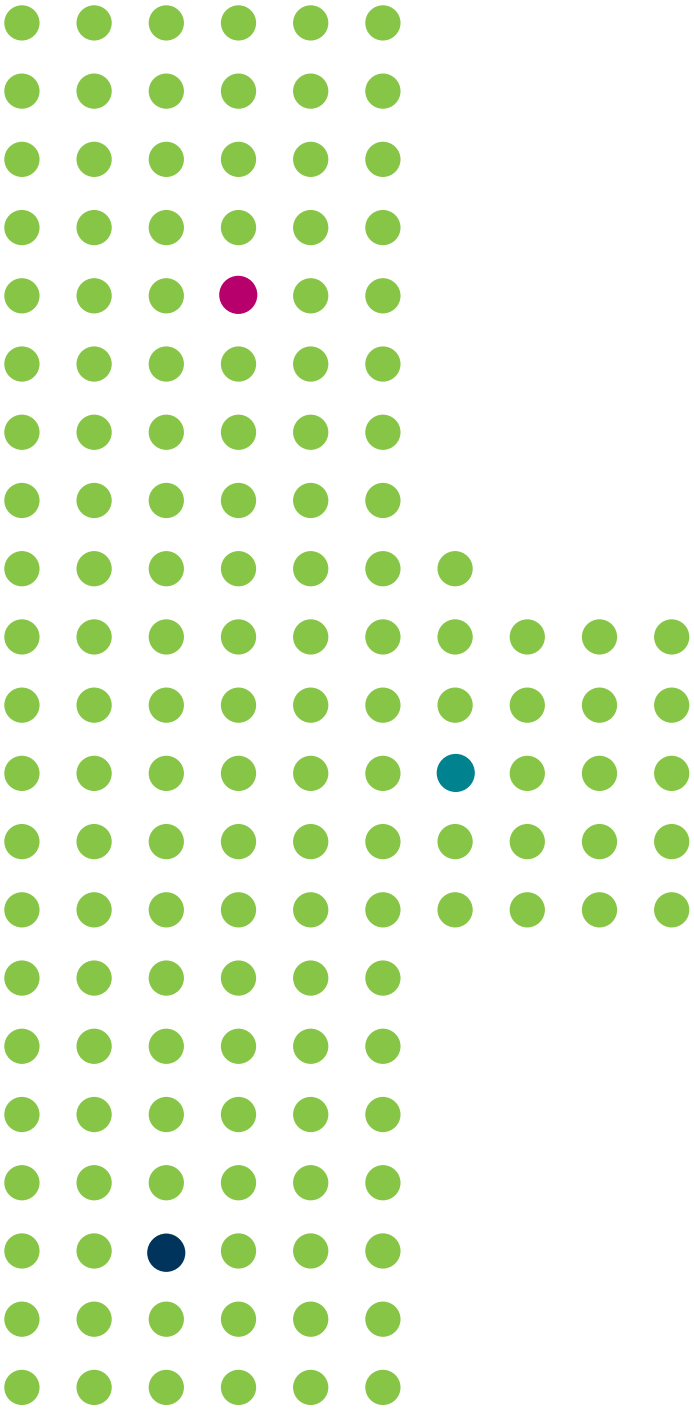
August 2021

Social Determinants of Children's Health Issue Brief

BOLD GOAL
POPULATION HEALTH STRATEGY
OFFICE OF HEALTH AFFAIRS AND ADVOCACY

The intent of this brief is to increase knowledge and inform our stakeholders of opportunities to address social determinants of health, a core function of Humana's Bold Goal, Population Health Strategy. Our Bold Goal is dedicated to improving the health of the people and communities we serve by making it easier for everyone to achieve their best health.



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Unique Needs of Children Have Near-and Long-Term Impacts

In 2020, the World Health Organization (WHO), United Nations Children's Fund (UNICEF), and The Lancet published a report, **A future for the world's children?**, which raised the alarm on worldwide safeguarding of and investment in children and adolescent health and wellbeing as critical barriers to sustainable development and prosperous societies. The Commission ranked 180 countries with a "child flourishing index" using data on child survival rates, years of school, teen birth rates, maternal mortality, prevalence of violence, growth and nutrition, among other factors. While war-torn and developing nations ranked lowest, many wealthy nations also fell short. **The United States ranked 39th in the world for children's wellbeing.**

> **"The evidence is clear: early investments in children's health, education, and development have benefits that compound throughout the child's lifetime, for their future children, and society as a whole."**
> *Clark H, et al. A future for the world's children? A WHO–UNICEF–Lancet Commission. The Lancet. 2020.*

Following the report, and reflecting on a year of the COVID-19 pandemic, the Commission subsequently called for a new initiative – **Children in All Policies 2030** – to implement their recommendations. Not only do they highlight the need for equitable access to healthcare, education, and healthy food but they also call for action against the emerging threats of "the climate crisis and the insidious commercial exploitation of children through inappropriate marketing of products and services" such as tobacco, sugar-sweetened beverages, and digital apps.

Despite the well-documented benefits of investing in the well-being of children, the return on these investments is usually realized years – or decades – in the future and shared broadly across society. As a result, these investments are often compromised for more imminent priorities. Similarly, the consequences of the social determinants on children's health may take years to manifest. Nevertheless, the prenatal through childhood and adolescence is a critical period in establishing the health trajectory of an individual's life.

The following brief highlights some of the specific social determinants of children's health and the potential role of the healthcare sector in helping children flourish.

By the Numbers

50%

Increased likelihood that adults who experienced childhood trauma have a stroke, heart attack, or other heart complications in their 50s or 60s, compared to those who did not have adverse childhood experiences (ACEs).

5 to 9 months

Of learning lost by the average child in the U.S. due to pandemic-related school closures and reduced instructional time, putting them behind academically, socially, and emotionally.

$1,737

Incremental additional medical cost of asthma in children, with the greatest increase coming from prescription costs. Children with asthma also miss 2.3 additional school days annually.

Prenatal and Infancy

The health and well-being of a parent during pregnancy and the postpartum period influences much of the health and development of a child in infancy and through the life course. Social determinants of health (SDOH) such as food insecurity, exposure to environmental pollutants, experiences with interpersonal violence or neighborhood safety concerns, and access to healthcare put individuals at higher risk of stress, obesity, high blood pressure, diabetes, and other chronic health conditions, all of which then increase the risk of pregnancy and birth complications for parent and child. Unfortunately, after several decades of improvement, **infant health inequality** has increased since 2010, with a growing gap between children born to the most socially advantaged parents – who are married, highly educated, and White – and those born to the least socially advantaged parents – who are unmarried, without a high school diploma, and Black.

Some of the most common birth complications are premature birth and low birthweight, and these can have near- and long-term health consequences for children. According to **March of Dimes**, a premature baby – one who is born before 37 weeks of pregnancy – may not be fully developed and, therefore, may have problems with their brain, lungs, heart, eyes and other organs. Some premature babies require special medical attention after birth in the newborn intensive care unit (NICU), and some may experience long-term challenges with asthma, dental problems, intellectual and developmental disabilities, among other issues.

Often, premature babies have low birthweight – weighing less than 5 pounds, 8 ounces at birth – though it may also be a result of fetal growth restriction. While **low birthweight** is not always a problem, babies may have trouble eating, gaining weight, and fighting off infections. Low-birthweight babies are also at higher risk of long-term health problems, including diabetes, heart disease, high blood pressure, and intellectual and developmental disabilities. In addition to the pregnant parent's preexisting health conditions, problems with the placenta, and being pregnant with multiples, SDOH and their consequences during pregnancy – including not gaining enough weight, exposure to air pollution or lead, tobacco, alcohol, or drug use, and stress – raise the risk of both types of complications.

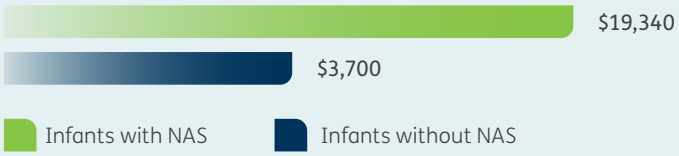
Awareness Between Environmental Conditions and Birth Outcomes

There is growing awareness of the connection between environmental conditions and birth outcomes and infant health. Pregnant parents and children may be **exposed to lead** through peeling or cracking paint in homes built before 1978, certain water pipes, some products imported from other countries, and air and soil contamination near airports. Lead can pass from the **pregnant or breastfeeding** parent to their unborn baby, potentially leading to an increased risk of miscarriage, preterm birth or low birthweight, damage to the baby's brain, kidneys and nervous system, and child learning or behavior problems. Recent studies have also connected higher temperatures caused by **climate change** and increased air pollution to increased risk of premature, underweight, or stillborn children. Further, researchers have connected social deprivation and environmental pollutant exposure to **congenital heart disease** in live-born infants. All of these environmental conditions are more likely to affect Black, Indigenous, and People of Color (BIPOC) and low-income communities.

Neonatal Abstinence Syndrome

Drug use during pregnancy can lead to a host of problems, and after birth, or when a pregnant parent stops taking the drug, a baby may experience **Neonatal Abstinence Syndrome (NAS)**, which is a group of conditions caused by withdrawal from certain drugs, most often opioids. In the short-term, most babies with NAS require extended hospitalization, increasing cost of care, and can be fussy and hard to soothe. NAS may also lead to long-term health and development challenges, including hearing and vision problems, and intellectual and developmental disabilities.

Mean Hospital Costs for Infant with NAS Covered by Medicaid, 2011-2014



Source: Winkelman T, et al. Incidence and Costs of Neonatal Abstinence Syndrome Among Infants With Medicaid: 2004–2014

Successful NAS prevention and treatment requires integrated prenatal and postpartum care and support from medical and behavioral health providers, community-based organizations, and peer support. Whether taking prescribed opioid medications or street drugs, parents who are pregnant or thinking about becoming pregnant should inform their healthcare provider to receive treatment to quit using drugs. For some, **medication-assisted treatment (MAT)** with medicines such as methadone and buprenorphine may be the safest way to stop using opioids. However, there are substantial barriers to accessing MAT that limit utilization of this evidence-based intervention. A pregnant parent with substance abuse disorder can also lose custody of their children, separating families and straining mental health.

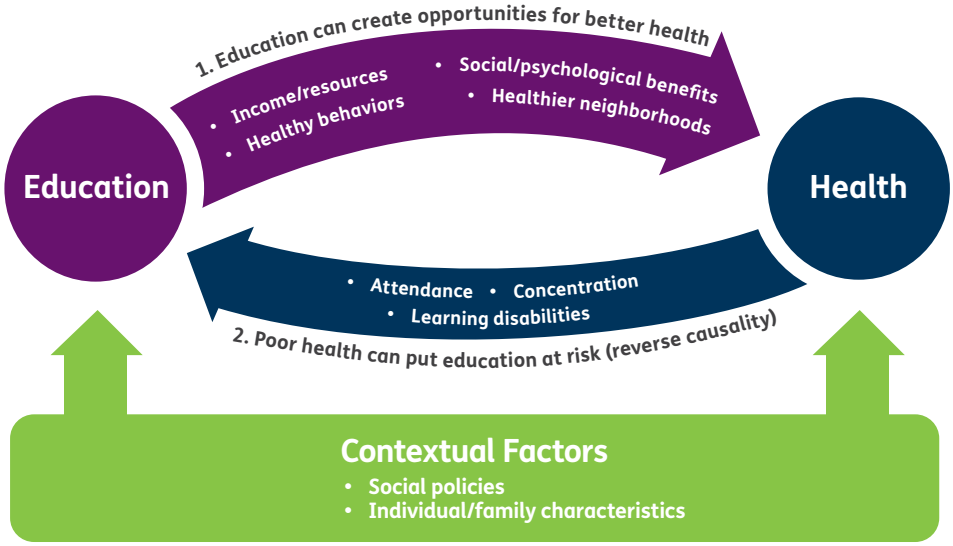
Family-focused treatment is an effective, holistic model where parent and child receive residential treatment together, thereby breaking the cycle of addiction, reducing health effects and costs, and preserving the family unit. Humana has partnered with Quantified Ventures to expand access to this model of treatment through a **$5 million investment** in a new **fund** to help Volunteers of America (VOA) sustainably scale its Family Focused Recovery (FFR) program. The fund – which is designed to encourage further investment from other funders – is providing VOA affiliates with access to capacity-building services and innovative, outcomes-based financing to help VOA scale to meet increasing demand in the communities they serve.

With the increasing prevalence of NAS in the United States, **federal and state policymakers** have taken steps to address the opioid epidemic and improve prevention and treatment of NAS. The Centers for Disease Control and Prevention (CDC) has issued **guidance** on public health strategies for preventing NAS, and in 2016, Congress enacted the Comprehensive Addiction and Recovery Act (CARA). Among its many provisions, CARA required the Department of Health and Human Services (HHS) to provide information on best practices for plans of safe care for infants born with NAS and states to create plans to address the health and treatment needs for infants and caregivers. For example, Oklahoma enacted legislation in 2020 requiring a plan of safe care for infants with NAS and the treatment of the caregiver and approved funding for evidence-based programs and services addressing these needs.

Finally, the Center for Medicare and Medicaid Innovation (the Innovation Center) created the **Maternal Opioid Misuse (MOM) Model** to transform the fragmented delivery system to provide integrated services to support the health, wellbeing, and recovery of pregnant and postpartum Medicaid beneficiaries with opioid use disorder, thereby improving quality of care and reducing costs for mothers and infants. For this model, state Medicaid agencies must partner with a care delivery partner such as a health system (in the case of, for example, Tennessee, Texas, and West Virginia) or managed care plan (as in Indiana, Maryland, and Colorado). Participation from other managed care organizations will be important in Humana's Family Focused Recovery program scaling and success.

Educational Access and Quality

Education is a principal SDOH because **higher educational attainment** is correlated with longer, healthier lives. However, poor health and social barriers during childhood jeopardize educational attainment and, therefore, opportunities for long-term better health.



3. Conditions throughout people's lives can affect both education and health

Source: Virginia Commonwealth University Center on Society and Health (2014).

Preparation for success in school begins even before formal education commences, with the **first five years** being a key period for developing critical skills to support educational attainment. Infants and toddlers need close observation and support to ensure they are meeting key developmental milestones, and parents and caregivers must provide experiences and interaction to build the capacity for lifelong cognitive, emotional, social, and language development. Researchers have also established that toxic stress – chronic stress in early childhood caused by extreme poverty, abuse, and other issues – damages the developing brain.

Because this is such a crucial period of life, high-quality early childcare and education that is not only safe but also nurturing and stimulating is a cost-effective investment for families and society more broadly, particularly for disadvantaged children. **Research demonstrates that high-quality birth-to-age five programs for disadvantaged children can deliver a 13% per year return on investment**. Numerous studies have documented the importance of **kindergarten readiness and later success**, including high school achievement, lower risk of dropping out, reduced risk of substance abuse as a minor, and lower risk of being overweight by age 17. Childcare also allows parents and caregivers to, if they choose to do so, participate in the workforce. As more women entered the workforce and recognition grew about the importance of early education, enrollment in programs has also increased. Between 1985 and 2019, **enrollment in prekindergarten** (ages 3 and 4) increased 880%.

However, unlike public education for children in kindergarten through 12th grade, there is no national entitlement to universal, free early childcare and education, and many families across the income spectrum have **low access to affordable childcare** – particularly for infants and toddlers – as well as to programs with certified or degreed teachers. Nationally, there are 4.3 infants and toddlers for every childcare slot (at any cost), which increases exponentially for families with a limited budget. For families with incomes below 200% federal poverty level (FPL), there are 63 infants or toddlers for every slot for an annual price of $5,000 or less, and 235 for every slot for $2,500 or less, excluding free care.

"Childcare deserts" are areas where demand for space in licensed childcare programs far exceeds capacity. Rural, middle-income, and Latino families are most like to live in childcare deserts, according to an **analysis** by the University of Minnesota and the Center for American Progress (CAP). An accompanying **data visualization tool** allows users to view childcare deserts in U.S. communities and investigate correlations with racial and economic factors.

The coronavirus pandemic has **exacerbated** this already difficult situation, with many childcare centers limiting slots or operating hours or closing permanently. Working mothers are disproportionately taking on childcare responsibilities (of both young and school-age children), and as a result, mothers have experienced sharper and longer-lasting **declines in labor force participation** than fathers, with Black and Hispanic mothers, who are less likely to have flexible work schedules, most negatively affected, according to the Federal Reserve.

Schools are uniquely suited to help address the whole health needs of children as they advance through their education. They provide critical access to health-related and social services, particularly for the most vulnerable children experiencing socioeconomic deprivation, abuse, or neglect, such as the estimated **8.7 million children** ages 17 and younger currently living in households with at least one parent with a substance use disorder. For these children, schools not only provide a safe routine, they also connect them with supports ranging from early intervention for neuro-developmental disorders to medical and behavioral healthcare to food and hygiene items. **As a result, school nurses and counselors are key teammates of teachers and administrators in supporting student success.**

39.3% of schools employ a full-time school nurse 35.3% employ one part-time, leaving students in 25.2% of schools without access to a school nurse.

School nurses provide both individual and population health services for students, managing individual conditions such as asthma, epilepsy, and allergies and promoting overall health and safety. Numerous studies have found school nurses can help **reduce absenteeism** and dropout rates as well as boost immunization rates. The **American Academy of Pediatrics** also endorsed school nurses for their ability to connect students and their families to a medial home and support coordination of care. However, only 39.3% of schools employ a full-time school nurse and 35.3% employ one part-time, leaving students in **25.2% of schools** without access to a school nurse. **School counselors** are employed at all levels of education to help student manage emotions, learn and apply interpersonal skills and self-direction habits, and plan for post-secondary options (e.g. high education, career, military). They will also help students with mental or behavioral health issues connect with long-term support. While the recommended ratio of students to school counselors is 250-to-1, the national average is **424-to-1**. Both school nurses and counselors are funded through a mix of state and federal education funds, public health departments, and public and private grants.

1 in 5 students do not have access to a school counselor at all.

Many children receive in-school services such as speech therapy, physical therapy, and occupational therapy, as well as a variety of primary, mental, and dental health services, often delivered by **school-based health centers (SBHCs)**, which are an **evidence-based resources** for improving educational and health outcomes for low-income and minority children. SBHCs are **funded** through a variety of public (i.e. Medicaid, Children's Health Insurance Program (CHIP), and grants) and private sources as well as in-kind support from healthcare providers. Having these resources on-site, where children are already present, relieves access barriers related to transportation, cost, and opportunity costs for parents taking time away from work.

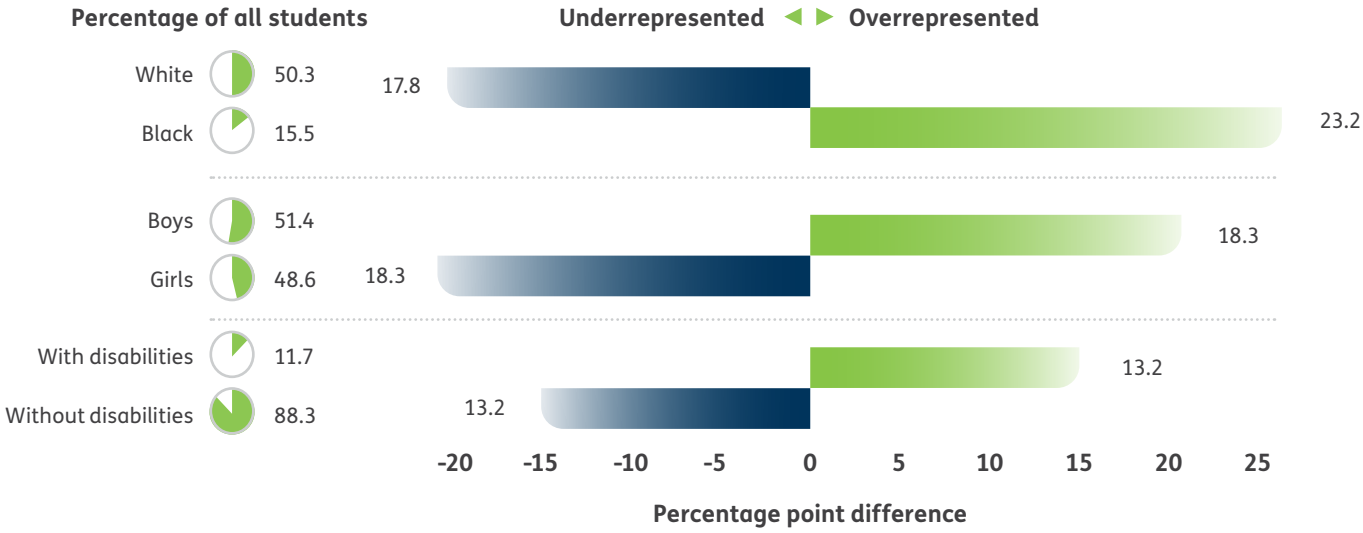
School-based physical, mental, and social health services will play a crucial role in pandemic recovery. For example, deferred healthcare has been particularly devastating for the 40 million low-income and special needs children who are covered by Medicaid and CHIP. The Centers for Medicare and Medicaid Services (CMS) has **sounded the alarm** about the steep decline in vaccinations, primary, and preventive services among these children, which could have long-term health impacts, including 44% fewer screenings for physical and cognitive developmental delays between March and May 2020, compared to the same time period in 2019.

Schools are also the primary site of service for the nation's second largest food and nutrition assistance program – the **National School Lunch Program (NSLP)** – as well as a number of other child nutrition programs administered by the U.S. Department of Agriculture (USDA). In fiscal year 2019, the NSLP provided low-cost or free lunches to 29.4 million children daily at nearly 100,000 public and nonprofit private schools and residential childcare institutions. For information on how child nutrition programs pivoted to address the needs of families during the coronavirus pandemic, see the **December 2020 Food Insecurity Issue Brief**.

All too often, students most in need of school-based educational, health, and social supports suffer from inequitable access. Public elementary and secondary schools are **funded** through a combination of local (44.8%), state (47.0%), and federal (8.3%), creating substantial variation in per pupil spending between and within states and school districts. A number of studies, including those conducted by the **U.S. Department of Education**, have found school districts that serve a large population of low-income and students of color **receive less funding** than those serving more affluent and White students.

Students Suspended from School Compared to Student Population, by Race, Sex, and Disability Status, School Year 2013-14

This chart shows whether each group of students was underrepresented or overrepresented among students suspended out of school.



Source: GAO analysis of Department of Eductation, Civil Rights Data Collection. | GAO-18-258

In addition, Black, low-income, and students with disabilities are often deprived of critical opportunities for education and enrichment due to systemic racism and structural barriers. Black students and students with disabilities are **disproportionately disciplined** through suspensions and expulsions, which results in learning loss and lost access to support services. One analysis found **Black students lost 103 instructional days** per 100 students in one school year, compared to 21 days lost by their White peers, due to out-of-school suspensions. Further, children in families experiencing poverty – even for a short-term – are **less likely participate** in a gifted education program, play a sport, or take lessons such as music or dance.

Children Experiencing Housing Insecurity and Homelessness

In March 2021, the U.S. Department of Housing and Urban Development (HUD) **released** part one of its **2020 Annual Homeless Assessment Report to Congress** with Point-in-Time (PIT) estimates of sheltered and unsheltered homelessness on a single night in January 2020. The report found a troubling year-over-year increase in individuals and families experiencing homelessness, even before the pandemic struck.

Thirty percent of people experiencing homelessness in 2020 were part of a family with at least one adult and one child under the age of 18. This represents nearly 54,000 households with an average family size of 3.2 people, 53.1% of whom are Black. While there has been an overall decline in family homelessness since 2007, the first year these data were collected, 27 states saw increases between 2019 and 2020, and the number of those unsheltered increased for the first time. About 3 in 10 people experiencing homelessness as part of a family with children were in New York State, with substantial populations also in California and Massachusetts. Washington, Oregon, Florida, Idaho, Tennessee, and South Carolina also have a substantial number and/or high rate of people in families found in unsheltered locations.

Children who experience homelessness struggle to access regular health and dental care and adequate nutrition. They often experience education interruptions and various forms of trauma and adverse childhood experiences (ACEs) such as domestic violence and natural disasters, which are some of the leading causes of family homelessness. Countless studies have found children experiencing homelessness are at **greater risk** of chronic diseases, behavioral health concerns, developmental delays, hunger, and malnutrition than their housed peers. Infants born during a period of homelessness have **significantly higher** asthma diagnoses, emergency department visits, and spending through (at least) age 6.

The **McKinney-Vento Homeless Assistance Act**, enacted in 1987, is the primary federal legislation related to the education of children and youth experiencing homelessness. It established a number of rights for these children – to immediate school enrollment even when records not present; to remain in the school of origin, if in the student's best interest; to receive transportation to and from the school of origin; and to receive support for academic success – and authorized funding for state and local entities to fulfill these obligations. The Act also established the **U.S. Interagency Council on Homelessness (USICH)** to coordinate the federal response to homelessness, including programs for children and youth, working in partnership with senior leaders across 19 federal agencies as well as state and local officials.

Additional Resources:

- Humana's June 2020 **Housing Issue Brief**
- **National Center on Health Care for Homeless**
- Administration for Children & Families (HHS) **Early Childhood Learning & Knowledge Center**
- **Volunteers of America**

Healthy Habits

Childhood and adolescence are critical periods for developing healthy habits regarding physical activity, nutrition, and interpersonal relationships. These habits produce both near – for instance, promoting self-esteem and reducing the incidence of **attention-deficit/hyperactivity disorder (ADHD)** – and long-term benefits. Not only are **children with obesity** more likely to become obese adults, which increases the risk of numerous chronic conditions, even if children with obesity are not obese as adults, they are still at **higher risk** of metabolic syndrome, cardiovascular disease, type 2 diabetes, obstructive sleep apnea, infertility, asthma, mental illness, cancer, and other conditions.

However, home and family environment heavily influence a child's available health choices. For example, children are more likely to be obese when there are more **convenience stores** in their neighborhood. Low-income families as well as busy families who are always "on-the-go" may rely on quick, inexpensive, and filling fast food. Data from the U.S. National Health and Nutrition Examination Survey showed more than 36% of children consumed **fast food** on any given day from 2015 to 2018.

Technology and social media present new risks to child and adolescent health and wellbeing – beyond promoting **sedentary behavior** and obesity. Adolescent social media use is associated with a heightened risk for **mental health problems**, and 59% of U.S. teens have experience **cyberbullying**, including name-calling and rumor-spreading. Children are also **vulnerable** to misinformation, compromised privacy, and **online marketing** associated with unhealthy behaviors. While technology and the Internet also provide significant benefits to society, young people must develop healthy habits and boundaries for use, as well as digital literacy. The American Academy of Pediatrics has created an online tool to help parents, caregivers, and pediatricians work together to develop a **Family Media Use Plan** based on the child's developmental stage and to foster family communication and boundaries about media.

Screening for Social Needs

In a **cross-sectional study** to characterize optimal strategies for screening for health-related social needs (HRSN) among children, researchers found that routine health center screening via tablet requires only 2–3 minutes per encounter. Screening can target parents of young children and either adolescents themselves or their parents. Families prefer to receive information about meeting social needs via technologically-based methods such as text message and email, as opposed to in-person consultation.

A study on low-income **parents' perspectives** on pediatric screenings included the following recommendations to alleviate concerns about discussing sensitive issues:

- Build trust.
- Choose the right moment for parents.
- Don't ask about sensitive needs in front of the children.
- Let parents choose to learn about helpful resources at their own initiation.
- Signal confidentiality and be transparent about what triggers reporting to child welfare.
- Do not ask just for the sake of asking.
- Make clear that screening is standard protocol.
- Consider "letters of support" and other ways to be parents' allies.

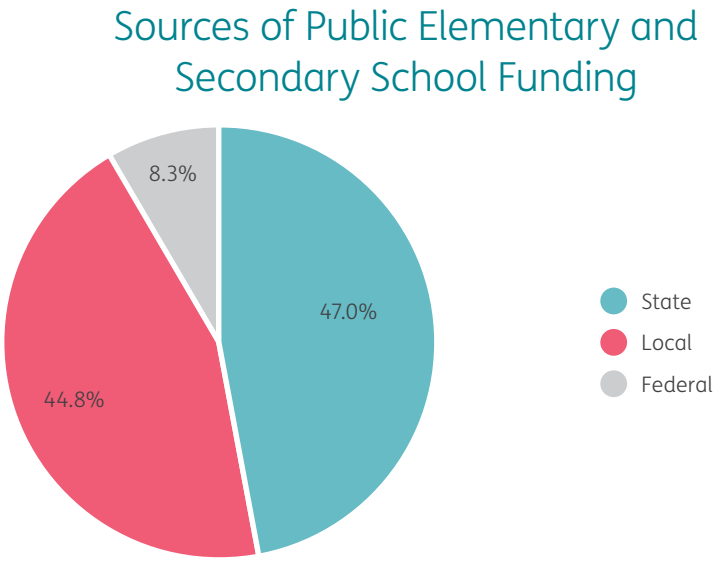
Political and Regulatory Landscape

Limited Role of Government

Public policy regarding children is guided by the principle of parental autonomy. As such, there are few government mandates on how children should be raised, cared for, or educated unless the child's health and welfare are in jeopardy. Where mandates do exist, such as compulsory school attendance laws, they are most likely to be set at the state level.

Public **funding** for children's programs and services is similarly limited. Federal investments are largely via healthcare and other entitlement programs for children in low-income families such as Medicaid, Temporary Assistance for Needy Families (TANF), the Supplemental Nutrition Assistance Program (SNAP), and other nutrition programs. These also include tax provisions such as the Earned Income Tax Credit (EITC) and the Child Tax Credit to provide financial relief to families.

In addition, the **Administration for Children and Families** (ACF), an office of the U.S. Department of Health and Human Services (HHS), administers a number of grant programs to support early childhood education and development. These included the Child Care and Development Fund (CCDF), which is a block grant to states, territories, and tribal governments to improve access to affordable, high-quality childcare to low-income working families. ACF also provides grants to local public and private entities for Head Start programs that promote school readiness of children from low-income families through services provided in a variety of settings including childcare centers and in the home.



Source: Congressional Research Service. State and Local Financing of Public Schools. 26 August 2019.

While federal investment is largely directed toward infants and toddlers, state and local funding is mostly directed toward school-age children via public education and associated services. However, the federal government provides additional funding to local educational agencies (LEAs) and schools servicing high numbers of children from low-income families through Title 1 of the Elementary and Secondary Education Act, in addition to funding school-based nutrition programs such as the National School Lunch Program and the School Breakfast Program.

Other public programs that support economic and social stability of families, while not explicitly targeted toward child welfare, benefit children's health and wellbeing as well. For example, among children from low-income families who had asthma attacks, those whose families received rental assistance from the U.S. Department of Housing and Urban Development (HUD) were **less likely to visit the ED** than children from households on the waiting list for housing subsidies. This may be due to the subsidies making more room in the family's budget for healthcare and other preventative services, improved housing quality, or reducing chronic stress due to housing insecurity. For more information about housing programs and the relationship between health and housing, see the **May 2020 Housing Issue Brief**.

Lead Exposure and Poisoning

Long before the Flint, Michigan Water Crisis, public health officials and policy makers have known about the risks lead exposure poses to children. There is no safe level of **lead exposure**, which can lead to brain and nervous system damage, slowed growth and development, and learning and behavior problems.

Common **sources** of child lead exposure in include:

- Lead-based paints (in homes built before 1978, when lead-based paints were outlawed)
- Water pipes
- Living near airports, where lead in aviation gas may be present in air and soil

Federal regulations – including banning lead in gasoline and lead-based paint and plumbing solder for residential uses – and public health efforts since the 1970s have contributed to **dramatic declines** in blood lead levels in children. Several federal agencies are responsible for enforcing these regulations (such as the **U.S. Department of Housing and Urban Development (HUD)**), and the **Centers for Disease Control and Prevention (CDC)** provides support to state and local governments to invest in public health activities such as blood lead testing and reporting, surveillance, linking children to recommended follow-up services, and targeted, population-based interventions.

Low-income and minority children remain at higher risk for lead poisoning. That is why the Medicaid program **mandates** children receive blood lead screening tests at ages 12 months and 24 months (at the minimum) and covers treatment through the Early Periodic Screening, Diagnostic, and Treatment (EPSDT) benefit. Children covered by the **CHIP program** must also be screened according to guidelines established by each state. **Despite this progress, mandated screenings are often not enforced, and many children with elevated blood lead levels are undiagnosed and untreated**.

Biden Administration Priorities

Taking office during a pandemic and an economic recession, President Biden has prioritized a number of initiatives intended to support children and working families. The **American Rescue Plan**, enacted in March 2021, provided an additional round of direct stimulus payments and extra money for SNAP benefits, as well as temporarily **expanded the Child Tax Credit**, which has historically received bipartisan support. The American Rescue Plan made the credit refundable, meaning families can receive the full amount even if their tax liability is less than the credit. According to researchers at Columbia University's Center on Poverty and Social Policy, the Child Tax Credit expansion will **cut child poverty by 45%**, with Black and Native American children. However, the expansion will expire after 2021 without Congressional action.

The Biden Administration has also proposed what it has dubbed the **American Families Plan**, which includes investments in education, healthcare, and childcare. Among its many provisions, the package calls for:

- Ensuring universal access to free pre-kindergarten for 3- and 4-year-olds
- Controlling the cost of childcare for low-income and working families and expanding the Child and Dependent Care Tax Credit
- Extending the Child Tax Credit expansion
- Investing billions of dollars in maternal health to reduce disparities

The U.S. Department of Education under President Biden has taken steps to address inequities in education – predating and **exacerbated by the pandemic**. These include launching an **Equity Summit Series** with Secretary of Education Miguel Cardona in June 2021 and releasing **guidance to states** for implementing education provisions of the American Rescue Plan to improve access to educational opportunity for students most adversely impacted by the pandemic, including English language learners, students experiencing homelessness, students with disabilities, and students in under-resourced communities. In addition, the President's Fiscal Year (FY) 2022 Budget request called for substantial **increases in Title 1 funding**, including creation of a new Equity Grants program to address long-standing disparities between under-resourced school districts and their wealthier counterparts. Both the American Families Plan and the President's FY 2022 Budget request are under consideration in Congress.

The Center for Medicare and Medicaid Innovation (the Innovation Center) is also continuing work of previous administrations to test approaches to improve the quality and reduce the cost of care for children and youth enrolled in Medicaid and CHIP. The **Integrated Care for Kids (InCK) Model** seeks to "improve child health, reduce avoidable inpatient stays and out of home placement, and create sustainable Alternative Payment Models (APMs)" through early identification and treatment of children with physical, behavioral, and other health-related needs. Notably, this includes integrated care coordination across settings – clinical, school, social services, and the home.

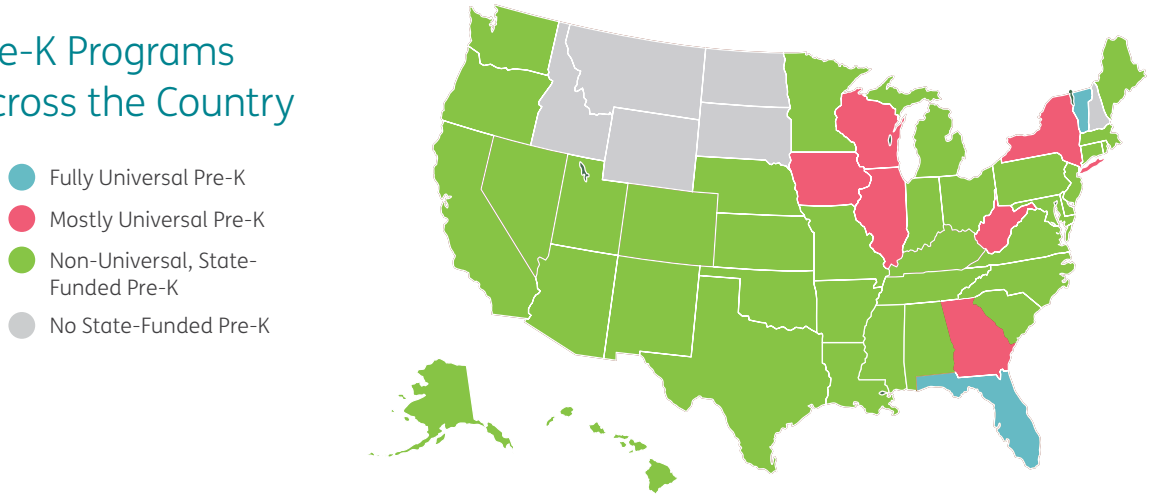
State Activities

With nearly half of public education funding coming from states, as well as **43% of births** and **37.5% of children** in the U.S. covered by Medicaid or CHIP, state policy makers have considerable influence over the health and welfare of children and adolescents. This includes primary oversight and administration of child welfare, foster care, and adoption, as well as the growing number of children in **kinship care**.

Like the federal government, state programs for early childcare and education are often directed toward low-income and at-risk children. However, a few provide universal (e.g. Florida, Vermont, and Washington, DC) or near-universal (e.g. Oklahoma, West Virginia, Georgia, and Illinois) **pre-kindergarten**. In the aftermath of the pandemic, several states have invested in expanding access. For example, in order to improve participation in its 4-year-old pre-kindergarten program for low-income families, **South Carolina** provided funding for extended day and summer programs. **Montana** is using pandemic relief funds to expand childcare capacity in the state.

A number of states have also recently taken action to evaluate the **utilization of school suspensions and expulsions**, which disproportionately impact at-risk students and restrict access to education, health, and social supports. Maryland, Tennessee, and New Jersey, for example, have prohibited such disciplinary action against young children. Several states, such as Arkansas, New Hampshire, and Rhode Island have mandated the collection and review of data on disciplinary action to access disparities.

Pre-K Programs Across the Country



Source: Education Commission of the States. How States Fund Pre-K: A Primer for Policymakers. February 2018.

Childhood Trauma and Adverse Childhood Experiences

Childhood exposure to violence, abuse, neglect, discrimination, and socioeconomic deprivation can have negative near- and long-term effects on health, well-being, and overall independence and productivity. The toxic, or prolonged, stress resulting from childhood trauma puts individuals at higher risk of:

- Impulsive behavior and impaired decision-making that may lead to dropping out of school, missing work, becoming involved in crime, and engaging in other risky behaviors resulting in injury, unplanned pregnancies, and sexually transmitted diseases
- Difficulty forming healthy relationships
- Unhealthy behaviors such as alcoholism, drug use, smoking, and lack of physical activity
- Chronic conditions such as obesity, **heart disease**, diabetes, cancer, and **dementia** as well as premature death
- Depression and suicide attempts

One subset of childhood adversities that put individuals at higher risk of toxic stress are **adverse childhood experiences** (ACEs), which are potentially traumatic events that occur before the age of 18 or characteristics of a child's environment that may "undermine safety, stability, and bonding." While there is a questionnaire that is frequently used to screen individuals for ten ACEs, it is important to note this is not a comprehensive list of potentially traumatic events and does not screen for important factors such as childhood homelessness or systemic racism.

Impact of COVID-19 Pandemic

The COVID-19 pandemic exacerbated many health and safety risks for children, from missed preventative healthcare to **social isolation** and depression to exposure to potentially traumatic events and experiences. More than **46,000 children** lost one or both parents due to the coronavirus. In addition, **heightened stress of parents and caregivers** – due to lost income, school closures, social isolation, among other causes – increases the risk of child abuse and neglect. While reports of abuse to child protection agencies generally declined across the country in 2020, this is likely due to the decreased in-person interaction between children and "mandated reporters" such as teachers and physicians. Similarly, decreases in **emergency department (ED) visits** related to child to abuse and neglect were likely due to changing healthcare-seeking patterns during the pandemic rather than an actual decrease in events. A report from the CDC found ED resulting in hospitalization increased compared to 2019, indicating "victims might not have received care and that severity of injuries remained stable or worsened."

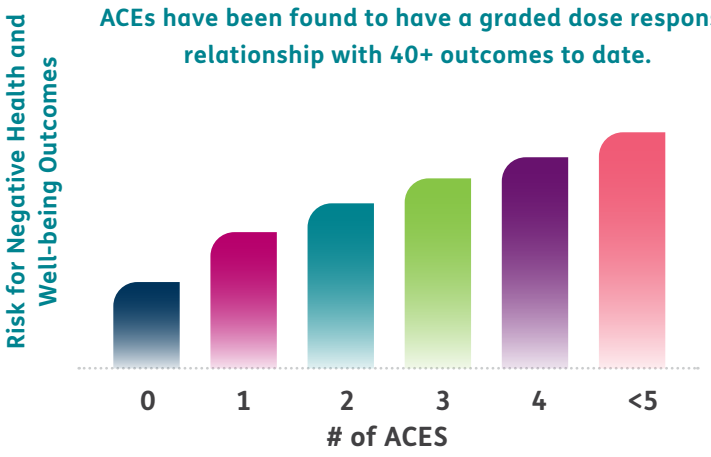
Fortunately, childhood trauma can be prevented or its effects mitigated, though this requires cross-sector collaboration. The Centers for Disease Control and Prevention (CDC) published a report on six **evidence-based strategies** for preventing ACEs and intervening to lessen their harms. These include strengthening household economic supports and creating family-friendly work environments to reduce caregiver stress. One approach for healthcare organizations is to adopt trauma-informed care practices. **Trauma-informed care** begins by acknowledging how common trauma is and actively works to avoid re-traumatization of patients and organizational staff.

Humana Healthy Horizons™ is providing trauma-informed training to employees serving Kentucky Medicaid beneficiaries through a partnership with the **Bounce Coalition**, a local organization working to "build the resilience of children and families by improving knowledge about the impact of [ACEs] and the skills to help people bounce back from adversity." Using Bounce's resiliency-building training resources and evidence-based model, Humana employees are participating in a series of educational workshops to understand the impact of ACEs, the importance of self-care, and practical strategies to build resilience within themselves and those they serve.

Additional Resources

- **Preventing Adverse Childhood Experiences** – Online training modules for the general public and healthcare providers by the Centers for Disease Control and Prevention (CDC)
- **Screening for Adverse Childhood Experiences and Trauma** & **Key Ingredients for Successful Trauma-Informed Care Implementation** – Technical assistance tools from the Center for Health Care Strategies (CHCS)
- **Adverse Childhood Experiences (ACEs) in Indian Country** – Information Hub of the National Indian Health Board

ACEs can have lasting effects on...



*This pattern holds for the 40+ outcomes, but the exact risk values vary depending on the outcome.

What Humana is Doing

Responding to the Pandemic

As the coronavirus pandemic gripped the country, Humana activated every arm of the company to respond to the unprecedented crisis. From donating hundreds of thousands of **masks** to local school districts to supporting **back-to-school health clinics** so children can catch up with missed immunizations, Humana has worked to help children continue their education and stay engaged with their health and well-being during the pandemic. In Humana's headquarters of Louisville, Kentucky, the company partnered with Jefferson County Public Schools (JCPS) to open a 360° Student & Family Support Center. This center provided safe, in-person services such as IT support with computers, education, and digital platforms, special education assessments, translation assistance, and health and social supports.

The $3 million strategic investment in March of Dimes will support communities across the U.S. in building cross-sector alliances that alleviate social and structural systems of inequities and implementing solutions that improve maternal and infant health.

Humana recognized very early that income loss, supply chain disruptions, and health concerns would increase food insecurity for vulnerable families, and the Humana Foundation made a $450,000 donation to **Feeding America's COVID-19 response fund** in March 2020. The funding helped to meet food and nutritional needs as well as assist people affected by the virus financially in accessing public benefits like SNAP, Medicaid, Earned Income Tax Credit, and utility assistance. **Additional funding** for Feeding America and Share Our Strength, among others, to sustain food bank operations and expand nutritional resources to families nationwide, followed this initial support. Financial support also went to behavioral health organizations, including the National Alliance on Mental Illness (NAMI) in partnership with Humana Healthy Horizons, to help children and families manage increased levels of loneliness, anxiety, depression, and substance abuse and to numerous community-based organizations in Bold Goal communities to help them weather the financial and operational strain of the pandemic.

With an eye on long-term recovery and addressing the health inequities revealed by the pandemic, the Humana Foundation also established new partnerships with **March of Dimes** and Federally Qualified Health Centers. The communities will also be part of March of Dimes' Mom & Baby Action Network, a consortium of national partners dedicated to addressing inequities in maternal and infant health, to disseminate best practices. In addition to the Humana Foundation's partnership, Humana Healthy Horizons also partnered with March of Dimes in 2021 to help address maternal health inequities, specifically in the state of Ohio. The partnership includes investments in implicit bias training programs for providers, along with prenatal education programs and incentives for pregnant women in high-need areas.

Further, the pandemic did not stand in the way of Humana testing new, innovative ways to address the whole health needs of vulnerable families. In 2021, Humana launched FreshStart, a partnership with Feeding Tampa Bay, Reach Up, and the University of South Florida to test the feasibility of a virtual pregnancy and nutrition education program for underserved, minority populations in the Tampa Bay area. The program is held through a closed Facebook group and provides SNAP-based nutrition education utilizing Share Our Strength's Cooking Matters program content, food delivery, safe baby and healthy pregnancy content, as well as the ability to develop social support networks with other women in the program. Humana is measuring the preliminary effects on nutrition beliefs and attitudes and behavior change and evaluating the feasibility of replicating the program in other geographies.

Promoting Health and Well-being of At-Risk Children and Adolescents

Humana Healthy Horizons serves thousands of children who are covered by their state's Medicaid, and CHIP programs, not only by providing core Medicaid benefits but also with value-added benefits and community collaborations to meet their whole health needs. In Florida, Humana Healthy Horizons partners with school districts and organizations serving school children across the state, particularly in **Community Partnership Schools**, which address the holistic needs of at-risk students with on-site health and wellness services, food panties, counseling, and enrichment opportunities. Humana supports **Girls Inc.**, an organization based in Jacksonville that helps girls from low-income families get life-changing tools and resources to help them reach their full potential. In South Florida, Humana supports the **Health Information Project**, which trains high school students to be peer educators to teach about health topics in a safe, supportive, and inclusive environment.

A worldwide study of 15-and 16-year-olds found a sharp increase – nearly doubling – in **loneliness among adolescents** between 2012 and 2018. The increases were higher among girls than boys and where smartphone and internet use were also high. Similar studies found loneliness had been generally **unchanged** for many years prior to 2012, the year when smartphone ownership passed 50% in the United States. While this study period did not include the COVID-19 pandemic, many experts anticipate loneliness and mental health conditions to have increased during 2020.

These initiatives encourage physical activity and healthy eating as well as life skills development, academic achievement, and personal empowerment, with a particular focus on adolescents. **Adolescence** is a critical period between childhood and adulthood when a great deal of physical, mental, and emotional development occurs. These developmental changes – as well as the different rates at which individuals progress through such changes – make adolescents particularly vulnerable to depression and mental health issues, and empathy, how to self-regulate emotions, and how to deal with conflict are important skills to learn during middle and high school.

Humana Healthy Horizons has also established a number of national partnerships to support the health and well-being of children and communities across the country. Humana Healthy Horizons invested $1.75 million in **No Kid Hungry**, a national campaign from Share Our Strength, dedicated to ending childhood hunger in America. The new "Family is More" initiative will work with school districts to provide meals to kids and equip multi-generational families with food and nutrition education. Humana has committed $1.5 million to the **Boys & Girls Clubs of America** (BGCA) to help address food insecurity and promote well-being by activating BGCA's Healthy Habits curriculum across their 4,700 Club footprint and co-sponsoring ten community gardens to be designed, built, and maintained by Club members with support from the local community as well as Humana members and employees. Humana leaders are also creating videos to share their own tips on nutrition, exercise, gardening, and other healthy habits that will be incorporated into BGCA's Healthy Habits curriculum. In addition, through a partnership with **GoNoodle®**, an interactive mindfulness and physical activity platform, Humana will help engage more than 2 million K-6th grade kids, their parents, and teachers with custom, downloadable activities.

Healthy children get their start during the prenatal period, and Humana offers programs for pregnant parents covered by **Commercial** and Medicaid plans. Humana Healthy Horizons in Kentucky's **Moms First program** helps pregnant and new parents get the care they need, makes available extra resources and services, and offers rewards for completing prenatal and postpartum checkups. During pregnancy, beneficiaries are eligible for doula assistance as well as education and support to address clinical and social needs. After the baby is born, beneficiaries receive care coordination support with hospital, lactation, and newborn team, a free portable crib and breast pump, and home-delivered meals. Beneficiaries also have access to Pacify, a smartphone app that allows on-demand connection to lactation consultants, a nurse line, a behavioral health crisis line, enrollee services, and smoking cessation support.

When babies are born premature, underweight, or with other complications, Humana's Neonatal Intensive Care Unit (NICU) team provides comprehensive care coordination and support for families. This team of specialists and nurses – all of whom have extensive bedside nursing experience – ensures that NICU babies and their families get the human care they need during a time that can often be filled with stress and uncertainty. The team remains in touch with the family and the hospital or healthcare provider throughout a child's stay in intensive care and when they are discharged home to ensure they receive everything they need so they can grow, thrive, and achieve their best health. This can include, sometimes daily, phone calls to check in with families, verifying with providers that the baby is on track medically, confirming and arranging for medical equipment, coordinating transportation for the infant to facilities that are best equipped to handle their case, ensuring follow-up appointments are made, and more.

Children in Military Families

Children in military families often have different childhood experiences than their peers, including frequent relocations and extended separation from parents due to deployment. While they benefit from having one or both parents with a steady income and health insurance, they may also be dealing with indirect exposure to violence and parents with post-traumatic stress or traumatic brain injury. Most often, these children experience **good health and well-being**, though children whose parents with frequent deployments as well as older children are at greater risk of risky behavior and problems with managing conflict and emotions.

Humana Military has had the honor of covering many thousands of military children during our 25 years as a TRICARE contractor for the Defense Health Authority (DHA). TRICARE is the healthcare system for active duty and retired uniformed service members, their families, and survivors. Beneficiaries receive care through both military healthcare facilities and TRICARE-authorized civilian healthcare providers.

Following a 2005 study by the U.S. Department of Defense (DoD) that found that more than 1 million military dependent children – one out of 88 children of active duty military service members – had **Autism Spectrum Disorder (ASD)**, this became a key area of focus for DHA. **TRICARE** and **DoD** provide a number of special programs to support families and children with ASD and other special needs, and a number of organizations, such as **Operation Autism**, have been established to provide education and resources.

Humana not only provides comprehensive care coordination for families and children with ASD, including assisting in finding high-quality providers during family relocations, we have created the **Autism Center of Excellence (CoE)** to help us improve the care families receive. The Autism CoE is a multi-disciplinary team of medical and behavioral health professionals including ASD subject matter experts, medical directors, strategic consultants and clinical managers who are dedicated to identifying gaps in care, prioritizing beneficiary and provider support needs, and translating observations into clinical practice. Humana also participates in TRICARE's **Autism Care Demonstration (ACD) program.** ACD covers applied behavior analysis therapy (ABA) and a number of other comprehensive services such as occupational, physical, and speech therapy, psychological testing and services, and prescription drugs.

Humana Priorities to Pursue

Support pediatricians, family practitioners, obstetricians, and other care providers | Align reimbursement models to incentivize holistic care for children and families, including expanding Humana's pediatric value-based payment models and incorporating SDOH screening into quality metrics. Humana can support clinicians by providing the tools and development opportunities to conduct screenings in a sensitive and empathetic manner that builds patient and caregiver trust as well as to provide trauma-informed care. Pediatric dentists and the oral healthcare team should also be incorporated.

Cultivate community capacity to address SDOH | According to a survey conducted by **Nemours Children's Health System**, 33% of families referred to community resources said they encountered an exceptionally long wait list for social services. Humana and the Humana Foundation can not only continue helping to build capacity of community-based organizations through philanthropy and volunteerism, but also through creating innovative, sustainable payment models and supporting efficient alignment of social services through **closed-look community referral platforms**.

Build on Humana care models to meet the unique needs of vulnerable families | As states increasingly **expand postpartum Medicaid coverage** from the statutorily required 60 days to up to 12 months for pregnant beneficiaries, Humana has an even greater opportunity to impact the health and wellbeing of children. Supporting parental health literacy, healthy behaviors, self-confidence in fostering child development and learning, and personal well-being will set children up for success in health and education. Screening and helping to address families' environmental risks and neighborhood safety concerns should also be incorporated. Further, we can creatively leverage Humana's national Medicare Advantage footprint, such as **Humana Neighborhood Centers**, to foster intergenerational wellbeing and social connectedness.

Contact

Stephanie Franklin, MPS, PMP
Population Health Strategy Lead
Bold Goal, Population Health Strategy | Office of Health Affairs and Advocacy
O 502.476.1770
C 502.295.5605
sfranklin20@humana.com

PopulationHealth.Humana.com

Humana.