COVID-19 AND RURAL CHILDREN'S GROWTH AND DEVELOPMENT
RECOMMENDATIONS TO IMPROVE HEALTH IN ILLINOIS

Rural Illinois is in need of sustained, sweeping change to improve the social, economic and environmental factors which determine health outcomes. Illinois' rural communities suffer from "The Five D's:" Rural communities start at a ***DISADVANTAGE*** *due to experiencing food, healthcare, social service and data* ***DESERTS****, as well as organizational and technological* ***DISCONNECTION****. Rural regions experience similar* ***DISPARITIES*** *to low-income urban areas but experience even fewer* ***DEVELOPMENT*** *opportunities than their urban counterparts. These recommendations aim to improve health equity in rural Illinois.*

PRE-EXISTING CONDITIONS

The first years of a child's life are critical to cognitive, social and physical development.[1] However, many rural children, especially those living in poverty, face institutional barriers that hinder their ability to develop, grow and learn. Economic hardship, subpar education opportunities, limited access to healthcare and disconnected childhood services leave many rural children behind as they suffer from learning disorders, low college enrollment rates and mental health diagnoses.[2,3] Nearly one in six children in rural communities is diagnosed with a mental, behavioral or developmental disorder.[4]

Families of children with mental, behavioral and developmental disorders face personal, financial and environmental challenges at a greater rate than families with children without these disorders. These challenges make it difficult for parents to provide children with necessary resources to treat mental, behavioral and developmental disorders. The financial and environmental difficulties are further magnified in rural areas. Rural families more often report: 1) difficulty getting by on their family's income; 2) mental health as "fair" or "poor" and 3) living in neighborhoods in poor condition without amenities such as parks, recreation centers or libraries.[5]

The challenges of Illinois' rural children start early. A 2018 study by the Illinois State Board of Education found that 75 percent of Illinois children are not prepared for kindergarten.[6] Research shows that children who start at an educational disadvantage often struggle to catch up to peers.[7] Low educational attainment increases health risks and medical costs and increases the likelihood of engaging in risky behaviors, earning lower wages and decreases the likelihood of employment and health insurance.[8]

RECOMMENDATIONS

- Build the capacity in rural Illinois to provide children with the academic, social and emotional skills necessary to be prepared for kindergarten.
- Increase funding and technical assistance opportunities for rural schools to provide quality, affordable and comprehensive health care to children.
- Invest research and program funds to encourage childhood service sectors to provide integrated, personalized and comprehensive services to children and families in rural communities.

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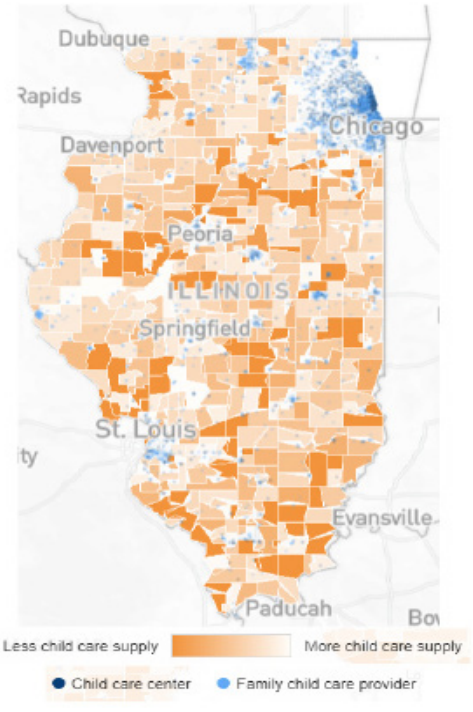
ABOUT THE RURAL HEALTH SUMMIT

Southern Illinois University (SIU) Medicine Department of Population Science and Policy, SIU Paul Simon Public Policy Institute, SIU Medicine Center for Rural Health and Social Service Development and University of Illinois Chicago School of Public Health continued the work of the 2018 Illinois Rural Health Summit and convened rural stakeholders for 11 discussion forums in late 2020 to better understand and address the COVID-19 pandemic in rural Illinois. Using the 2019 report on the most pressing issues facing rural Illinois as a foundation, 80 leaders from 55 organizations in diverse fields such as public health, health care, academia, industry and government met virtually to discuss how the pandemic is creating new challenges and fostering new innovation. Forums focused on rural economic development, health workforce, children's growth and development, nutrition and fitness, mental health, opioids, public health systems, caring for an aging population and healthy housing. Discussion forums participants were also invited to an additional, overarching session to identify common challenges and synthesize impactful solutions. The information, anecdotes and issues raised in this report come from those conversations.

AN AGING POPULATION | MENTAL HEALTH | PUBLIC HEALTH SYSTEMS | NUTRITION & FITNESS | CHILDREN'S GROWTH & DEVELOPMENT | RURAL HEALTH WORKFORCE | OPIOIDS | HEALTHY HOUSING | ECONOMIC DEVELOPMENT

Children in rural areas also have higher rates of exposure to adverse childhood experiences (ACEs).[9] Adverse childhood experiences are defined as potentially traumatic events that occur in childhood, such as parental separation/divorce, household incarceration, violence, mental illness, substance abuse or economic hardship.[10] ACEs are linked to chronic health problems, mental illness and substance use in adulthood. ACEs can also negatively impact education, job opportunities and earning potential.[11] ACEs can have an immediate negative impact on children and/or contribute to poor health outcomes into adulthood.[12]

FIGURE 1: Illinois Childcare Deserts



Rural service deserts are a significant cause of disparities. Many rural families struggle to find and afford quality childcare that meets children's academic, social and emotional needs. Fifty-five percent of children under the age of five in rural areas live in a childcare desert, which is defined as a ZIP code with at least 30 children under the age of five with either no child care centers or more than three times as many children as spaces in child care centers.[13,14] Figure 1 shows a disproportionate amount of child care deserts in Illinois are located in rural areas.[15] More than 1.3 million rural Illinoisans live in child care deserts. This shortage correlates with fewer mothers being in the workforce, impacting family incomes.[16]

In addition to childcare deserts, children in rural Illinois are also facing lack of access to reliable, comprehensive health care. Rural areas in Illinois have a significant shortage of child-serving physical and mental health providers. Eighty-one of Illinois' 102 counties lack

DEFINING "RURAL" IN ILLINOIS

Of Illinois' 102 counties, 62 are considered non-metropolitan. 1.5 million Illinois residents reside in nonmetropolitan and/or rural regions. In an effort to be inclusive, this report uses "rural" to describe non-metropolitan counties.

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a child or adolescent psychiatrist.[17] Children in rural areas also face multiple barriers to accessing health care, including long travel times to clinics, parents who cannot take time off work to drive to an appointment and/or no reliable mode of transportation to get to and from an appointment.[18] Additionally, rural children are less likely to visit a dentist, receive information on exercise or healthy eating and understand the risks associated with smoking.[19] Children in rural areas are also less likely to attend a wellness checkup.[20] In fact, rural America was distinct compared to urban and suburban areas in not showing any improvement over time on rate of children attending wellness checkups.[21] These obstacles are well documented and result in significant health disparities for adults and children alike.

THE PANDEMIC'S IMPACT

COVID-19's impact on children occurred quickly when the coronavirus initially spread across Illinois communities in March 2020. Governor Pritzker's order for a two-week school closure on March 17, 2020, was the first in a series of disruptions and challenges faced by Illinois' children and families. Over the past 18 months, the pandemic has disrupted all children's service sectors and drastically affected children's social, emotional, developmental and physical health.

From the end of the 2019-2020 school year through the beginning of the current 2021-2022 school year, Illinois students, parents, teachers, administrators and school leaders have faced and continue to face unprecedented challenges and are forced to make countless difficult decisions. Since the onset of the pandemic, all Illinois children have faced inconsistent and scattered modes of education as students transitioned from in-person to mostly virtual academic environments. While some school districts were well-equipped to make a transition to remote learning, others struggled.

Preliminary data shows deepening disparities in academic, social and emotional achievement as a result of the pandemic.[22] The U.S. Department of Education released a report in June 2021 looking at a series of "snapshots" since mid-March 2020 when schools began to shift to remote learning. The report detailed the following observations of the pandemic's impact on education: 1) the pandemic has negatively impacted academic growth and widened existing disparities, 2) many elementary and secondary school students with disabilities had their aid and services disrupted, which exacerbated longstanding disability-based disparities, 3) nearly all students faced mental health and well-being challenges during the pandemic and did not have access to their usual school-based services and supports and 4) many higher education institutions that predominately serve students of color and students from low-income backgrounds such as those in rural areas have seen enrollment decline during the pandemic.[23]

The crisis also exposed vast disparities in schools' ability to engage in emergency preparedness, provide internet access and secure available learning materials. These issues are more significant in rural areas. Rural Health Summit discussion forum participants shared that some districts had to resort to delivering paper copies of materials to students without high speed broadband. Many schools were also neither skilled in online learning platforms nor had the technology, staff or equipment to provide online teaching.[24] Rural and disadvantaged urban schools also had more acute teacher shortages than those in suburbs.[25]

The childcare industry in Illinois was also significantly impacted by the pandemic with lower-income children being most negatively affected. Early in the pandemic, 81 percent of childcare centers in Illinois closed with only 73 percent reopening by September 2020.[26] Many individuals with

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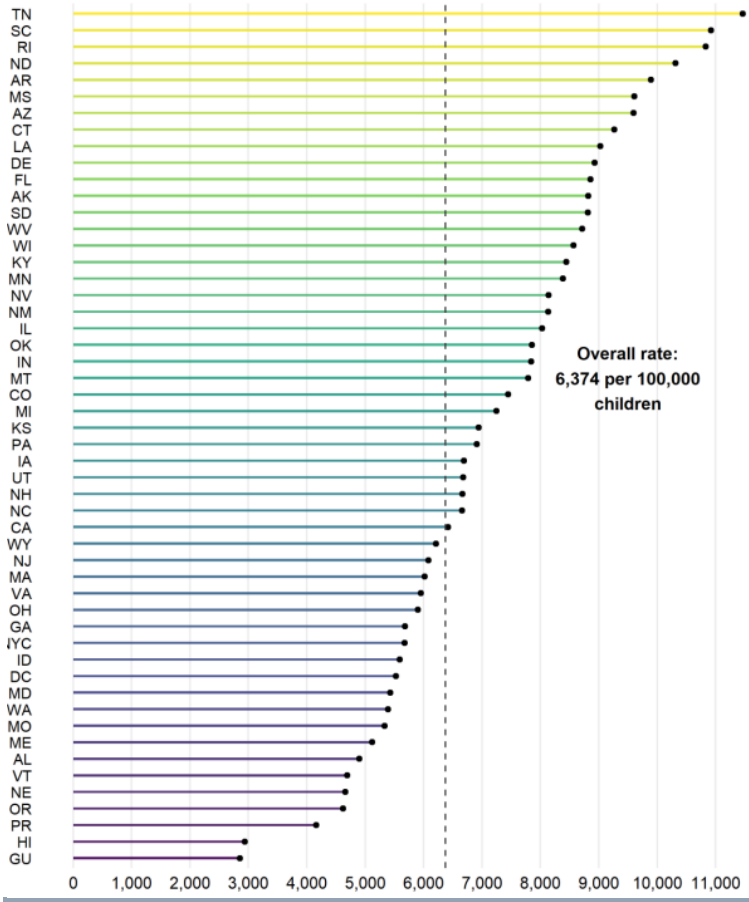
predominately higher-income jobs were afforded the ability to telecommute. Essential workers or those in the service industry did not have that option and relied on childcare centers to maintain employment. As of July 2021, only 76 percent of childcare centers achieved pre-pandemic enrollment.[27] Childcare centers that remained open increased cost an average of 45 percent from an average of $958 a month pre-pandemic to $1,391 in September 2020.[28]

These COVID-19 related disruptions are leading to a mental health crisis for children. The CDC found "the proportion of children's mental health–related emergency department (ED) visits among all pediatric ED visits increased and remained elevated through October 2020. Compared with 2019, the proportion of mental health–related visits for children aged 5–11 and 12–17 years increased 24 percent and 31 percent, respectively."[29] Even more concerning is that 75 percent of 18-to-24 year olds had reported at least one adverse mental or behavioral health condition and one in four 18-to-24 year olds had seriously considered suicide.[30] Many of these young people deal with these issues without mental health care. Lurie Children's Hospital found that 20 percent of children have a mental health problem in Illinois but only about half of them receive any treatment.[31]

These mental health challenges have been further augmented by lack of physical health care services, which have been directly and indirectly disrupted by the pandemic. Rural residents have experienced reduced access to essential reproductive, maternal, newborn and child health interventions such as antenatal care, skilled attendance at birth and treatment for pneumonia.[32] Moreover, the pandemic created additional challenges for children to receive healthcare, including fear of contracting the virus in hospitals, financial constraints, limited access to services like clinics and concerns that a parent would have to leave a child alone in the hospital due to pandemic regulations. These gaps in healthcare have lasting effects which further increases inequities and exacerbates existing conditions.

FIGURE 2: Cumulative COVID-19 Cases per 100,000 Children: 8/26/21



The recent significant spread of the highly transmissible Delta variant has made the virus more dangerous for children. As of August 26, 2021, more than 4.59 million children across the United States have tested positive for COVID-19 since the onset of the pandemic.[33] Nearly 204,000 cases were added for children from August 19-26, 2021, reaching levels not seen since the 2020-2021 winter surge.[34] Illinois has reported 252,596 children's COVID-19 cases since the start of pandemic. As Figure 2 shows, this number accounts for 8,031 cases per 100,000 children, above the national rate of 6,374 child COVID-19 cases per 100,000 children in the population. Although the rates of COVID-19 infection (12-15 percent) and hospitalizations (3-4 percent) have stayed relatively the same with the Delta variant, the large number of cases overall is leading to more children becoming sick and hospitalized.[35] This risk is certainly magnified by the fact that children under 12 are not yet approved to receive a COVID-19 vaccination and an in-person 2021-2022 school year has just begun.

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Illinois policymakers have responded to the challenges faced by children during the pandemic, enacting the beginning of significant reforms meant to create and build better childhood education and healthcare systems. In March 2021, Governor Pritzker signed HB 2170, the Education and Workforce Equity Act.[36] Among many new changes, the law requires the Illinois State Board of Education to annually assess all public school students entering kindergarten to measure their readiness and also requires the Illinois P-20 Council, which was established by the legislature to foster collaboration between state agencies, education entities and communities, to make recommendations for the short-term and long-term learning recovery actions for public school students in the wake of the COVID-19 pandemic. The bill also creates a Whole Child Task Force to focus on expanding trauma-responsive school services. In April 2021, Governor Pritzker announced that $1.6 billion in federal funding will be allocated towards early childhood education and child care providers in Illinois. In July 2021, Governor Pritzker signed HB 3308 into law, which increased access to telehealth services in communities across Illinois. The legislation prevented a gap in coverage by permanently expanding parity requirements for mental health and substance use disorder services while authorizing all other telehealth to be covered through 2027.

With the start of the school year and the Delta variant spreading across Illinois, Governor Pritzker has also reacted swiftly in an effort to protect the health of children. On August 4, 2021, Governor Pritzker ordered an indoor mask mandate for all teachers and students in all Illinois schools. By August 19, 2021, 41 of Illinois's 852 districts were already on probation for not enforcing the mandate. With the Delta variant continuing to spread, the Governor announced a new mandate on August 26, 2021, requiring all teachers, kindergarten through college, to either receive the coronavirus vaccine or to submit to weekly testing.

2021 RURAL HEALTH SUMMIT POLICY RECOMMENDATIONS

The pandemic's effect on rural children is rapidly changing. These recommendations were initially written to build a brighter future for Illinois' rural children with proposals focusing on the long-term investments necessary to achieve success. However, the rapid spread of the COVID-19 Delta variant has modified our recommendations to also incorporate immediate strategies to help Illinois' rural children grow and develop.

Build the capacity in rural Illinois to provide children with the academic, social and emotional skills necessary to be prepared for kindergarten.

The current state of Illinois' early childhood education system is unacceptable. Pre-pandemic, 75 percent of Illinois children were not prepared for kindergarten.[37] That percentage is expected to increase significantly based on the challenges caused by the pandemic. Important and impactful decisions need to be made immediately to build the necessary capacity for rural Illinois children to gain the academic, social and emotional skills for kindergarten readiness.

The data is clear that high quality early childhood education programs work. Early childhood education programs that engage children and focus on building social and emotional skills increase the likelihood of being employed full-time or self-employed (59 percent to 42 percent), of completing high school without suspension (67 percent as compared to 40 percent), result in less arrests and even lead to intergenerational benefits such as better health and lasting upward mobility.[38]

An analysis of the 50 states and District of Columbia across 12 metrics and three dimensions ranked Illinois' early education system 13th in the country. Illinois does well in access (3rd) but ranks 45th in terms of quality of early education and 24th in resources and economic support.[39] Yet, Illinois' great strength in access is diluted with significant child care deserts in rural communities.

The Pritzker administration is making a significant investment to change our kindergarten readiness.

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The investment of $1.6 billion allocated towards early childhood education and child care providers in Illinois from the American Rescue Plan will give struggling programs the resources and guidance needed to improve quality.[40] These funds are building on a Ready Illinois report released by the Illinois Commission on Equitable Early Childhood Education and Care Funding offering three critical recommendations: 1) to use a long-term funding goal in policymaking to advance equity and quality, 2) to make sense of the system, coordinate early childhood education and care funding and 3) centralize early childhood and care programs into one state agency to make it easier for parents and providers. The authorization of funds by the Governor in April 2021 started this process by announcing a new Division of Early Childhood in the Department of Human Services.

Despite its many strong points, the Ready Illinois report mentions the word "rural" only seven times. To change the early education and care system in rural communities, greater capacity needs to be built in understanding childhood need, building and enhancing workforce, addressing social determinants of health and concentrating on the social and emotional learning necessary to help mitigate the challenges of adverse childhood experiences. A growing body of evidence shows the connection between social-emotional learning and academic outcomes, improved behaviors, poverty reduction, improved economic mobility and life outcomes and an 11:1 return on investment.[41]

Innovation in this area is already blossoming in rural Illinois. In central Illinois, Hillsboro Community Child Development Center is partnering with Hillsboro Area Hospital to create a program called "Little Leaps." Little Leaps provides children's brain-building bags, shown in Figure 3, focused on social and emotional learning to improve developmental outcomes. In deep southern Illinois, the Southern Illinois Coalition for Children and Families is building on existing efforts to enhance developmental screening data collection to create a strategy of early childhood education and care that will result in greater return on the Governor's early childhood investment.

FIGURE 3: The Little Leaps Program Provided Parents and Children Interactive Items and Instructions in Hillsboro, IL

Increase funding and technical assistance opportunities for rural schools to provide quality, affordable and comprehensive health care to children.

Transportation challenges and lack of nearby healthcare providers make children in rural areas less likely to receive important care such as well visits. Schools offer a unique opportunity to provide health services that can eliminate transportation barriers. Increasing school-based health centers (SBHCs) could close gaps between rural and urban health outcomes based on lack of care. Last year, as part of the Consolidated Appropriations Act, 2021, Congress enacted the School-Based Health Centers Reauthorization Act of 2020, which extended authorizations for federal funding for school-based health centers through 2026.

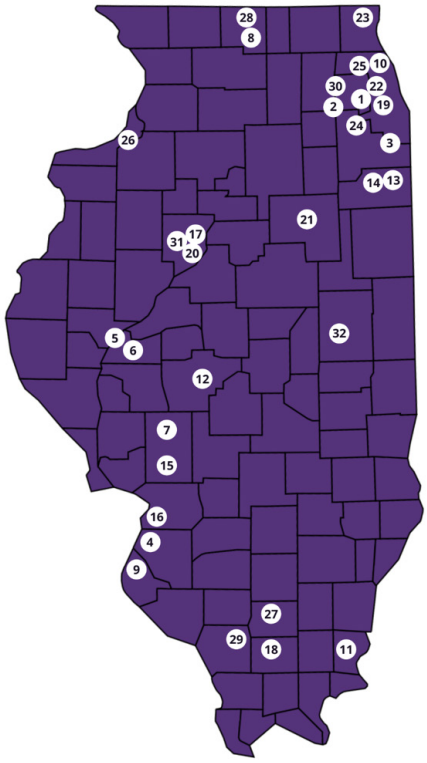
The benefits of school-based health centers are well-established, particularly for marginalized populations. The need has only grown more urgent during the COVID-19 pandemic as school-based health centers can be crucial in supporting students' mental health needs and offering preventive care. Some states and schools have created SBHCs specifically to alleviate rural health and educational inequities.

In the United States, 46 percent of SBHCs are in urban areas, 36 percent in rural regions and 18 percent in suburban communities.[42] Currently, only 17 states allocate funding for SBHCs, totaling $91.3 million for 855 SBHCs.[43] These facilities, which can be located in schools, near schools or a mobile van visiting schools, are typically run by a Federally Qualified Health Center (FQHC), hospital/medical center or local health department.[44] These organizations provide, at a minimum, a primary care provider and usually a nurse practitioner or physician assistant to serve patients. Many SBHCs also include mental health professionals, dentists, care coordinators, nutritionists and others.[45] In the 2016-2017 academic year,

65 percent of SBHCs provided behavioral health services.[46]

There are 66 SBHCs in Illinois. As Figure 4 shows, 34 are located in Chicago and 32 are dispersed across the rest of the state.[47] The overwhelming majority (71 percent) of SBHCs are located in urban areas with the rest being distributed equally between suburban (14 percent) and rural (14 percent) Illinois. One of the biggest advantages to clinics is their adaptability to the school district or community. There are three different types of SBHCs in Illinois: school-based (82 percent) which are located inside a school building, school-linked (13 percent) which are a fixed site near a school campus and mobile (5 percent) which consist of large vans or trailers fitted with the needed equipment. When it comes to staff and services, almost all (95 percent) SBHCs have primary care and behavioral health offerings, while 63 percent provide some type of oral health services (such as fluoride, sealants, screenings and exams).

FIGURE 4: School-Based Health Centers in Illinois (outside Chicago)



Illinois has many examples of school-based health centers that are making an impact. OSF HealthCare's Care-A-Van, for example, is a mobile health care facility utilized to provide health care for children. This mobile health center provides screenings, immunizations and health education at schools, churches and service providers such as the Salvation Army or food pantries.[48] The Gallatin County Schools Health Services Department is a SBHC in southern Illinois that serves K-12 students. The Gallatin SBHC employs a nurse and two health aides who offer services such as preventative health care exams, dental screenings/exams, vision exams, physicals, medicine administration and more.[49]

The moment is now to invest in enhanced school-based health centers all across rural Illinois. School-based health centers offer highly efficient and low-cost care. However, many centers operate on a limited budget. Marginally subsidizing start-up costs (generally ranging from $5,000 to $130,000) and operating costs (generally ranging from $90,000 to $210,000) could incentivize potential sponsors to offer services to build and sustain new SBHCs.[50]

The recent signing of HB 3308 and enhanced investment in federal funding to combat coronavirus creates immediate opportunities to embed and expand school-based health delivery services. These investments can start with telehealth. With a new school year just starting, building the infrastructure to support virtual visits offer more students access to critical health care. Successful models exist all across the country including a recent pilot telehealth program in rural Missouri created by Blessing Health System.[51] However, providing virtual care can be the foundation for delivering more in-person health care services in the future. The easiest and more effective place to start is an effort to provide vaccinations. School-based health centers have been well-suited in the past to increase vaccination access and rates and will be particularly helpful in vaccinating the remaining unvaccinated student population older than age 12. SBHCs would also serve as an ideal location for reaching additional students when COVID-19 vaccines become available to more age groups. School employees' existing relationships with students and parents bolster trust in medical advice and vaccine administration, reducing vaccine hesitancy.

Schools have the potential to fundamentally change the way healthcare is delivered to children in rural communities across Illinois. The pandemic has provided the momentum to increase school-based health centers and provide the care children need to be safe from the pandemic and to grow and develop.

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Invest research and program funds to encourage childhood service sectors to provide integrated, personalized and comprehensive services to children and families in rural communities.

Many parents rely on the resources provided by social service programs for their children's mental, behavioral and developmental challenges. However, many rural social service programs concentrate in individual sectors and fail to provide a coordinated, comprehensive approach for the individual needs of each child. Illinois must provide funding for rural communities to innovate new approaches to better provide integrated, comprehensive and flexible care for all children. Social service delivery must be embedded within the healthcare and educational centers with service providers, healthcare providers and education leaders collaborating and communicating about both the individuals they serve and the community at large. Such opportunities will create scalable policies and programs to build brighter futures for rural children.

These new models need to be concentrated around a system of care philosophy, which creates a spectrum of effective, community-based services and supports for children at risk for physical or mental health challenges, as well as their families. Services in a system of care are organized into a coordinated network, build meaningful partnerships and address cultural needs to help families function better.[52]

Illinois has been an innovator in piloting systems of care to prevent, diagnose and treat children's mental health behavioral and developmental disorders. The Illinois Children's Healthcare Foundation, a private foundation that funds children's healthcare statewide, is a leader in promoting this work. The Foundation has invested in three cycles of children's mental health initiatives (CMHI 1.0, 2.0 and 3.0) to build mental health systems of care. This work has paid special attention to small and rural communities and has funded efforts in Adams, Carroll, Lee, Ogle, Whiteside, Livingston, Knox, Warren, Henderson, Tazewell, Woodford and Boone counties. Based on the findings of the CMHI 1.0 report, these systems of mental health care improved levels of system integration, increased rates of screening for behavioral and developmental concerns and built sustained capacity in these communities.

Another example of comprehensive systems in rural Illinois is Resilient Southern Illinois (RSI). RSI is an organization founded by the Partnership for Resilience to address the impacts of adverse childhood experiences on students.[53] It provides resources, tools and networking opportunities for educators and other personnel in member districts to encourage support of the "whole child." During the 2019-2020 school year, Resilient Southern Illinois hosted training sessions with approximately 900 participants such as teachers, school support staff, and administrators to create a school-specific plan for implementing trauma-responsive practices.[54][55,56] RSI also works to institute individualized success planning for all students while also creating a seamless continuum of care between pre-kindergarten and graduation.[57]

The work of organizations like those funded by the Illinois Children's Healthcare Foundation and Resilient Southern Illinois provides a blueprint for changing the models that serve children. It is now time for Illinois policymakers to build on these ideas to allow more communities to pilot their own unique community-centered models. One opportunity might be the Healthcare Transformation Collaboratives funded by the Illinois Department of Healthcare and Family Services (HFS). This recently launched $150 million per year initiative to reorient the healthcare delivery system in Illinois around people and communities is tied around HFS's new quality strategy, emphasizing children's priorities including maternal and child health as well as child behavioral health and equity. Additionally, the Illinois Children's Mental Health Partnership is currently conducting a process to create a new Children's Mental Health Plan for Illinois, the first such plan for the State since 2005. Using a public health approach, this Plan has the opportunity to build and incentivize a system of care philosophy for action that will address social determinants of health, prevention, early detection, and treatment.

The children of rural Illinois need a concentrated, intentional effort across sectors during the pandemic and in a post-pandemic future. We must start now to invest wisely in creating the brightest futures for their health, happiness, and success.

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