

Advancing a Coordinated Ecosystem for a Social Health Information Exchange (S-HIE) in Colorado

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This white paper was created in collaboration with the Colorado Health Institute, the Colorado Office of eHealth Innovation (OeHI), the eHealth Commission, and the OeHI Care Coordination Community Engagement Task Force in support of the Colorado Health Information Technology (IT) Roadmap. The Health IT Roadmap defines strategic initiatives to close the gaps in health care for patients and providers. OeHI is responsible for defining, maintaining, and evolving Colorado's Health IT strategy concerning care coordination, data access, health care integration, payment reform, and care delivery. In 2018, a group of governmental, health care, public health, philanthropic, and community-based partners published the first white paper on social health information exchange (S-HIE), emphasizing the importance of planning for a statewide infrastructure and recommending ways for these sectors to work together. Two years later, this updated white paper reiterates the need for core components for S-HIE infrastructure and highlights key considerations for moving statewide S-HIE collaborative efforts forward.



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Glossary of Terms

Better system coordination begins with a shared vocabulary.

Below are the definitions for terms used in this paper:

Governance: How a group organizes to make decisions. This includes who has decision-making authority, availability and access to funding, and how people and organizations are held accountable. A coordinated S-HIE governance structure can ensure alignment between local and state S-HIE policies, procedures, and initiatives.

Government programs: Includes programs and services such as food assistance (Supplemental Nutrition Assistance Program or SNAP), public insurance (Children’s Health Plan *Plus* or Medicaid), and cash assistance.

Health care or medical services: Services delivered by medical providers such as clinics, medical practices, hospitals, and ancillary therapists.

Interoperable: The ability of different information systems to work together and share information.

Referral system: A set process that connects patients/clients with needed health care and SDoH services; tracks whether the services were accessed; and reports on the outcome of the services.

S-HIE users: Any person or institution who will directly participate in any component of S-HIE, which includes activities such as screening for social needs, making a referral to a partner, accessing a patient/client record, coordinating care and services, and analyzing population-level data.

Social determinants of health (SDoH): The conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. The social determinants of health are mostly responsible for health inequities — the unfair and avoidable differences in health status seen within and between communities.

SDoH services or resources: Services that address needs such as food insecurity, housing, childcare, transportation, and education, and are delivered by non-health care organizations in communities.

Social health information exchange system: A social health information exchange system uses technology and other tools to allow data and information sharing among health care and SDoH service providers to improve care coordination for individuals. This includes individual and aggregated data.

Social health information exchange infrastructure: A statewide network of interconnected S-HIE systems that share core components, data standards, and common practices.

Social health information exchange ecosystem: The complex environment that enhances or inhibits the people, processes, and technology that are required for the safe and meaningful exchange of social and health information between sectors.

System implementation: The process of starting up a coordinated S-HIE ecosystem, including technical and workflow elements. This includes alignment of existing technology and workflows to make them scalable, efficient, and usable, as well as introducing new technologies and workflows to address gaps in current efforts.

Use case: A description of a real-world scenario that illustrates how a S-HIE could be used to address a specific need (e.g., stable housing), identifying how information will flow between users of the S-HIE, and how that information can be used.

Whole-person care: The coordination of health, behavioral health, and social services in a patient-centered manner with the goals of improved health outcomes and more efficient and effective use of resources.



Introduction

Unmet Social Factors Contribute to Poorer Health for Coloradans

The health of Coloradans is primarily influenced by nonmedical factors such as food, housing, social connectedness, and safety. These factors are often referred to as social determinants of health (SDoH). To support whole-person care¹ (the coordination of health, behavioral health, and social services in a patient-centered manner to improve health outcomes and promote efficient and effective use of resources) and improve access to comprehensive services, it is necessary to strengthen the connection between health care systems and SDoH services.

Unmet social factors increase the likelihood that a person will develop a chronic disease and not have resources to care for their illness. These unmet needs are often disproportionately experienced by Black, Hispanic, and indigenous populations², and are exacerbated during a crisis, like the COVID-19 pandemic, when people experiencing disparities face even greater barriers to protecting their health.

According to the 2019 Colorado Health Access Survey, more than one in four (28.3%) residents of Colorado have an income at or below 200% of the federal poverty level. Among them, 18.9% experience food insecurity and 12.1% lack stable housing — with rates even higher in some communities throughout the state.³ This has a clear impact on health: For example, among Colorado residents reporting unstable housing, nearly half report poor general (44.1%), mental (45.8%), and oral health (46.8%) — nearly four times the rate of those who have a decent place to live in stable housing.⁴

It is important to recognize that coordinating

care to address social factors is fundamental to impacting outcomes across many different issue areas and populations, not just healthcare. For example, improved whole-person care coordination has been identified as a key strategy for behavioral health reform and criminal justice reform in Colorado. Addressing social factors can result in better and more equitable outcomes centered around wellbeing and in cost savings that benefit multiple sectors, including government, healthcare, employers. The concepts and vision outlined in this document are intended to sit at the nexus of these issues, regardless of the improvement you're seeking to achieve from improved maternal mental health to reduced recidivism rates. It is time for all of us — working together between government agencies, non-profit organizations and the business community — to close the social, behavioral, and medical care loop for individuals facing unfair and detrimental barriers to health and wellbeing.

A Call to Action

In Colorado, there has been a growing focus on improving the pathways for Coloradans to access services that address social needs. The mounting research and increasing awareness of the influence of social and environmental conditions on health and well-being is leading many health systems and government agencies to ask the question: How do we adequately assess the needs of families and connect them to appropriate, quality resources?

These supports often exist within different systems and across various government and nonprofit agencies, raising barriers for users to get the help they need. This situation, in which services are disconnected from each other, is inefficient and ineffective — both for the individual and for service providers.

Committed partners across the state have set out to change that. In 2017, the [Colorado Office of eHealth](#)

[Innovation](#) (OeHI) and the [eHealth Commission](#) published [Colorado's Health IT Roadmap](#), which identified support for care coordination in communities statewide as its first initiative. In 2018, a group of governmental, health care, public health, philanthropic, and community-based partners [published the first white paper](#) on the social health information exchange (S-HIE), emphasizing the importance of planning for a statewide infrastructure and recommending ways these sectors could work together. (See box at right for S-HIE definition.)

Two years later, this updated white paper reiterates the need for core components for S-HIE infrastructure and highlights key considerations for S-HIE governance, system implementation, and user adoption.

This paper underscores the intention of statewide partners and stakeholders to create a S-HIE ecosystem that effectively supports a coordinated system of care for Coloradans. Many of Colorado's health care systems and community-based organizations would be best served by a cohesive vision. This paper aims to create a sense of shared accountability for partners to continue the hard work of building bridges between disconnected systems, making effective decisions, and creating a S-HIE ecosystem that is responsive to its users' needs.

The audience for this paper includes current partners in statewide S-HIE coordination work (community-based organizations, county human service agencies, clinical partners, health alliances, health systems, health information exchanges, etc.) and potentially interested future partners.

Problems to Solve:

A S-HIE system has an opportunity to address the following issues.

For individuals:

- Some Coloradans receive duplicative care coordination and support while others receive none.
- Some Coloradans must provide their personal identifying and health information to different organizations multiple times before they receive the help they need.
- Some Coloradans are unable to identify the available resources that meet their specific needs.

Social health information exchange system:

A social health information exchange system uses technology and other tools to allow data and information sharing among health care and SDoH service providers to improve care coordination for individuals. This includes individual and aggregated data.

Social health information exchange infrastructure:

A statewide network of interconnected S-HIE systems that share core components, data standards, and common practices.

Social health information exchange ecosystem:

The complex environment that enhances or inhibits the people, processes, and technology that are required for the safe and meaningful exchange of social and health information between sectors.

- Some resources are offered in a manner that makes them inaccessible or ineffective.
- Coloradans do not have a way to self-report their current needs and receive connections to services in real-time.

For communities and health care teams:

- Many community organizations and health systems do not have a systemic approach to identify and address gaps in needed services in an efficient and coordinated way.
- Many community organizations and health systems do not have an analytical view of subpopulations they serve. This data would illuminate where needs exist and identify effective interventions for specific populations.
- Care team members are unfamiliar with who else is on a client's care team, short-circuiting effective communication and coordination of support.

For funders and insurers:

- Funders of services do not have adequate population data about resource utilization and need, which can be used to inform future investments to optimize services across Colorado.
- Health care insurers do not have comprehensive data to inform risk adjustment and other critical payment strategies.

Defining a Social Health Information Exchange System

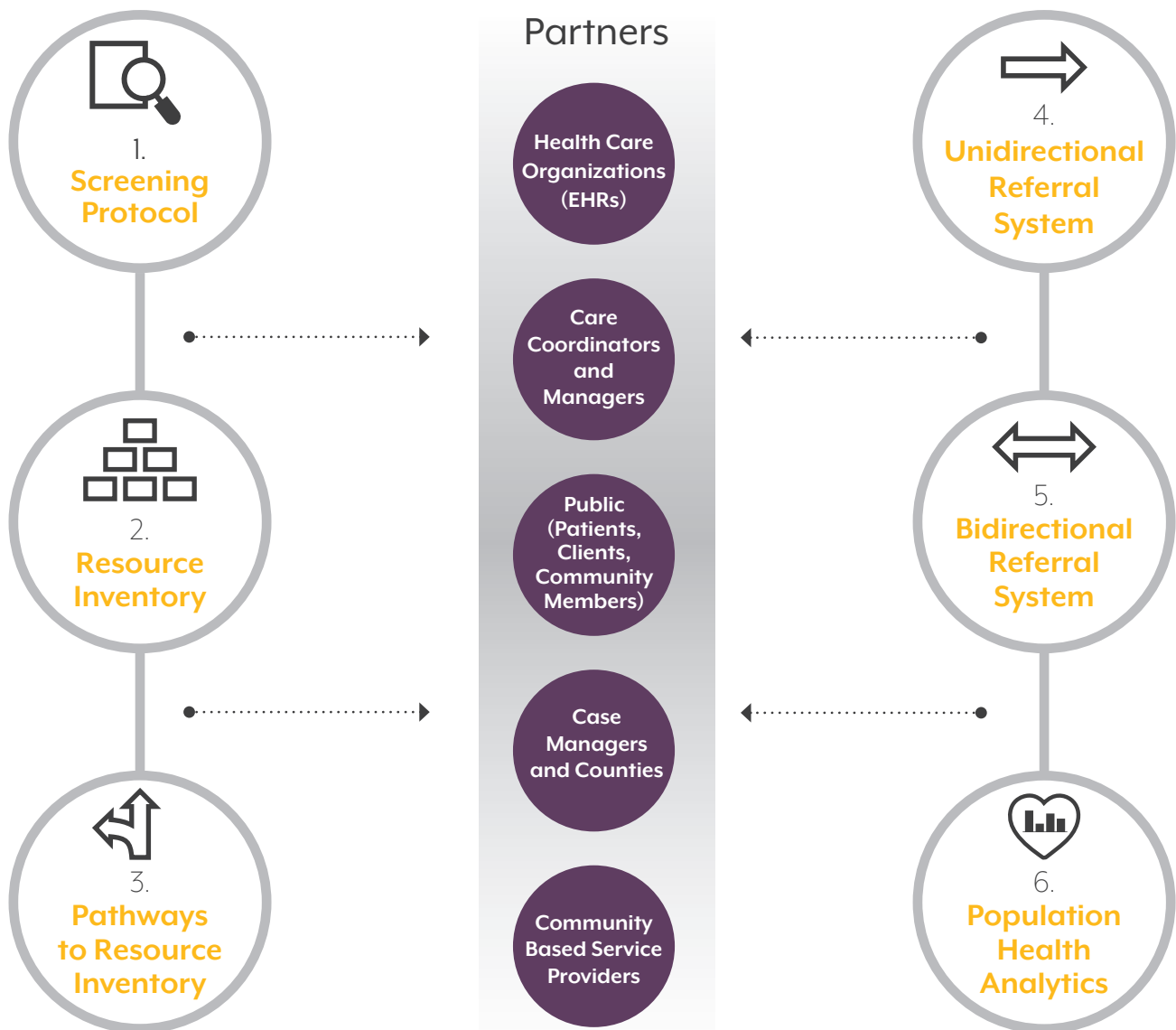
A social health information exchange system uses technology and other tools to allow data and information sharing among health care and SDoH service providers. This includes individual and aggregated data.

The overall purpose of a S-HIE system is to allow multiple entities to screen, assess and refer clients to resources, provide case management (when applicable), and evaluate the impact of assistance on health and

well-being, as well as the return on investment across systems.

There are six elements of an effective S-HIE system. These elements have been updated from the 2018 white paper. Three elements can be achieved locally or within an individual organization, while the remaining three require coordination and communication with local, regional, and statewide partners. Developing a coordinated S-HIE system will take years, but significant progress on these six elements is being made now.

Figure 1: Six Elements of S-HIE System Implementation



1. Screening Protocol

Ensure that all health care and community service providers are screening patients/clients for social needs such as food, housing, utilities, and transportation with standardized and nationally recognized tools.

More information regarding best practices on how to establish a consistent screening protocol at local, regional, and statewide care coordination levels will be laid out in an accompanying report. That said, individuals should have the opportunity now to self-report their SDoH needs so community resources can be deployed to help them.

2. Resource Inventory

Create a comprehensive resource inventory for community-based social services.

While resources can and should be curated at the local level, a coordinated statewide S-HIE infrastructure must leverage local directories to improve and expand existing statewide databases of resources. The goal is to reduce duplication and make the resource inventory accurate and complete, so users can trust the information in the directory. Statewide connections among directories will also reduce the burden on community service organizations, which will be able to submit their information to one place rather than to multiple directories. Reducing duplication will also increase efficiencies and ultimately result in cost savings. While the core functionality of a resource inventory should provide up-to-date information about each organization, it should also inform the user about how to send referrals to the organization (i.e. via fax, email, Aunt Bertha, Colorado Regional Health Information Organization [CORHIO], Community Resource Inventory Service for Patient e-Referral [CRISPeR], Unite Us, phone, etc).

3. Pathways to Resource Inventory

Ensure that providers and the public can use the resource inventory easily.

A useful resource inventory is made available to both service providers and the public. Users should be able to query and retrieve the information

they need. The public should be able to use the repository through a web-based or mobile format, and possibly by contacting a call center.

Note: Any resource inventory vendor should provide the technology required to allow multiple systems to interface with the inventory. The vendor should also work with health and community-based service providers to learn how they would like to communicate resource information to their patients or clients – for example, through text messages, email, or printouts of results from the query.

4. Unidirectional Referral System

Create the capacity to manage individual patient/client referrals across partners to address social, behavioral, and physical needs.

It is important that the system has appropriate security measures and role-based access to store and manage data related to an individual's social needs assessment and referrals to meet those needs. The system should allow for secure messaging and communication among providers and protect the privacy of an individual's information within a S-HIE system.

5. Bidirectional Referral System

Create a bidirectional service referral system with a feedback loop.

This system should allow health care, government, and community service providers to make referrals to each other and determine whether the service was received and met the needs of the individual. It also will allow partners to proactively contact referred individuals.

6. Population Health Analytics

Create the capacity for interoperability between electronic health records, care coordination platforms, and other data management systems to create a more complete view of population health data.

This level of connectivity supports cross-system care coordination as well as population health or community-level assessment and planning. It necessitates a master patient/client index that allows an individual to be identified and tracked across systems.

Benefits of S-HIE Systems – What Does Success Look Like?

Without a connected S-HIE system, Colorado will continue to miss opportunities to improve the health of its residents by connecting health care services and services that meet social needs.

There are many benefits to S-HIE systems at all levels:

It improves care for individuals by ensuring that health care providers understand the full range of drivers impacting a person's health. Providers who are aware of a patient's social factors are fundamentally better positioned to provide high-quality clinical care. For example, a patient experiencing homelessness without access to a refrigerator should not be prescribed medication that requires refrigeration. It is important to be considerate of the patients' identity – including but not limited to their race, age, gender, sex, sexual orientation, and ability when approaching whole-person care. A connected system identifies individuals and families who may benefit from whole-person care coordination and assistance to prevent and/or address crises. Coordination saves time and allows care coordinators to focus on helping those with more complex needs. In addition, better access to information and data empowers patients and providers to find and access

community-based services.

It strengthens relationships among providers of all types of services, which positions Colorado to fully participate in state and federal value-based payment programs, as well as other programs that require whole-person care.

It eases the burden on community-based service organizations by reducing the number of times community-based organizations and other partners submit and update information about services. In addition, community-based organizations are often small, under-resourced, and unable to build sophisticated and efficient systems to track individual service referral and utilization. A connected system can give these organizations access to information and infrastructure they otherwise would not have.

It enables population-level planning and evaluation by informing communities and decision-makers about available social and community resources and any gaps in services. Data can also be used to track demand for services and make the case for increased investments. This informs decision-makers on how to allocate resources and measure the performance of programs and interventions. It also gives community-based service providers information about how to improve their services.

Advancing a Coordinated Ecosystem for S-HIE Efforts in Colorado

We are now seeing a tipping point in Colorado. Numerous communities have coalesced around shared goals and similar objectives that align with the vision for a S-HIE infrastructure. Now is the time to leverage many ongoing S-HIE efforts in an effective, coordinated manner, while working through the barriers (like implementation, technology, and governance challenges) inherent in this dynamic. Designing a coordinated S-HIE infrastructure that reflects the needs of users is critical. Additionally, effective, coordinated, and equitable decision-making lays the groundwork for a more effective S-HIE ecosystem, regardless of what

technology users adopt. Sound governance bridges gaps between isolated efforts and brings together participating providers under a shared vision. S-HIE systems are not just technology or apps; they are a coordination of existing efforts to create a working ecosystem of a social health information exchange.

What Makes Colorado Unique

Some states like North Carolina and Nebraska are driving toward a single system for social and clinical information exchange. Other states have no S-HIE efforts underway. In Colorado, there are multiple local and regional efforts to build S-HIE systems.

Additionally, Colorado is one of a handful of states that uses local county control to administer many of the state's social services. This means that many businesses, government agencies, and organizations are piloting and implementing work independent of each other, which can result in duplication of effort. However, this same dynamic often leads to more innovation and diversified learnings. The challenge for Colorado is to leverage this innovative landscape, while simultaneously moving toward a more integrated and effective statewide approach.

The Path Forward

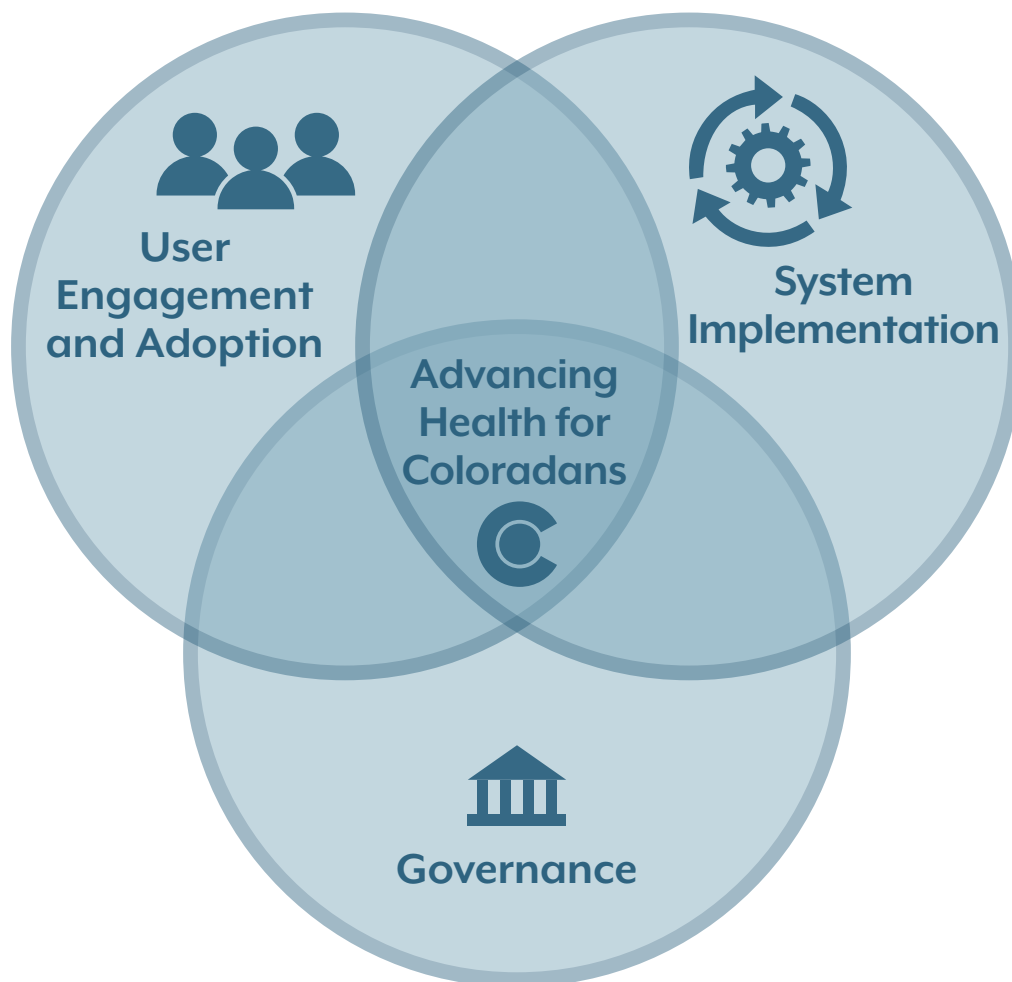
A way for S-HIE systems to thrive in Colorado is to build bridges among early adopters of interoperable systems and continue to align developing community efforts statewide. The task at hand is not to create one S-HIE platform for the

entire state, but rather to foster a coordinated ecosystem, where existing efforts are leveraged, health and social information is shared locally and regionally, and individuals and families get connected to services that help them lead healthier lives.

To create a more coordinated S-HIE ecosystem in Colorado, three tracks of work must occur iteratively:

1. System Implementation to ensure alignment of strategies across regions implementing, sustaining, or adopting systems and technologies to make them scalable, efficient, and user-friendly.
2. User Engagement and Adoption to ensure the S-HIE meets the needs of its eventual users.
3. Governance to ensure an equitable structure for making decisions about and funding S-HIE efforts.

Figure 1: Three Tracks of Work Are Necessary to Coordinate a Statewide S-HIE Ecosystem



1. Governance

Goal: Bridge the gaps between isolated S-HIE initiatives across the state and establish compatible governance structures at the local, regional, and state levels to improve coordination.

Why is governance needed?

- Inequities in decision-making, access to resources, and influence exist between partners involved in the development of the S-HIE infrastructure. To protect the interests of the various parties and ensure long term buy-in, governance structures need to promote shared decision-making.
- A S-HIE system should work for everyone — individuals it serves, care coordinators who use it, and funders who support the system financially. Each of these stakeholders should be part of the decision-making process to ensure effective adoption and long-term sustainability.
- A S-HIE infrastructure should allow individuals seeking services and the organizations that serve them to coordinate across geographic regions. This level of coordination will require standards for sharing information and common practices.
- It can be expensive for communities to maintain S-HIE infrastructure. In many cases, sharing core infrastructure across communities would be beneficial. For example, it is costly for local entities to maintain their own database of community resources. A single statewide inventory or marketplace for service providers could reduce the burden on care coordinators to maintain their own localized listings. This requires shared governance and investment.
- Replicating success through a shared governance structure will help to speed up the process of S-HIE systems adoption and ensure the most effective solutions are serving Coloradans.

Key Considerations for Implementing Governance

It is tempting to suggest creation of a single statewide governance structure to oversee all S-HIE efforts throughout Colorado; however, a single structure would likely slow down current efforts

Governance is defined as how a group organizes to make decisions. This includes who has power, who makes decisions, and how people and organizations are held accountable. A coordinated S-HIE governance structure can ensure alignment between local and state S-HIE policies, procedures, and initiatives.

and might not reflect local resources and needs. Alternatively, a coordination of local, regional, and statewide governance structures could allow multiple groups to move forward in parallel and address different issues simultaneously. Colorado has an active landscape of S-HIE efforts, with a sizable number of pilot programs. Colorado needs to take an integrated approach to S-HIE systems adoption. Integrative activities involve governing and managing work taking place within and across different communities that are collaborating in service of a shared vision and goal, establishing governance structures among them. Leaders in S-HIE coordination efforts should work to gain buy-in from a broad range of partners and clarify the roles and responsibilities of S-HIE initiatives at the local, regional, and statewide levels. Effective coordination among initiatives could minimize confusion and duplication.

OeHI and the eHealth Commission currently coordinate a range of integrative activities across a network of partners focused on information governance and technology. OeHI and the Commission are particularly well positioned to support the development of S-HIE core components and common standards that improve interoperability between S-HIE systems. OeHI convenes several state-level workgroups and task forces that provide the opportunity for local and regional efforts to align with statewide goals for SDoH data exchange. OeHI is committed to supporting S-HIE infrastructure as part of the Colorado HIT Roadmap and supporting the roadmap's Care Coordination Initiative. OeHI is key to incubating solutions that can be adopted, however OeHI cannot do this work alone. Additional state stewards are needed to ensure ongoing adoption and sustainability of S-HIE infrastructure.

A **BRIDGE** framework for establishing governance is therefore recommended to connect initiatives at the state, regional, and local levels. Compatible governance structures at each level should address the following common elements:

B BUILD a Shared Vision

Define a vision that clearly articulates the need for a coordinated S-HIE ecosystem and what success will look like.

How: Convene S-HIE partners from across the state to align efforts, understand the goals of each of their initiatives, and how those goals fit into a shared vision for a S-HIE system.

R RALLY Community and Cross-Sector Partners

Establish shared priorities across partners through facilitated discussions.

How: Bring partners from many sectors to the table to create an inclusive structure that represents the best interests of the community. Recruit subject-matter experts well-versed in community health and social service needs.

I IDENTIFY Cross-Sector Use Cases

Collaborate to assess which use cases best address a community's unique priorities and align with statewide initiatives where possible.

How: Engage partners in developing cross-sector use cases that detail their biggest challenges; identify the needs of users (for example, the ability to track cases across care settings, identification of eligible services, capturing relevant medical history).

D DEVELOP Roles and Responsibilities

Ensure clarity and transparency in roles and responsibilities among partners, both at the local level and between regional and statewide groups.

How: Establish roles and responsibilities for partners related to the coordination of the S-HIE ecosystem, promoting its use among partners, and advocating for funding. Groups at each level would designate individuals to focus on coordination with other groups.

G GAIN Buy-in (from community, clinical partners, funders)

Create ongoing opportunities (e.g., workshops) to raise interest from new partners and learn what resources they might contribute to the coordinated effort.

How: Gauge the interest of a broad array of clinical partners, social service providers, local community organizations, community coalitions, and government and philanthropic funders.

E ENSURE Sustainability Through Collaborative Funding Pathways

Create a collaborative funding model from the start, across every level of governance.

How: Partners may hope that “if you build it, the funding will come.” But this cannot be assumed for a coordinated statewide S-HIE infrastructure. Stakeholders must start funding and sustainability discussions from the onset to nail down a collaborative financial commitment before money runs out. That means clearly identifying a long-term sustainability model based on estimated ongoing costs. Consider the entire coordinated S-HIE ecosystem, not just the technical costs. For example, partners must ensure sustainable funding is available for social services. Success is only possible if those services are supported financially and there is capacity to address unmet social needs. The natural evolution of S-HIE systems and unexpected costs must also be factored in, as well as support for training, education, and technical assistance.

Spotlight: Governance vs. Information Governance

Governance is a broad term that encompasses all decisions a group must make together. When it comes to S-HIE systems, many decisions might involve data or information. A subgroup might be tasked to focus specifically on information governance to answer questions such as “who can use the data?” and “how will (big) data be used?” This may entail establishing consent models for data sharing and addressing whether individuals can opt in or out of sharing their data, and how data can be used by partners for research and community-planning purposes. The BRIDGE elements can also be helpful for an information governance group to ensure that decisions about data are informed by a broad range of partners, not just technical experts.

2. System Implementation

Goal: Align strategies among existing systems and technology, at the regional and statewide level, to develop procedures for interoperability and shared infrastructure that is efficient and scalable.

Why is coordinated system implementation needed?

A coordinated S-HIE infrastructure enables Colorado’s health systems and service providers to communicate with one another. The aim is to connect disparate technology systems to promote person-centered care and to ensure that all systems work together to produce a better return on investment, maximize cost efficiencies, and reduce duplication of efforts between service partners.

Key Considerations for Implementation

Standardize Data for Collection

While SDoH data points have been recognized as playing a key role in a patient’s overall health profile, the collection, sharing, and aggregation of such data is still relatively new. Various systems track data in different ways. But an integrated, centralized system requires data to be collected in a standardized, accessible way. It is crucial that the data points are clearly defined within each SDoH data collection tool prior to developing the standard specification. Standardization must consider what data will be collected, how data are

collected and exchanged, and how interoperable are they across systems.

For more detail on laying the foundation for standardizing social factors data, see OeHI’s [Screening Implementation Guidance Document](#).

Establish Common Protocols

State Level

Common protocols and practices of collecting information on needs of individuals vary throughout Colorado and must be considered when designing a S-HIE system that interoperates. The following protocols should be taken into consideration:

- Screening and Assessment Practices
- Organizational Training
- Documentation
- Security of Technology Systems
- Data Transfer Process and Frequency
- Quality Assurance
- Data Privacy

System Implementation: The process of starting up a coordinated S-HIE ecosystem, including technical and workflow elements. This includes alignment of existing technology and workflows to make them scalable, efficient, and usable, as well as introducing new technologies and workflows to address gaps in current efforts.

Organizational and Community Level

Within a community implementing a S-HIE system, most organizations are associated with one or more communities such as Regional Accountable Entities (RAE), Community Referral Networks, or local collaboratives. Each of these organizations has unique coordination of care protocols around SDoH data collection and sharing. The community-level protocols vary depending on geographical location, funding, and priorities. However, issues that should be considered when designing a S-HIE system are:

- Community SDoH Screening and Assessment Practices
- Care Delivery and Documentation Requirements
- Assessment Frequency
- Data Sharing and Personal Privacy
- Governance and Quality Process

Design for Interoperability

Allowing data sharing between clinical and community care team members, regardless of which technical platform they use, is key. A S-HIE system would allow organizations to communicate directly with each other, providing secure access for providers and community organizations. The integration of social care platforms can give each organization greater insight into potential strengths and barriers that impact client care, as well as create a way to share data with participating organizations.

Interoperability relies on a technical infrastructure that incorporates the following:

- **Legal and Security:** The ability to identify patient/organization relationship and provide a level of detail appropriate to the role of the care giver and needs of the patient.
- **Modularity:** Capacity to grow the system over time, providing network partners the opportunity to expand their population's access to new services.
- **Information and Data Standardization:** The ability to collect and normalize data from each incoming source, contributing to a standardized dataset that can be understood and is meaningful to those coordinating care.

- **Technical Infrastructure:** Technical solutions and experts who have the experience to integrate clinical and community systems.
- **Protocols:** Infrastructure that incorporates technology and communication processes and is overseen by the S-HIE governance model.

Accommodate all Levels of Technological Readiness with Participating Organizations

Although many communities in Colorado agree that it is important to invest in infrastructure that improves their response to SDoH needs of their residents, it is apparent that many of these communities are not aligned toward one approach.

To be effective, the S-HIE system must be modular enough to provide information into each organization's existing workflow.

Steps to meet partnering organizations at every level of technical readiness are:

1. Evaluate their systems that are already in use
2. Identify their openness and ability to adopt new systems
3. Create a plan for network participation
4. Identify the best way to collect data into the central network
5. Discover insights or data points that would be most valuable to share
6. Identify the best method to deliver insights and data points
7. Determine available funding to support immediate and ongoing efforts

Two key factors must be considered before engaging with each participating organization:

- **Integrative Technology** — Connect systems to make it easier for providers and community-based organizations to deliver resources to clients while reducing duplication.
- **Community Planning and Support.** The model should recognize the diversity of needs and varying capacity of communities across Colorado and help them design and implement systems that best support their shared goals.

In addition to improving access to social and community-based services, this approach would make it possible to evaluate the impact of SDoH resources on health and well-being and to calculate the return on investment (ROI) for a community’s goals.

There is much to gain from creating S-HIE systems that address social factors in Colorado. But it is important to establish systems that resonate with Colorado’s more decentralized approach to public health and health care. This approach will create an infrastructure that is feature-rich and powerful — and more likely to be adopted.

3. User Engagement and Adoption

Goal: Identify user needs and address barriers to adoption through an engagement strategy, a clear value proposition, and clearly defined use cases.

Why is user engagement and adoption needed?

One of the most challenging and important tasks in the development of a S-HIE system is user engagement. The success of the system depends on the clinical and community-based workforce that will use it to help people and families address their unmet social needs. If this workforce — including care coordinators, case managers, and community health workers — does not fully utilize the S-HIE system, then the investment in technology will be wasted. It is therefore critical to engage the end users throughout the planning, development, implementation, and adoption of a S-HIE system. User engagement and adoption is not a one-time effort, but an iterative process.

Key Considerations for User Adoption Implementation

To achieve this goal, a partnership engagement strategy must be implemented, based on a

S-HIE users include any person or institution who will directly participate in any component of S-HIE, which includes activities such as screening for social needs, making a referral to a partner, accessing a patient/client record, coordinating care and services, and analyzing population-level data.

Primary users may include:

- Care coordinators
- Case managers
- Community-based organizations (food banks, housing providers, etc.)
- Health care organizations (hospitals, primary care, behavioral health, etc.)
- Patient navigators

Secondary users, who may use or benefit from S-HIE efforts may include:

- Data analysts
- Individuals and families
- Policy makers
- Public health experts
- Researchers

This list is not exhaustive, and users may include stakeholders not listed here.

value proposition that reflects the users’ needs and capacity, while fostering continuous collaboration.

Develop a Partnership Engagement Strategy

Users’ needs should be identified through an engagement process that builds a committed network of partners across sectors. To do this, it is important to tap into the strengths that clinical, social, and community service organizations (that would become eventual users) bring to the table and to promote buy-in among organizations new to S-HIE efforts.

It is also important to meet organizations where they are by creating an equitable structure for participation, allowing users to engage at their desired financial level, technical ability, and capacity. This allows for flexibility in how and when users participate in and adopt a S-HIE system. For example, community-based organizations may

have unique business needs and face funding and capacity limitations that should be considered differently than the needs of other partners

Documenting shared values and language among users is also key to ensuring alignment among multisector users interested in adopting S-HIE technologies.

Develop a Value Proposition

The value of a S-HIE system depends on whether users find it helpful in addressing the unmet needs of the people and families they serve. If these needs are not met, there will be no improvement in health outcomes and no return on the investment in S-HIE technologies.

An effective S-HIE system value proposition will include three components:

1. A deep understanding of the current barriers to connecting individuals to needed care
2. Tools and activities that will help users overcome or remove those barriers
3. An explanation of how a coordinated, cross-sector S-HIE system would address these barriers more effectively than other potential solutions

Identify Clear Use Cases

A S-HIE system can be designed to address a wide variety of needs, which adds to the value proposition. However, it is important to identify specific use cases for multisector data sharing to help recruit partners and focus their collaborative work. Choosing use cases that reflect the community and users' needs is key to creating buy-in and establishing value of a S-HIE system.

How to Stay Up to Speed

This paper is an introduction to current and ongoing efforts to create a coordinated S-HIE

Use Case: A description of a real-world scenario that illustrates how a S-HIE could be used to address a specific need (e.g., stable housing), and identifying how information will flow between users of the S-HIE and how that information can be used.

Mitigating the impact of increased referrals on limited resources

Each community will uncover different barriers and needs when developing a S-HIE system value proposition, but one barrier rises to the top of almost any conversation about S-HIE systems: Money. Many social service and community-based organizations do not have the resources and funding needed to fully address unmet social needs in their communities.

Partners often worry that successful S-HIE system implementation and adoption could exacerbate the strain on limited resources, as more referrals are made to partners that already have long wait lists. This does not mean that referrals should stop. A coordinated S-HIE ecosystem can quantify the need for various services by tracking open referrals and providing powerful evidence to support requests for more resources and funding.

However, partners must mitigate the impact of increased referrals in the short term. This requires providers who receive referrals to understand their current capacity and any existing wait-lists or backlog. Then, partners can develop mitigation strategies to prevent organizations from becoming overwhelmed while simultaneously pursuing increased resources and funding. At the same time, it is critical to prioritize increased resources and funding in general for these organizations through the process described in the Governance section of this paper.

ecosystem in Colorado. To advance this effort, more organizations need to get involved and have their voices represented at the table. This paper is the first in a series of guidance documents outlining next steps for interested organizations to get involved in S-HIE efforts.

For more information on OeHI's Care Coordination efforts, click [here](#).

Endnotes

¹John Snow, Inc. (2014). National Approaches to Whole-Person Care in the Safety Net.
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