helps increase food security and access to healthy nutrition for millions of low-income Americans.³⁰⁶

- SNAP helped lift around 4.8 million people out of poverty in 2013, including about 2.1 million children, based on an analysis by the Center on Budget and Policy Priorities using the Supplemental Poverty Measure.³⁰⁷ It also lifted 1.3 million children out of deep poverty (50 percent of the poverty line).
- Counting SNAP benefits as income reduced the number of extremely poor households (families living on less than \$2 a day) in 2011 by nearly half (from 1.6 million to 857,000) and the number

Supplemental Nutrition Assistance Program State Participation, as of September 2015



SOURCE: Food Research & Action Center, 2015.

of extremely poor children by around two-thirds (from 3.6 million to 1.2 million).³⁰⁸

- Participation in SNAP for six months reduced the number of households that were food insecure — based on both single point in time and longer-range analyses (reducing food insecurity by 6 percent and severe food insecurity by 12 percent based on a single point in time (cross-sectional) analysis; and reducing food insecurity by 17 percent and severe food insecurity by 19 percent based on an over the course of time (longitudinal) analysis).³⁰⁹
- Participation in SNAP for six months is associated with lower likelihood of food insecurity among children — by 36 percent using the single point in time analysis and by 38 percent using the over-time analysis.³¹⁰
- Young children in food insecure households receiving SNAP benefits are less likely to be in poor or fair health, overweight or at developmental risk than children in food insecure homes not receiving SNAP benefits.^{311, 312}
- Children who had access to food assistance in early childhood and whose mothers had access during their pregnancy were more likely to graduate from high school.^{313, 314}
- Mothers in food insecure households that receive SNAP benefits are less likely to experience symptoms of maternal depression and are less likely to be in poor or fair health than mothers in food insecure households not receiving SNAP benefits.³¹⁵

In addition to providing monthly benefits, SNAP's nutrition education component — SNAP-Ed — provides federal grants to states to manage evidence-based nutrition education programs for SNAP participants.³¹⁶ SNAP also includes a number of other provisions aimed at expanding access to healthy, affordable foods for SNAP participants, including:

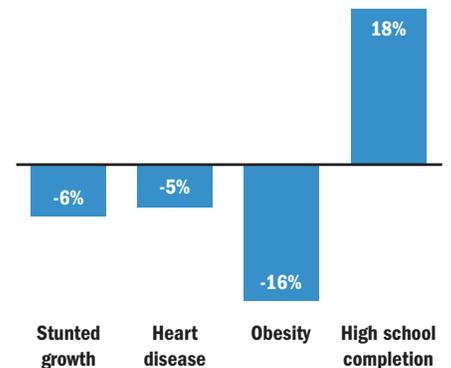
- Retailers will be required to stock at least seven items in each of four basic food categories — fruits and vegetables, grains, dairy and meat — and perishable, fresh items in at least three of those categories;
- Farmers' markets, farm stands, and other non-traditional retailers may be eligible to participate in SNAP and accept the Electronic Benefit Transfer (EBT) payment cards. As of 2014, at least 36 states (72 percent), Washington, D.C., Puerto Rico, Guam, the U.S. Virgin Islands and several

tribes participated in the SNAP farmers' market benefit — an increase from 21 percent of states in 2013.^{317, 318} By June 2015, there were 6,400 farmer's markets and direct marketing farmers participating in the SNAP program;

- SNAP benefits may be used to purchase Community Supported Agriculture (CSAs) shares, which allow consumers to pay in advance for a share of a farmer's production and, in return, receive a weekly share of the results, such as a box of fresh fruits and vegetables;³¹⁹ and
- Food Insecurity Nutrition Incentive (FINI) grants help promote the purchase of fruits and vegetables by SNAP participants through point-of-purchase incentives, such as "double value" for dollars spent on produce. USDA awarded \$31.5 million in FINI grants in March 2015.³²⁰

Children With Access to Food Stamps Fare Better Years Later

Percentage-point change for disadvantaged children by age 19 when food stamps became available



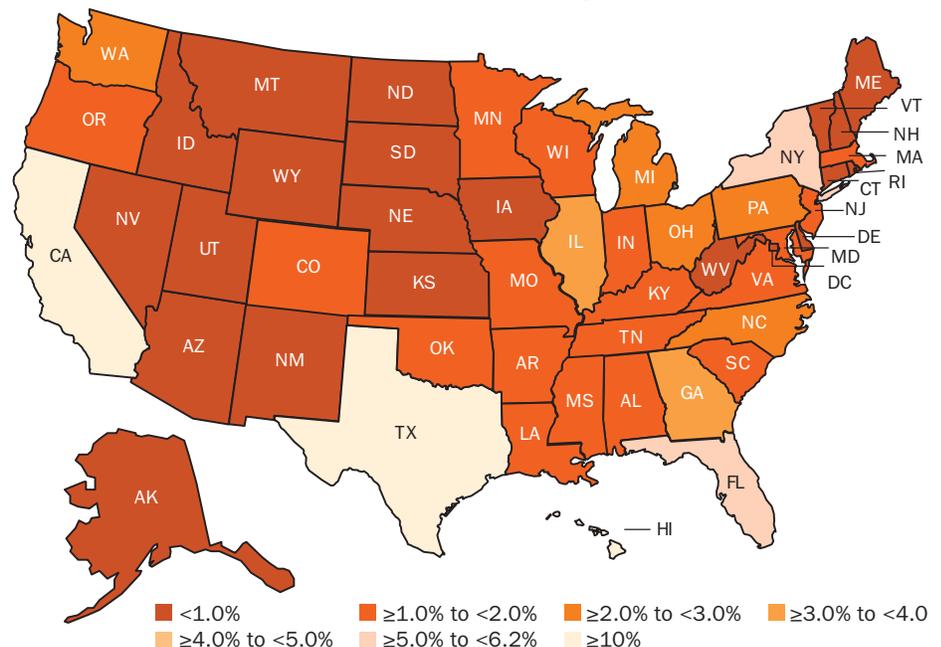
Source: Hoynes, Scharzenbach, and Almond, "Long Run Impacts of Childhood Access to the Safety Net," National Bureau of Economic Research, November 2012.

Women, Infants and Children Program

The percent of U.S. WIC participation in state range from a low of 0.15 percent in Wyoming to a high of 17.1 percent in California in 2012.³²¹

The WIC program is one of the longest running nutrition support programs in the country. It provides nutrition support to low-income pregnant, postpartum and breastfeeding women, infants and children up to age 5 who are at risk for inadequate nutrition.³²² The federal grant-based program was funded at \$6.5 billion in FY 2015, which helped provide benefits to 8.6 million individuals each month (2 million infants, 4.6 million children and 2 million women).³²³ WIC helps provide nutritious foods, nutrition education (including breastfeeding promotion and support) and referrals to health and other social services to participants at no charge. WIC foods include infant cereal, iron-

United States WIC Participants by State Percentages, 2012



NOTE: Puerto Rico = 2.1%, Samoa = 0.1%, Guam = 0.1%
SOURCE: U.S. Department of Agriculture, 2012.

fortified adult cereal, vitamin C-rich fruit or vegetable juice, eggs, milk, cheese, peanut butter, dried and canned beans/peas, canned fish, soy-based beverages, tofu, fruits and vegetables, baby foods, whole wheat bread and other whole-grain options.

The WIC program also helps promote breastfeeding as the optimal infant feeding choice and provides supports to mothers for the first year after birth. Participants in the WIC breastfeeding support groups are twice as likely to plan to breastfeed as those who do not.³²⁴ WIC can provide educational materials, peer counselor support, an enhanced food package, breast pumps and other supplies to nursing mothers.³²⁵

The majority of WIC participants are Whites (58.2 percent), followed by Blacks (19.8 percent) and American Indians/Alaskan Natives (12.2 percent). Ethnically, Hispanics/Latinos comprise approximately 41.5 percent of participants in the WIC program.³²⁶ Studies have shown that revisions to WIC food packages to offer healthier foods improved availability, variety and sales of healthy food and increased consumption of fruits, vegetables, whole grains and low-fat milk.³²⁷ Latino children in families receiving WIC benefits were more likely to be at a healthy height and weight compared with Black and Latino children who were eligible for benefits but not participating in WIC.³²⁸

NEIGHBORHOOD HEALTHY FOOD FINANCING INITIATIVES

A number of food financing initiatives have been created to help increase the availability and affordability of foods in neighborhoods — providing increased choices and access to healthy food for individuals and families — including:

- **Healthy Food Financing Initiatives**

(HFFI): HFFI is a public-private partnership in which grants and loans are provided to full-service supermarkets or farmers' markets located in lower-income urban or rural communities. The Agriculture Act of 2014 — known as the Farm Bill — authorizes \$125 million for the federal HFFI program. The most established HFFI program is the Pennsylvania Fresh Food Financing Initiative (FFFI), which, since 2004, has financed supermarkets and other fresh food outlets in 78 urban and rural areas serving 500,000 city residents.³²⁹ In the pro-

cess, FFFI has created or retained 4,860 jobs in underserved neighborhoods. Home values near new grocery stores have increased from 4 percent to 7 percent, and local tax revenues also have increased.³³⁰ HFFI programs are currently active in 21 states.

- **New Market Tax Credits (NMTC):**

NMTC encourages investment in lower-income communities. To date, the program has distributed more than \$40 billion in federal tax credit authority matched by private sector investments. The NMTC helped finance 49 supermarket and grocery store projects between 2003 and 2010 that improved healthy food access in lower-income communities for more than 345,000 people, including 197,000 children.³³¹

CASE STUDIES

Wholesome Wave Double Value Coupon Program³³²

In 2008, Wholesome Wave, a nonprofit dedicated to making healthy, locally and regionally grown food affordable, launched the Double Value Coupon Program (DVCP), a network of more than 50 nutrition incentive programs operated at 305 farmers markets in 24 states and DC, which now reaches more than 35,800 participants and their families. The program provides customers with a monetary incentive when they spend their federal nutrition benefits—SNAP and WIC—at participating farmers markets. The incentive matches the amount spent and can be used to purchase healthy, fresh, locally grown fruits and vegetables. To date, farmers and markets have benefited from this approach: In

2013, federal nutrition benefits and DVCP incentives accounted for \$2.45 million in sales at farmers' markets. The communities that surround markets also see an increase in economic activity. In addition to the dollars spent at markets, almost one-third of DVCP consumers said they planned to spend an average of nearly \$30 at nearby businesses on market day, resulting in more than \$1 million spent at local businesses. Equally as important, people and children are eating healthier. A 2011 study found that 90 percent of DVCP consumers increased or greatly increased their consumption of fresh fruit and vegetables — a behavior change that continues well after market season ends.

Wholesome Wave Fruit and Vegetable Prescription Program³³³

Wholesome Wave developed the Fruit and Vegetable Prescription Program (FVRx) — a four to six month program designed to provide assistance to obese and overweight children — to measure health outcomes linked to fruit and vegetable consumption. In 2013, the program benefited 1,288 children and adults in five states and Washington, D.C. Nearly two-thirds of the participants are enrolled in SNAP and roughly a quarter receive WIC benefits. During a typical doctor's visit, the doctor writes a prescription for produce — which includes at least one serving of produce per day for each patient and each family member — that the patient's family can redeem at participating farmers' markets.

In addition to the prescription, there are follow-up monthly meetings with the practitioner and a nutritionist to provide guidance and support for healthy eating and to measure fruit and vegetable consumption. A follow-up study found that 42 percent of child participants saw a decrease in their BMI and 55 percent of participants increased their fruit and vegetable consumption by an average of two cups. In addition, families reported a significant increase in household food security. There are also benefits for producers and communities: in 2012 alone, FVRx brought in \$120,000 in additional revenue for the 26 participating markets.

BREASTFEEDING AND CHILDHOOD HEALTH

Breastfeeding has been shown to have numerous short- and long-term benefits for infants and mothers.

- **Benefits for Infants:** Lower risk of ear and gastrointestinal infections, necrotizing enterocolitis (a gastrointestinal disease) and diabetes, according to CDC.³³⁴ Some research suggests it may also reduce risk for asthma, allergies, childhood leukemia and SIDS.^{335, 336, 337, 338} Some research has found children who are breastfed longer are more likely to have better developed language skills, verbal and nonverbal intelligence during childhood, greater upward social mobility, higher neurological development and lower stress markers.^{339, 340}
- **Benefits for Mothers:** Lower risk of breast and ovarian cancer, type 2 diabetes and postpartum depression. It has been shown to help mothers bond with the child, and mothers who nurse miss less work.³⁴¹
- **Economic Benefits:** Families can save on cost of formula. And, according to CDC, around \$2.2 billion could be saved

in annual medical costs if breastfeeding recommendations were met.³⁴²

CDC convened an expert panel that developed 10 recommended maternity care practices to initiate and encourage ongoing breastfeeding after a woman gives birth. These range from practices to encourage immediate bonding opportunities after birth, such as skin-to-skin contact between mothers and newborns and for mothers and newborns to share rooms, to support after a family leaves the hospital, including referrals to lactation consultants and to Women, Infants, and Children programs in communities.³⁴³ Reviews have found that implementation of these recommendations vary widely by facility. For half of the 10 practices, implementation was significantly lower among facilities in zip code areas with a higher percentage of Black residents.³⁴⁴



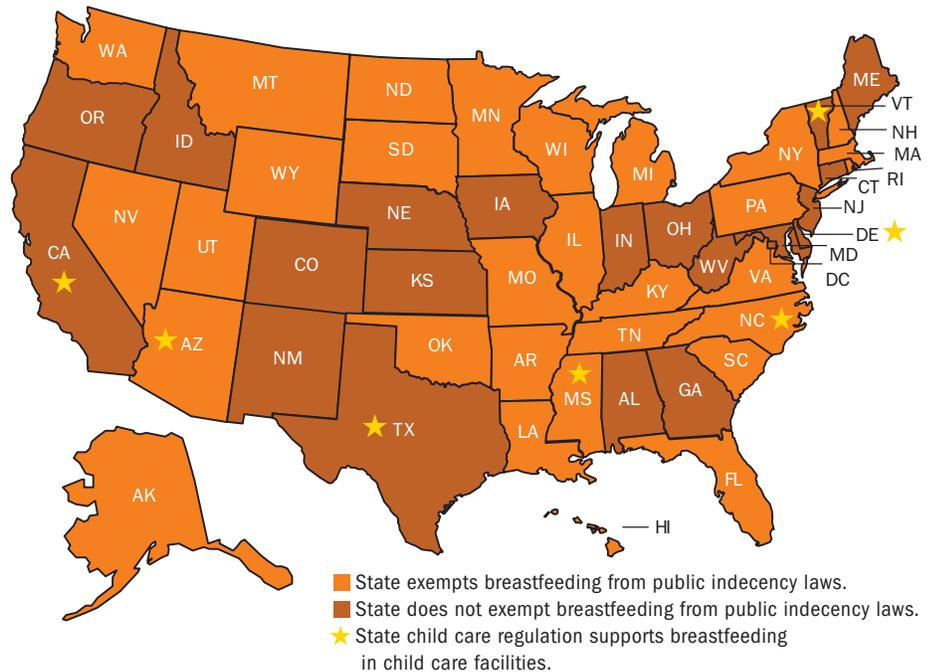
Some Additional Breastfeeding Laws and Policies

States vary in other laws related to breastfeeding:

While 49 states and Washington, D.C. have laws that specifically allow women to breastfeed in any public or private location, only 29 states and Washington, D.C. exempt breastfeeding from public indecency laws.³⁴⁵ Seven states and Washington, D.C. have regulations that support onsite breastfeeding in child care facilities.³⁴⁶

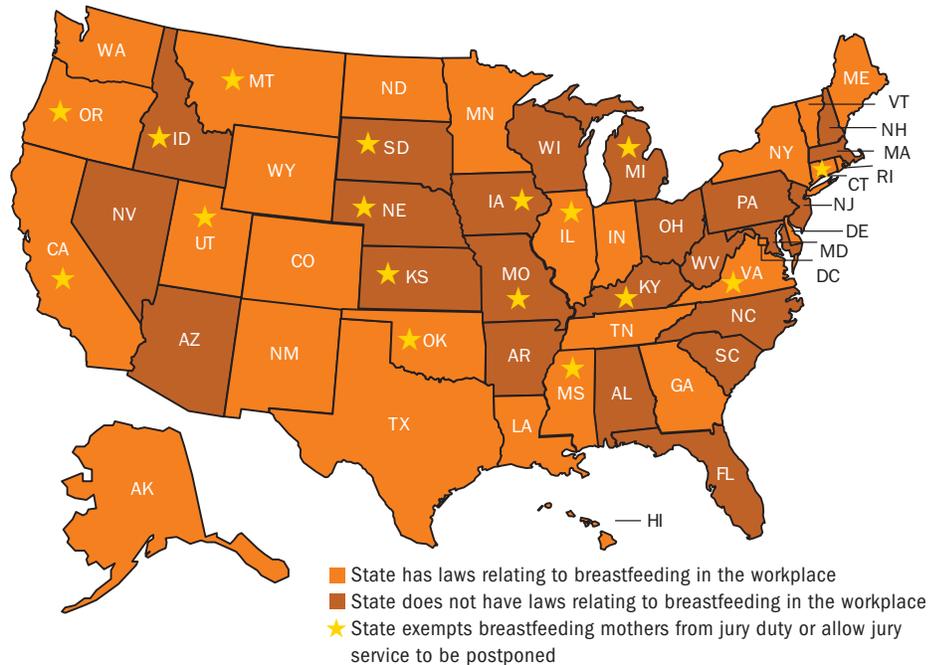
The ACA amended the Fair Labor Standards Act (FLSA) to require employers to provide “reasonable break time for an employee to express breast milk for her nursing child for 1 year after the child’s birth each time such employee has a need to express the milk.”³⁴⁷ State laws may provide additional protections for employees. A lactation area must be made available that is a functional space — shielded from view, free from intrusion from co-workers and the public and is not a bathroom. Employers with fewer than 50 employees are not subject to the requirement if compliance would impose and undue hardship. Twenty-seven states and Washington, D.C. have additional laws related to breastfeeding in the workplace, and 17 states exempt breastfeeding mothers from jury duty or allow for postponement of service.³⁴⁸

Breastfeeding Laws: Public Indecency and Breastfeeding in Child Care Facilities



SOURCE: Centers for Disease Control and Prevention, 2014 and National Conference of State Legislatures, 2015.

Breastfeeding Laws: Workplace and Jury Duty



SOURCE: National Conference of State Legislatures, 2015.

CASE STUDIES

Texas Breastfeeding Learning Collaborative³⁴⁹

The Texas Women, Infants and Children program partnered with the National Institute for Children's Health Quality (NICHQ) and the Texas Department of State Health Services (DSHS) to create a quality improvement project to help facilities increase exclusive breastfeeding at day two. The collaboration is specifically trying to address disparities by connecting community partners to resources that help them support breastfeeding. The 20 participating hospitals/birthing facilities will use quality improvement techniques in which teams work with each other and with national breastfeeding and quality improvement experts to change the systems and barriers to high rates of breastfeeding. The project aligns with the Ten Steps to Successful Breastfeeding, which are:

1. Have a written breastfeeding policy that is routinely communicated to all health-care staff.
2. Train all healthcare staff in the skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within one hour of birth.
5. Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.
6. Give infants no food or drink other than breast-milk, unless medically indicated.
7. Practice rooming in — allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no pacifiers or artificial nipples to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or birth center.

Best Fed Beginnings³⁵⁰

Best Fed Beginnings, a nationwide quality improvement initiative, aims to increase the number of “Baby-Friendly”-designated hospitals, which means the hospital has implemented the American Academy of Pediatrics-endorsed Ten Steps to Successful Breastfeeding. Currently, 89 hospitals in the 19 states with the lowest breastfeeding rates (which account for more than 275,000 births) are participating in a 22-month learning collaborative. The model creates teams

and asks them to work with each other and national breastfeeding and quality improvement experts to change the systems and barriers to high rates of breastfeeding. Previous studies of the program have found that, within 21 months, the percent of infants exclusively breastfed from birth through the hospital stay increased across all regions and the percent of infants receiving any breastfeeding during the hospital stay increased.

HEALTHY, SAFE HOMES, NEIGHBORHOODS AND COMMUNITIES

Affordable, quality, stable housing and living in safe, clean neighborhoods with good social services and amenities can have a major impact on health (physical, mental and behavioral), family and community relationships, education and good performance in school and the ability to obtain and retain a job.³⁵¹

Having a healthy home is particularly important for young children, since their early environment has a lasting impact on their development. Currently, however, millions of children live in conditions that adversely impact their health. Key elements to a healthy home include: limiting exposure to hazards in the home; accessing affordable housing — reducing stress and related health effects; and living in neighborhoods that are safe and provide quality resources and amenities.

Limiting Exposure to Health Hazards in the Home

Poor housing conditions can put children at greater risk to a range of harmful elements.^{352, 353} There is greater risk for a number of health hazards in lower-income housing, such as lead, mold, allergens, carbon monoxide, pesticides, rodents, insects, radon, some forms of household cleaners and pesticides; injuries from unsafe physical structures, lack of window guards and lack of working smoke detectors; poor lighting and heating and cooling; and heightened noise. Also, children who live in a home with someone who smokes are at risk from exposure to secondhand smoke.

Children are often more susceptible to the negative effects of environmental toxins, due to:

- Rapid development of a child's organ system during embryonic, fetal and early newborn periods;

- Children breathe more air, drink more water and eat more food based on their size compared to adults;
- An infant's respiratory rate is more than twice of an adults;
- Children's habits, such as hand-to-mouth contact, make them more likely to ingest environmental hazards, like lead, arsenic, mold and dust; and
- Many children spend 80 to 90 percent of their time indoors.³⁵⁴

According to the U.S. Department of Housing and Urban Development (HUD), families living in low-income housing are typically at greater risk for exposure to physical housing problems, with nearly six million Americans living in places with moderate to severe physical housing problems and 24 million facing significant exposure to lead-based paint hazards, including an estimated 4 million children under the age of 5.³⁵⁵

HUD and CDC have healthy home initiatives and programs aimed at increasing the implementation of effective policies and strategies, such as mold and lead paint remediation and safe methods of pest control. The agencies also support additional research into healthy homes and increase partnerships with the private sector, state and local governments and across the federal government.^{356, 357} In 2009, the Surgeon General issued a call to *Action To Promote Healthy Homes*, identifying safety and health concerns and evidence-

based policies for prevention, including: improving air quality, smoke-free homes, carbon monoxide poisoning prevention, radon gas mitigation, reducing allergens and asthma, improving water quality, reducing harmful chemicals, improving housing structure and design, improving structural deficiencies, preventing elevated lead levels, improving accessibility for people with disabilities, improving mental health, encouraging safe and healthy behaviors, reducing disparities in access to healthy and safe homes, addressing community factors that affect health and homes and housing instability and homelessness.^{358, 359} In addition, in May 2012, the President's Task Force on Environmental Health Risks and Safety Risks to Children released a *Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities*, as a three- to five-year initiative as a partnership between HHS, HUD and the Environmental Protection Agency (EPA).³⁶⁰

The Office of Lead Hazard Control and Healthy Homes at HUD also sets nationwide standards and goals, maintains a series of programs and grants to help foster housing-related health and safety and carries out enforcement of lead safety regulations.³⁶¹ CDC has developed policies, programs and public education to reduce childhood lead poisoning since 1988, including funding nearly 60 prevention programs.³⁶² The Lead Hazard Control program has helped

contribute to more than a 70 percent reduction in childhood lead poisoning rates since the early 1990s.

- **Lead Poisoning:** Around 2.6 percent of children ages 1 to 5 (535,000) have elevated levels of lead in their blood, putting them at high risk for serious developmental, behavioral and cognitive delays.³⁶³ Rates were significantly higher for children living in poverty or very low-income homes (4.4 percent) and were highest among Black children (5.6 percent). Most children with high lead levels are living in older, low-income urban housing where lead remediation has not been done and they are exposed to particles of lead paint (which was banned from use in 1978).

- **Return on Investment for Lead**

Control Programs: CDC estimates it can cost \$5,600 for just the medical and special education needs per year per child with lead poisoning.³⁶⁴ A review of existing studies of the return on investment for lead control programs found that for every dollar spent, \$17 to \$221 is returned in health benefits, increased intelligence quotient (IQ), higher lifetime earnings, tax revenue, reduced spending on special education and reduced criminal activity.³⁶⁵ The study concluded that the net benefit of lead hazard control ranges from \$181 billion to \$269 billion (with costs of control efforts ranging from \$1.2 billion to \$11 billion), with the benefits yielding the sum of the saving in costs for medical treatment (\$11 billion to \$53 billion), lost earnings (\$165 billion to \$233 billion), tax revenue (\$25 billion to \$35 billion), special education (\$30 million to \$146 million), lead-linked ADHD cases (\$267 million), and

criminal activity (\$1.7 billion).

- **Radon Poisoning:** Around one out of every 15 homes has an unsafe level of radon, which is the leading cause of lung cancer for nonsmokers, resulting in between 15,000 and 21,800 thousand deaths each year.³⁶⁶
- **Injuries:** Major sources of preventable childhood injuries include falls, fires, burns and drownings. Around 1.5 million children under the age of 15 have falls in the home which require medical attention each year.³⁶⁷ House fires are responsible for around 2,500 deaths and 13,000 injuries annually. Children, Blacks and low-income families are at higher risk for living in homes without working smoke detectors and are at higher risk for fire injuries and deaths. An estimated 90 percent of homes have smoke detectors but one-quarter of those are not in working condition. Having a working smoke detector decreases risk for death by 40 percent to 50 percent. Around 38,000 children under the age of 5 get medical attention for burns each year. Around 300 children under the age of 5 die in swimming pools annually, most of those owned by the family. There are more than 18,000 childhood suffocation injuries each year, most of which are from materials in cribs or cords from window-treatments.
- **Secondhand Smoke:** The exposure of pregnant women, fetuses and young children to tobacco smoke is one of the most harmful environmental toxins to health.³⁶⁸ An estimated 60 percent of children are regularly exposed to tobacco smoke — with 2 out of five of children (ages 3 to 11) being continually exposed to tobacco smoke (around 18 percent of U.S. adults smoke).^{369, 370, 371} Tobacco exposure has

serious impacts both during pregnancy and in a child's early developmental years. In addition, children who live in multi-unit housing (such as apartment complexes) are exposed to secondhand through seepage across units, a 45 percent increase level of exposure.³⁷² Secondhand smoke also has a large economic cost, with the direct medical costs of all pediatric diseases attributable to parental smoking, estimated to be \$7.9 billion (in 2006 dollars).³⁷³

- **During Pregnancy:** Nicotine exposure from cigarette exposure during pregnancy has a well-documented adverse impact on the structure and function of the fetal brain.³⁷⁴ Smoking during pregnancy increases the risk of low birth weight babies, prematurity, pregnancy complications, some forms of birth defects, miscarriage, stillbirth and sudden infant death syndrome.³⁷⁵ Secondhand smoke exposure during pregnancy increases the risk of low birth weight babies. Maternal smoking during pregnancy continues to expose about half a million newborns to secondhand smoke.³⁷⁶ Between one-quarter and one-half of all preschool age children are exposed to tobacco smoke.³⁷⁷

- **During Childhood:** Children exposed to secondhand smoke can have more ear infections, coughs and colds, respiratory problems, such as bronchitis and pneumonia, sudden infant death syndrome and tooth decay. In children under 18 months old, secondhand smoke exposure is responsible for an estimated 150,000 to 300,000 new cases of bronchitis and pneumonia and 7,500 to 15,000 hospitalizations annually.³⁷⁸ Children with asthma are especially sensitive to



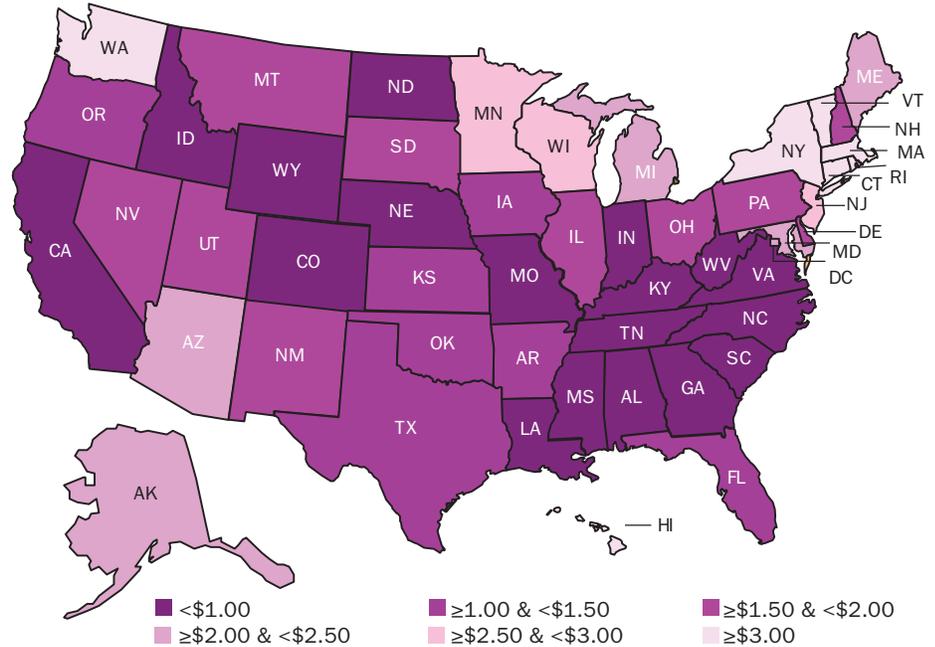
secondhand smoke.³⁷⁹ Secondhand smoke may also cause problems for children later in life including poor lung development, lung cancer, heart disease and cataracts — and children exposed to secondhand smoke are more likely to develop symptoms for a variety of mental health problems, including major depressive disorder and ADHD.^{380, 381} In addition, children who grow up with parents who smoke are themselves more likely to smoke.³⁸²

- From 2007 to 2008, 55.9 percent of Blacks, compared to 40.1 percent of Whites, were exposed to secondhand smoke and 28.5 percent of Mexican Americans were exposed to secondhand smoke. In addition, 60.5 percent of persons living below the poverty level in the United States were exposed to secondhand smoke.³⁸³

Cigarette Excise Taxes

The average cigarette excise tax is \$1.54, and the rates vary significantly from a low of \$0.17 in Missouri to a high of \$4.35 in New York.³⁸⁴ In addition, on April 1, 2009, the federal cigarette tax increased by 62 cents, to \$1.01 per pack. Tobacco tax increases are one of the most effective ways to reduce smoking and other tobacco use. An analysis of more than 100 studies found that, “Significant increases in tobacco taxes are a highly effective tobacco control strategy and lead to significant improvements in public health.”³⁸⁵ Significant increases in tobacco taxes that result in higher product prices encourage tobacco users to stop using, prevent potential users from starting and reduces consumption among those that continue to use.³⁸⁶ The Congressional Budget Office (CBO) reports that a 10 percent increase in cigarette prices will cause people under age 18 to reduce their smoking by 5 percent to 15 percent, and among adults over 18, they find that the decline would be 3 percent to 7 percent.^{387, 388} Higher tobacco taxes also save money by reducing tobacco-related healthcare costs, including Medicaid expenses.³⁸⁹ Research shows

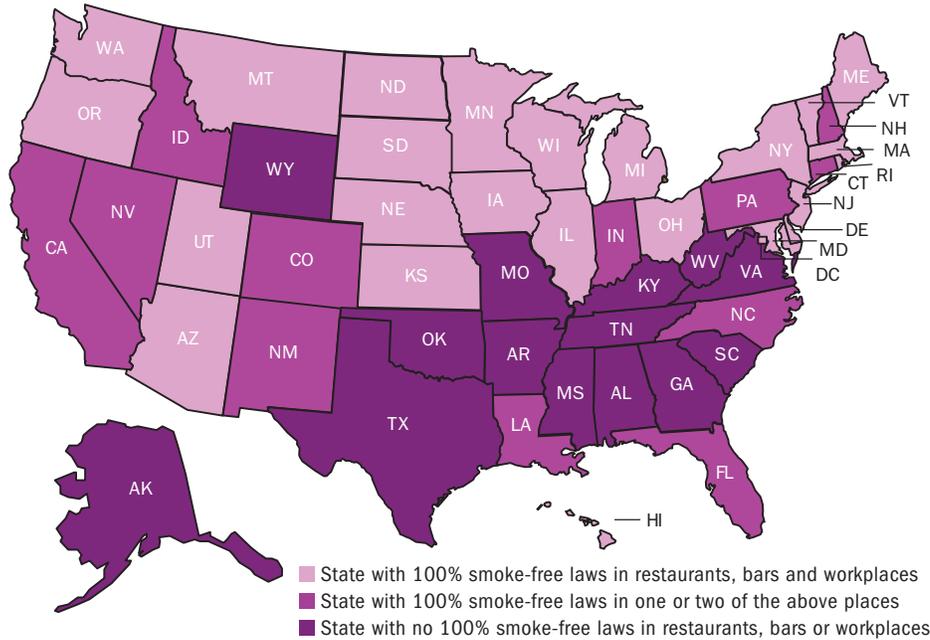
Cigarette Excise Tax by State



SOURCE: Campaign for Tobacco-Free Kids, 2015.

that cigarette price and tax increases have an even more significant impact on reducing smoking among Blacks, Latinos and lower-income smokers.³⁹⁰ And, a cigarette tax that raises prices by 10 percent has been found to reduce smoking among women that are pregnant by seven percent.³⁹¹

Laws that Prohibit Smoking in Restaurants, Bars and Workplaces



SOURCE: American Cancer Society Cancer Action Network, 2015.

Smoke-free Restaurant, Bar and Workplace Laws

More than half of all U.S. states and Washington, D.C. have enacted laws to prohibit smoking in indoor workplaces. Smoke-free restaurant, bar and workplace laws, however, are not targeted at protecting children who are more often exposed to tobacco smoke in homes or cars and homes.³⁹² However, they do relate to reduced rates of tobacco use — which can contribute to encouraging parents to quit or reduce smoking.

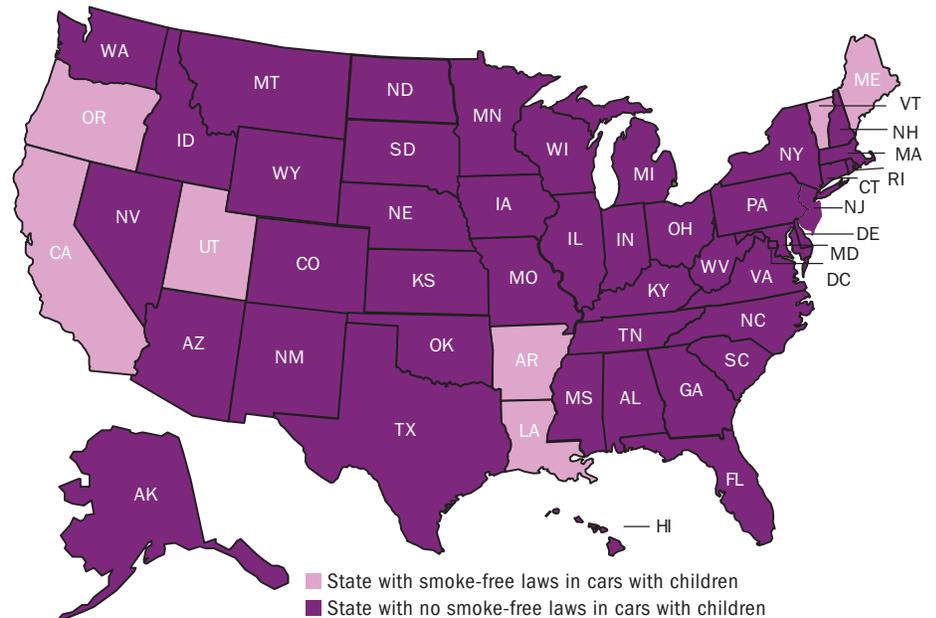
Prohibiting Smoking In Cars with Children

Only seven states and Puerto Rico prohibit smoking in cars with children — Arkansas, California, Louisiana, Maine, Oregon, Vermont and Utah.^{393, 394}

Banning Smoking in Subsidized or Public Housing

Banning smoking in subsidized or public housing is another key strategy for reducing children's exposure to secondhand smoke. The U.S. Department of Housing and Urban Development and a set of partners issued a guidance and toolkits for public housing and multi-unit family housing owners, managers and residents for ways to establish and implement smoke-free policies and practices.³⁹⁵ CDC estimates nearly \$497 billion could be saved each year if smoking was universally banned in subsidized and public housing.³⁹⁶

Smoke-Free Laws in Cars with Children by State



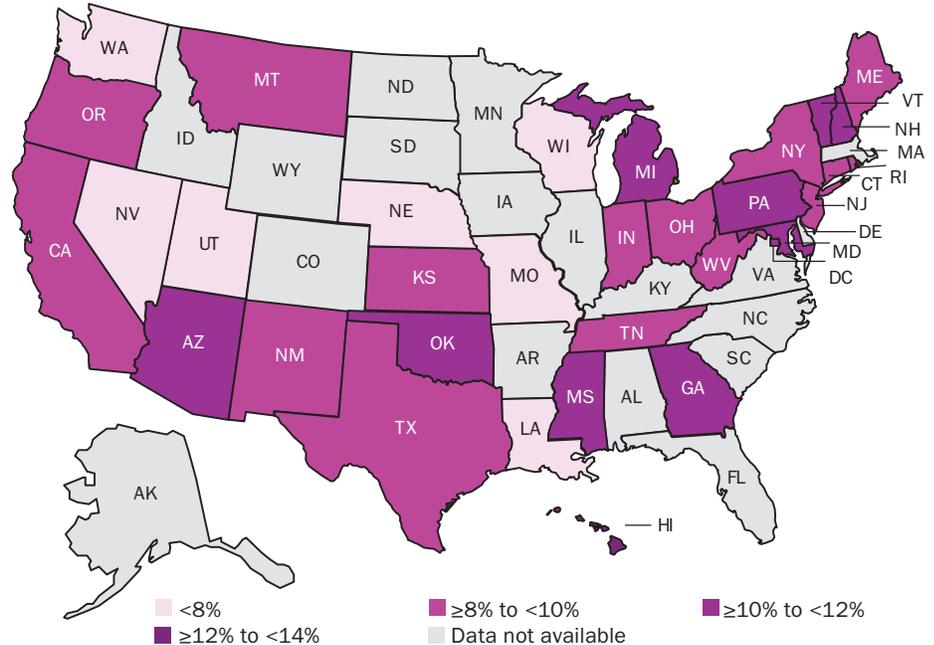
NOTE: California smoke-free car law applies to children under the age of 18. Maine and Utah smoke-free car laws apply to children under the age of 16. Arkansas smoke-free car law applies to children under the age of 14. Louisiana, Utah and Puerto Rico smoke-free car laws are apply for children under the age of 13. Vermont smoke-free car law applies to children ages 8 and under.

SOURCE: Americans for Nonsmokers' Rights, 2015.

Asthma and Healthy Homes

Around one in 11 American children currently have asthma, which can be triggered by pollen, mold, animal dander, cockroaches, rodents and dust mites — and children are a greater risk to these threats if they live in a household where they experience regular exposure to them.³⁹⁷ More than 12.3 million children were treated for asthma in 2011.³⁹⁸ As of 2013, children with asthma ranged from a high of low 6.1 percent to a high of 13.5 percent.³⁹⁹

Asthma Prevalence among Children by State, 2013



SOURCE: Centers for Disease Control and Prevention, BRFSS Data 2013.

- Income Differences:** More than 12 percent of children in families with incomes less than 100 percent of the FPL have asthma, compared to 8.2 percent of children in families with incomes greater than 200 percent of the FPL.⁴⁰⁰ A recent report showed how rates can differ by income and zip code, where 7 percent of 4- to 5-year-olds had asthma on the Upper East Side in Manhattan, but 19 percent in the neighboring, lower-income neighborhood of East Harlem.⁴⁰¹
- Racial and Ethnic Differences:** Asthma rates are 16.5 percent among Puerto Rican children, 16 percent among Black children, 10.7 percent among American Indian and Native Alaskan children, 8.2 percent among White children and 7 percent among Mexican-American children.^{402, 403} In the last decade, asthma rates have increased by nearly 15 percent overall, but the biggest increase was among Black children whose rates grew by 50 percent.⁴⁰⁴

- Child Health Costs:** Asthma, chronic obstructive pulmonary disease, is the second most costly medical condition in children (ages zero to 17), with direct medical costs of nearly \$12 billion dollars.⁴⁰⁵ The mean annual health expenditures per child are nearly \$1,000. Medicaid paid for nearly half of the national spending on childhood asthma.⁴⁰⁶
- Overall Health Costs:** Total U.S. asthma-related spending (adults and children), including lost school and work days and early deaths, is approximately \$56 billion annually.⁴⁰⁷

The keys to helping manage asthma and preventing attacks include:

- Access to regular quality care;
- Adhering to prescribed medicines; and
- Reducing exposure to asthma triggers — many of these are related to their homes and their neighborhoods. Children living in low-income and poor quality housing

are at higher risk for regular exposure to many of these triggers, including allergens (including pollen, mold, animal dander, cockroaches, rodents and dust mites), some cleaning products, outdoor air pollution and tobacco smoke, including secondhand smoke.^{408, 409}

The costs of asthma can escalate for children who do not receive regular quality healthcare, since their asthma is less controlled, so they may have more frequent attacks and are more likely to seek care in emergency departments instead of through primary and preventive healthcare.⁴¹⁰ Co-payments and asthma medicines are

often costly and can create a significant financial burden for many families. For instance, low-income families with higher co-payments and out-of-pocket costs were more likely to skip or delay care or not purchase medications for their children with asthma, often related to financial distress.⁴¹¹ Black children with asthma are more than twice as likely to be hospitalized, more than twice as likely to visit an emergency department for care, and four times more likely to die due to asthma than White children. Minority children are less likely than White children to be prescribed or take recommended treatments

to control their asthma and are less likely to attend outpatient appointments.⁴¹²

Asthma contributes to more than 10.5 million school day absences for children ages 5 to 17 each year — an average of four days per child each year. There is no corresponding data that looks at asthma-related preschool and day care absences, which contributes to added need for childcare and family leave for parents.⁴¹³ Nearly three out of five people with asthma report that they limit their usual activities because of their asthma. Children with asthma are more likely to be overweight or obese.⁴¹⁴

CASE STUDY

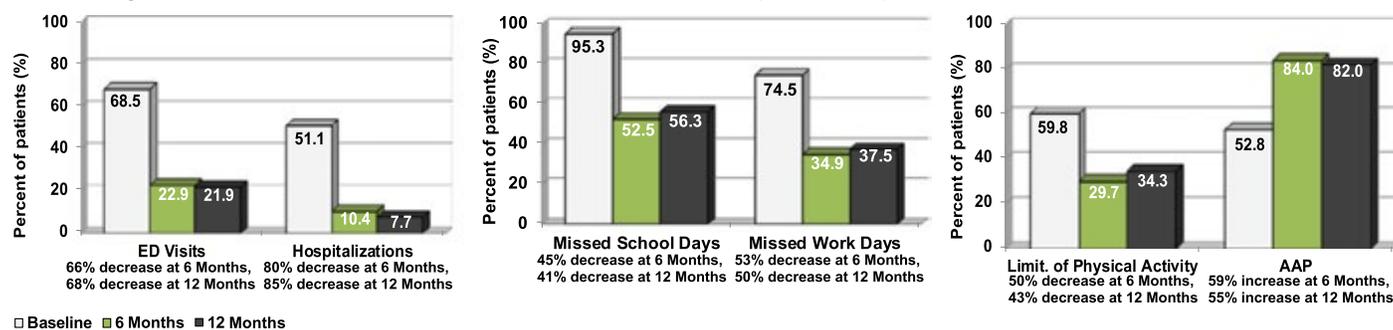
Community Asthma Initiative — Boston Children’s Hospital⁴¹⁵

In order for a nonprofit hospital to be exempt from federal income tax, they are required to provide community benefit. Partly to fulfill this obligation, Boston Children’s Hospital created the Community Asthma Initiative (CAI)—a nurse and community health worker model—to improve the health of children with moderate to severe asthma who visited the emergency room and/or were hospitalized. The initiative provides

a home environmental assessment and asthma management and medication education, while working with the family and child’s healthcare providers to remove barriers to improve asthma control. A nurse also partners with community organizations, day care centers and schools to provide asthma education in the community to help families keep children physically active. Boston Children’s CAI has led to a return of \$1.46 to

insurers/society for every \$1 invested; an 80 percent reduction in the percentage of patients with one or more asthma-related hospital admission; and a 60 percent reduction in the percentage of patients with asthma-related emergency department visits according to the journal Pediatrics. In addition, the journal noted the program significantly reduced physical inactivity and missed school and work days.

Community Asthma Initiative dichotomous outcomes at baseline, 6 months, and 12 months



Percentage of patients who experienced any ≥1 versus none) ED visits, hospitalizations, missed school days, missed work days (parents/caregivers), limitation of physical activity, and AAP for 283 children (all P≥.0001).

Housing Affordability Assistance

There are a number of federal, state and local housing assistance programs. Housing assistance programs have been shown to reduce homelessness, housing instability and overcrowding. For instance a study of housing vouchers showed they reduced the number of families living in shelters or the streets by three-fourths; reduced the number of families who lacked their own home or residence by nearly 80 percent; reduced the share of families living in crowded conditions by more than half; and reduced the number of times families moved over a five-year period by close to 40 percent.⁴¹⁶

The three major federal rental assistance programs, Housing Choice Vouchers, Section

8 Project-Based Rental Assistance and Public Housing — which are administered at the local and state level — help make housing affordable for more than 10 million people, including 4 million children.⁴¹⁷ However, due to funding limitations, only around one in four families eligible for federal assistance receives it.⁴¹⁸ The federal government spends 2.8 times as much on tax subsidies for homeownership — more than half of which benefits households with incomes above \$100,000 — as on rental assistance.

States and local communities also have a range of housing programs, loans and grants to help support low-income housing opportunities. For instance, the state of

California has more than 20 loan and grant programs.⁴¹⁹ Forty-seven states, Washington, D.C. and hundreds of local communities also have housing trust funds to help provide additional assistance to low-income families to access quality housing.^{420, 421} However, at least six of the state housing trusts had no revenue in 2013 and the level of funding for the programs vary widely. Communities use these trusts to address local needs and priorities, such as homelessness or providing rental assistance. The National Housing Trust Fund was created as part of the Housing and Economic Recovery Relief Act of 2008 to help provide housing for very low-income and homeless families.⁴²²

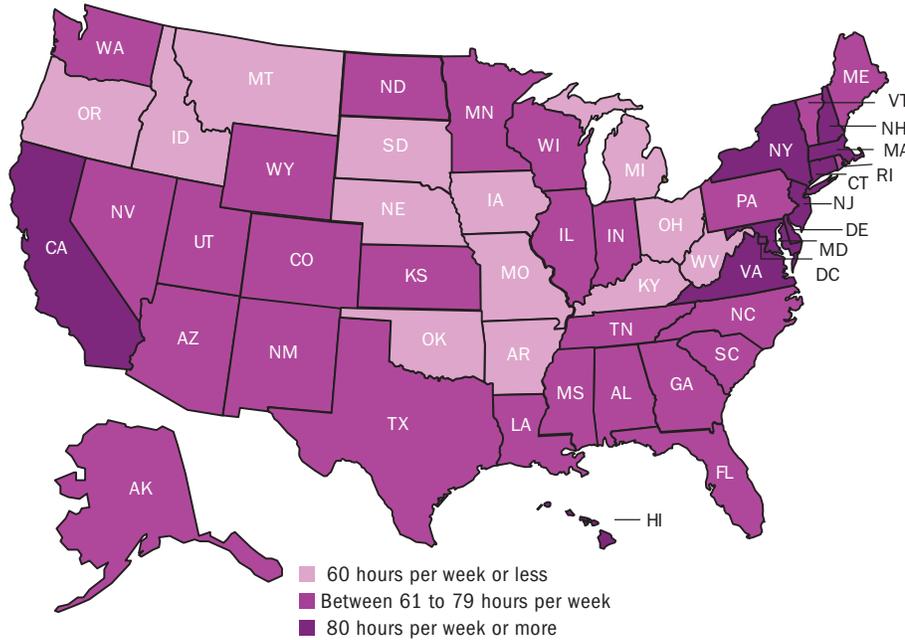
ACCESSING AFFORDABLE, QUALITY HOUSING TO REDUCE STRESS AND RELATED HEALTH EFFECTS

Affordable, quality housing is out of reach for millions of Americans. A body of research shows this can cause significant mental and physical stress on children and their parents — including increased risk for depression, anxiety and other mental problems; impairment or delay in cognitive, social and emotional development and school performance; and elevating risk for high blood pressure, heart disease and other chronic conditions.⁴²³

This stress has also been shown to contribute to higher use of unhealthy coping behaviors, such as substance abuse, domestic violence and child abuse. Lack of stable housing also undermines the ability to get consistent and quality healthcare and social support services, and disrupts relationships with caregivers, schools, family and friends, which are crucial for development in young children. Foreclosures and evictions can be traumatic for children, and in some cases, can put them at risk for homelessness or foster care, which can further increase their risk for health problems and decrease their access to healthcare.

- **Housing Affordability and Health Problems:** More than 15 percent of U.S. households (one in five) spends more than half of their income on housing. Many families forgo other spending — such as on healthcare, health needs, prescriptions or nutritious foods — when they are struggling with housing costs.^{424, 425} Unaffordable housing can also lead to frequent moves or living in overcrowded situations, which make children more vulnerable to mental health, emotional and behavioral problems, developmental delays and depression and increases the risk of exposure to infectious diseases and environmental house hazards.⁴²⁶ Preschoolers who move frequently have increased attention and behavioral problems and fall behind on readiness for school.⁴²⁷ Low-income children who move and switch schools frequently are less likely to perform well academically and complete high school and, as adults, typically obtain jobs with lower earnings and skill requirements.^{428, 429, 430}

Hours Needed at Minimum Wage to Afford a One-Bedroom Unit by State, 2015



NOTE: State minimum wage that exceeds the federal minimum wage: AK, AR, AZ, CA, CT, CO, DC, DE, HI, IL, MA, MD, ME, MI, MN, MO, MT, NE, NJ, NY, NM, NV, OH, OR, RI, SD, VT, WA, WV.

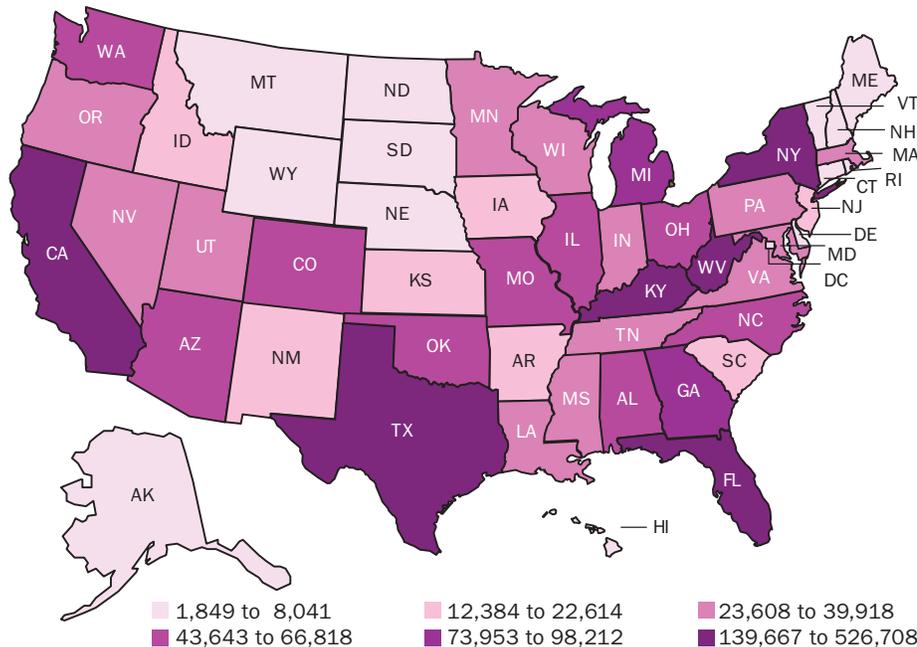
SOURCE: National Low Income Housing Coalition, 2015.

Minimum Wage and Housing

On average, a person earning minimum wage spends more than 30 percent of their income for a one-bedroom. In the majority of states, individuals working at minimum wage need to work from a low of 61 hours per week in Mississippi or Alabama to a high of 101 hours in Maryland to afford a one-bedroom apartment.⁴³¹

- Homeless Health Problems:** Around 1.5 million children experience homelessness each year.^{432, 433} Being homeless can significantly exacerbate a child's health problems, including increased physical, developmental, behavioral and emotional problems — such as high levels of asthma, ear infections, lead toxicity, immunization delays, nutritional deficits (including obesity and overweight), iron-deficiency anemia, developmental and growth delays, problems with cognitive functioning and mental health problems.⁴³⁴

Number of Children Experiencing Homelessness by State, 2012–2013



SOURCE: The National Center on Family Homelessness, 2014.

Homelessness and Children

There were almost 2.5 million children experiencing homelessness in the United States in 2013 compared with 1.6 million children in 2010.⁴³⁵ Children experiencing homelessness ranged from 1,849 in Rhode Island to 526,708 in California.

- Increased Violence Risk:** A lack of affordable housing makes it harder for victims of domestic violence to leave an abusive situation. Violence in the home can increase a child's risk for physical and psychological distress.

LIVING IN NEIGHBORHOODS THAT ARE SAFE AND PROVIDE RESOURCES AND QUALITY AMENITIES

Residing in areas that offer lots of opportunities, such as high-performing schools, high-quality parks and strong community activities, and have lower crime rates reduce stress, improve other health benefits and reduce risks for injuries.⁴³⁷

The federal government and many local governments have launched place-based initiatives to improve the overall quality of neighborhoods — that support creating links between housing, quality educational opportunities and jobs, crime reduction, improving the built environment and quality healthcare. For instance, Neighborhood Revitalization

Initiative, including the Choice Neighborhoods effort, which is a partnership across HUD, the Department of Education, Department of Justice, HHS and the Department of Treasury, works to promote mixed use developments, better schools, more neighborhood stores, more accessible transportation, potential job opportunities and other programs in a given community as part of an integrated approach. The Promise Zone initiative has created federal-local partnerships to increase economic and education opportunities and reduce violent crime.⁴³⁸ The Strong Cities, Strong

Communities (SC2) Initiative supports grants to communities to improve how a community's local government and the federal government can work together to make programs more effective and coordinated — and help promote local capacity and economic growth. There are also many initiatives that address how housing, transportation, health and economic opportunity are interrelated — including how the proximity of affordable housing options and transportation alternatives impact accessibility to jobs, services, child care, schools, healthcare, other resources and quality of life.

NEIGHBORHOODS AND HEALTH

- Neighborhoods have been linked with mortality, general health status, disability, birth outcomes, chronic conditions, health behaviors and other risk factors for chronic disease, as well as with mental health, injuries, violence and other important health indicators.⁴³⁹ A person's zip code can have a larger impact on health and life expectancy than genetics or medical care.⁴⁴⁰ For instance, if a person lives in a neighborhood where the median household income is less than \$25,000 a year, his or her life expectancy is about 14 years shorter than of someone in a neighborhood where the median annual household income is more than \$53,000.⁴⁴¹
- If parents feel their neighborhood is not safe, due to crime, violence or risk of injury, they are less likely to let their children play outside, walk around the

neighborhood or engage in other physical activity.^{442, 443, 444, 445, 446} In addition, children living in low-income areas in dense, urban residential neighborhoods are at higher risk of being hit by a car or other motor vehicle.⁴⁴⁷ Physical activity and walking can lower cholesterol and blood pressure, improve mental health and reduce the risk for obesity, heart disease and type 2 diabetes.

- Living in poor neighborhoods over two consecutive generations reduces children's cognitive skills by roughly the equivalent of missing two to four years of schooling.⁴⁴⁸ Two out of three Black children (66 percent) born from 1985 through 2000 were raised in neighborhoods with a high concentration of poverty (with at least a 20 percent poverty rate), compared to 6 percent of White

children.⁴⁴⁹ Sixty-seven percent of Black families living in the poorest quarter of neighborhoods a generation ago continue to live in the highest poverty neighborhoods today.⁴⁵⁰ Neighborhood poverty accounts for a greater portion of the Black-White downward mobility gap than parental education, occupation, labor force participation and a range of other family characteristics combined.

- Of the residents from distressed housing in high-poverty neighborhoods who received housing vouchers through the Moving to Opportunity Program, adult obesity rates dropped by 11 percent and there were reductions in mental health problems, including distress, depression and anxiety, and lower rates of smoking and marijuana use among adult women and teen girls.⁴⁵¹

Environmental Health and Justice

Young children also have higher risk of injury or illness due to harmful environmental elements — including pollution, toxic chemicals, contaminated water or food and waste from landfills.

Even relatively low levels of exposure to pollution and environmental hazards can adversely impact the health of children — contributing to lower birth weights, lower test scores and lower earning potential as adults.^{452, 453} Because children are smaller and still developing, when they breathe, drink or eat contaminants, it has a bigger impact on their bodies compared to adults. Young children's bodies have yet to develop the immune and filtering systems that can also help provide some protection compared to adults.

Lower-income housing is more likely to be located close to sources of pollution, exposing lower-income children disproportionately to the associated health problems. Many low-income families also do not have the financial mobility to be able to move away from areas when hazards become known. For instance:

- A study of all births in five large states found that Black women and less educated women are more likely to live within 200 meters of Superfund hazardous waste sites or factories emitting toxic releases;⁴⁵⁴
- Superfund cleanups have been linked to a reduction in the incidence of congenital anomalies in infants by roughly 20 to 25 percent;⁴⁵⁵
- Poor water quality has been associated with risk for lower birth weights and increased prematurity. A study in New Jersey of a district with contaminated water found it was associated with 14.6

percent lower birth weight babies and 10.3 percent more premature babies among less educated mothers.⁴⁵⁶

In 1980, the Superfund program was started to clean up hazardous waste sites and prevent or reduce the release of hazardous substances in communities. A 2011 EPA review of the impact of the Superfund program reports that these efforts have helped reduce threats to human health — from acute effects, such as poisoning and injuries from fires or explosions to long-term effects, such as cancers, birth defects (congenital abnormalities), reduction in cognitive abilities as measured by decreases in IQ scores and other effects such as thyroid dysfunction and endometriosis.⁴⁵⁷ Superfund cleanups also help improve the ecology systems, economic conditions, property values and quality of life in the vicinity of the Superfund sites. The report found more than 250 hazardous substances contaminating Superfund sites. Lead has been found at 75 percent of National Priority List (NPL) Superfund sites — unhealthy exposure to lead has been linked to increased risk for cardiovascular disease, high blood pressure, hypertension, a decline in cognitive functions, reproductive problems and infant death. Children under 6 years old are particularly vulnerable to lead exposure since their nervous systems are still developing — and high lead exposure has been linked to neurobehavioral problems, diminished learning abilities and other health problems in children.⁴⁵⁸

EPA and many local communities also have initiatives and grants to help redevelop “brownfields,” which are lands formerly used for a commercial or industrial purpose but are no longer in use. Brownfields



pose public health concerns — from potential environmental contamination to public safety of deteriorating structures to reduced commercial and residential property values in the neighborhood.⁴⁵⁹ The highest concentration of brownfields are disproportionately in low-income communities.

In 1994, the Federal Interagency Working Group on Environmental Justice (EJ IWG) was created by Executive Order to guide, support and enhance federal environmental justice and community-based activities — recognizing that lower-income and predominantly Black and Latino communities are disproportionately impacted by environmental hazards.⁴⁶⁰

In 2014, the EJ IWG created a community-based resource guide; Plan EJ 2014, a roadmap to help the EPA better incorporate environmental justice into federal programs, policies and initiatives; and developed a partnership between EPA, HUD and the Department of Transportation to help improve access to affordable, safe housing while safeguarding the environment.

CASE STUDIES

West Dallas County, Texas: Superfund Lead Clean Up⁴⁶¹

The RSR Smelter site was a National Priority List Superfund site — where the west Dallas County, Texas smelting facilities cover a 6.7 acre area around residential, industrial and commercial properties — with around 50,000 people, including 7,000 children, living within 2.5

miles of the site. Once contamination was identified, in the 1980s and early 1990s, EPA and the Texas Natural Resources Conservation Commission (TNRCC) began to conduct removal actions, surveying 6,800 potentially contaminated properties and conducting clean ups at 420 private

residences and other high-risk areas where children play, such as playgrounds, parks and schools. By 1993, blood lead analyses showed 8 percent of children exceeded the level of concern, compared to 90 percent of children exceeding this level prior to the clean-up.

West County Toxics Coalition and the Chevron Refinery⁴⁶²

In the late 1980s and early 1990s, there were a significant number of major industrial accidents—many of which were toxic—in Contra Costa County, California. Chevron, an oil company, operates a refinery and other industrial facilities in the county and, at one point, stored over 11 million pounds of toxic chemicals. In one 6 year period, the plant had over 300 accidents, ranging from fires to chemical spills and leaks to explosions to toxic gas releases, which led to air contamination. Then, in 1993, Chevron planned to increase its storage of

explosive and corrosive chemicals in the area. Led by a local resident, Henry Clark, the West County Toxics Coalition was formed. They partnered with Communities for a Better Environment and the Golden Gate University Environmental Law and Justice Clinic to work with Chevron to create a policy of zero net emissions. This proved unsuccessful, so the coalition turned to local public officials and used its broad coalition to have citizens call local policymakers. Eventually, Chevron offered to pay \$5 million to community development projects, including the

local health center, to reduce toxic emissions and improve safety and pollution prevention measures, among others. Recently, when Chevron wanted to begin a refinery modernization project, the community had a large amount of input. “Henry Clark of West County Toxics Coalition says this is the best project Chevron ever put forward,” Councilmember Tom Butt wrote on Facebook. And, in 2013, Chevron created the Chevron Community Revitalization Initiative to invest \$10 million to improve business and job opportunities in the area.

Dumping in Dixie^{463, 464, 465}

After graduate school, Dr. Robert Bullard headed to Houston to research the location of waste disposal facilities as part of a lawsuit his wife, Linda McKeever, was planning. During his research, he found that 82 percent of landfills were located in or near predominantly Black neighborhoods—and that one particular dump, in Northwood Manor, was in a predominantly Black residential area

near two schools in which 85 percent of people owned their homes. Even though they ultimately lost the lawsuit, which was the first to charge environmental discrimination in waste disposal, their work helped galvanize the community and put pressure on the city council, which passed an ordinance that limited the placement of waste facilities near public facilities like schools. After this, Dr. Bullard expanded

his work and found that similar patterns existed all over the South—this became the basis for his 1990 book *Dumping in Dixie: Race, Class and Environmental Quality*, which showed that poor housing options combined with racially discriminatory placements of facilities—garbage dumps, landfills, incinerators, chemical plants, etc.—worsened the health of Black communities.

A Healthy Early Childhood Action Plan

Early Childhood Policies and Programs

Increasing the Investment In Effective Early Childhood Policies and Programs

There is strong evidence that providing a set of strong basic supports for young children and their families is important for helping children get off to a healthy start, but many of these programs and policies do not have the level of investment required to have the desired impact on a wide scale. These programs and services help provide the foundation to ensure children have a safe, stable and nurturing family and home and community environment where they can grow up healthy and thrive. There is also a need to better coordinate existing programs and look for ways to improve the efficiencies for how services and programs are funded and delivered — to maximize their effectiveness and minimize the hurdles to getting services to families in need.

RECOMMENDATIONS:

Programs and services that promote early childhood well-being must be given higher priority — and increased investment — to ensure they can be delivered on a scale to help all families and show strong results. A wide range of child policy experts have identified key priority areas for increased investment including:^{466, 467}

- **Good Health:** including accessible, affordable healthcare for children and their parents — including physical, behavioral and mental health; targeted home visiting programs; evidence-based family education and public education campaigns; and fully supported child welfare service; and
- **Strong Family Support:** including integrated social service access and delivery, with income, nutrition and housing assistance; voluntary,
- **Early Learning:** quality, affordable, accessible child care and early education programs.

RECOMMENDATIONS:

Systems and financial resources should be better aligned — to improve the effectiveness and efficiency of health, social services and education services. Increased efforts should be made to coordinate systems, services and how programs are funded — to ensure families are receiving the benefit of a wider range of available programs and to maximize the impact of how dollars are spent.

SAFE, STABLE AND NURTURING RELATIONSHIPS

Nurturing and stable relationships with caring adults are essential to healthy human development beginning from birth. Research has shown that secure attachment to at least one caregiver is one of the strongest protective factors in early childhood.⁴⁶⁸

A baby's first relationship with adults sets the foundation for their social and emotional development for their entire life. Children with strong, secure early relationships have greater capacity for effective social interactions, self-reliance, self-regulation and adaptive coping later in life.⁴⁶⁹ Sensitive and responsive parent-child relationships are associated with stronger cognitive skills in young children and enhanced social and work skills later in school.⁴⁷⁰ A child's environment of relationships can affect lifelong outcomes in emotional health, regulation of stress response systems, immune system competence and the early establishment of health-related behaviors.⁴⁷¹

Some key aspects include providing care that is warm, responsive, interactive and consistent, and where the caretaker has age-appropriate expectations, praises accomplishments, provides early learning opportunities with positive cognitive stimulation, such as reading, talking and singing, and provides opportunities for social interaction with peers.⁴⁷²



Conversely, lack of positive and caring engagement or attention and stimulation, neglect and overly harsh discipline have been shown to have a negative impact. If a parent or caregiver cannot provide positive, nurturing attention to a baby, toddler or young child, it can negatively impact physical, mental, behavioral health and cognitive abilities.⁴⁷³

Many parents face their own issues which can harm their ability to establish positive relationships with their own children or to have had positive role models from their own childhood to follow. For instance, chronic stress; limited financial resources,

education attainment and employment opportunities; a history of trauma or abuse; and mental health and/or substance abuse can add extra challenges to parenting. Research has found that traumatized children often have traumatized parents, and many mothers who experienced multiple chronic risks may repeat these patterns of rejection and maltreatment with their own infants.⁴⁷⁴

In addition, while positive development feeds on positive interaction, negative issues early on can escalate through a negative feedback pattern, whereby problems beget more problems as a child ages. For instance, harsh parenting responses to an infant with a fussy temperament can lead to that child developing trouble with emotional and behavioral self-regulation which can lead to uncontrolled aggression which can lead to rejection by peers and teachers and higher chance of academic failure including not meeting reading proficiency levels in elementary school which is a strong risk factor for subsequent drug use.⁴⁷⁵

Strategies for helping support nurturing relationships must target both the children and their caregivers, providing supports for both. Support for adults should include delivery of information and training so that they can develop effective parenting skills, as well as tools to support their own social and emotional health.

HOME VISITING PROGRAMS

Many family services have been shown to be effective in providing added resources and education to help parents and caregivers learn improved ways to establish protective bonds with, and provide a healthy environment for, their children.

Home visiting is one successful evidence-based strategy. It is an early-intervention strategy that pairs new families, particularly those that are disadvantaged, with trained professionals who provide parenting information, resources and support throughout their child's first few years. Aggregate evaluations of national home visiting models indicate that, overall, parents and children benefit in statistically significant ways, but the results are strongest when targeted to at-risk mothers, particularly teen mothers and when programs begin when the teen mother is pregnant. These home visitation programs, when implemented effectively, can improve parenting practices, have been shown to reduce family stressors, and positively alter children's cognitive development.⁴⁷⁶ Research indicates that home visiting has the potential for positive results among high-risk families, particularly on health-care usage and child development.⁴⁷⁷ High-quality home visiting programs can increase children's readiness for school, improve child health and development, reduce child abuse and neglect, enhance parents' abilities to support their children's overall development, improve family economic self-sufficiency, improve maternal health, and reduce repeat teen births.⁴⁷⁸ The most effective home visiting programs are integrated with other programs and supports.⁴⁷⁹

The ACA expanded home visiting programs by creating The Maternal, Infant

and Early Childhood Home Visiting Program (MIECHVP) to respond to the needs of children and families in communities at risk.⁴⁸⁰ MIECHV relies on proven scientific evidence in determining which types of activities to fund. States are the primary recipients of MIECHV funding, and they conduct community needs assessments to determine the specific characteristics of their at-risk populations, such as disproportionately high rates of teen parents, first-time mothers, low-income parents and children exhibiting developmental concerns. These models are required to address six benchmark areas related to: maternal and newborn health; child abuse, neglect or maltreatment; school readiness and child academic achievement; reduction in crime or domestic violence; improvements in family economic self-sufficiency; and improvements in the coordination and referrals for other community services and supports. The law designates \$1.5 billion in federal support over five years to be provided to states, territories and tribes to develop evidence-based home visiting programs for at-risk pregnant women and children from birth to age five. Thirteen home visiting models that meet the program's criteria include: Child FIRST, Early Head Start — Home Visiting, Early Intervention Program for Adolescent Mothers, Early Start (New Zealand), Family Check-Up, Health Families America (HFA), Healthy Steps, Home Instruction for Parents of Preschool Youngsters (HIPPI), Nurse Family Partnership (NFP), Oklahoma Community-Based Family Resource and Support Program, Parents as Teachers (PAT), Play and Learn Strategies (PALS) Infant, SafeCare Augmented and Maternal Early Childhood Sustained Home Visiting Program (MESCH).

CASE STUDIES

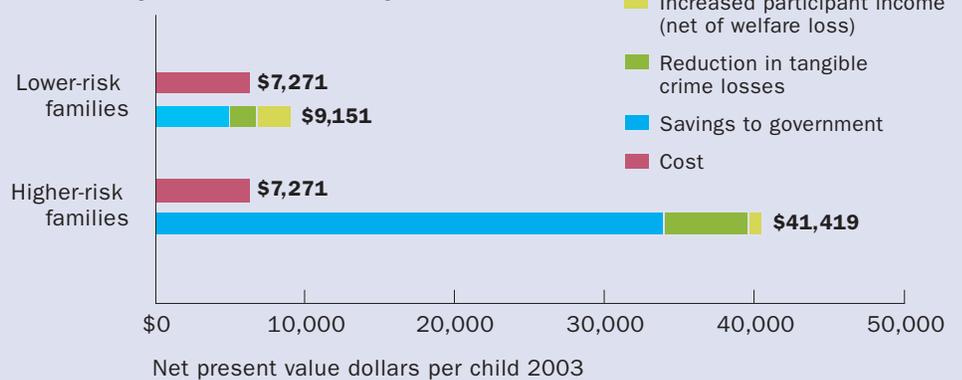
Nurse-Family Partnership⁴⁸¹

Nurse-Family Partnership works with young, low-income, first-time pregnant women who are not ready to take care of a child by, first, establishing a trusted relationship with a public health nurse, who meets with the mother from pregnancy until the baby turns two years old. For more than 35 years, NFP, which is supported by the Robert Wood Johnson Foundation, has enrolled mothers early in their pregnancies and helped public health nurses continuously conduct home visits over a two-and-a-half year period. The home visits are important because they connect first-time mothers with the care and support they need to ensure a healthy pregnancy. The model has been shown to have dramatic benefits to society. For instance, when Medicaid pays for NFP services, the federal government gets a 54 percent return on its investment. NFP services have resulted in lower enrollment in Medicaid and SNAP, a 9 percent

reduction in Medicaid costs and an 11 percent reduction in SNAP costs in the 10 years following birth. Also, a 2005 RAND analysis found a net benefit to society of \$34,148 (in 2003 dollars) per higher-risk family served, totaling a return of \$5.70 for every dollar invested. Another study, in 2012, found long-term benefits of almost

\$23,000 per participant. The program has demonstrated the ability to reduce child abuse and neglect, arrests among children, emergency room visits for accidents and poisonings and behavior and intellectual problems among children. Nurse-Family Partnership programs currently operate in 33 states.

Monetary Benefits to Society



Durham Connects⁴⁸²

All parents of newborns in Durham County, North Carolina are eligible for Durham Connects, a free program that coordinates in-home nurse visits. While the support nurses provide varies depending on the family situation, most of the time, nurses conduct weight and health checks and ensure the mother is recovering from child birth. Nurses also help with breastfeeding, child care selection, connections to financial assistance programs, parenting classes and coping with postpartum depression and other related issues. Nurses even make the first contact at a program or service and set up appointments. For example, Durham Connects found that the high cost of cribs proved prohibitive to many families. So, the

program became a National Cribs for Kids[®] affiliate—an organization that provides cribs to families who cannot afford them—to get cribs to families in need. Across the spectrum, Durham Connects works to improve child health, fill gaps in community services, and decrease unnecessary use of health-care by connecting parents with community resources. The program spends about \$700 on each family, and families who took part in the program had 50 percent less emergency care use than families who did not. In total, a study by Duke’s Center for Child and Family Policy found that for every \$1 spent on home visits, \$3 were saved in healthcare costs.

Family Check-up Models⁴⁸³

Family Check-Up (FCU) models are designed for children from 2- to 17-years-old—who are typically from high-risk families—to address behavioral challenges before they can become more problematic. FCUs are typically preventive, assessment-driven health maintenance models that emphasize motivation

for change. Typically, the FCU begins with three home visits with a trained consultant, who then makes family-specific intervention recommendations that might include parent management training, preschool consultation and/or community referrals. The Early Steps Project—a University of Oregon study of

an FCU that included 731 families with a 2-year-old child who were recruited at Women, Infants and Children program offices—found the intervention to be associated with reductions in poor behavior and maternal depression and improved language development and inhibitory control.

Child First⁴⁸⁴

Child and Family Interagency Resource, Support and Training, or Child First, works with children across Connecticut who have behavioral or developmental problems and/or families that face challenges such as poverty, postpartum depression, violence, substance abuse and incarceration. To reach this vulnerable population, Child First developed two corresponding strategies, including a system of care approach focused on integrating services and support and a psychotherapeutic relationship-

based approach to improve parent-child interactions. The Child First Home Visiting Team, which consists of a mental health/developmental clinician and a care coordinator, provides, among other things, a comprehensive assessment of the child and family; a coordinated plan for support and services for the family; on-site consultations at early care or school settings; and care coordination and case management to connect the family with community resources and services. To measure progress, all sites

enter measures into a database at baseline, 6 months and termination. An evaluation conducted by the Yale University Consultation Center found that the intervention resulted in decreased parental stress, improved child social-emotional and behavioral health, and increased access to community services. And, a peer-reviewed article in *Child Development*, found that children in Child First were less likely to display aggressive and defiant behavior than those in Usual Care at a 12 month follow-up.

Family Life Education⁴⁸⁵

Family life education (FLE) broadly includes any concerted effort to help people—through providing information or resources, improving interpersonal skills and other methods—create a better experience for all members of a family. FLE imparts knowledge to family members about healthy family functioning to prevent or minimize dangerous family situations such as substance abuse, domestic violence, unemployment and child abuse. Programs vary based on the

specific needs of individuals, but usually follow an educational approach and include face-to-face meetings, interactive sessions with skill practice, independent study with support and/or home visits. Across the country, FLE programs provide support to families, including, for example, in Houston, Texas, where local judges instruct offenders and divorcing couples with minor children to attend anger management and co-parenting workshops.



PARENTING EDUCATION

There are an increasing number of public education campaigns and evidence-based parenting classes offered in the community that give parents additional resources, information and support. Some targeted programs for at-risk families — when provided in conjunction with other services and support — have shown results in helping to improve the home environment and parents’ realistic expectations for children and reduce the risk of child disruptive behaviors.⁴⁸⁶

CASE STUDIES

Abriendo Puertas/Opening Doors⁴⁸⁷

Abriendo Puertas / Opening Doors is an evidence-based training program that was developed by Latino parents for Latino parents with children ages 0- to 5-years-old. The curriculum uses the “popular education” approach—which focuses on empowering individuals who often feel marginalized in society—and provides lessons that reflect Latino culture. Abriendo Puertas features 10

interactive sessions, each of which promotes school readiness and family well-being by focusing on early childhood development, health, attendance and bilingualism, among others. Since it began in 2007, the program has served over 55,000 families in 256 cities. In June 2014, Child Trends completed an evaluation of Abriendo Puertas, finding that the program helped foster

parenting practices that improved children’s learning and preparation for school. In addition, the study found that Abriendo Puertas successfully increased education activities at home, such as reading and reviewing the letters of the alphabet; library use; knowledge about the importance of high quality child care; and others.

San Francisco Child Abuse Prevention Center⁴⁸⁸

In 1998, the San Francisco Child Abuse Council and the TALK Line Family Support Center joined to create the San Francisco Child Abuse Prevention Center (SFCAP), which provides supportive children and family services and community education and advocates for systems improvement to prevent child abuse. SFCAP has built and supported a TALK Line Family Support Center to connect parents, caregivers and children with a wide range of services, including a 24 hour/365 days a year call line. The TALK line handles more than 15,000 calls per year, and the support center provides therapeutic childcare to nearly 1,000 families. In the community, SFCAP has created a Child Safety Awareness

Program, which works with schools, PTAs and other related organizations to improve awareness of child abuse and neglect. Each year, the awareness program teaches approximately 6,500 individuals in K-5 schools alone. The organization hosts awareness workshops in English, Spanish and Mandarin for elementary school children to provide them with skills that will help them deal with abusive and dangerous situation. They provide similar workshops for parents and caregivers to help them understand child safety issues and the impact violence can have on children. SFCAP also trains about 5,000 child-serving professionals per year on how to identify and report suspected child abuse/neglect.

CASE STUDIES

The Period of PURPLE Crying Program⁴⁸⁹

What is known as the “period of purple crying” begins when a baby is about 2 weeks old and can continue through 4 months. When babies are going through this phase, they commonly resist soothing and are prone to inconsolable crying which can last for hours at a time. The Period of PURPLE Crying Program seeks to help parents understand that this is completely normal and that there is nothing wrong with their baby. PURPLE stands for: Peak of crying, unexpected, resists soothing, pain-like face, long lasting, evening and the period signifies that there is a beginning and an end. The program—which was designed and approved by pediatricians, public health nurses, child development experts and parents—adds materials to the standard hospital-based maternity ward distribution and reinforces what parents learn by engaging with public health and physicians. The model requires each family

to receive PURPLE materials when their child is born and asks them to review the program when needed and share it with other caregivers. By including training and resources for nurses, educators, pediatricians, public health nurses and other community professionals who regularly meet with parents of newborns, they are able to reinforce important parenting messages and lessons, such as the dangers of shaking a baby. From 2003 to 2007, studies of the Period of PURPLE Crying Program were conducted in Seattle, Washington and Vancouver, B.C., Canada and included more than 4,400 parents. The studies found that providing additional educational materials about crying and shaking can significantly change the parental behaviors that are linked to shaking. Since then, the PURPLE program has been implemented in over 800 hospitals and organizations in 49 states.

Nurturing Parenting Programs⁴⁹⁰

Nurturing Parenting Programs (NPP) seek to prevent and/or treat child abuse and neglect and work with families with children anywhere from infancy to 18 years of age. Family participants are often identified by child welfare agencies due to past abuse and neglect or those deemed at high-risk for abuse or neglect. NPP starts by working with parents to develop new patterns of parenting. Parents participate in discussions, role-play and take part in additional exercises designed to help them develop proper nurturing and parenting skills. Specifically, parents are taught age-appropriate expectations,

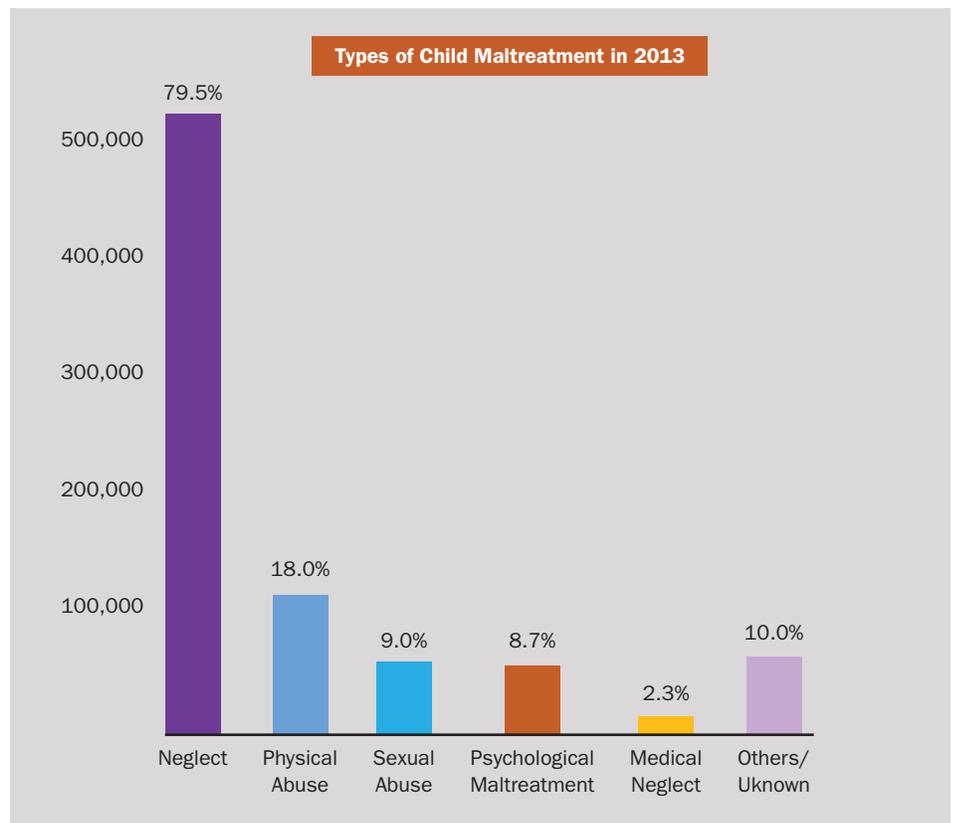
empathy, nonviolent nurturing discipline, self-worth and empowerment/autonomy. The sessions can occur at home or in a group setting with other families. Over the past few decades, roughly 1.1 million families have taken part in NPPs. Also, dozens of studies have looked at the model. One study of families referred to NPP by the state child welfare agency found that the program reduced abuse and neglect by 73 percent. Another study found that only 7.36 percent of participating adults were charged with additional counts of abuse and neglect after finishing the program.

PREVENTING CHILD MALTREATMENT AND QUALITY CHILD WELFARE SERVICES

Child maltreatment includes all types of abuse and neglect of a child under the age of 18 by a parent, caregiver or another person in a custodial role that results in harm, potential for harm or threat of harm to a child. The four common types of maltreatment include physical abuse, sexual abuse, emotional abuse and neglect.⁴⁹¹ Children are most at risk of maltreatment if their families have

multiple problems, such as inadequate income, lack of a job, inadequate housing, emotional stress, drug or alcohol abuse, mental illness or domestic violence.⁴⁹² Neglect accounts for four-fifths (78.5 percent) of child maltreatment cases, while 18.0 percent were physically abused, 9.0 percent were sexually abused and 8.7 percent were psychologically maltreated.⁴⁹³

Five Main Divisions of Child Abuse



Percentages are calculated against the number of unique victims, and a child may see multiple types of abuse or multiple instances of the same type of abuse. Reports are substantiated or indicated.

Source: HHS, *Child Maltreatment, 2013*.

According to state Child Protective Service (CPS) agencies, in 2013, 678,932 children were found to be victims of maltreatment and another 1,218 children died from child maltreatment.⁴⁹⁴ More than one third of victims of child abuse or neglect and 79 percent of those who die from abuse are under the age of 4.⁴⁹⁵

CDC estimates that the total lifetime cost associated with just one year of confirmed cases of child maltreatment is approximately \$124 billion.⁴⁹⁶ Of this amount, 69.2 percent was attributed to lost productivity over the lifetimes of the children, 20.2 percent was attributed to healthcare costs, 3.7 percent to special education costs, 3.6 percent to child welfare costs and 3.2 percent to criminal justice costs.⁴⁹⁷

In one study, children whose parents abused alcohol and other drugs were three times more likely to be abused and more than four times more likely to be neglected than children from non-abusing families.⁴⁹⁸

Child abuse occurs at every socioeconomic level, across ethnic and cultural lines, within all religions and at all levels of education.⁴⁹⁹

Child protective service workers screen reports and investigate and provide services as necessary. Depending on the situation, child welfare systems then provide services to families that need assistance in the protection and care of their children; arrange for children to live with family or foster families when they are not safe at home; and/or arrange for reunification, adoption or other permanent family connections for children leaving foster care.

Extensive research over the last three decades has demonstrated that young children who experience severe neglect — defined broadly as the ongoing disruption or significant absence of caregiver



responsiveness — bear the burdens of a range of adverse consequences, including subsequent cognitive delays, impairments in executive functioning, and disruptions of the body's stress response.⁵⁰⁰ There is a large body of research on ACEs showing that the greater the number of adverse experiences in childhood, the greater the likelihood of health problems later in life. The specific effects of the maltreatment depend on a variety of factors including the age of the baby or child at the time of the abuse or neglect, whether the maltreatment was a one-time incident or chronic, the identity of the abuser, whether the child had a dependable nurturing individual in his or her life, the type and severity of the abuse, the intervention and how long the maltreatment lasted.⁵⁰¹

Some of the specific long-term effects of abuse and neglect on the developing brain can include diminished growth in the left cerebral hemisphere, which may increase the risk for depression; irritability in the limbic system, which can lead to the emergence of panic disorder and posttraumatic stress disorder; smaller growth in the hippocampus and limbic abnormalities, which

can increase the risk for dissociative disorders and memory impairments; and impairment in the connection between the two brain hemispheres, which has been linked to symptoms of ADHD.⁵⁰² Research shows that child trauma survivors are more likely to have long term health problems such as diabetes or heart disease, or to die at an earlier age. Traumatic stress can also lead to increased use of health and mental health services and increased involvement with the child welfare and juvenile justice systems. Adult survivors of traumatic events may have difficulty in establishing fulfilling relationships, maintaining employment and becoming productive members of society.⁵⁰³

The Children's Bureau within the Administration on Children, Youth and Families (ACYF) at HHS works with state and local agencies to help develop programs that focus on preventing abuse and neglect by strengthening families, protecting children from further maltreatment, reuniting children safely with their families or finding permanent families for children who cannot safely return home. The Child Abuse Prevention and Treatment Act (CAPTA), which was reauthorized for

FY 2011 through FY 2015 at just over \$1 billion, provides for federal funding to states in support of prevention, assessment, investigation, prosecution and treatment activities along with grants to public agencies and nonprofit organizations.^{504, 505} However, actual appropriations for CAPTA has been around \$93 million per year (\$93.8 in FY 2015). Federal responsibilities also include helping to provide research, evaluation, technical assistance, data collection and setting a minimum standard definition of child abuse and neglect. CAPTA included an emphasis on improving program operation and data collection over time; improving systems for supporting and training individuals who prevent, identify and respond to reports of neglect, abuse and maltreatment; and strengthening coordination among providers who address the challenges associated with child abuse, maltreatment and neglect as well as domestic violence.

Each state maintains its own child welfare system — of both public and private child and family services and justice systems — and specific procedures vary widely by state. These systems are often underfunded or understaffed which leads to problems with investigations and assessments, and inadequate remedies.

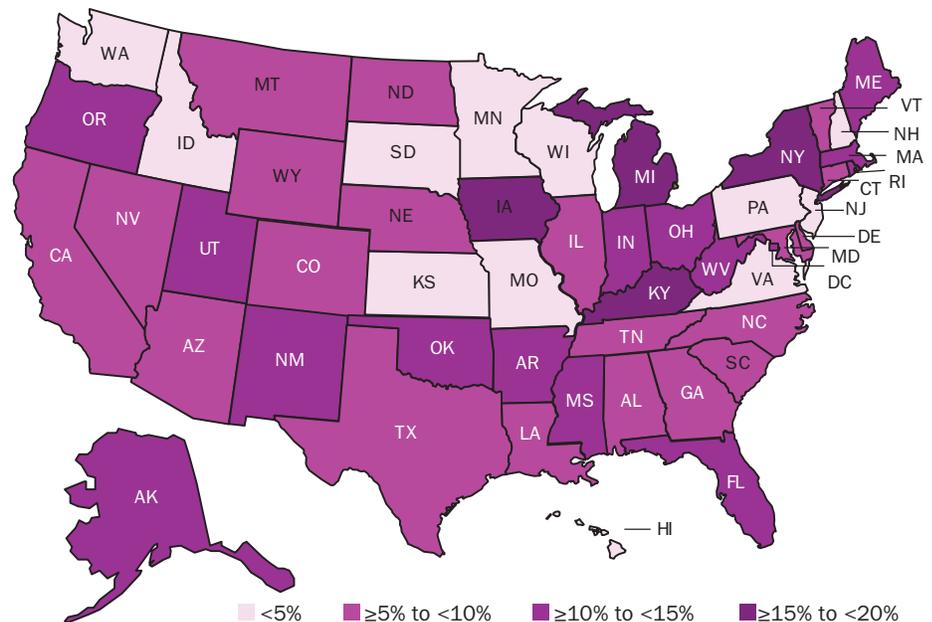
A number of states have moved toward implementing a differential response within the child welfare system — which allows child protective services to respond in multiple ways to different situations and levels of risk.⁵⁰⁶ This approach is more inclusive to respond effectively and appropriately to low- and moderate-risk cases — where there is no immediate safety concern, but where a child and their family could benefit from additional services and support. In these cases, family assessments can be conducted in a non-adversarial or accusatory way — and there are mechanisms for

providing help in situations where taking the extreme measure of removing a child from the home is not advised or warranted. Some advocates have expressed concern that this approach may not do enough to protect the safety of children and may lead to cases where a child is left in an unsafe environment.⁵⁰⁷ Differential response models, however, are developed to take into account, screen for, and respond to situations involving safety concerns, while also expanding the welfare system’s ability to serve more children and families experiencing different levels of needs.^{508, 509, 510} More than 30 states and communities have adopted some level of differential response approach and ACYF has supported ongoing research to support and expand the evidence base for differential response to assess social and emotional well-being of children as well as safety and permanency.

Child Maltreatment Rates

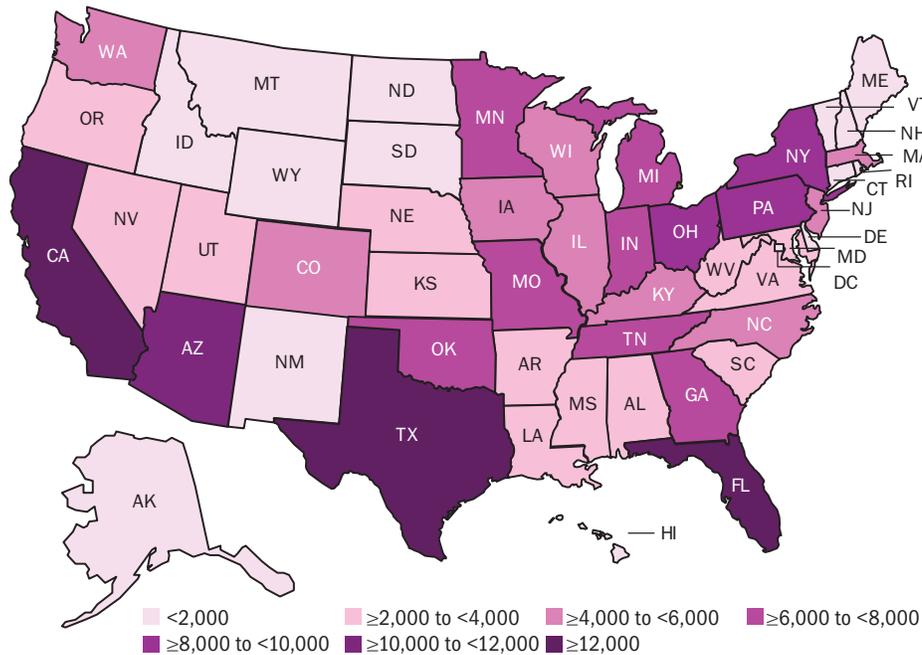
More than 678,000 children were victims of maltreatment, and another 1,520 children died from child maltreatment in the United States in 2013.⁵¹¹ More than 3.1 million children — in the 47 states which reported information — received child protective services during 2013. More than one-third of the victims of child abuse or neglect and 79 percent of those who die from abuse are under the age of 4.⁵¹² The national child maltreatment rate was 9.1 per 1,000 in 2013, ranging from a low of 1.2 percent to a high of 19.7 percent.⁵¹³

Child Maltreatment Rates by State, 2013



SOURCE: U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children’s Bureau, 2015.

Number of Children Entering Foster Care by State, Fiscal Year 2013



SOURCE: U.S. Department of Health and Human Services, Administration on Children and Families, 2014.

Foster Care: Moving Toward a Trauma-Informed Child Welfare System

More than 400,000 children are currently in foster care in the United States.⁵¹⁴ More than 111,000 (28 percent) of these children are 3-years-old or younger; and over 157,000 (39 percent) are 5-years-old or younger. Children entering foster care remain in the system for an average of two years. Over the course of 2013, around 250,000 children entered the system and 240,000 exited the system.^{515, 516}

Of children who were in child welfare services under the age of two, 85.6 percent experienced one or more changes in caretakers during the first two years of life, and 40 percent of them experienced four or more changes between infancy and entering the school system.⁵¹⁷ Around half of the children in foster care have a chronic medical condition, up to an estimated 80 percent have serious emotional problems and around half of the children under the age of 5 have a developmental delay or disability.⁵¹⁸

Infants placed in foster care after being maltreated are likely to exhibit behaviors including avoidance, rejection and opposition to new caregivers, which can contribute to a negative cycle and difficulty bonding with new caregivers. Research has actually found that in a study of children in the Early Head Start program, early mother-child separation of a week or longer within the first two years of life was related to higher levels of child negativity

(anger, hostility or dislike) toward the mother at age three, and aggression at 3- and 5-years-old.⁵¹⁹

There is a growing trend to balance the understanding of the traumatic impact of loss and repeated loss of a child's caregiver — particularly for young children — with ensuring they are not exposed to harmful and abusive situations. For instance, evidence-based programs like the Multidimensional Treatment Foster Care for Preschoolers (MTFC) for children 3- to 6-years-old, provide family-based interventions directed at the child, foster care providers and permanent caregivers that includes intensive foster parent training and daily support, child services from a behavioral specialist, family therapy and, if necessary, medication management.⁵²⁰ The 2011 Child and Family Services Improvement and Innovation Act required states to develop plans for identifying and developing mental health oversight plans to monitor and treat

emotional trauma associated with a child's maltreatment and renewal. Between 2002 and 2011, the number of children in the foster care system decreased by around 23 percent (from 523,000 to 401,000). ACF reports that it is not currently possible to determine the cause of the decrease but notes that many states have made deliberate efforts to reduce the number of children in foster care through programmatic and policy initiatives.

- In 2013, The Annie E. Casey Foundation and Jim Casey Youth Opportunities Initiatives issued *When Child Welfare Works: A Working Paper — A Proposal to Finance Best Practices*, which calls for comprehensive child welfare financing reform to better align with key objectives including: permanence and well-being; quality family foster care; capable, supported child welfare workforce; and better access to and accountability for social and therapeutic services.⁵²¹

- The American Humane Society, Center for the Study of Social Policy, Child Welfare League of America, Children's Defense Fund and ZERO TO THREE have issued *A Call to Action on Behalf of Maltreated Infants and Toddlers*, to highlight that infants and young children are the most vulnerable to maltreatment and address the lasting negative impact of maltreatment.⁵²² Their guiding principles, policies and practices focus on the well-being of young children by reorienting the child welfare system toward a developmental approach; supporting stable, caring relationships by maintaining and supporting parent-child contact, minimizing short-term placements, limiting the use of group care to situations where parents and children can be cared for together and promoting timely permanence; providing



routine developmentally appropriate screenings and assessments and early intervention with needed services; providing comprehensive services and

breaking down silos across systems and services; and improving program administration, research data collection and analysis as part of ongoing services.

CASE STUDY

Multidimensional Treatment Foster Care⁵²³

The Multidimensional Treatment Foster Care program is a therapeutic alternative to institutional placement for youths with chronic antisocial behavior, emotional disturbance and delinquency. The program places children with foster families that are part of the overall treatment team, which also includes a program supervisor — who provides support and consultation to the foster parents — a family therapist, an individual therapist and a child skills trainer. The team meets weekly to review progress and the foster parents participate in weekly support/assistance meetings. The approach is tailored for each individual and encourages good behavior through positive reinforcement at home. MTFC activities also typically include skills training and therapy

for the child and training and support for foster and biological parents. According to randomized trials and other studies in Washington State:

- MTFC substantially lowers costs compared to other residential treatment programs, saving money for social systems and taxpayers;
- Youth in MTFC have about half the number of arrests as those in group care;
- Fewer adolescents run away from MTFC than group care; and
- In San Diego County, California, MTFC homes had fewer placement disruptions, more frequent reunifications with birth families and lower rates of behavior problems.

Increasing Economic Opportunities for Families

Low family income can impede children's cognitive development and their ability to learn; can contribute to behavioral, social and emotional problems; and can cause and exacerbate poor health.^{524, 525, 526} According to the AAP and other researchers, the effects of poverty on children's health and well-being are well-documented. Children living in poverty have increased rates of infant mortality; more frequent and severe chronic diseases such as asthma; poorer nutrition and growth; less access to quality healthcare; and lower immunization rates.⁵²⁷ Children living in poverty or low-income families are more likely to live in homes or neighborhoods that contribute to health problems or injury risk, and have less access to safe places to be active or to purchase healthy, affordable food. And the underlying stress associated with living in poverty can increase the risk for toxic stress — which can disrupt healthy physical, psychological and behavioral development.

Young children are often particularly impacted by high rates of poverty, and their consequences, as families with young children face increased basic budget needs, with the added costs of child care, housing, feeding, clothing and other needs that are required. This often leads to parents taking on additional work hours or night shift work to try to supplement their income, which can lead to added stress and fatigue, less time to build relationships with their children and added strain on their relationship with their spouse or partner.⁵²⁸

- Nearly half (48 percent) of infants and toddlers (11.1 million) under 6-years-old live in low-income families, including 25 percent (5.7 million) in poor families.⁵²⁹
- More than one third of poor families (6.6 percent of the U.S. population) live in deep poverty — earning less than \$6,000 per year or are raising a child on less than \$7,600.⁵³⁰
- Around 70 percent of Black children under the age of 6 (2.2 million) live in low-income families, 66 percent of Latino children under the age of 6 (4.0 million) live in low-income families and 34 percent of White children under the age of 6 (4.0 million) live in low-income families.⁵³¹
- A full-time, year-round minimum wage worker earns just \$14,500 — more than \$4,000 below the poverty line for a mother and her two children.⁵³²
- Each year, child poverty reduces productivity and economic output by about 1.3 percent of the U.S. gross domestic product.⁵³³
- The impact of living in low-income circumstances impacts young children throughout the rest of their lives. For instance, children who live in persistent poverty or in low-income families are more likely to be poor between the ages of 25 and 30, give birth as teens, struggle to maintain stable employment and have poor overall health.⁵³⁴
- At age 4, children who live in very low-income families are 18 months behind the developmental norm for their age, and, by age 10, the gap is still present.⁵³⁵ Children who grow up in poor neighborhoods are at a higher risk of obesity. A recent study found that by the age of 2, the low birth weight infants from poor areas had unusually high body mass indices (BMIs) compared to those measured in the low birth weight category from wealthier neighborhoods⁵³⁶ According to the Pediatric Nutrition Surveillance System the obesity rate among pre-school children from low-income families is higher than the national average.⁵³⁷

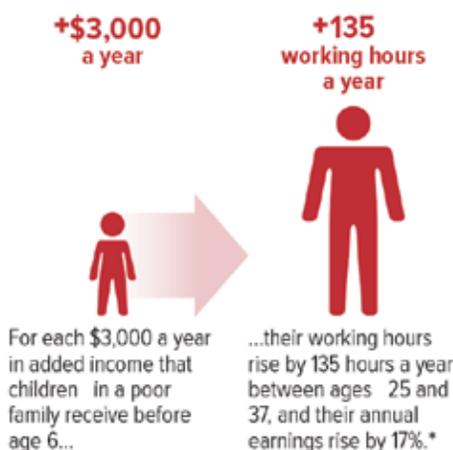
Income Support Programs

There are a variety of income support programs available to help lift families out of poverty and “make work pay” by supplementing low wages or providing refundable credit to working low-income families.⁵³⁸ The programs help provide

support to families to help them meet their basic needs — including housing, food, transportation, child care and other needs — and giving parents the opportunity to secure and retain gainful employment and support their families.

Higher Earned Income Tax Credit or Other Income for Poor Children Expected to Boost Work and Earnings Later in Life

\$3,000 annual increase in income to poor children before age 6 associated with increase in work hours when they become adults



* Note: The published paper uses a 19% figure, but the authors have indicated that this is a typographical error and 17 percent is correct.

Source: Greg J. Duncan, Kathleen M. Ziol-Guest, and Ariel Kalil, “Early-Childhood Poverty and Adult Attainment, Behavior, and Health,” *Child Development*, January/February 2010, pp. 306-325

Working-Family Tax Credits Help at Every Stage of Life

The Earned Income Tax Credit (EITC) and Child Tax Credit (CTC) not only reward work and reduce poverty for low- and moderate-income working families with children, but a growing body of research shows that they help families at virtually every stage of life:



Improved infant and maternal health: Researchers have found links between increased EITCs and improvements in infant health indicators such as birth weight and premature birth. Research also suggests receiving an expanded EITC may improve maternal health.



Better school performance: Elementary and middle-school students whose families receive larger refundable credits (such as the EITC and CTC) tend to have higher test scores in the year of receipt.



Greater college enrollment: Young children in low-income families that benefit from expanded state or federal EITCs are more likely to go to college, research finds. Researchers attribute this to lasting academic gains from higher EITCs in middle school and earlier. Increased tax refunds also boost college attendance by making college more affordable for families with high-school seniors, research finds.



Increased work and earnings in the next generation: For each \$3,000 a year in added income that children in a working-poor family receive before age 6, they work an average of 135 more hours a year between ages 25 and 37 and their average annual earnings increase by 17 percent, leading researchers have found.



Social Security retirement benefits: Research suggests that by boosting the employment and earnings of working-age women, the EITC boosts their Social Security retirement benefits, which should reduce poverty in old age. (Social Security benefits are based on how much one works and earns.)

Note: For further details on the research see Chuck Marr, Chye-Ching Huang, Arloc Sherman, and Brandon DeBot, “EITC and Child Tax Credit Promote Work, Reduce Poverty, and Support Children’s Development, Research Finds,” CBPP

KEY INCOME ASSISTANCE PROGRAMS

Most current income support programs focus on promoting work and provide resources to supplement the wages of low-income families to help meet basic needs, such as promoting refundable tax credits. Some key programs include:⁵³⁹

- **Earned Income Tax Credit**

One of the most effective and well-targeted income support programs is the Earned Income Tax Credit (EITC) — a refundable federal tax credit for low- and moderate-income working Americans.⁵⁴⁰ The average federal EITC was \$2,982 (around \$249 per month) for eligible families with children in tax year 2012. The EITC is designed to encourage work, where a worker’s EITC grows with each additional dollar of earnings until reaching the maximum value. Working families with children with incomes below around \$38,500 to \$52,400 (in tax year 2014, depending on marital status and number

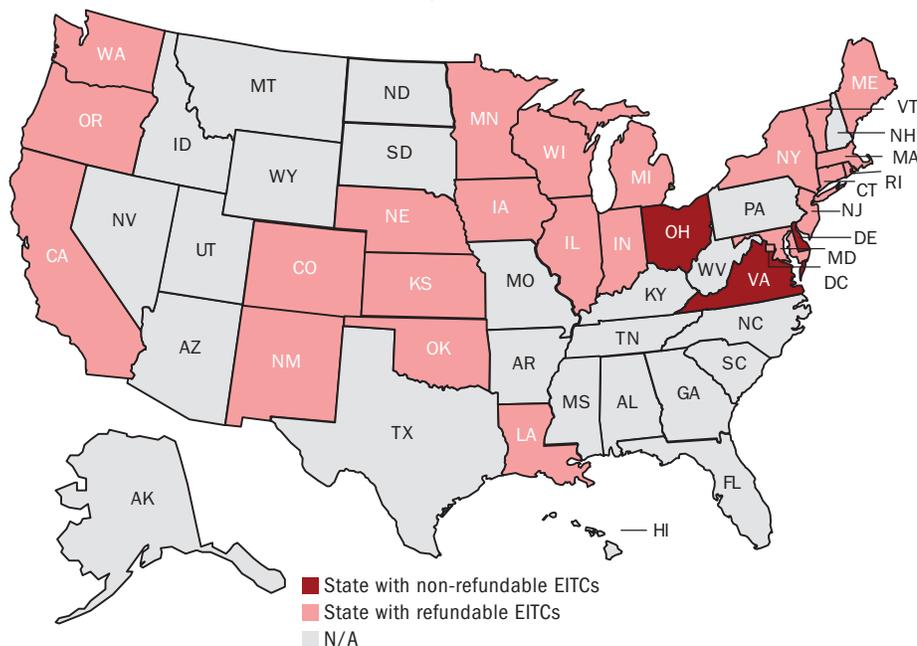
of dependent children) may be eligible for the federal EITC. The credit is refundable, so if the credit earned exceeds a family’s tax liability, the IRS refunds the balance. An estimated 20 percent of eligible workers do not claim an EITC.⁵⁴¹

The EITC lifted around 6.2 million Americans out of poverty in 2013 — including 3.2 million children.⁵⁴² The number of poor children would have been one-quarter higher without the EITC, and the credit reduced the severity of poverty for another 7.8 million children, according to analyses by the Center on Budget and Policy Priorities.

Research has shown benefits in health, education and well-being of children in families due to the EITC. Children whose families receive more income from refundable tax credits are more likely to have better school performance, attend college,

earn more as adults and to avoid early onset of disabilities and other illnesses associated with child poverty.^{543, 544, 545, 546} For instance, one study found a reduction in low birth weight infants of between 6.7 percent and 10.8 percent related to an increase of \$1,000 in EITC income, with larger impacts for births to Black mothers.⁵⁴⁷ Other research has shown that for each \$1,000 increase in annual income over two to five years, children’s school performance improves on a variety of measures, including academic test scores.⁵⁴⁸ And an increase of \$3,000 (in 2005 dollars) in a low-income family’s income between children’s prenatal year and age 5 contributed to an average of 17 percent higher earnings as an adult compared to children whose families did not receive the additional income — helping reduce the cycle of multi-generational low-income families.⁵⁴⁹

Enacted Earned Income Tax Credits by State, 2015



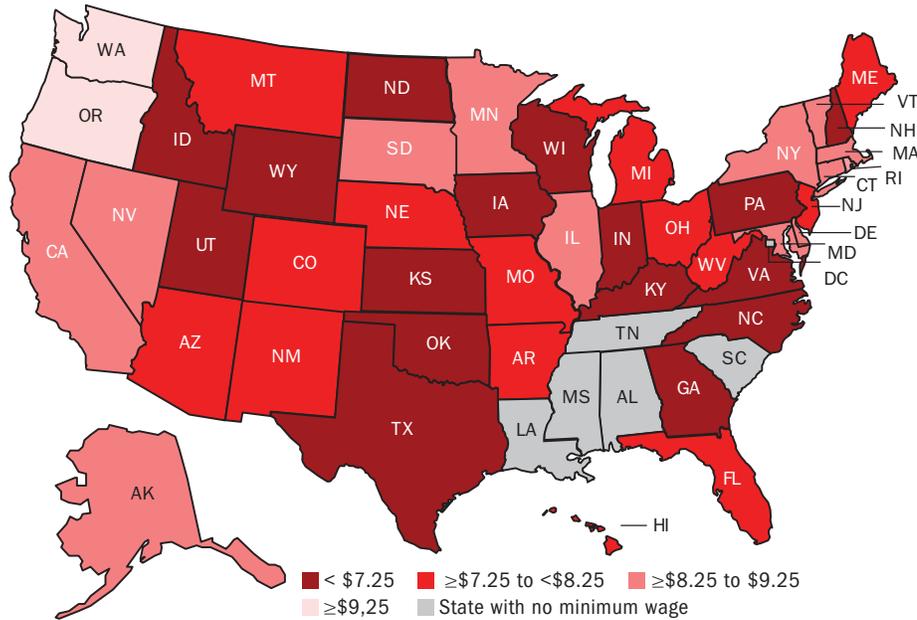
State EITCs

While 26 states and Washington, D.C. have enacted earned income tax credits — beyond the federal EITC — 23 states and Washington, D.C. have made these credits refundable. The eligibility and amounts of the state EITC initiatives vary by state.^{550, 551} State credits help leverage federal support by providing additional assistance to low-income families.

SOURCE: Center for Budget and Policy Priorities.

Minimum Wage: Another income support that is a critical piece of lifting families out of poverty is the minimum wage. The federal minimum wage is currently \$7.25 an hour, and it is not indexed for inflation.

Minimum Wage Levels by State, 2015

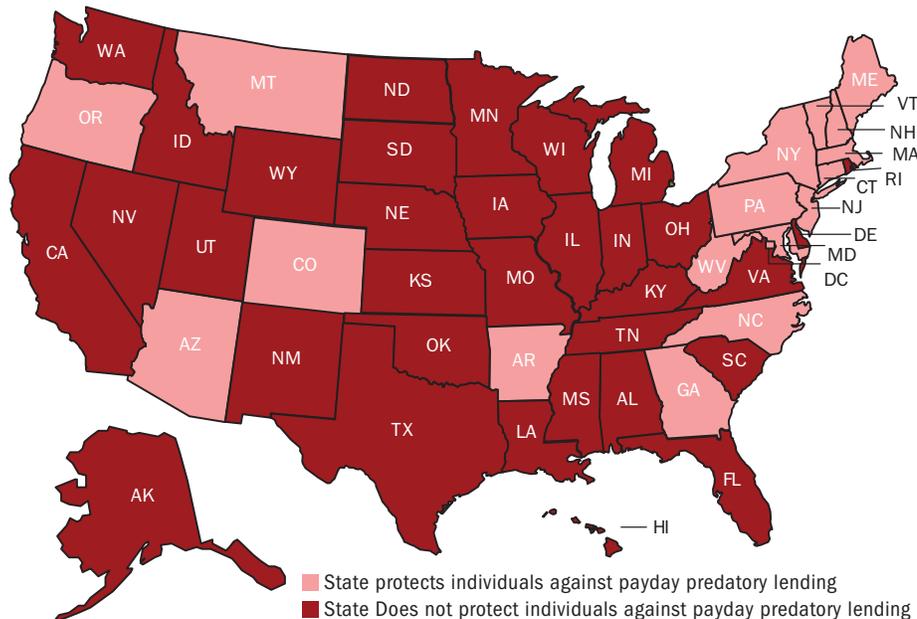


State Minimum Wage Levels

States can set minimum wages that exceed the federal minimum. Currently, 29 states and Washington, D.C. have a minimum wage above the federal minimum, and 26 states and Washington, D.C. have a minimum wage of \$8 a hour or higher.^{559, 560}

SOURCE: U.S Department of Labor, 2015.

Consumer Protection from Predatory Payday Loans



State Payday Loan Caps

Currently, 17 states and Washington, D.C. have laws in place to protect consumers from payday loans, either prohibiting them or setting loan interest rate caps (at 36 percent annual percentage rate).^{561, 562}

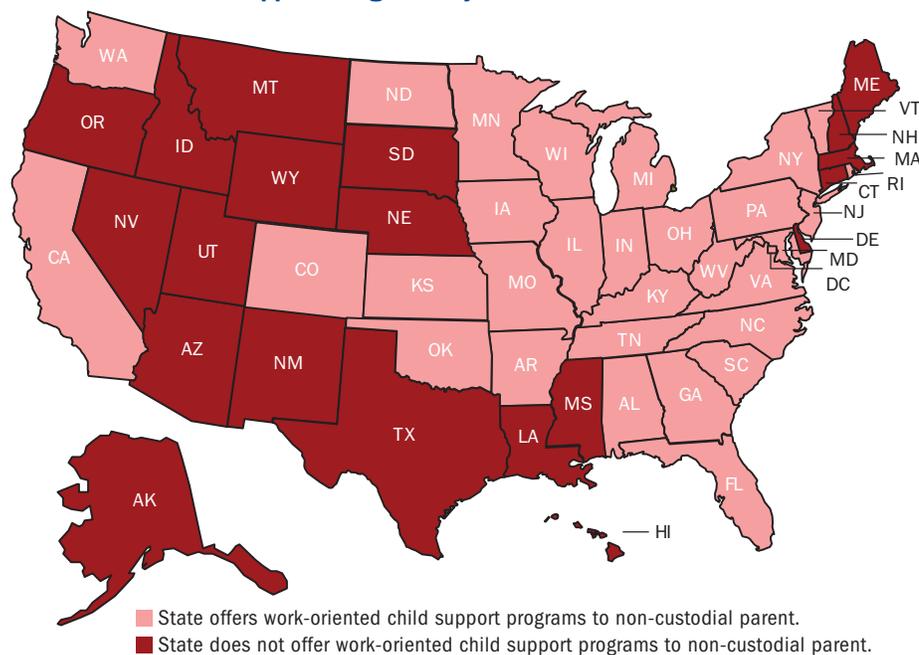
NOTE: Payday loan maximum APR caps are based on a \$250, two-week payday loan.

SOURCE: Center for Responsible Lending, 2015.

- **Unemployment Insurance** is available to many families to help fill a gap between jobs. During the Great Recession, unemployment insurance helped keep 3.5 million Americans above the poverty line in 2011, including nearly 1 million children.⁵⁶³
- **Child Support:** Around one-quarter of all U.S. children and half of children in low-income families (17.5 million children total) receive some form of child support. It has a strong impact on the financial health of families, and is one of the largest sources of income for many families. Financially, it can help keep a child and custodial parent out of poverty and gives the custodial parent more flexibility and support to be part of the

workforce. It can also promote parental responsibility and increase the involvement of the non-custodial parent in a child's life — which contributes to the emotional and developmental well-being of the child.^{564, 565} Child support has been shown to have a positive impact on child's academic achievement and cognitive development. State policies that help support realistic payment orders, debt reduction strategies and employment-focused programs for low-income noncustodial parents can help increase child support payments and positive relationships between a noncustodial parent and his or her children.

Work-Oriented Child Support Programs by State



SOURCE: National Conference of State Legislatures, 2014.

State Child Support Status

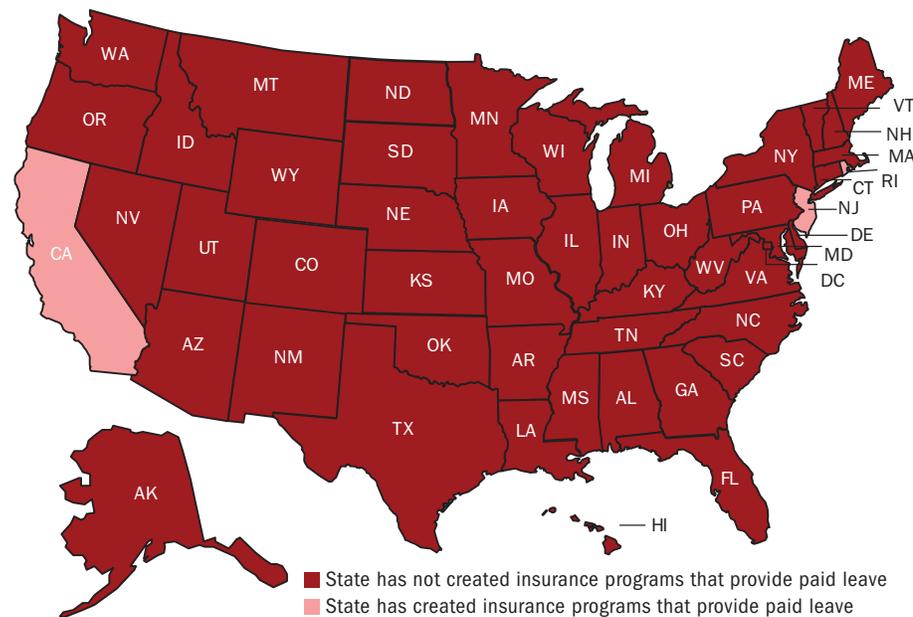
As of February 2014, 30 states and Washington, D.C. operate 77 work oriented child support programs.⁵⁶⁶ These provide assistance so the noncustodial parent can become more economically stable and able to make their support payments. Many of these programs — which are run by government, community or a combination of agencies — include employment-oriented services and may include case management, fatherhood/parenting education, job-readiness and ongoing job training, jobs search assistance and access to job developers.⁵⁶⁷ Currently, many states require that child support payments made by individuals and families on the TANF program be retained by the TANF program for cost recovery purposes.⁵⁶⁸

• **Family and Medical Leave:** Research has shown that early bonding time parents spend with infants helps improve a child’s social, emotional and cognitive development, while also improving the mental health of both the parents and the child.⁵⁶⁹ Currently, however, only around 12 percent of the U.S. workforce has access to paid family leave benefits to support time off after a child is born or during his or her first year of life.⁵⁷⁰

While the 1993 Family and Medical Leave Act (FMLA) entitles eligible employees of covered employers to take 12 work weeks of unpaid, job-protected leave within a 12 month period for specific family and medical reasons — including the birth of a child, to care for a newborn within one year of birth, for adoption or placement of a foster child or to care for a sick child or family member — 40 percent of Americans do not have jobs where they are eligible for this leave.⁵⁷¹ And of those who do qualify for FMLA, nearly half are unable to use it for financial reasons.⁵⁷² Only employers with 50 or more employees are required to meet the FMLA requirements.

Taking time off without pay to care for a newborn can add particular stress to low-income families who are already struggling without sufficient resources. In addition, this bonding time to establish a secure, stable relationship between a parent and child can be a particularly important protective factor for families at risk for toxic stress. It also encourages breastfeeding and recommended early healthcare of the child. When individuals have jobs without family leave or sick leave benefits, they struggle to get time off or have to take off work without pay or are at the risk of losing their jobs to take children to the doctor to get recommended well care (which add up to nine checkups during the year) or when they are sick. More than half of working mothers do not have paid sick days to either care for themselves or their children.⁵⁷³ Around half of states support work exemptions for mothers or fathers of newly born infants receiving TANF benefits to allow parents to take more time with their children during the first six months or year of life.⁵⁷⁴

Family and Medical Paid Leave



SOURCE: National Woman’s Law Center, 2013.

State Family and Medical Leave Programs

Only three states have created insurance programs that provide paid leave for workers — California, New Jersey and Rhode Island.⁵⁷⁵

AFFORDABLE, QUALITY CHILD CARE

More than half of American children between the ages of zero and 5 regularly spend a significant amount of time in child care not provided by a parent.⁵⁷⁶ Around 12 million children under the age of 5 are in some form of child care for an average of 36 hours a week. This includes care in private homes, center-based care or care in early childhood education programs.

Child care programs can help provide early learning opportunities for millions of young children daily, having a major impact on their development and readiness for school.

- The quality of the care can make a significant difference in a child's development — by providing safe, stable, nurturing care and early cognitive, social and emotional development opportunities. This is important for children of all socio-economic levels. However, quality care and programs have been shown to make a particular impact in the lives of lower-income children — helping to provide a buffer for adversity or toxic stress that some children may face in their home lives.^{577, 578, 579}
- The quality of child care not only impacts the social and emotional well-being of children, it enhances cognitive development — providing opportunities to expose children to positive cognitive stimulation, including reading, storytelling, art, music and physical activity. Children in higher quality early learning environments have been shown to have measurably better language, vocabulary, reading, math and applied problem solving skills. They have also been shown to have stronger executive function capabilities (the ability to organize information, pay attention, remember details and make plans) and

social skills to participate in groups, such as by learning to share and take turns and cooperate with others.⁵⁸⁰

- Studies have found children in higher quality programs go on to do better in school, are less likely to require special education services, are more likely to attend college, are more likely to earn higher wages as adults and are less likely to be involved in the criminal justice system. While the quality of child care is important for all children, it has a particularly strong impact on children from low-income families.⁵⁸¹ Children in regulated out-of-home care may have increased access to healthcare and/or received increased referrals and support to receive appropriate care.

Studies repeatedly have shown that quality child care — care that provides a loving, safe, stable and age-appropriate stimulating environment — helps children enter school ready to learn. Quality care has been shown to have an even greater impact on children from low-income families. Poor quality care — which is too often not stimulating, uncaring and is even unsafe — deprives children of the strong start they need.

Overall, child care quality varies significantly throughout the country and even within local areas. Traditionally, state and local requirements and accountability have been limited.

Financial and family considerations greatly affect child care choices of parents. Many families make decisions based on what they feel is important to them and philosophies about caring for children, particularly when the children are very young. However, for many parents, choices are heavily influenced by financial considerations. Many working parents, particularly low-income parents, struggle to afford care — and their options are limited due to affordability and logistical issues. In 2012, the cost of child care grew eight times faster than the average family income.⁵⁸²

Around 60 percent of funding for child care in the United States comes directly from parents. There are a number of federal programs that help support child care — approximately 2.6 million children receive assistance through these subsidies. Annually, more than \$10 billion in government money is spent by the states for child care.⁵⁸³

A recent IOM study found that although much is known about how children cognitively develop and learn, the early child care workforce is often not supported with appropriate, quality resources.⁵⁸⁴ IOM recommends phasing in a requirement that early child care providers have a minimum of a bachelor's degree in a related field to improve the knowledge base and competencies of early childhood development, and in turn improve the quality of care provided to children. This would help increase the professionalization of the field, support ongoing professional learning and a more cohesive workforce and drive policy changes to improve infrastructure and increase funding. ACF has launched a Career Pathways initiative for teachers, administrators and trainers/coachers working with



infants and toddlers to build their competencies and knowledge so that they can support the social, emotional and cognitive development of those children.⁵⁸⁵ The initiative offers a wide range of resources including free on-line observational tools, on-line or in-person basic trainings on infant and toddler curriculum, continuing education credits, infant and toddler credentials, and other resources.

ACF has also recently released a guideline for early child care and education settings, *Caring for Our Children's Basics: Health and Safety Foundations for Early Care and Education*, that provide minimum health and safety standards that should be considered wherever children are cared for.⁵⁸⁶ Health and safety standards range from staffing to nutrition and food services to health promotion and protection to safety measures for play areas and transportation. The standards are meant to protect children regardless of the type of early child care program they are enrolled in.

In March 2015, ACF released their *2015 to 2016 ACR Strategic Plan* to promote economic mobility and opportunities across an individual's life span — such as supporting workforce opportunities and career pathways, expanding high quality early childhood settings, having parental engagement in children's lives, and helping families build assets.⁵⁸⁷ The plan sets out five goals: promote economic, health, and social well-being for individuals, families and communities; promote healthy development and school readiness for children, especially those in low-income families; promote safety and well-being of children, youth and families; support underserved and underrepresented populations; and upgrade the capacity of ACF to make a difference for families and communities.⁵⁸⁸ The strategic plan also promotes successful integration and outcomes of the most vulnerable children and youth, including refugees, homeless and runaway youths and human traffic survivors.

HEAD START

Head Start promotes school readiness for children in low-income families by offering comprehensive educational, nutritional, health, social and other services delivered by public and private nonprofit and for-profit agencies. Head Start programs work closely with parents and schools, providing either half-day or full-day services to children. Children's school readiness is measured by an early learning framework. A minimum of 10 percent of a program's total enrollment must be children with disabilities.⁵⁸⁹

Head Start began in the summer of 1965 and has served over 30 million children.

More than 927,000 children ages zero to 5 are enrolled in the Head Start program throughout the country.^{590, 591} Head Start funding to states and territories was \$7.2 billion and \$557 million to tribes, migrant and seasonal programs in FY 2014.

Early Head Start was created in 1994 to target comprehensive services to infants, toddlers and their families through center-based, home-based and combination program options. FY 2014 funding for Early Head Start-Child Care Partnership (EHS-CCP) was \$500 million. These grants allow Early Head Start programs to partner with local child care centers and family child care providers in delivering comprehensive early learning and developmental services to infants and toddlers from low-income working families.⁵⁹² The year round, full-day programs need to meet set standards and provide opportunities for teacher professional development and parental engagement. The program supports low teacher-to-child ratios and class sizes and promotes school readiness.⁵⁹³

Nearly 90 percent of children enrolled in Head Start are also enrolled in Medicaid, CHIP or state-funded health insurance; 97 percent had a medical home; 91 percent had a dental care home provider; and 97 percent had recommended immunizations. Twelve percent of Head Start enrollees are children with disabilities (special plans under IDEA), compared to 6 percent of all preschool aged children.

In June 2015, HHS announced a Notice of Proposed Rulemaking (NPRM) for the Head Start Program Performance Standards, the first complete revision and reorganization of the Head Start's standards since originally established 40 years ago.⁵⁹⁴ The new standards are intended to improve the quality of program services, streamline current regulatory standards by eliminating unnecessary and duplicative rules and providing a roadmap of current and prospective grantees.⁵⁹⁵ Open comments closed on September 2015, and current standards will remain in effect until a final rule is issued.

In 2015, HHS also released a new version of an early learning framework, *Head Start Early Learning Outcome Framework (HSELOF)*, incorporating recent developmental research to create stimulating and foundational learning experiences for young children.⁵⁹⁶ HSELOF covers five domains — approaches to learning; social and emotion development; language and literacy; cognition; and perceptual, motor and physical development — each having set standards and developmental progressions that are measured using pre-selected indicators. HSELOF also includes information on cultural and linguistic differences and on children with disabilities.⁵⁹⁷



CHILD AND ADULT CARE FOOD PROGRAM (CACFP)

More than 3.3 million children and 120,000 adults receive nutritious meals and snacks each day as part of their day care or home-based child care via CACFP.⁵⁹⁸

CACFP currently provides two meals and one snack daily to eligible low-income children in Head Start, child care centers and family- and home-based day care, and free snacks to children and teenagers in afterschool programs where at least half of the children are eligible for free or reduced-price meals. For-profit child care centers are also eligible if at least 25 percent of their children come from families with incomes below 185 percent of the FPL.

The program regulates meal patterns and portion sizes, provides nutrition education and offers sample menus and training in meal planning and prepa-

ration to help providers comply with nutrition standards.⁵⁹⁹ The Healthy, Hunger-Free Kids Act of 2010 directed USDA to improve and better align the CACFP meal patterns with the dietary guidelines. Regulations were proposed in January 2015 to update meal and snack pattern standards, with final regulations expected in 2016.

Studies show that child care programs participating in CACFP serve meals that are nutritionally superior to those served by child care programs that do not participate in CACFP.⁶⁰⁰ Children in participating institutions have higher intake of key nutrients and fewer servings of fat and sweets than children in non-participating programs.⁶⁰¹ In addition, 87 percent of child care provided in family homes that are considered to be high quality participate in CACFP

CHILD CARE DEVELOPMENT BLOCK GRANTS

The majority of public funding for child care comes from the federal Child Care and Development Fund (CCDF) program through the Child Care and Development Block Grant, which had funding of \$6.08 billion in FY 2015. CCDBG provides funding to states, territories and tribes to provide access to child care services for low-income families and improve the quality of child care. The Child Care and Development Block Grant Act of 2014 reauthorized the program for the first time since 1996 and includes many changes, focusing on both promoting economic self-sufficiency for low-income families and supporting healthy development and school readiness of children.⁶⁰² Under CCDBG, states have the flexibility to establish income eligibility guidelines and thresholds for initial determination and redetermination of benefits, define family and income, develop parent cost-sharing or co-pay systems and determine child care provider reimbursement rates.

States may set their own threshold for which families qualify for child care subsidies. It is important to note that the subsidies are often not at a sufficient value to match the actual marketplace costs of child care for most families, or may only be sufficient to afford lower-quality options. In addition, even if a family may be eligible based on their income level, they may not be receiving services due to waiting lists for child care assistance, copayment requirements that may be too high for a

family to meet, job searching status of parents or other reasons.⁶⁰³

States may use funds provided under the TANF program and the Social Services Block Grant (SSBG or Title XX) to help families afford child care. States may transfer up to 30 percent of their TANF block grants to CCDBG or use TANF funds directly for child care. In FY 2013, states used \$2.47 billion in TANF dollars (including transfers and direct funding) for child care.⁶⁰⁴

In FY 2014, federal child care funding from CCDBG and TANF was \$7.8 billion (using FY 2013 inflation-adjusted estimate for TANF).⁶⁰⁵ This represents a significant drop from 13 years ago — FY 2001 funding was \$10.95 billion (adjusted for inflation).

The 2014 reauthorization of CCDBG included a number statutory changes focused on establishing a basic set of safety, health and quality requirements.⁶⁰⁶ This includes for states to have in place standards (appropriate to setting) that include group size limits, appropriate child-staff ratios and provider qualifications, but it does not specify the exact ratio requirements.

Additional requirements include:⁶⁰⁷

- **Health and Safety Requirements for Child Care Providers**

- Requires States to establish health and safety requirements in 10 different topic areas (e.g., prevention

of sudden infant death syndrome, first-aid and CPR).

- Child care providers serving children receiving assistance through the CCDF program must receive pre-service and ongoing training on such topics.
- Requires states to conduct criminal background checks for all child care staff members, including staff members who do not care directly for children but have unsupervised access to children, and specifies disqualifying crimes.
- Requires states to certify child care providers will comply with child abuse reporting requirements.
- Requires states to conduct pre-licensure and annual unannounced inspections of licensed CCDF providers and annual inspections of license-exempt CCDF providers.
- States must establish qualifications and training for licensing inspectors and appropriate inspector-to-provider ratios.
- Requires emergency preparedness planning and statewide disaster plans for child care.

- **Transparent Consumer and Provider Education Information**

- States must make available by electronic means, easily accessible provider-specific information showing results of monitoring and inspection reports, as well as the number of deaths, serious injuries,

and instances of substantiated child abuse that occur in child care settings each year.

- Requires states to have a website describing processes for licensing and monitoring child care providers, processes for conducting criminal background checks, and offenses that prevent individuals from being child care providers.
- Funds a national website to disseminate consumer education information that allows search by zip code and referral to local child care providers, as well as a national hotline for reporting child abuse and neglect.

● Eligibility Policies

- Establishes a 12-month eligibility re-determination period for CCDF families, regardless of changes in income (as long as income does not exceed the federal threshold of 85 percent of state median income) or temporary changes in participation in work, training, or education activities.
- Allows states the option to terminate assistance prior to re-determination if a parent loses employment, however assistance must be continued for at least 3 months to allow for job search.
- Eligibility re-determination should not require parents to unduly disrupt their employment.

- Provides for a graduated phase-out of assistance for families whose income has increased at the time of re-determination, but remains below the federal threshold.
- Requires procedures for enrollment of homeless children pending completion of documentation, and training and outreach to promote access to services for homeless families.

● Activities to Improve the Quality of Child Care

- Phases-in increase in minimum quality set-aside from 4 percent to 9 percent over a 5-year period. In addition, requires states to spend minimum of 3 percent to improve the quality of care for infants and toddlers.
- Requires states to spend quality funds on at least one of 10 specified quality activities, which include developing tiered quality rating systems and supporting statewide resource and referral services.
- Requires establishment of professional development and training requirements with ongoing annual training and progression to improve knowledge and skills of CCDF providers.
- Requires states to implement Early Learning and Development Guidelines describing what children should know and be able to do, appropriate from birth to kindergarten entry.

- Includes provisions on social-emotional health of children, including providing consumer and provider education about policies regarding expulsions of children from early care and education programs and developmental screenings for children at risk of cognitive or developmental delays.

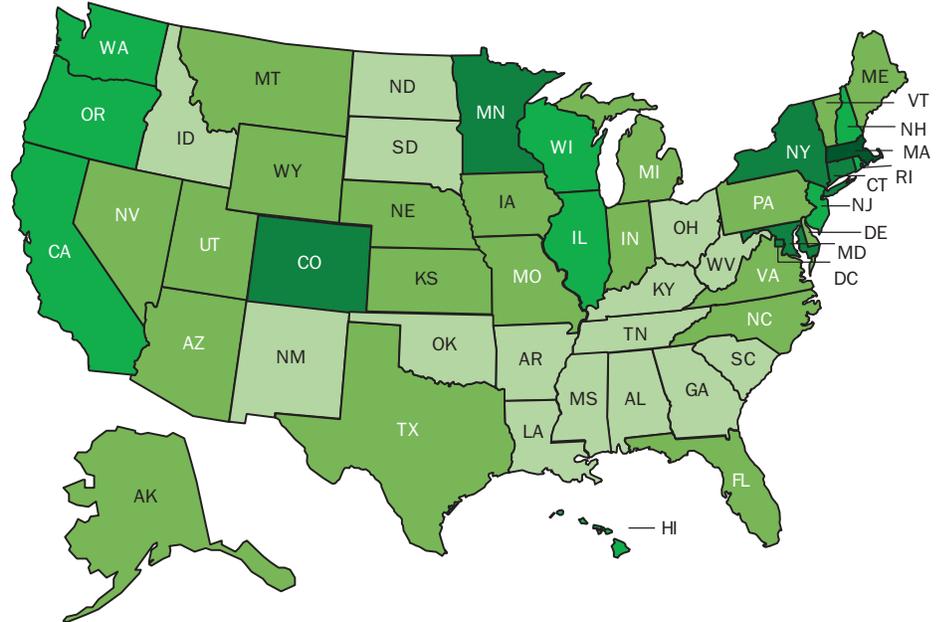
The changes, however, did not include increased resources to adopt or implement the provisions. The 2013 report card by Child Care Aware of America found that there is a significant gap between reaching these goals and the current status of child care requirements in many states. Their review of the environment of child care centers and quality of the workforce, found that no state achieved an A grade, only the Department of Defense (DoD) child care facilities achieved a B grade, 10 states achieved a C, 21 states achieved a D and 19 had a failing grade.⁶⁰⁸ In total:

- 13 states required that staff have a comprehensive background check;
- 13 states required first aid and nine states required CPR training;
- 16 states met 10 basic health and safety requirements recommended by pediatric experts;
- 20 states required provider training in learning activities; and
- 30 states required two or more inspections per year.

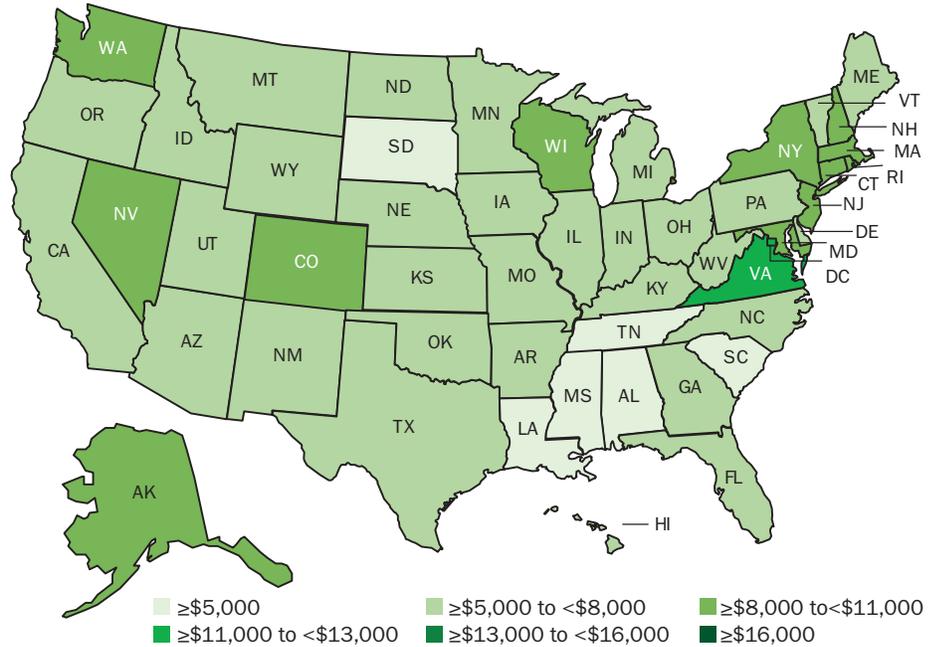
Infant Center-Based Child Care Costs By State

The average cost of full-time care for one infant in a center ranges from 7 percent to about 19 percent of the state median income for a married couple with children.⁶⁰⁹ HHS considers 10 percent of family income for child care as a benchmark for affordable care. The average annual cost of full-time care for an infant in center-based care ranges from \$5,496 in Mississippi to \$21,948 in Washington, D.C. For an infant in a family child care home the cost ranges from \$4,560 in Mississippi to \$15,240 in Washington, D.C.⁶¹⁰

Infant Center-Based Child Care Average Annual Cost by State, 2013



Infant Family-Based Child Care Average Annual Cost by State, 2013



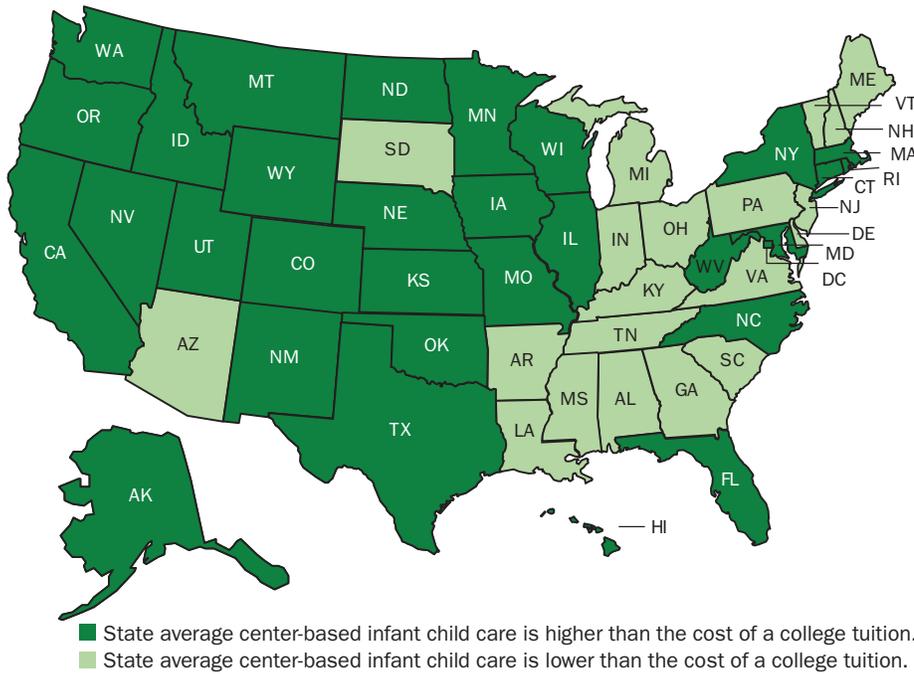
≥\$5,000
 ≥\$5,000 to <\$8,000
 ≥\$8,000 to <\$11,000
 ≥\$11,000 to <\$13,000
 ≥\$13,000 to <\$16,000
 ≥\$16,000

SOURCE: Child Care Aware, 2014.

Infant Average Annual Center-Based Child Care Cost versus Four-Year Public College Tuition, 2013

Average Annual Center-Based Infant Child Care Higher than Four-Year Public College Tuition

In 30 states and Washington, D.C., the average annual cost for center-based infant care exceeded a year's in-state tuition and related fees at a four-year public college.⁶¹¹



NOTE: State percent differences: AK (74.7%), CA (28.7%), CO (44.5%), CT (29.7%), D.C. (202.0%), FL (32.2%), HI (29.1%), ID (2.5%), IL (0.1%), IA (17.1%), KS (39.6%), MD (64.0%), MA (53.3%), MN (33.7%), MO (7.9%), MT (42.6%), NC (39.8%), ND (8.3%), NE (24.4%), NV (58.1%), NM (25.7%), NY (109.7%), OK (17.6%), OR (28.7%), RI (15.2%), TX (1.1%), UT (36.3%), WA (14.1%), WV (24.8%), WI (29.8%) and WY (109.7%).

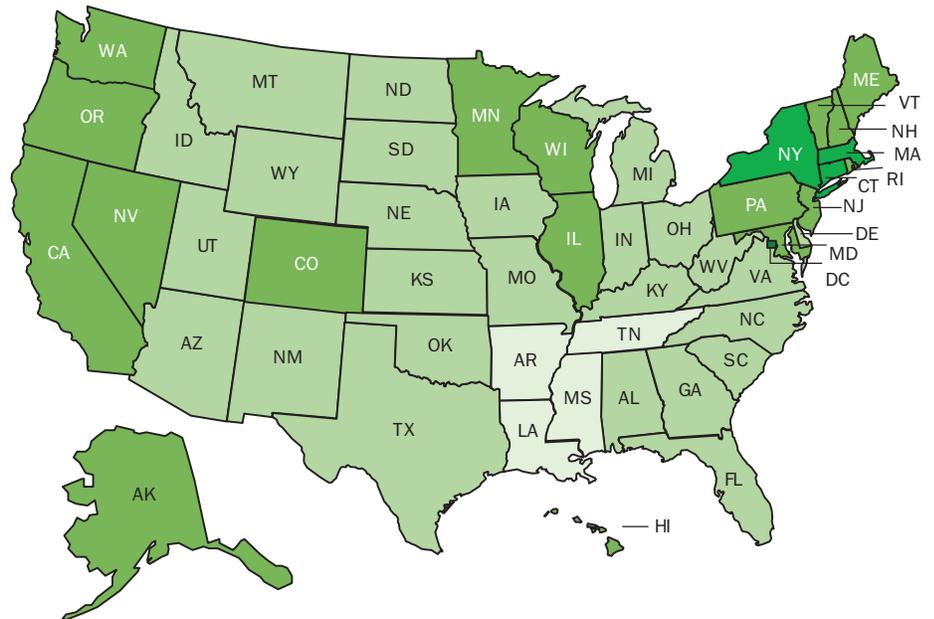
SOURCE: Child Care Aware, 2014.

Center-Based Child Care Costs for 4-Year-olds By State

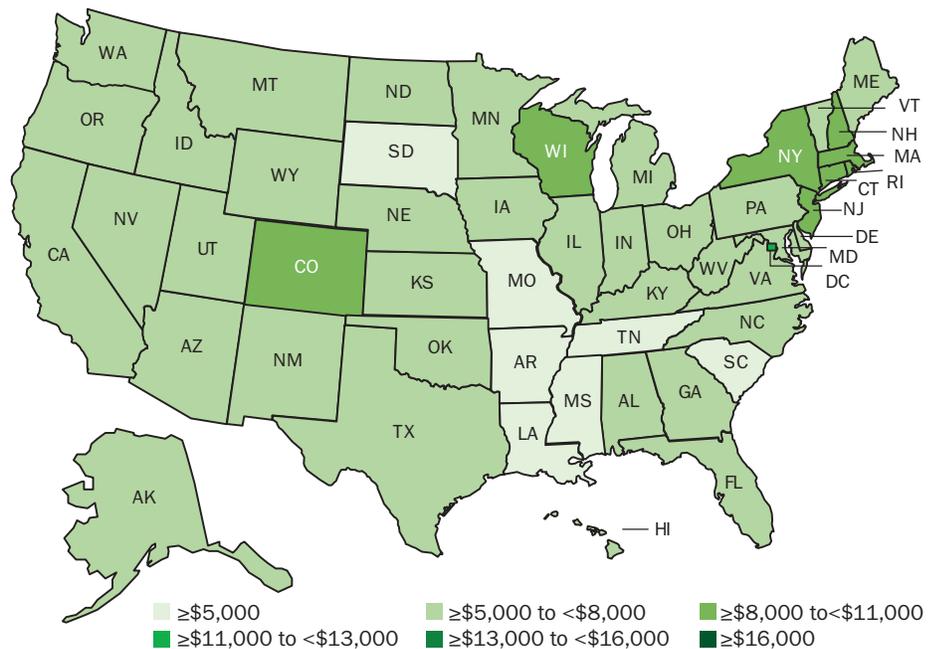
For a 4-year-old, center-based care ranges from \$4,515 in Tennessee to \$17,304 in Washington, D.C., annually. Care in a family child care home for a 4-year-old ranges from \$4,039 in South Carolina to \$12,012 in Washington, D.C., annually.⁶¹²

- Child care subsidy receipt has been positively associated with the use of licensed/regulating, and particularly center-based care.⁶¹³
- Low-income parents who receive a child care subsidy have a higher probability of being employed and have a shorter transition from welfare to work than those who do not receive a subsidy.⁶¹⁴

4-Year-Old Center-Based Child Care Average Annual Cost by State, 2013

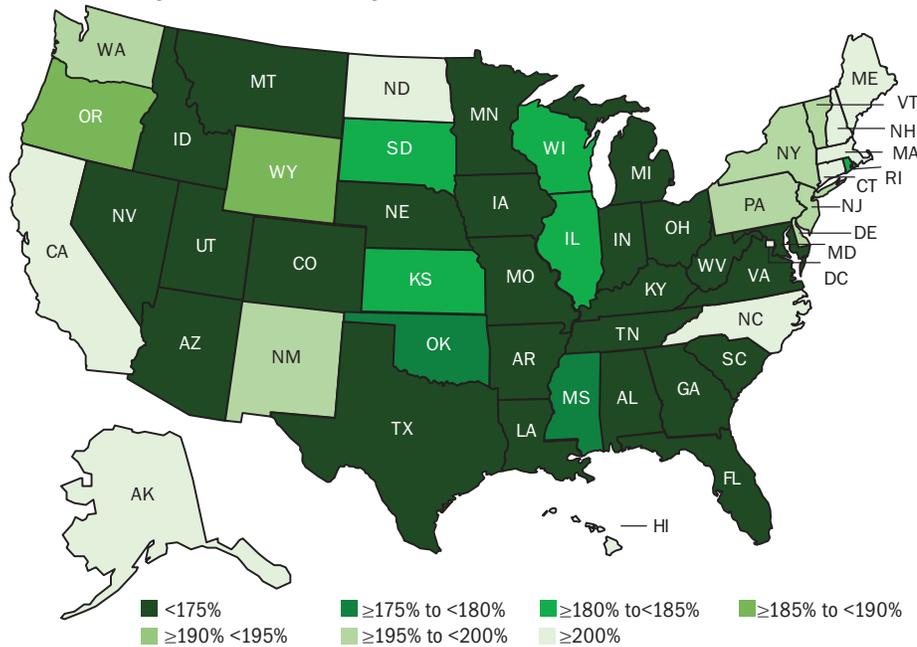


4-Year-Old Family-Based Child Care Average Annual Cost by State, 2013



SOURCE: Child Care Aware, 2014.

Family Assistance — Income Eligibility Levels above 175 Percent of the Federal Poverty Level for a Family of Three

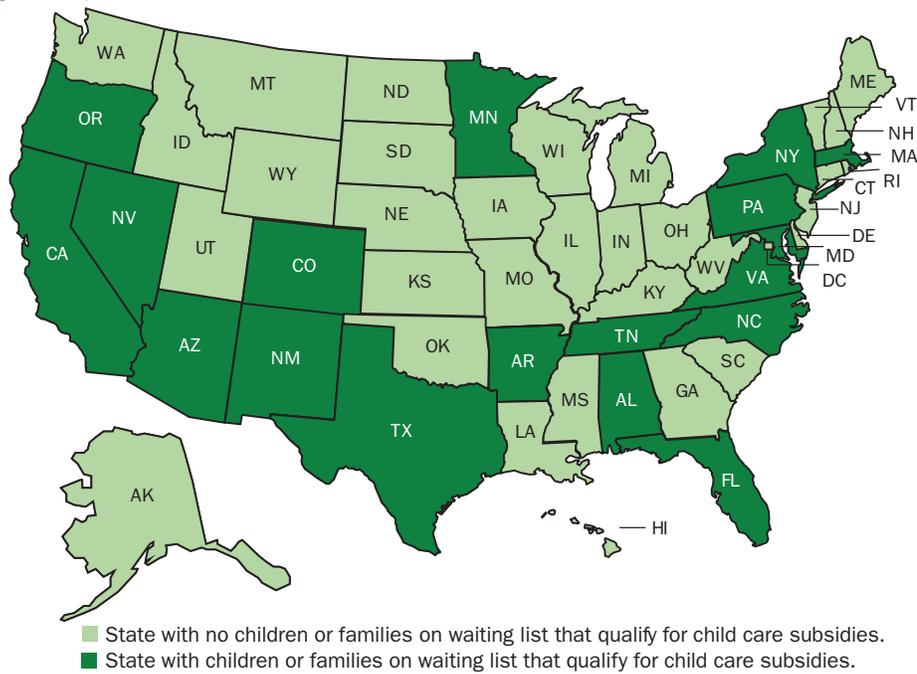


SOURCE: National Women's Law Center, 2014.

Child Care Subsidy Eligibility by Income

Each state can set the income eligibility level for families to qualify for child care assistance. Twenty-five states and Washington, D.C. have eligibility levels above 175 percent of the federal poverty level for a family of three.⁶¹⁵

Children or Families Qualifying for Child Care Subsidies on a Waiting List by State, 2014



NOTE: Number of children or families on waiting lists as of early 2014: AL (8,394); AZ (6,366); AR (2,514); CA (at local level); CO (12); FL (37,867); MD (1,643); MA (40,047); MN (7,973); NC (20,162); NM (259); NV (653); NY (at local level); OR (1,980); PA (2,651); TN (unknown); TX (16,470) and VA (7,786).

SOURCE: National Women's Law Center, 2014.

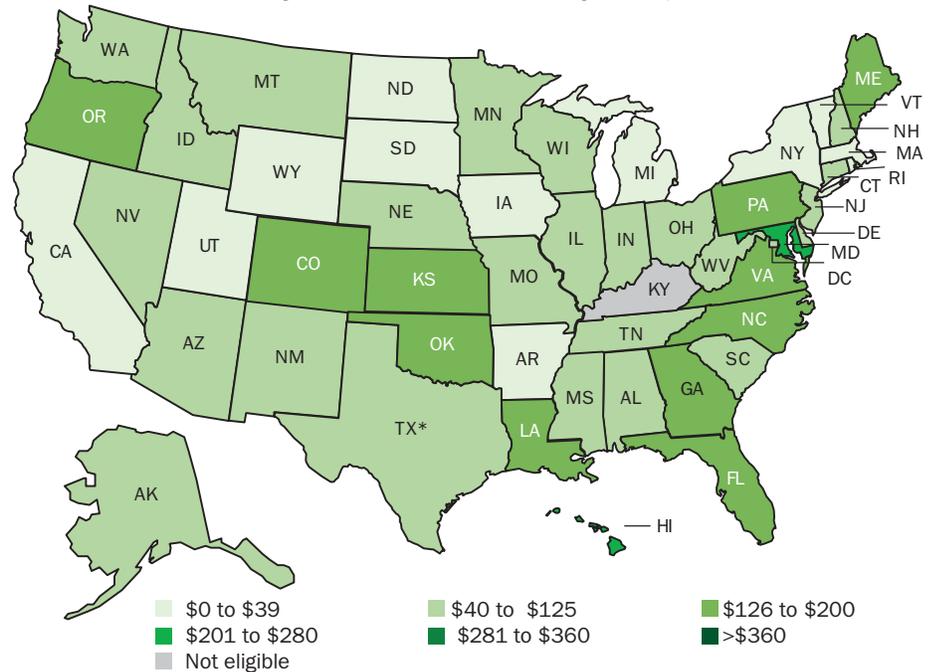
Frozen Intake of Families Qualifying for Child Care Subsidies

Eighteen states had waiting lists or frozen intake for state child care services in 2014.⁶¹⁶

Child Care Co-Payment Requirements

States vary significantly in the amount of co-payment required. In 17 states, the copayment for a family of three at 100 percent of poverty was above \$119 per month (7.2 percent of income) in 2014.⁶¹⁷ In addition, many families with incomes too low to afford child care on their own do not qualify to receive child care assistance under their state's eligibility limits.

Parent Co-Payment for Child Care Assistance — Family of Three with an Income at 100 Percent of Poverty and One Child in Care by State, 2014



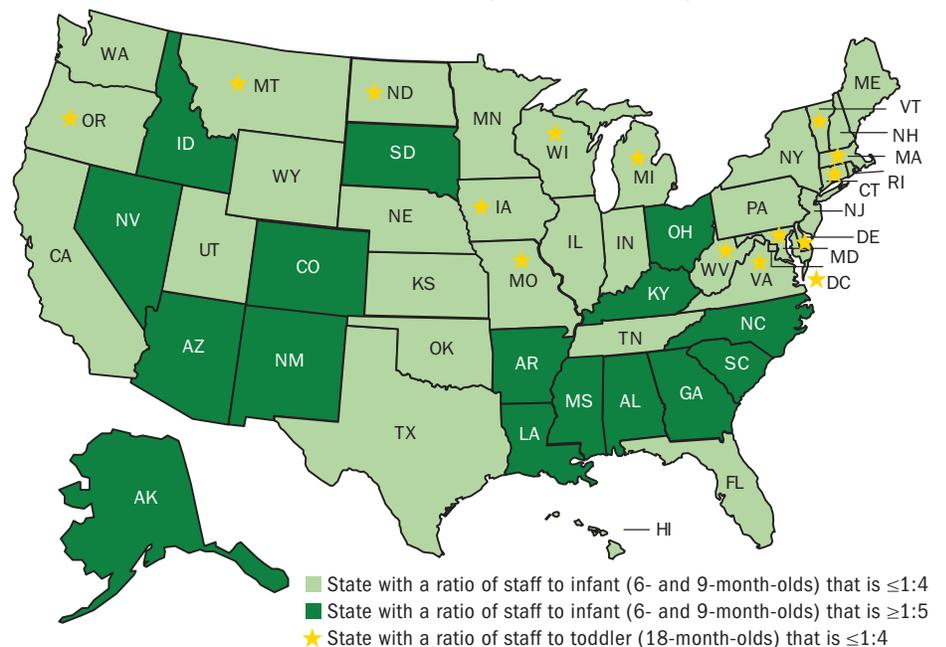
NOTE: *Texas ranges from \$75 to \$180.

SOURCE: National Women's Law Center, 2014.

Child Care Quality: Provider Ratios

Thirty-four states, Washington, D.C. and the Department of Defense met the National Association for the Education of Youth Children (NAEYC) recommended ratio for infants of ages 6- and 9-month-olds (1:3 to 1:4), and 13 states and Washington, D.C. meet the NAEYC accreditation standards for staff:child ratios for toddlers (of 1:3 to 1:4 for 18-month-olds).⁶¹⁸ One of the most important determinants in the quality of the experience children have in child care and early childhood programs is the staff:child ratio. Some key reasons include being able to monitor health and safety risks; promoting healthy practices; improved rates of secure attachments, positive interactions and engagement in beneficial activities; more individualized attention that is stimulating, responsive, warm and supportive, as well as more verbal interaction and educational activities; ability to better monitor behavior and less time needed to address behavior issues; and fewer incidents of child abuse.⁶¹⁹

Child Care Centers, Staff to Child Ratios by State — Quality Care



NOTE: The ratio of 1:4 meets the NAEYC accreditation standards for infants and toddlers. State with no star did not meet the standard staff to toddler ratio of 1:4. DoD child care centers met the NAEYC accreditation standards for infants only.

SOURCE: Child Care Aware, 2013.

HOME-BASED CHILD CARE

Care provided by friends, families and neighbors in private homes is the most common form of child care (estimates range from one-third to one-half of child care) and is typically unlicensed and unregulated. Infants and toddlers living

below the poverty line are more likely to be cared for by relatives than other children.⁶²⁰ Very limited information is available about the quality of licensed home-based day care. A review of existing research conducted by HHS found that often the

environments are relatively safe and that caregivers are affectionate and responsive, but little time is spent on learning activities, such as reading or higher-level talk and engagement with children and there can be high levels of screen or TV time.⁶²¹

CHILD CARE ASSISTANCE: TAX PROVISIONS

In addition to subsidies, there are some tax provisions and other programs aimed at helping make child care more affordable. Many of these benefit families with sufficient income levels to pay the upfront cost of care and/or can afford withholdings.

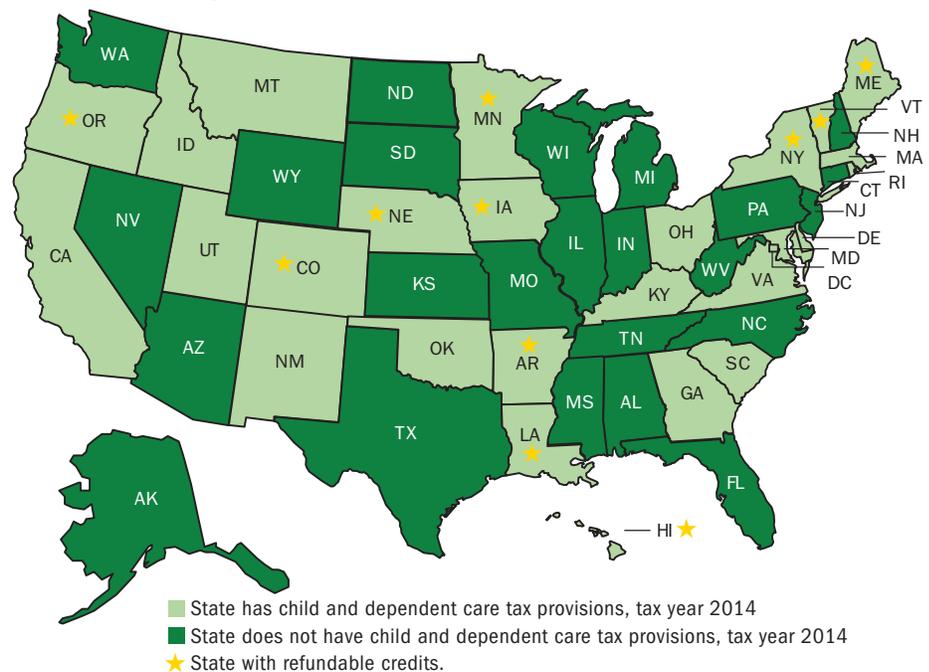
- Exemptions for Dependents:** Regardless of income, parents may deduct \$3,950 for every child dependent under age 19 (or up to age 24 if a child is a full time student) from their taxable income;
- Child and Dependent Care (CADC) Tax Credit:** Provides taxpayers up to \$3,000 for one child and \$6,000 for two or more dependent children. It not only helps low- and moderate-income families but extends to middle-income and many upper-middle-income families. CADC is not refundable in all states and it is not indexed to inflation to reflect higher costs of child care or the changes in average salary levels over time, however it is effective in assisting families with child care cost.

State CADCs:

Twenty-six states and Washington, D.C. also have some form of CADC, which vary in the amount.⁶²² Eleven of these states offer refundable credits — which helps low-income families benefit from the credit.

- The Child and Dependent Care Tax Credit:** A federal tax provision where families can claim up to \$3,000 in dependent care expenses for one child/dependent and

State Child and Dependent Care Tax Provisions, Tax Year 2014



SOURCE: National Women's Law Center, 2014.

\$6,000 for two children/dependents per year — including expenses for afterschool programs and qualifying day camps — for children under the age of 13. The credit is worth between 20 percent and 35 percent of these expenses, depending on a family's income. Eligible families with adjusted gross income (AGI) of \$15,000 or less can claim 35 percent of these expenses for a maximum potential credit of \$2,100. The percentage of expenses a family can claim steadily decreases as income rises, until families with AGI of \$43,000 or more

reach the minimum claim rate of 20 percent, qualifying for a maximum potential credit of \$1,200.⁶²³

- Dependent Care Flexible Spending Accounts:** Parents whose employers offer dependent care flexible spending accounts can set aside up to \$5,000 in pretax earnings each year to spend on child care of dependent children younger than age 13. Contributions are deducted from the parent's paycheck prior to federal, state and social security tax.

QUALITY RATING AND IMPROVEMENT SYSTEMS (QRIS)

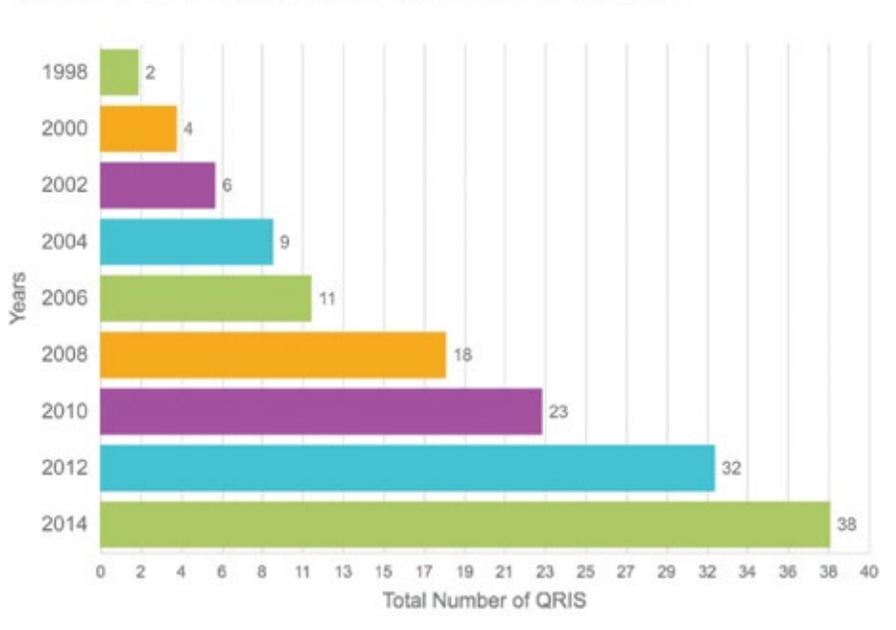
Since the late 1990s, a number of states have adopted Quality Rating and Improvement Systems to help address the quality of child care.

These systems provide a framework for improving child care by making program quality comparable across the field; creating and aligning program standards with early learning and practitioner standards; developing and aligning infrastructure to support quality improvement; and assessing achievement along a continuum.⁶²⁴

Thirty-nine states and Washington, D.C. have adopted a QRIS framework, which is a first step, but systems differ significantly in their level of funding support and implementation status.⁶²⁵

According to an analysis by the Build Initiative and Child Trends, in 2014, the most common areas of quality assessed in QRIS are (1) Environment, (2) Staff Qualifications and Training, (3) Program Administration, Management and Leadership, and (4) Family Partnerships and Engagement.⁶²⁶ Quality indicators in these content categories are integrated into at least 85 percent of QRIS. All QRIS include indicators related to Staff Qualifications and Training and almost all (93 percent) incorporate indicators related to the Environment. An increasing number of states are measuring more curriculum-related indicators, such as requiring staff training on curriculum and demonstrating that the curriculum is aligned with state Early Learning Guidelines. There were also increases in Community Involvement and Provisions for Children with Special Needs indicator categories.

What is the pace of QRIS growth over the past 15 years?



THE MOST COMMON AREAS OF QUALITY ASSESSED BY QRIS:
% of Systems with Indicator Categories in 2014

Indicators	2014
Ratio and Group Size	60%
Health and Safety	63%
Curriculum	78%
Child Assessment	55%
Environment	93%
Interactions^^	48%
Staff Qualifications and Training	100%
Program Administration, Management, and Leadership	85%
Accreditation	53%
Family Partnerships and Engagement	93%
Cultural and Linguistic Diversity	33%
Community Involvement	40%
Provisions for Children with Special Needs	50%
Continuous Quality Improvement^^	50%

Source: *The Build Initiative and Child Trends*

EDUCARE⁶²⁷

Educare, which serves at-risk children from birth to 5 years, provides programs to help children develop important skills and resources for the community to support strong parent-child relationships. Educare is many things for a community: a program for early childhood education; a place for learning; a partnership with philanthropists, Head Start and Early Head Start providers and school officials; and a platform for raising awareness about the importance of early childhood learning. According to the Frank Porter Graham Child Development Institute at the University of North Carolina, low-income infants or toddlers (including those with limited English proficiency) who enroll in Educare possess the same skills as their middle-income peers when they enter kindergarten. In addition, research has demonstrated that Educare children have more extensive vocabularies than their peers and develop important social skills (self-confidence, persistence and methods to manage frustration), which are predictors for future academic success. When looking at 12 Educare Schools (Central Maine, Chicago, Denver, Kansas City, Miami, Milwaukee, Oklahoma City, Omaha at Indian Hill, Omaha at Kellom, Seattle, Tulsa at Hawthorne, and Tulsa at Kendall-Whittier) researchers found that, the more years of Educare, the better prepared young children are for school.

Nutrition Improvement in Child Care: Maryland, Texas and California Examples

Maryland requires all child care providers, including home-based care, to follow CACFP nutrition guidelines and additional nutrition standards, including 1) making water available inside and outside; 2) serving skim or one percent milk to children over 2; 3) serving whole milk to 1- to 2-year-olds who are not on breast milk or formula, or 2 percent milk to those at risk for obesity or hypercholesterolemia; and 4) developing a plan for introducing age-appropriate solid foods. Maryland's success in implementing the guidelines has been attributed to its collaborative work and to its regular dissemination of information and resources to child care providers across the state. The state's education and health departments work together in partnership with outside organizations and local child care resource and referral agencies.⁶²⁸

The Texas Farm to Child Care program's goal is to improve the health and nutrition of children in child care and early education settings by encouraging the purchase of local produce. In 2010, USDA's Food and Nutrition Service awarded \$1 million in CACFP grants to the Texas Department of Agriculture. A portion of the grant was

used to establish Farm to Child Care initiatives in centers and home-based day care across the state. The grants were used to establish connections with local growers and farmers, to develop direct purchasing relationships to buy local fruits and vegetables for CACFP snacks and meals and to sustain change in child care settings. The initiative reached 292 child care centers and day care homes serving more than 14,000 preschool children and their parents or guardians. Caregivers partnered with parents to bring some of the same lessons being taught in school to homes — such as teaching children and parents how to start their own gardens so they could serve more fruits and vegetables.⁶²⁹

California's CACFP has created a recognition program called Preschools Shaping Healthy Impressions through Nutrition and Exercise (SHINE). An early child care facility can become a Preschools SHINE site if they require online training, attend training forums, conduct self-assessments of their environments and develop policies and practices related to enhanced nutrition standards, mealtime environments, classroom nutrition education, edible gardens, physical activity, wellness policies, professional development, partnerships and leadership teams.⁶³⁰

EARLY CHILDHOOD EDUCATION

Early education programs can help serve as an important transition point for children ages 3 and older.

Research shows that rich learning experiences in early childhood years can serve as a protective factor, particularly for children encountering adversity, and that quality programs can help improve short- and long-term outcomes for a child's health and health-related behavior (such as smoking and substance use); cognitive, social-emotional and behavioral development; and educational achievement.^{631, 632}

- According to research by James Heckman, Ph.D., Nobel Laureate in Economics, quality early childhood education has been shown to provide a 7 percent to 10 percent per year return on investment based on increased school and career achievement and reduced costs in remedial education, health and criminal justice system expenditures.⁶³³ Another analysis by Dr. Heckman, which used the Carolina Abecedarian Project — one of the oldest early childhood interventions with long-term follow-up and randomized evaluation — found that disadvantaged children randomly assigned to treatment between ages 0 and 5 have significantly lower prevalence of risk factors for cardiovascular and metabolic diseases in their mid-30s.⁶³⁴
- Studies demonstrate that Head Start and Early Head Start help improve the health of the children and families they serve. Recent research reports that the mortality rates for 5- to 9-year-old children who had attended Head Start are 33 to 50 percent lower than the rates for comparable children

who were not enrolled in Head Start. A higher proportion of parents with 3-year-old children in Head Start reported that their child was either in excellent or very good health as compared with those parents who did not have children enrolled in Head Start. Head Start can help reduce childhood obesity, and Head Start children are at least eight percentage points more likely to have had their immunizations than those children who did not attend preschool. Parents who participate in Head Start are found to have greater quality of life satisfaction; increased confidence in coping skills; and decreased feelings of anxiety, depression, and sickness.⁶³⁵

- Early Head Start and Head Start enrolled just about 4 percent of eligible infants and toddlers and 41 percent of eligible 3- and 4-year-olds on any given day in 2012.⁶³⁶
- Estimates for the long-term payback of a non-targeted voluntary, universal preschool program range from \$2 to \$4 for every dollar spent.⁶³⁷

Many of the most effective evidence-based early education programs focus on developing collaborations between the family and school — and help children learn prosocial behavior by using role-play, guided play sessions and small group practice strategies.

- More than 360,000 4-year-olds are enrolled in Head Start programs.^{638, 639}
- Nearly 1.3 million — 32.4 percent — of 4-year-olds are enrolled in state-funded pre-kindergarten (pre-K)

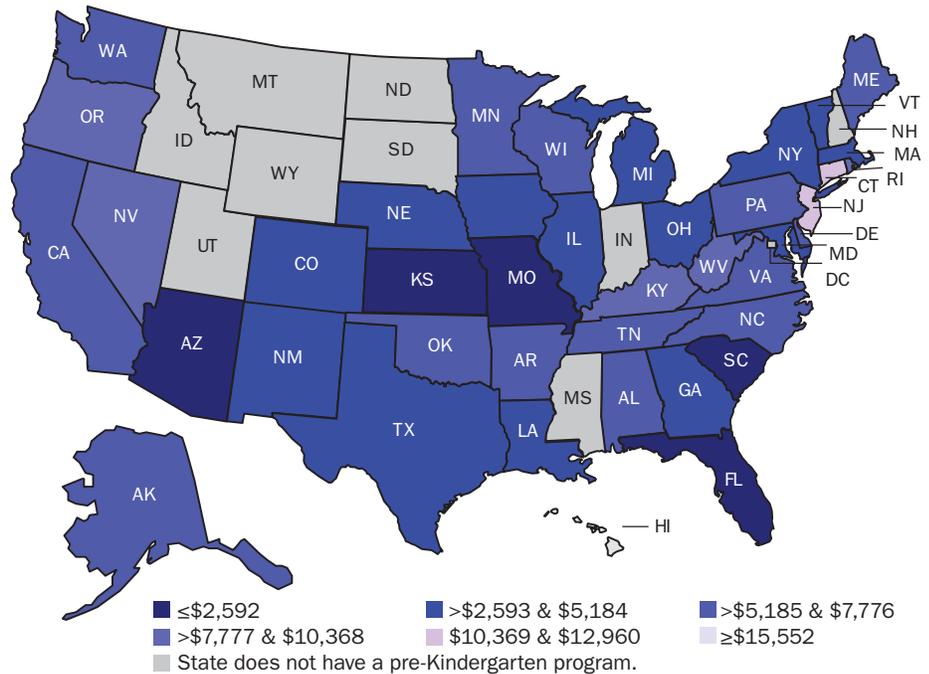
programs — and more than 294,000 3-year-olds are enrolled in state pre-K programs. Forty states and Washington, D.C. offer some form of pre-K program, spending \$5.56 billion from FY 2013 to FY 2014 (not including special education funds). The programs vary significantly by state — including by how much funding they receive, how they are funded, which education standards they must meet, how many hours and days of the week children can attend, which families are eligible to enroll their children and the age at which children can be enrolled.

It is important to establish high quality standards for all early education programs. Research shows positive benefits for all children in high-quality, intensive early childhood education programs and harmful effects of inferior-quality care. These effects — both positive and negative — are magnified for children from disadvantaged situations or with special needs. High-quality, intensive early childhood education programs for low-income children have led to lasting positive effects such as greater school success, higher graduation rates, lower juvenile crime, decreased need for special education services and lower adolescent pregnancy rates, while inferior-quality care, can have harmful effects on language, social development and school performance that are more difficult to ameliorate.⁶⁴⁰ Children who received high quality care in the first few years of life scored higher in measures of academic and cognitive achievement

Funding for Early Childhood Education program by state

Of the 40 states and Washington, D.C. that fund programs, ECE spending ranges from a high of \$16,853 per child in Washington, D.C. to a low of \$1,300 per child in South Carolina as of 2013.⁶⁴⁹ Child care cost ranged dramatically by state.

Early Childhood Education Funding by State

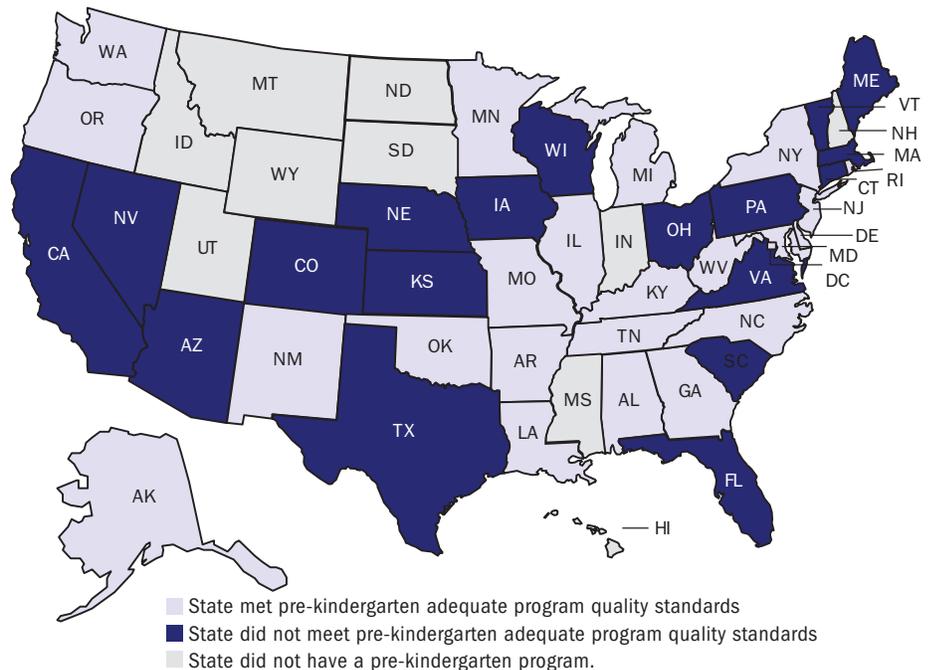


SOURCE: National Institute for Early Education Research, 2013.

Quality Rating of the ECE Programs by State

NIEER has issued a list of 10 quality benchmarks for pre-K programs. They include comprehensive early learning standards; a requirement that teachers/providers have a Bachelor of Arts degree; teacher training specialized in pre-K; a Child Development Associate (CDA) credential or equivalent for assistant teachers; at least 15 hours of teacher in-service training; class size of 20 or lower; a staff-child ratio of 1:10 or better; provision of vision, hearing and health screenings and at least one support service; at least one meal per day; and site visits at least every five years.⁶⁵⁰ The quality rating in states ranged from 2 in Texas to 10 in Alabama, Arkansas, North Carolina and Rhode Island in 2013.

Early Childhood Education Comprehensive Quality Standards by State



SOURCE: National Institute for Early Education Research, 2013.

CASE STUDIES

Carolina Abecedarian Project⁶⁵¹

The Carolina Abecedarian Project included 107 infants in North Carolina born between 1972 and 1977. The goal of the project was to discern what benefits, if any, early childhood education had for poor children. The study separated the children into control and education intervention groups, with

those in the early education intervention group receiving educational intervention in a childcare setting from infancy through age 5 and a prescription for educational activities. They also participated in activities that were geared toward social, emotional and cognitive development. Progress was monitored

over time and specifically at ages 12, 15 and 21. Studies of the project found that early intervention children had higher cognitive test scores, completed more years of education, were more likely to attend a four-year college and, among other things, were older, on average, when their first child was born.

The British Cohort Survey⁶⁵²

The 1970 British Cohort Study (BCS70) follows the lives of more than 17,000 people born in England, Scotland and Wales in a single week of 1970. The original intent of the project was to determine any causes for developmental challenges in children. Over the last 40 years, BCS70 has collected information on health, development and economic circumstances and have con-

ducted data updates at ages 5, 10, 16, 26, 30, 34, 38 and 42. In a recent study on early childhood development, researchers used information from the cohort updates in 1980 and 2000 to ascertain how early education could affect healthy behaviors. By looking at these surveys, they found that acquiring skills early in life contributed to continuing education and improved career

success and health. In addition, they found that more educated individuals are more likely to work full-time, earn higher wages and exercise regularly and less likely to be obese, smoke daily, be in poor health and suffer from depression. These results lead researchers to suggest that investment in early childhood development can improve character and cognitive skills and health.

Good Behavior Game⁶⁵³

The Good Behavior Game (GBG), a classroom-based, teacher-led behavior management strategy used mostly in Baltimore public schools, was created to help reduce aggressive behavior in students in the early elementary grades by rewarding good behavior. In the GBG, teachers decide the duration of the game, define which negative behaviors (such as leaving one's seat, talking out and being disruptive) will be scored and set a threshold for winning. At the end of the

game, a person or team wins if they have not exceeded the level of poor behavior. Depending on the grade level, rewards are given out immediately following the game or at the end of the day. According to several studies, GBG has shown success, for example:

- Children who took part showed a decrease in ADHD problems over time, while children who were not involved in GBG showed an increase in such problems over time.

- Male students with higher levels of aggressive behavior showed promising results over time by decreasing aggressive behavior from third grade up to the transition to middle school.
- Males in the program were less likely to smoke tobacco after the age of ten than those in the control group.

Hawaii Health Matters — Positive Action⁶⁵⁴

Positive Action works with the entire community to help teach children positive actions by demonstrating how well kids feel when they do something good. The program includes scripted lessons—that span grade levels—on self-concept; positive actions for body and mind; managing yourself responsibly; treating

others the way you like to be treated; telling yourself the truth; and improving yourself. By working with the web of networks surrounding a child (teachers, support staff, administrators, families and community members), Positive Action has been successful in improving academics and attendance rates and reduc-

ing drug use, violence and other poor behaviors. In Hawaii, schools that implemented the program did 20.7 percent better in Hawai'i Content and Performance Standards for reading and 51.4 percent better in math. Positive Action also resulted in 15.2 percent lower absenteeism and fewer suspensions.

Linking the Interests of Families and Teachers⁶⁵⁵

Linking the Interests of Families and Teachers (LIFT), a 10-week school-level program that seeks to improve social skills and decrease poor behavior, was developed by the Oregon Social Learning Center in 1991. LIFT's major program components include: classroom-based problem-solving and social skills training; playground-based behavior

modification; and parent training to improve child disciplining and monitoring. And, during the program, instructors meet students in a classroom for one hour, twice a week to improve social skills. After the program, participant families showed greater improvements in problem-solving and conflict resolution skills than families not involved. LIFT has

also been shown to decrease problem behaviors and improve social assertiveness, self-efficacy and initiative in children. And, studies indicate that LIFT participants demonstrate lower levels of adolescent aggression and that, over three years after they finish, were less likely to show an increase in severity in teacher-reported problem behaviors.

Schools and Homes in Partnership⁶⁵⁶

Schools and Homes in Partnership (SHIP) helps children in the first through fourth grades—who are at risk for academic failure—with reading and behavioral problems. To do so, SHIP focuses on social behavior interventions; parent training; and additional reading instruction, sometimes at home. The social behavior portion fea-

tures 30 sessions in three phases led by a consultant, then teacher and then teachers and parents, who reinforce positive behaviors. The parent training aspect consists of 10 examples that illustrate good parenting and focus on appropriate play, how to praise, setting limits and other important interactions. To improve reading,

SHIP includes two reading programs that “teach phonemic awareness, sound-letter correspondence, blending, and other skills related to successful reading development.” In Oregon, SHIP has been shown to decrease poor social interactions, improve reading and reduce antisocial behavior.

Seattle Social Development Project⁶⁵⁷

The Seattle Social Development Program (SSDP) trains teachers to proactively manage their classrooms and offers training to parents to improve their child's behavior, academics and skills. SSDP interventions help children with problem solving and, in so doing, reduce risks and promote healthy behaviors and positive development. In 1981, SSDP began by assigning first graders in five schools to intervention or control classrooms. Each year, through

sixth grade, parents and teachers in the program learned how to better engage children, strengthen their relationship bonds and encourage positive behavior. The original participants and their parents were interviewed regularly since 1985. Evaluation studies of SSDP have found the program to decrease problem behaviors (aggression, violence, drug use, delinquency and others). For example, female participants exhibited a reduced likelihood

of becoming pregnant and experiencing a birth by 21 and, among all participants, condom use increased. Also, African Americans in the full-intervention group “predicted a reduced probability of contracting a sexually transmitted disease by age 21.” In total, the SSDP returns \$3,268 per participant in reduced taxpayer costs and costs to crime victims, according to an independent cost-benefit analysis.

Promoting Alternative THinking Strategies & the Fast Track Prevention Project⁶⁵⁸

Promoting Alternative THinking Strategies (PATHS) is a classroom-based curriculum aimed at improving emotional and social competencies and reducing bad behavior in elementary school-aged children. The PATHS curriculum provides teachers with materials and detailed instructions to teach students emotional literacy, self-control, social competence, positive peer relations and problem-solving skills. Some sample lessons

include instruction in identifying and labeling feelings, expressing feelings, assessing the intensity of feelings and managing feelings. The Fast Track prevention project is a 10 year long program for high-risk children and adolescents beginning in first grade. The program includes PATHS curriculum, tutoring, home visits, group skills training, mentoring and other individualized services. Beginning in fourth grade, a one-on-one adult mentoring

program is added. Based on parent reported data from Durham, North Carolina, Nashville, Tennessee, Seattle, Washington and rural central Pennsylvania, Fast Track children significantly reduced their use of general health, pediatric and emergency department services compared with the control group, while control group children were 56 percent more likely to use general health services for mental health purposes.

Child-Parent Center Program⁶⁵⁹

The Child-Parent Center (CPC) program in the Chicago Public Schools System provides services (mostly educational and family support) to preschoolers and parents who reside in low-income neighborhoods. The program helps parents become active and consistent participants in their child's education by requiring them to spend 2.5 hours a week working on the program and one half day per week volunteering at the CPC. The CPC uses the Creative Curriculum, which helps children develop confidence, creativity

and critical thinking skills. In addition to the parent, the program is administered by a team consisting of a teacher, parent resource teacher (who creates an involvement plan for parents designed around their needs and interests) and a school-community representative, who conducts home visits and connects families with community and social services. By using small class sizes (the average teacher-to-child ratio is 1 to 8), there are more opportunities for child-centered approaches which improve

language and cognitive development. In the 2011 issue of Child Development, researchers found that the CPC provided a total return on investment of \$10.83 per dollar via increased earnings and tax revenues and avoided criminal justice costs. In another 2011 article, researchers found that CPC children had lower rates of felony arrests (22 percent) and incarcerations and substance abuse (28 percent) and improved socioeconomic status (an indicator that combines income and education).

Social Impact Bonds for Early Childhood Development — United Way of Salt Lake, Goldman Sachs and J.B. Pritzker⁶⁶⁰

In August 2013, Goldman Sachs and J.B. Pritzker partnered with the United Way of Salt Lake and combined to provide \$7 million to finance the Utah High Quality Preschool Program, forming the first ever Social Impact Bond connected to early childhood. The first \$1 million went to helping hundreds of additional children attend the program, which focuses on curriculum specifically designed to increase readiness and academic performance among at-risk children. The High Quality

Preschool Program was selected because it has been shown to ensure that 95 percent of children who tested as likely to need special education services entered school ready to learn with no long-term remediation requirement, which would save the state \$2,607 a year per child over 12 years. The social impact bond was formed to expand the program to reach nearly 4,000 at-risk children. Children who enter the program, as a result of the bond, will take a predictive test that indicates likely

usage of special education/remedial services and then their progress will be tracked through sixth grade. Every year that a child does not use special education/remedial services will generate a pay-for-success payment to the funders, which will amount to \$2,460 per child every year (kindergarten through sixth grade) until the senior and subordinate debt (and a base interest rate of 5 percent) is repaid. Once that is fulfilled, there will be a \$1,040 per child per year payment as "Success Fees."

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