Resilient communities are built upon a foundation of health, economic, and social supports that enable people to weather storms and overcome adversity. Now, more than ever, we have access to the data and technology needed to understand and take action on the complex and interconnected issues that need to be addressed to support family and community well-being. The past year has tested the ability of our nation to adapt and persevere through crisis in ways unknown in recent history. We have made significant advancements—for example, our country is a world leader in vaccine distribution and our economy continues to rebound from the shocks of the COVID-19 pandemic. And, we have much work to do; deep disparities in our COVID-19 response and recovery remain and we have a long road ahead to dismantle the longstanding inequities that led us to the moment we are in today. The readiness of our public systems to get help to those who need it during periods of turbulence and instability is pivotal to moving us towards an equitable future.

Shifting our system of supports upstream to prevent crises before they happen is a key part of this strategy. Our nation continues to grapple with how to realign investments in our human infrastructure to yield high returns by reducing the need for reactive and more costly health and social services interventions. At the center of this effort are state and local human services agencies that connect people facing significant adversity to food, quality and affordable child care, job opportunities that lead to family-sustaining wages, and systems of support that reduce stress and mitigate trauma. In short, human services agencies harness many of the key building blocks that are the cornerstone for well-being and help people and communities reach their potential.

Recent actions taken through the American Rescue Plan and prior COVID relief legislation provide an important down payment towards building an equitable future, and the administration's current proposals to invest in American jobs and families offers further optimism that we can realize this future. Yet, to address root causes of poverty and create
human-centered experiences with families in the driver’s seat of their own lives, we must reengineer our systems of delivery, including the technology that undergirds it. The tools we provide for people to apply for help, engage in services, and maintain benefits can have a powerful effect to either counter or exacerbate structural barriers to accessing assistance. Furthermore, the ability to tap data insights from these tools is pivotal to understand what services are working for whom, so that agencies are guided by evidence to continuously improve service delivery. The moment is now to modernize our data and technology infrastructure to achieve the outcomes that are within reach and help us maximize the returns on investment for our nation’s families.

A Watershed Moment in Human Services Technology

Those familiar with the history of human services technology solutions know that such solutions often lag behind the changing needs of practitioners, policymakers, and the people they serve. Many states still find it technically challenging and costly to keep their systems synced with evolving policy and practice. This in turn leads to challenges providing equitable access to benefits and services and responding to increased technological threats.

At times it’s difficult just to keep the lights on; the near-collapse of some state Unemployment Insurance systems when confronted with the flood of claims unleashed by the COVID-19 pandemic was just one more reminder that our legacy applications are dangerously fragile. As highlighted in a recent assessment from the Government Accountability Office, aspects of the federal government’s economic response to the coronavirus pandemic were marred by outdated state technology operating systems and a crushing volume of beneficiaries that overwhelmed many systems.¹

Lack of integration among systems poses another critical challenge. To meet our mission, we must take a whole of government approach that enables the services that constitute the social determinants of health to work together in service of people. Overcoming the siloed funding streams, rules, and requirements that keep our systems and sectors disconnected remains one of the largest challenges we face. There are needless, avoidable costs on both sides of the equation: on the one hand, barriers to efficiently accessing services in a time of critical need and in ways that help families succeed for the long run, and, on the other, operational burdens on technology teams and systems when they can least afford to shoulder them. The persistent digital divide between technology haves and have-nots, especially among underserved communities, are a part of the structural inequities embedded in our society. While we have made tremendous advancements in technology in recent years, progress has been uneven in how this translates into person-centered services that support people’s well-being and mobility.

There is good news on the horizon. There are hopeful signs that the health and human services (H/HS) field is poised to close the gap between policy/program needs and the technology infrastructure that supports them, improving the resilience of mission-critical systems and providing more equitable access to supports and services. Although the effort is complex and certainly will not happen overnight, positive change is afoot.

The Consequences of Outdated Systems

Most state and local H/HS systems were originally designed to conform to an eligibility-based, transaction-oriented system of separate programs that must comply with a panoply of laws and regulations that govern the delivery of health and human services. While it took some years for the unintended consequences of this approach to become apparent, they couldn’t be clearer now. Such systems are often the greatest impediment to innovative practice initiatives—many with well-established potential to improve outcomes for children, families, and communities. Waivers, Memorandums of Understanding, and policy variances can sometimes be arrived at fairly quickly once there is agreement to try something new; recoding a thirty-year-old software application to link clients across the programs they interact with and create a human-centered experience for the services they need represents another order of difficulty entirely.

Deployment of constituent-facing, self-service tools—tools that enable individuals and families to interact with government in a far more effective and dignified manner and unlock benefits and services tailored to support upward mobility—lags years behind the private sector. Building on what we know works, we can redesign human services systems to put people in the driver’s seat to tap the services that help them achieve their goals, while simultaneously reducing costs and using data insights to drive continuous improvement in state and local agencies.

The Funding Dimension

Funding models underlying the development of H/HS systems have long reinforced the transactional, compliance-centric view. Federal financial participation (FFP)—the rate at which the federal government matches state IT investments—differs program-by-program, providing matches as high as 90% for Medicaid compared to just 50% for the Supplemental Nutrition Assistance Program (SNAP). The varied levels of investment, paired with complex and often misaligned federal requirements dictating design of federally financed systems, make it difficult to harmonize systems even when kindred H/HS programs serve many of the very same people. Moreover, the lower federal investment in systems responsible for combatting poverty, reducing hunger, and keeping families safely together contributes to the broader dichotomy of a public sector that continues to prioritize treating symptoms rather than addressing root causes. Our financing of public systems must reflect our commitment to dismantling the structural inequities that persist in our country.

Progress towards reshaping investments in IT that reflect our vision for a more equitable future has been uneven in recent years. The effort to take a social determinants of health-focused, integrated approach to system modernization via the A-87 Exception helped temporarily accelerate this work during the early years of the Affordable Care Act expansion. However, the short-lived availability of this policy lever left much of its promise unfulfilled. Though visionary leaders at all levels have long since moved past old ways of thinking, the current funding dynamic continues to limit what they can do. This presents a very real impediment to implementing best practices and opening access to a wider population, however universal those desires may be.

Interoperability – A Necessity for People-Centered Services

Because families facing challenges often access more than one H/HS program, improvements in data sharing create more responsive, cost-effective, and ultimately successful services. While human services agencies and the partners they work alongside sit on a wealth of data, the ability to link and quickly translate this information within and across systems remains error prone and outdated. For example, something as simple as communicating a change of address, or a change in household composition that could affect several programs, is almost certain to involve duplicative, confusing, manual processes, which is not only inefficient but also unnecessarily threatens the continuity of services for a family. Actual coordination of case management—sharing of case notes and plans, coordination of multidisciplinary teams through data access—represents an even higher hurdle. Overlay a sudden crisis—a pandemic, a wildfire, the death of the primary breadwinner—and a family can quickly find itself in freefall when coordination across public agencies is lacking.

The inability to securely meld data drawn from multiple repositories makes it extremely difficult for practitioners to embed real-time, outcome-driven decision making into their work. Nor can policy analysts get a clear, evidence-informed picture of what is working in the field and what is not. The entire H/HS delivery system, consequently, suffers from chronic data blind spots.

We can do better. Contemporary interoperability technologies (e.g. RESTful web services, open APIs) and standard data models (HIPAA transactions, NIEM) allow for data exchanges to be implemented faster than ever before. It’s rarely necessary to hard-code interfaces in this day and age. If new data elements need to be added to an exchange in...

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2 The A-87 Cost Allocation Exception expired after December 31, 2018, after which the traditional A-87 Cost Allocation rules fell back in place. The Exception allowed human services programs to share a broad range of business and technology components with Medicaid at no additional cost, except for those elements specifically required by other programs. This allowed non-Medicaid programs to leverage the 90% FFP match put in place to support the eligibility system changes required to support implementation of the ACA.
order to support a promising pilot initiative or crisis response, this can often be done without writing a line of code. University partners are increasingly stepping in to help government link data across programs and agencies so that policymakers, researchers, and community partners can make sense of administrative data and inform new and improved strategies for achieving impact.

Many legacy systems, unfortunately, are too architecturally antiquated to participate in the new data sharing world. The necessary migration work, though an eminently worthwhile investment, is costly, especially when state budgets are under pressure from all sides. Specific federal funding support for interoperability efforts and strong leadership to reduce barriers to data sharing will enable states to move much more quickly to integrate data systems and thereby to integrate services for those in need, strengthening families and communities as a result. Advancing solutions is a marathon, not a sprint—recent investments to reinforce state and the pandemic response and recovery efforts of state and local governments provides an important down payment, but sustained focus and resources is needed to create lasting impact.

### Integrated Data Across Agencies: The Linked Information Network of Colorado (LINC)

With support from the Colorado Evaluation and Action Lab, an initiative of the University of Denver, the State of Colorado launched the Linked Information Network of Colorado (LINC). Through LINC, seven state and regional agencies came together to share data in a centralized hub to create anonymized datasets for approved end users. The data hub enables policymakers and researchers to holistically look at the interplay of housing, health, education, economic supports, employment, early childhood, and the criminal justice system on child and family well-being.

The LINC model is supported by a governance structure that establishes a clear vision, terms and conditions for how data will be handled, and roles and responsibilities for end users of LINC project data. The state is currently conducting numerous research projects through LINC, including examining primary prevention strategies to reduce child maltreatment, supporting children dually involved in the child welfare and juvenile justice systems, and building a statewide view of the early care and education workforce.

### Using Interoperability to Increase Access to Nutrition Supports

In the Spring of 2021, Share Our Strength announced funding for six demonstration projects led by state and local SNAP agencies to coordinate SNAP benefits and services with other nutrition supports to reduce childhood hunger and support family well-being. Through each project, SNAP agencies will coordinate with key public and community partners to make improvements in interoperability across nutrition programs to transform the way families access the full array of nutrition supports for which they qualify.

Embedded into the design of the initiative is a commitment to advance human-centered design changes that mitigate inequities in program access. Projects address a range of issues and barriers identified by SNAP agencies through data sharing between SNAP and WIC, development of data analytics tools and dashboards, and tracking client experience and improving referrals between SNAP and community-based partners. Lessons learned through the demonstrations will be used to inform state and local best practices and distill federal policy recommendations that advance cross-program alignment.

### An Investment in Technology Resilience is an Investment in Community Resilience

If the organizational needs supported by H/HS systems were static, there would be little reason to tackle the daunting task of modernizing them. But the needs of H/HS programs, of course, are anything but static. Implementation of the Family First Prevention Services Act (FFPSA) constitutes a landmark shift towards prevention-based child welfare services that requires massive changes in how agencies track child services and report family outcomes. Similarly, the COVID-19 pandemic has accelerated the need for modernizing systems and interoperability in SNAP to support online purchasing, invest in virtual wallets and
mobile applications to access benefits, and create streamlined data sharing with schools to provide access to food during summer months and in periods when in-school meal access is disrupted. Moreover, virtual programming for things such as employment and training, home visiting, and client education services have quickly become a permanent part of the fabric of the wide range of family and work supports offered through human services agencies.

The pandemic also revealed the importance of operational investments that must undergird a resilient human services system to respond to crises. The ability to rapidly adapt operations when experiencing disruptions—for example, spinning-up virtual call centers, conducting remote case processing, and deploying the tools needed for a remote workforce—all rely on strong technology infrastructure for a smooth transition. These capabilities reflect more than just disaster preparedness; they are tools any agency requires to meet the needs of a modern workforce and customer base. On top of these demands, throw in the curve balls: hurricanes, multi-state network outages, and ransomware attacks. All these drivers point to a common need: technology resilience.

Faced with tremendous adversity, the challenges posed by the COVID-19 pandemic have shown the creativity of human services professionals, but also the comparative inflexibility of the technology they rely upon. Using band-aid solutions in the shift to virtual services while trying to keep up with the flood of changes to program rules and increased demand for services—all while operating on already insufficient resources to maintain outdated systems—has certainly revealed the grit of human services agencies and their core partners. Yet we know we can and must do better. Now is the time to invest in resilient information systems, an investment that will in turn promote resilient communities.

**Weaving Equity throughout Technology Modernization**

In keeping with the Administration’s whole-of-government commitment to ensuring equitable access to government benefits and services, technology modernization efforts should make this criterion a specific requirement in solution development. Innovative practices in system modernization can contribute significantly to more equitable solutions. Self-service capabilities, for example, allow constituents to access benefits and services without taking time off work to visit a public agency during office hours. Analytics-aware data models can help program managers quickly spot disparities and gaps in service availability and provision that may reflect systemic biases. There are countless additional ways in which solution designers can enhance agencies’ ability to center equity in all they do. Intentionally building these into the design of business requirements, project implementation,
What the Federal Government Can Do

The tracks are already being laid to chart a new course forward to modernize human services systems. The administration’s Executive Order on Advancing Racial Equity and Support for Underserved Communities places data and technology squarely in the center of their approach to equity, establishing an Interagency Working Group on Equitable Data and integrating data and technology assessments into agencies’ equity planning efforts. These efforts are already resulting in concrete action, such as the establishment of benefit delivery teams across federal agencies and guidance on uses of American Rescue Plan state and local aid funds in support of an equitable economic recovery.

With human services as a cornerstone to support American jobs and families, accelerating IT modernization efforts will pay significant dividends advancing the administration’s priorities. We offer three specific areas of action for consideration, which together comprise a strategic, innovative, equity-focused approach to investing in systems that tens of millions of Americans rely on every day.

**RECOMMENDATION 1: Use a Social Determinants of Health Framework to Finance Integrated H/HS Systems**

Years of research has confirmed what we innately know is true—our health and well-being is closely linked with our access to the building blocks we all need to thrive, including food, housing, economic security, education, and community supports. These social determinants of health (SDOH) are foundational and interconnected for all people and communities to realize their potential. Yet we continue to fund services in a program-centric, fragmented way. Moreover, we prioritize IT funding for more costly, downstream health services through Medicaid, while dedicating far fewer federal funds in the social determinants that could help to mitigate negative health outcomes before they happen.

For states to effectively apply a SDOH framework, federal policy must allow state and local human services agencies to braid funding together to build integrated, cost-effective, and outcome-focused systems. Federal financial participation (FFP), the federal rate at which IT costs are covered, are reimbursed at a 90% rate for healthcare Medicaid Management Information Systems, whereas human
services and related preventive programs continue to be reimbursed at a far lower rate. By allowing states to finance H/HS systems through comprehensive planning across all of the service array at the 90% reimbursement rate, federal policymakers can take an important step to move beyond the endless cycle of code patching and firefighting in outdated systems. Extending this financing to the contracted community-based partners that are essential to helping human services agencies meet their mission is a critical part of the solution to countering siloed systems of service delivery.

### RECOMMENDATION 2: Promote Modern Practices to Human Services Delivery Systems

Federal funding strategies for H/HS system modernization should incentivize design of systems that reflect recent and emerging ways people interact with services that support continuous improvement of SDOH factors. Modern practices the federal government should promote include:

- Robust self-service tools that make it easy for individuals, families and community organizations to identify appropriate supportive services and immediately engage with them
- Standardized video capabilities that enable caseworkers to “meet” their clients where they live, reducing stress on parents, and creating opportunities to communicate more regularly. While not a substitute for face-to-face interactions, especially for child-welfare involved families, the pandemic revealed how valuable virtual connections can be for observing living conditions and supporting resolution of family stressors when a timely face-to-face visit isn’t possible
- Case management tools that provide an “on demand” perspective by pulling data from multiple programs in order to present a holistic view of family needs
- Streamlined eligibility systems that not only determine eligibility for core assistance programs (e.g., Temporary Assistance for Needy Families (TANF), SNAP, Medicaid), but also create seamless connection to additional supports that help families stabilize and provide opportunities for upward mobility (e.g., housing assistance, utility bill assistance)
- Data infrastructure crafted to support cross-program analysis of outcomes that helps agencies collect data and build evidence in appropriate and protected ways to reflect the needs of underserved individuals and communities

Federal policymakers can advance these practices by expanding targeted innovation funds and providing states with technical assistance and flexibility to implement improvements across the state H/HS enterprise. When developing these, it is critical that funding be structured to facilitate improvements that work to the benefit of people across programs and funding streams. By encouraging the incorporation of SDOH thinking into system modernization efforts, the Federal government will help dissolve artificial bureaucratic boundaries that hinder the coordination of benefits, services, care plans, outcome reporting and a host of other critical success factors for individuals and families.

A Model for Integrated Federal Financing: The A-87 Exception

In 2015, DHHS and USDA announced a three-year extension of the so-called A-87 Exception, an innovative change in federally-mandated IT cost allocation formulas which encouraged the sharing of key solution building blocks (typically acquired for Medicaid systems) among kindred H/HS agencies. Federal financial participation at the ninety percent level was offered to facilitate the rapid modernization of agency systems, which was further accelerated by the new ability to share solution components, running the gamut from business rules engines to scanners.

For a brief time, this “braided” funding—provided without regard to artificial, bureaucratic boundaries between programs that often served the same individuals and families—enabled many states to leapfrog modernization obstacles they faced for decades, saving taxpayer dollars in the process. For additional information, see APHSA’s webpage on the need for and use of the A-87 exception.
RECOMMENDATION 3:
**Realignment of Federal Policies to Advance Efficient and Human-Centered Systems of Delivery**

State and local efforts to build integrated systems that provide people seamless access to the services and supports people need are often hindered by misaligned federal policies. The burden of poorly configured policies falls squarely on the shoulders of the families that must navigate time-consuming, arduous, and duplicative processes. Solving these issues requires federal partners to advance their own interagency planning efforts and to modernize tools they deploy to help human services agencies realize their mission.

Well-established areas where better integrated policies across programs and agencies can facilitate more seamless and user-friendly IT systems include:

- Align rules for certification periods and interview requirements in Medicaid, SNAP, and related programs. Because many families interact with multiple services, we can collect information through a single touch point to process cases more efficiently and break down barriers for underserved communities to access and engage in services.

- Establish integrated access to income verification tools. Separate contracts that force states to pay multiple times for access to the same income verification data make little sense. In addition, differing rules on how this income data can be used to establish eligibility place added burden on clients and caseworkers. Federal policy change can provide a path forward to rectify these inefficiencies.

- Develop a cross-agency, prevention-focused framework of care that connects to a continuum of supports necessary to ensure child and family well-being. Plans of safe care that are designed to support children who are prenatally exposed to controlled substances place the singular burden on child welfare agencies to track and report on child well-being. Restructuring these policies to support integrated systems of care that work in partnership with community supports to keep families safely together can foster shared oversight and accountability for tracking children in a way that prevents the unnecessary entry of children into the child welfare system.

- Increase the accuracy and timeliness of federal eligibility data matching tools. Many current federally mandated data matches house information several months out-of-date, yet require agencies to act upon information in different ways that create complex time loops in IT systems and then require manual resolution of stale matches. Policy and system modernization at the federal level can greatly improve the utility of these information tools.

Systematic efforts to foster interagency alignment at the federal level can begin to peel away the compounding effect of the broad array of policies that contribute to the problem. State and local agencies stand as crucial partners to advise on what is needed to find tangible solutions.

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**The NEICE Interoperability Success Story**

The National Electronic Interstate Compact Enterprise (NEICE) is an electronic system for transferring data and documents across state lines quickly and securely in support of interstate placements of children as governed by the Interstate Compact on the Placement of Children. NEICE was originally funded through the OMB’s Partnership Fund for Program Integrity Innovation and has been sustained with support from the Children’s Bureau within the HHS Administration for Children & Families.

Through NEICE, states have been able to greatly expedite the exchange of data between agencies needed for children in care to be placed across state lines. Early efforts to integrate datasets and make IT systems interoperable often involved cleaning one data set and adding it to another or building bidirectional exchanges between each system. NEICE utilizes data standards to translate existing data as it moves from one data system to another. Because NEICE uses the same set of standards across state systems, states can retain ownership and control of their data in the format that works for their system and still communicate with state systems across state lines. The result has been increased efficiency of vetting and placing children across state lines for foster care, relative, adoptive and other placements.

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RECOMMENDATION 4:
Building the Data Capacity of Human Services Agencies and their Community Partners

To unlock the potential that human services technology holds, we must invest in the workforce, building their capacity to use and analyze data and equipping them with the modern tools and resources needed to succeed. We must also overcome the very real gap between the public and private sectors that makes it difficult to recruit and retain IT talent. Federal policymakers can support these efforts in a range of ways, including:

- Invest in state and local digital service teams that can be temporarily embedded in human services agencies to overcome critical barriers to and accelerate design of integrated, human-centered systems of delivery. These teams can play a pivotal role in helping agencies adopt lessons learned from the COVID-19 pandemic to build more modern and resilient systems.

- Fund professional development and exchange programs that help human services agencies develop and grow IT talent with support from industry leaders. In particular, this is needed to support opportunities for upward mobility for women and people of color in IT leadership roles within HHS, including within community-based organizations that are a critical part of the human services delivery structure.

- Create innovation funds to help human services agencies adopt and integrate advanced data analytics and interoperability tools into their IT infrastructure. Funding for such efforts should be targeted to help agencies more systematically understand structural inequities within human services and develop continuous rapid cycle testing and feedback loops to better measure progress in dismantling barriers to access and participation.

- Address lack of competitive, modern technology options available for human services agencies. For example, with only two Electronic Benefits Transfer (EBT) contractors serving the overwhelming majority of state SNAP programs, H/HS agencies are limited in their ability to procure cost-effective, modern solutions to help deliver benefits and provide purchasing options that work best for families served. Similar market challenges exist in other areas such as third-party income verification databases.

Just as we must always center our IT investments around the people we serve, we must ensure that the people that undergird our IT systems are invested in so that change and evolution in human services IT is transformative and sustainable. By building field capacity, we can accelerate the progress that is needed for human services technology to act as a catalyst in driving better outcomes for the people and communities we serve.

In Conclusion

Recent innovations in technology have opened a path for H/HS agencies to dramatically strengthen their data and technology infrastructure while providing fairer and more equal access to crucial benefits and services. By taking the concrete policy steps outlined in this brief, we believe that Congress and the administration can help human services agencies accelerate the construction of next-generation systems that support the move toward a data-driven, equitable, multidisciplinary service delivery model.

As our nation perseveres through the tremendous adversity of the past year and H/HS agencies set into motion the investments authorized through Congress to drive a strong and resilient recovery, the opportunity has perhaps never been greater to vault H/HS systems forward. With a shared focus to support thriving communities built on human potential and a federal commitment to equip H/HS agencies with the tools they need to achieve the mission, we can bring about a sea change in the way services are delivered that has lasting positive impacts for all.

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