State of Colorado

Office of eHealth Innovation

Working Action Plan and Environmental Scan Report
SUPPORT CARE COORDINATION IN COMMUNITIES STATEWIDE

March 2019

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1.0 Executive Summary

In the summer of 2018, a small planning team began discussing how to advance care coordination given it was designated a top Colorado Health IT Roadmap ("Roadmap") initiative. Coming to the table with findings from the Roadmap and a subsequent Office of eHealth Innovation (OeHI)-issued survey, the team identified key areas to potentially focus initial efforts.

Identification of Key areas of Care Coordination Workgroup Focus:

- Enable the ability to communicate electronically;
- Support coordination of resources across systems;
- Obtain access to health-related community information on clients;
- Support standardization of data and referential terms between systems and organizations;
- Provide access to real-time longitudinal patient/client information;
- Integrate and respond to social determinants of health (SDoH) as part of coordinated whole person care;
- Identify and evaluate existing approaches to establish bi-directional communication with social service agencies to advance care coordination;
- Achieve social information exchange (S-HIE) – moving social data through Health Information Exchanges (HIE);
- Support availability of data for care coordination in value-based payment models;
- Establish and agreed upon metric goals and objectives for care coordination;
- Achieve a better understanding of what care coordination technology, processes, and policies currently exist in Colorado; and
- Plan for advancing care coordination as a step towards population health management.

Given the wide-ranging care coordination areas of focus, the team grappled with defining care coordination as a step to begin work toward advancement. For example, is care coordination: solving referrals issues? Is it sharing care plans? Is it trying to understand who is on the care team and who is the lead? Is it an accountability issue? Or, perhaps it is something larger, such as trying to solve social needs barriers? Is it a combination of all of these and more?

Workgroup Expansion, Environmental Scan; and Problem Statement Development

It became evident that this complex topic warranted a bigger conversation. The team took the following actions:

1. Added more subject matter expertise by identifying and seeking out recognized leaders in the state who have experience initiating and achieving innovative care coordination advancements, are well connected with the care coordination community, and are known for their expertise as well as their contributions to the area of care coordination. (Upon the successful recruitment of these care coordination experts, the new Care Coordination Workgroup ("Workgroup") consists of 10 members).;
2. Conducted an extensive environmental scan with multiple stakeholders to understand current care coordination initiatives, best practices, challenges, and opportunities across the state; and
3. Created a formal problem statement to describe the current state, guide the scan and direct ongoing work. The problem statement is, "The current infrastructure does not support whole person care."

> Care Coordination Problem Statement
> *Current technology, infrastructure, and policies do not support whole person care.*

Social Determinants of Health to Inform Workgroup Efforts

The focus on SDoH assessments stems from research that demonstrates, on average, medical care accounts for only 20 percent of the factors driving outcomes and costs, while factors such as health behaviors, social and environment, and physical environment account for 80 percent of wellbeing.[1] Therefore, to be successful in improving health outcomes, the social factors, which represent 80 percent of health factors, need to be addressed to achieve coordinated care to improve life span and the quality of life.

In our interviews, participants were aware of and acknowledged the importance of SDoH. Clinics expressed a strong interest in having this SDoH information integrated with their electronic health records (EHR), versus having a separate system for storing and accessing this information. One clinic described how they are capturing and integrating SDoH data using ICD-10 Z codes[2] for SDoH, such as food insecurity. The clinic enters these Z codes in their EHR to monitor the data and time of reporting. Using the example of food insecurity SNOMED CT food insecurity code (733423003) will also be mapped to the ICD Z code of Z59.4[3]

There are a variety of SDoH assessment and data capture tools. Three of the top tools are listed below:

Three main SDoH screening tools[4]:

Name of SDoH Tool	Description	Sponsoring Agency
EveryONE Project	The short form has 11 questions and can be self-administered or conducted by clinic staff	American Academy of Family Physicians
The Accountable Health Communities (AHC) Health-Related Social Needs (HRSN) Screening Tool	The 10-item HRSN Screening Tool covers five core domains: 1. Housing instability 2. Food insecurity 3. Transportation problems 4. Utility help needs 5. Interpersonal safety There are additional supplemental domains.	CMS Accountable Health Communities

[1] Three tools for screening social determinants of health. http://www.countyhealthrankings.org/county-health-rankings-model.

[2] Z codes are used when some circumstance or problem is present which influences the person's health status but is not in itself a current illness or injury. http://www.ahacentraloffice.org/PDFS/2018PDFS/value-initiative-icd-10-code-sdoh-0418.pdf and http://childrenshealthwatch.org/wp-content/uploads/An-Overview-of-Coding_2.15.18_final.pdf

[3] DeSilvey, S., Ashbrook, A., Sheward, R., Hartline-Grafton, H., et al 2018). An Overview of Food Insecurity Coding in Health Care Settings: Existing and Emerging Opportunities. Boston, MA: Hunger Vital Sign™ National Community of Practice. Available at: http://childrenshealthwatch.org/foodinsecuritycoding/

[4] American Academy of Family Practice. https://www.aafp.org/journals/fpm/blogs/inpractice/entry/social_determinants.html June 2018.

Protocol for Responding to and Assessing Patients Assets, Risks and Experiences (PRAPARE)[5]	There are 15 core and five supplemental questions.	National Association of Community Health Centers (NACHC)

As part of this Care Coordination environmental scan we asked some stakeholders to comment on collection of SDoH in the clinic setting. There was wide variation ranging from a high degree of SDoH collection of and response to social needs with two organizations active in the Accountable Health Communities (AHC) program[6], which is in place at both the Rocky Mountain Health Plan (RMHP) and the Denver Regional Council of Governments (DRCOG), to low participation with some other clinics. The AHC program with RMHP began in 2017. Associated clinics receive assistance connecting patients with social services. Talking to some of Colorado's FQHC Community Health Centers we found that some of them are conducting SDOH assessments using the CMS Accountable Communities (AHC) Health Related Social Needs Screening tool (HRSN), the Protocol for Responding to and Assessing Patients Assets, Risks and Experiences (PRAPARE), or other SDoH screening tools. When the clinic had an EHR with a template for collecting SDoH data we learned that for some clinics the biggest barriers to capturing and entering SDoH data were not the EHR technology, but rather people and processes. In some clinics, staff reported problems with lacking time to conduct SDoH assessments; feeling uncomfortable with asking highly personal questions, and sometimes reporting feelings of "burnout" when asking SDoH questions; and concerns about being able to take action to engage the appropriate social service agencies. Clinics requested bidirectional communication to be able to coordinate care with social service agencies.

The Workgroup is Transitioning from Information Gathering Towards Implementation of Action-Oriented Demonstration Project to Achieve Goals

As the Workgroup transitions from information gathering efforts toward implementation of action-oriented demonstration projects to achieve goals. Implementation and goal-achievement orientation, the Workgroup will remain grounded by the following principles:

Guiding Principles

- Social information integration is necessary to advance whole person care and care coordination. Barriers to receiving social services impact health.
- A systematic process for selecting care coordination demonstration projects is critical and must indicate scalable technology, include change management supports, and address sustainable financing.
- Success metrics must be identified to evaluate performance.
- State-supported data sharing, privacy, and security policy advancements must be leveraged in care coordination supported or funded demonstration projects.

[5] The PRAPARE toolkit is http://www.nachc.org/research-and-data/prapare/toolkit/

[6] The Accountable Health Communities Model (AHCM) is an opportunity to test, over five years, if addressing the health-related social needs through referral and community navigation can reduce costs, inpatient and outpatient utilization, and improve quality and delivery. Western Colorado was selected as one of 32 sitesin the nation to participate in this Center for Medicare and Medicaid Innovation (CMMI) initiative from May 1, 2017 to April 30, 2022. https://www.rmhpcommunity.org/ahcm/accountable-health-communities-model

- New legal framework development will be prioritized to advance sensitive medical and social data sharing. This his includes, but is not limited to, 42 CFR Part 2[7], behavioral health and protected health information.
- Existing challenges related to data governance, data standards, data quality, data access, and timeliness as well as assistance and incentives for basic technology adoption are recognized and will be addressed through collaboration with related Roadmap workgroups.
- Existing health information exchanges (HIE) are to be leveraged and enhanced to support the infrastructure to data sharing.
- Alignment with the goals and objectives of the Colorado Health IT Roadmap will be maintained.
- Colorado state government, multi-stakeholder alignment, and collaboration is necessary to ensure lockstep progress toward achieving mutual goals.

Care Coordination Environmental Scan and Process for Determining Demonstration Projects

As the result of the Fall 2018 care coordination environmental scan, which included 35 interviews with 90 stakeholders, the Workgroup devised a timeline of planning, design, and implementation activities (see section 7.1) to create a systemic process for implementing care coordination across the Colorado healthcare delivery system. As a first step, the Workgroup will begin contracting with the XGenesis/10.10.10 project to create a mapping of the complex system of multiple factors that come into play during care coordination processes. Information from the Workgroup and the environmental scan will be used as inputs to the mapping. With an initial visual mapping of the "wicked problem[8]" of care coordination, the XGenesis team will work with stakeholders to identify implementation priorities, policy needs, and individual enterprise implementation steps. With a list of implementation priorities and isolated wicked problems that may require new solutions, XGenesis also will engage serial entrepreneurs in a process to explore market-based innovative solutions to the wicked problem of care coordination.

The Workgroup intends for the third-party XGenesis/10.10.10 process to create an insightful and defensible decision-making process for selection of demonstration projects to advance care coordination across Colorado. The process will also garner further stakeholder engagement and foster commitment across a broader community of individuals and organizations working to advance the health of Coloradans.

2.0 Background on Colorado Health IT Roadmap

The State of Colorado formed the Office of eHealth Innovation (OeHI) and eHealth Commission via an Executive Order in 2015. OeHI staffs the State's HIT leadership—a Director and State HIT Coordinator—and is responsible for defining, maintaining, and evolving Colorado's Health IT strategy concerning care coordination, data access, healthcare integration, payment reform, and care delivery. Efforts are guided

[7] Title 42 of the Code of Federal Regulations (CFR) Part 2: Confidentiality of Substance Use Disorder Patient Records (Part 2) was first promulgated in 1975. It protects the confidentiality of SUD patient records by restricting the circumstances under which Part 2 Programs or other lawful holders1 can disclose such records. https://www.samhsa.gov/about-us/who-we-are/laws-regulations/confidentiality-regulations-faqs

[8] XGenesis/10.10.10 uses the term "wicked problem." The definition of a wicked problem is a problem that is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are difficult to recognize. Source: Wikipedia.

by the Colorado's Health IT Roadmap ("Roadmap"), which was created based on interviews with more than 1,000 Coloradans resulting in 16 recommended initiatives. To do this work, the Commission established workgroups of subject matter experts representing key areas of opportunity as determined by several months of stakeholder feedback. Workgroups are tasked with identifying priority projects appropriate for support from both state and federal funding streams.

2.1 Colorado Health IT Roadmap Initiative: Support Care Coordination in Communities Statewide

The *Support Care Coordination in Communities Statewide* Roadmap initiative is to:

> Develop, support, and enhance technical approaches that can be used to easily share care coordination information within and across communities. The initiative recognizes that approaches to care coordination may be unique to individual communities.

The following Action Plan reflects the project scoping work of the Care Coordination Workgroup ("Workgroup") and builds off past discovery (e.g., care coordination survey, stakeholder Roadmap interviews, and focus groups) work. By conducting a more thorough assessment ("environmental scan") of the care coordination landscape, the Workgroup identified projects that will enable the state to realize the Support Care Coordination in Communities Statewide Roadmap initiative outcomes:

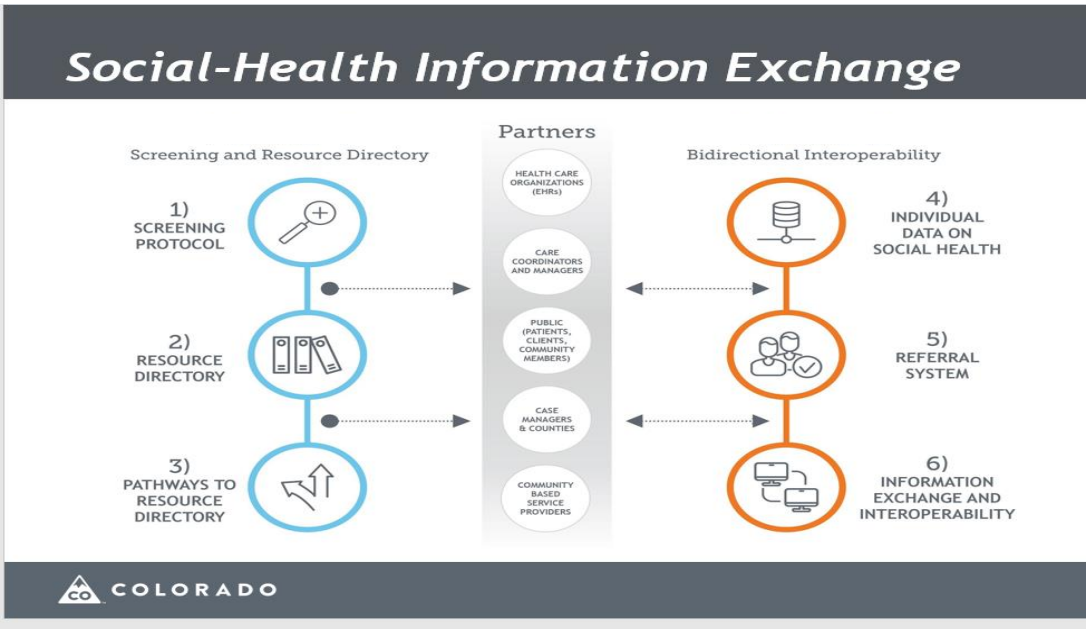
- Achieve a strengthened statewide approach to care coordination;
- Ensure timely, appropriate, and easily accessible information is available at the point of care/care coordination – within and across communities – that supports optimal clinical, service, and cost outcomes; and
- Provide criteria to measure care coordination capability and effectiveness by community is available and used.

2.2 Social Health Information Exchange White Paper

Early in the creation of the Workgroup, the team recognized the need to expand the lens of care coordination beyond physical health and behavioral health services to capture the extensive work done by community-based organizations. A 2018 white paper from State of Colorado titled "Social Health Information Exchange: Connecting Health Care with Services that Address the Social Determinants of Health" helped the Care Coordination Workgroup frame the social health information exchange (S-HIE) need statewide.

The graphic from the white paper (below) was used in several of the interviews to spur discussion around current workflows, existing capabilities and technology as well as opportunities for enhancement.

Figure 1: *Social-Health Information Exchange Components*



2.3 Previous Research on Care Coordination

In January 2018 Rocky Mountain Healthcare (RMPH) published the aggregate results of a care coordination survey, which informs the work of this environmental scan.[9] The RMHP received 86 responses from partner programs in Western Colorado. Notable findings are:

- Care coordinators have various titles including: care coordinator; case manager; community health advocate; patient advisor; health navigator; promatora[10]; and other titles.
- Some care coordinators have formal training and are licensed health care givers, such as RN, LSW, and LCSW. Others have masters, bachelors, or associate degrees, while some do not have degrees, but possess relevant experience. Specialized training is typically provided in interviewing skills, crisis support, mental health assessment, cultural competency, secondary trauma, and psychosocial competencies.
- Most care coordinators (88 percent) provide services at their organization's physical location. Other locations were services are provided include home or hospital visits to patients and various community locations.
- The services provided by care coordinators are many and varied. They include: care management; access to mental health services; community advocacy; assessment of SDoH barriers; patient navigation; transportation; and assessment pertaining to social services requiring enrollment, such as SNAP, WIC, CHIP, and other services. In addition, care coordinators often support members of the community in receiving needed community services such as housing, utilities, transportation, interpersonal violence support, food and social isolation.
- Care coordinators use a variety of screening tools. Practices, which are participating in the Accountable Health Communities Model (AHCM) program use CMS' Health Related Social Needs

[9] Rocky Mountain Health Plan. Accountable Health Communities Model Care Coordination Survey Aggregate Results. January 2018

[10] Promotoras are lay Latino community members who receives training to provide community health education without being a professional health care worker. They provide guidance in accessing communities associated with health care.

SDoH screening tool. Additional screening tools, such as Patient Health Questionnaire – 9 (PHQ-9) for depression; Ages and Stages Questionnaire (ASQ) to determine child development; the Patient Activation Measurement (PAM), and others are used.

- wThe biggest barriers to employing care coordinators were reported to be inadequate and instability of funds, shortage of qualified applicants, complexity of the health care system, and lack of data sharing capabilities between organizations.
- Care coordinators report routine challenges with supporting patients with transportation, affordable housing, immigration status, bilingual services, preschool and infant care, mental health services, inpatient drug treatment dental care, and respite care.

3.0 Goals, Purpose, and Scope of Work

3.1 Purpose and Scope of Work

The purpose of this Roadmap initiative is to support communities in implementing their own care coordination processes and to provide the tools and support for individuals whose care coordination needs may extend beyond their local community.

3.2 Goals

The goals of the environmental scan were to:

1) Conduct a more thorough assessment of the care coordination landscape needs so that dollars and resources can be leveraged to support projects and programs that further strengthen person-centered, whole person care coordination in Colorado;
2) Create a list of discrete projects for OeHI and the eHealth Commission to endorse and move forward; and
3) Coordinate the project(s) with existing care teams (and care team projects), Roadmap Workgroups, or other community efforts to prevent duplication.

3.3 Definitions

While no formal definitions for care coordination and whole-person care were provided during the environmental scan interviews, it became clear that the state would be better served in advancing this type of work by publishing common definitions to orient stakeholders.

Care coordination

The National Academy of Medicine (formerly known as the Institute of Medicine)[11] defines care coordination as a process of aligning the medical care for patients to include social, economic, and behavioral programs and services.

Whole-person care

Whole-person care can be defined as 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.

4.0 Process and Methodology for the Environmental Scan

4.1 Stakeholder Identification

The Workgroup identified stakeholders to interview during the environmental scan process. Stakeholder interviewees represent multiple viewpoints when it comes to coordinating the health and well-being of

[11] The Institute of Medicine changed its name to the National Academy of Medicine in July 2015 as part of broad reorganization to integrate the research it conducts on science, engineering and health.

individuals across communities. Family advocates, health plans, state agencies, providers, accountable care entities, technology partners, county health and human services departments, state and local public health, rural health, behavioral health, and health systems participated.
The environmental scan includes 35 interviews with 90 participants.

4.2 Interview Format

Interviewees volunteered an hour to comment on a series of semi-structured questions determined by the Workgroup and OeHI. This format allowed the facilitator the latitude to adapt the discussion to key areas of interest, challenges and opportunities raised during the interview.

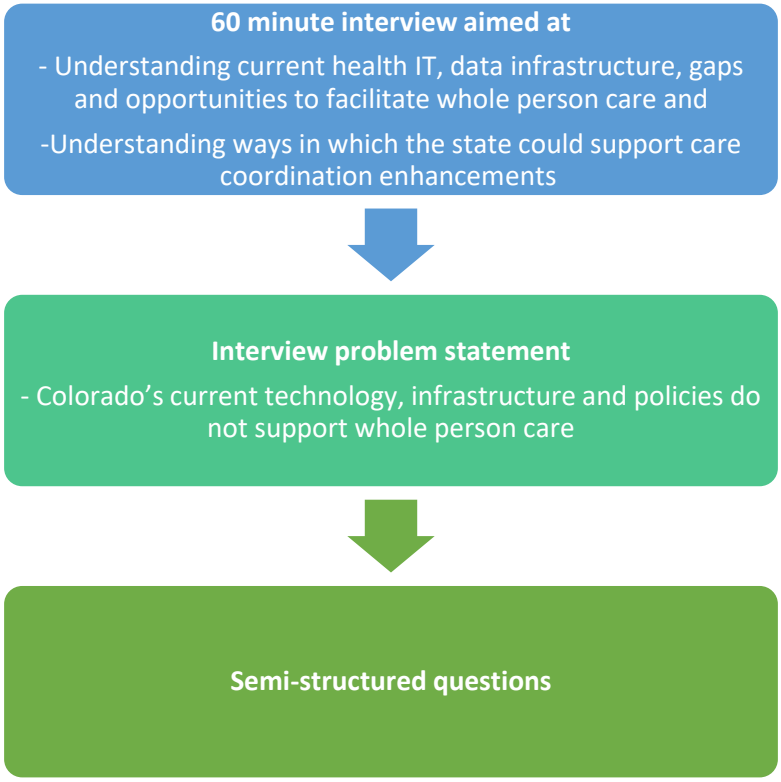


Figure 2: Interview format

4.3 Interview List

Hospitals	Medicaid RAEs[12]	Health Plans	County Public Health	State of Colorado	Others
Denver Health and Hospitals	Colorado Access (RAEs 3 and 5)	Rocky Mountain Health Plan	Garfield County Public Health	Office of Behavioral Health	Accountable Care Collaborative, a program that serves Health First Colorado (Colorado's

[12] Regional Accountable Entity (RAE) represents phase II of the Colorado Department of Health Care Policy & Financing's (HCPF) approach to creating high-performing cost-effective Medicaid system. The state of Colorado is divided geographically into seven RAEs

					Medicaid Program) members
SCL Health[13]	Rocky Mountain Health Plan (RAE 1)	UnitedHealthcare	San Juan Basin Public Health	Colorado Department of Policy Health & Environment	Colorado Rural Health Center
Centura[14]	CO Community Health Alliance (RAEs 6 & 7)	Prevention Alliance	Denver Public Health, a department of Denver Health	Colorado Department of Health Care Policy and Financing (HCPF) – Long Term Services and Supports	Technology Partner: Julota Care
UCHealth[15]	Health Colorado (RAE 4)				Community Supports & Services: Boulder County Housing & Human Services
	Northeast Health Partners (RAE 2)				Community Supports & Services: ZOMA Foundation
					HIE: Quality Health Network
					HIE: CORHIO
					Family Voices
					Clinica Family Health[16]
					UC Denver

[13] Sisters of Charity Leavenworth (SCL) is a large health system with 11 hospitals and more than 100 clinics spanning Colorado, Montana, and Kansas.
[14] Centura Health is a large health system with 17 hospitals, neighborhood health centers and clinics in Colorado and Kansas.
[15] UCHealth is a large health system of 11 hospitals, of which University of Colorado Hospital is the flagship facility.
[16] Clinica Family Health is a FQHC with five clinic locations.

4.4 Individual Interviewee List

Counties
Stefanie Kenny (Boulder County)
John Green (Boulder County)
Mary Baydarian (Garfield County)
Mark Lionberger (Garfield County)

Public Health
Liane Jollon (San Juan Basin Public Health)
Art Davidson (Denver Health)
Seth Foley (Denver Health)

Members/Advocacy Organizations
Tom Rose (Family Voices)
Javi Dolif (Family Voices)
*Julie Reiskin (CCDC)

Rural Health
Marcy Cameron (Colorado Rural Health Ctr)

State Agency
Lauren Karabatsos (HCPF)
Susan Mathieu (HCPF ACC)
Ako Quammie (OIT)

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Technology Partners
Morgan Honea (CORHIO)
Robert Denson (CORHIO)
Kelly Joines (CORHIO)
Mark Carlson (CORHIO)
Mark Lassaux (QHN)
Cindy Wilbur (QHN)
Dr. Rick Pionkowski (Julota)
Joshua Cast (Julota)
Michale Schaedel (Julota)
Jason Greer (CCMCN)
Kara Doone (CCMCN)
Jason McRoy (IBM)
Jim Bernstein (United Way -211)
Stephanie Sanchez (United Way-211)
Wade Teichler (United Way-211)
Fermin Avila (United Way -211)
Erin Ulric (CDPHE)
Rachel Hutson (CDPHE)
Sara Grassmeyer (CDPHE)
Tracy Miller (CDPHE)
Alex Erkenbeck (CDPHE)
Mitch Mize (CDPHE)
Nikki Collins (CDPHE)
Doug Bach (HD Consult)
Nancy Beagle (HD Consult)

RAE
Meg Taylor (Region 1)
Kari Snelson (Region 2)
Jen Hale-Coulson (Region 2/4)
Alyssa Rose (Region 2)
Wayne Watkins (Region 2/4)
Paula Kautzmann (Region 3/5)
Marty Janssen (Region 3/5)
Chase Grey (Region 3/5)
Joseph Anderson (Region 3/5)
Cassidy Smith (Region 3/5)
Krista Beckwith (Region 3/5)
Jennette Heung (Region 3/5)
Kiera Hatton (Region 4)
Alonzo Payne (Region 4)
Tina McCrory (Region 4)
Hanna Thomas (Region 6 & 7)
Amy Yutzy (Region 6 & 7)
Glenn Smith (Region 6 & 7)
Tony Olympio (Region 6 & 7)
Heather Piernik (Region 6 & 7)
Elizabeth Holden (Region 6 & 7)

*Sent questionnaire via email per request

Behavioral Health
Camille Harding (Office of Behavioral Health, Colorado DHS)

Health Plan/Payer
Lauren Ambrozic (Prevention Alliance)
Toria Thompson (UHC)
Kathryn Jantz (RMHP)

Family Health/Primary Care
Dr. Justin Wheeler (Clinica)
Luci Hunter (Clinica)
Janet Rasmussen (Clinica)
Dr. Don Nease (UC Denver)

Hospital/Health System
Dana Moore (Children's Hospital)
Dr. Roberta Capp (UC Health)
Melissa Goodwin (SCL Health)
Glenn Most (SCL Health)
Leslie Callahan (SCL Health)
Noomi Hirsch(SCL Health)
Dr Ann Boyer (Denver Health)
Leslie Kephart (Denver Health)
Matt Everhart (Denver Health)
Tiffany Sailler (Denver Health)
Jessica Johnson-Simmons (Denver Health)
Joe Bajek (Centura)
Nancy Phillips (Centura)
Raymond Deloitte (Centura)
Scott Raymond (Centura)

Long Term Care/LTSS
Tim Cortez (HCPF)
Ravi Teja Gorti (HCPF)
Steve House (Orchestra Health)

Foundation
Cara Bradbury (ZOMA Foundation)

4.5 Literature Review

At the outset of the environmental scan, the team undertook a brief literature review to prepare for interviews and understand how other states have opted to advance whole person care coordination.

Literature review themes considered when forming the Action Plan include:

- Recognize that care coordination in Colorado means 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.[17]
- Establish pilots with specific populations of focus to improve outcomes creates enables a stepwise and measurable approach to building sustainable S-HIE. Several special populations and social services covered in the literature review could be starting points for advanced HIE and S-HIE pilots in Colorado.
- Focus efforts on coordinated infrastructure and data governance standards will reduce parallel referral systems that must be connected later. This includes ensuring that physicians and other healthcare facilities are connected to existing HIEs and helping these entities send and receive information in workflow-friendly ways. This will be achieved by promoting use of open APIs and common technical standards.
- Allow for and create awareness around funding and/or reimbursement for S-HIE, including reimbursement for community health workers and community-based organizations who provide social services. This may also mean expanding and leveraging the "integrator" role. Integrators in the Accountable Health Communities Model (AHCM) demonstration project screen for health-related social needs at participating clinical delivery sites and provide referrals to organizations that provide resources to help address unmet needs.
- Advance and publish guidance around risk or special population flags across existing state data sets to help identify the 20 percent of the population driving 80+ percent of costs.
- Recognize that current code sets are still imprecise when it comes to social needs, there is still great value in translating both ICD and SNOMED codes to facilitate meaningful S-HIE.
- Consider the applicability of the trend to combine medical intervention with social needs with the Social impact bonds (SIBs) model. The SIBs, also known as pay-for-success models, are results-based financing arrangements, are multi-stakeholder performance-based contracts that are used to increase spending on social determinants while enforcing accountability and outcomes. Key stakeholders, such as a service provider, investor, payer (i.e., usually government), intermediary facilitator, and independent evaluator comprise the multi-stakeholder team.[18]
- Think of social determinants of health as a "vital sign." Community vitals, as social determinants of health, and patient behavior are increasingly recognized as playing significant roles. Yet, the current focus is still on spending associated with "sick care," i.e., the diagnosis and treatment of conditions or disease, versus that of prevention, patient engagement, and intervention based on risk assessment and care management. Large disparities in health can be found among pockets of populations that live short distances from each other. In fact, David Nash contends, *"The most important five-digit number I need to predict your health status and wellbeing is your ZIP*

[17] Tobey R, Maxwell J, Cantor J. California's 1115 Waiver: An Opportunity to Move from Coverage to Whole-Person Care. JSI Research & Training Institute, Inc; January 2015

[18] Ibid

code, bar none. It's not your cholesterol level or your blood pressure number or your age. The No. 1 health predictor is your ZIP code."[19]

- Align resources to achieve care coordination. Community health workers (CHW), who work under the supervision of licensed health professionals play an important role in coordinating social care services. Medicaid reimbursement can be used to sustainably fund CHW services.[20]
- Determine how risk sharing can be applied. Since moving toward risk sharing requires technology and a large population size to spread the risk, the risk sharing size requirements could be met by an innovative approach of creating a "virtual" Medicaid accountable care organization.
- Seek funds in unusual places. Given the population health focus, look for non-traditional (matchable), city, county, and state dollars that could make neighborhoods safer, and more conducive to outdoor recreation and physical activity to promote health and wellbeing such as funds for environment planning, parks and recreation, neighborhood safety, school nutrition, urban renewal, school-based health education, etc. Illinois is using Medicaid funds for housing to create an incentive pool available to health plans (or counties) for housing and utilization outcomes.[21]

5.0 Observations and Lessons Learned from the Scan Interviews

- ADT notifications from the HIEs (CORHIO and QHN) assist with care coordination efforts. More information is requested in the notifications, such as age and income.
- Care coordination information is incomplete because it often lacks social data. Usually data from social service contact and intervention is unavailable due to a lack of bi-directional communication.
- Medicaid beneficiaries often contact and avail themselves of social services without any involvement of their clinicians.
- Without standardized interpretations of what data can and cannot be shared, each organization has their own interpretation and policies toward data access and sharing. Across the state different localities vary in their willingness to share data.
- Notifications for Behavioral Health (BH) and Substance Use Disorder (SUD) are not included. Without state support and guidance on data use agreements, accessing BH and SUD data will continue to challenge clinicians and care coordination staff responsible for coordinating services and jeopardize state Key Performance Indicators (KPI).
- Clinicians would prefer more detailed notifications from the HIEs that would include lab and radiology information.
- Care coordination is highly variable. Some organizations have strong care coordination programs and others do not. Accountability for ensuring this work is accomplished is noted to be inconsistent -- ranging from strong to weak at different organizations. The effectiveness of care coordination depends on all organizations contributing. That is, if one clinic or organization invests time, effort, and energy on care coordination and another

[19] Scherpbie, H. Smith, C. Community vitals: The importance of social determinants in population health. Phillips Wellcentive. Alpharetta, GA. 2017

[20] Albritton, E. How States Can Fund Community Health Workers through Medicaid to Improve People's Health, Decrease Costs, and Reduce Disparities. Families USA, Washington, D.C.; July 2016. Available from: https://familiesusa.org/product/how-states-can-fund-community-health-workers-through-medicaid

[21] Tobey R, Maxwell J, Cantor J. California's 1115 Waiver: An Opportunity to Move from Coverage to Whole-Person Care. JSI Research & Training Institute, Inc; January 2015

organization does not follow through or contribute to information sharing the entire care coordination effort can potentially unravel.

- Capture of SDoH data is inconsistent. Some data is captured some of the time. It is usually incomplete and is highly dependent on the EHR in use at the clinic or site. In non-clinic settings, social SDoH data is typically collected during care coordination or navigation intake using a variety of custom forms.
- Regardless of format in which SDoH data is collected, there needs to be an effort to translate SDoH responses using agreed upon code sets (i.e., ICD-10 and SNOMED). There needs to be alignment around a common data set and data standards to communicate this information as well.
- The Community Resource Network (CRN), a combination of the health information exchange and S-HIE operated by the Quality Health Network (QHN) HIE, in western Colorado should be recognized. The CRN is a combination of the health information exchange and S-HIE operated by QHN. Due to a close partnership Rocky Mountain Health Plans (RMHP) and its Accountable Health Communities Model grant from the Center for Medicare and Medicaid Innovation, these organizations are developing an infrastructure to collect and receive SDoH data and facilitate community referrals and communication with community navigation resources at RMHP. The community resources database supporting this work has been managed by 2-1-1, but the arrangement will be ending in 2019.
- Colorado Community Managed Care Network (CCMCN), comprised of 20 community health centers and over 200 clinics, is using multiple data sources to solve real-world problems. This includes collecting SDoH information daily from community health center EHRs and producing analytics to support the clinics in understanding SDoH needs.
- There is universal appreciation for the role of SDoH in care coordination and for achieving whole person care.
- There is a desire to move past the stakeholder interview phase and act on identified needs.
- There are gaps in HIE-hospital connectivity diminishing the value of ADT data in some regions. Improving ambulatory connectivity, including bi-directional data exchange capabilities, represents a large opportunity for the state and other stakeholders.
- There is a need for basic technology in community-based organizations and in care settings excluded from HITECH incentives (e.g., home based health, long term care facilities).
- The state, other payers and stakeholders will need to remove business model and change management barriers to ensure broad access and enable the use of closed loop SDoH referral and S-HIE tools.
- The Office of Behavioral Health (OBH) is working towards a new single behavioral health treatment data collection system. Colorado COMPASS (formerly known as the Data Integration Initiative or DII) will replace the outgoing Colorado Client Assessment Record System (CCAR) and Drug and Alcohol Coordinated Data System (DACODS). Colorado's COMPASS' goal is to simplify data collection, update the measures collected, and meet state and federal reporting needs.

5.1 Community Social-Health Information Exchange Innovation Examples

Community Resource Inventory Service for Patient e-Referral (CRISPer) Program

There are innovative community programs in the works. The Community Resource Inventory Service for Patient e-Referral (CRISPer) program is one that represents a promising approach to combine clinical and social data to facilitate S-HIE. Although it is currently in a pilot phase and is limited to diabetes and hypertension disease states, both the infrastructure and the approach of connecting providers with

social service agencies and moving e-referral messages through an HIE could potentially be expanded, scaled, and adapted for broader scale S-HIE usage. This could include more social service agencies and clinical conditions.
Currently, as part of the CRISPer pilot, CORHIO has partnered with the Boulder County Department of Housing and Human Services and their BoulderConnect program to leverage an existing platform that connects individuals with community HHS benefits. The CRISPer e-referral system can query a Community Resource Inventory (CRI), which is managed by 2-1-1. Integrated with the participating clinics' EHRs, patient-specific results related to Diabetes Prevention Programs (DPP) are exchanged through the e-referral hub, operated by CORHIO. The e-referral hub receives standard referral messages from participating health centers and faxes the referral to the appropriate DPP. The hub also receives participant data from the DPP and creates and sends progress reports back to referring clinicians.

Using the CRISPer functionality, the pilot organizations plan to scale this platform, for use by other counties to manage individuals across geographies. The platform will prioritize end user workflow and integrate with EHRs and care coordination systems to enable visibility to client information and support referrals across participating organizations based on client need.

Accountable Health Communities Model

There are currently 31 Accountable Health Communities Model (AHCM) programs sponsored by CMS' Centers for Medicare and Medicaid Innovation (CMMI) across the nation.[22] These five-year programs are designed to test the assumption that unmet social needs have an impact on health and by responding to social needs, health and quality of life will improve. The gap between clinical care and community services is addressed by systematic identification of health-related social needs of Medicare and Medicaid beneficiaries' through screening, referral, and community navigation services. By addressing health-related social, such as food insecurity, transportation and inadequate or unstable housing it is anticipated that overall costs of health care will decline and risks of developing chronic health conditions will decrease. Furthermore, it is predicted that as individuals receive guidance and direction that can boost their self-care knowledge and self-management skills that ED utilization and hospitalization for preventable conditions will wane.

Two AHCM five-year awards (2017-2022) recipients are in Colorado. Both AHCM programs are under the category of "Initiatives to Accelerate the Development and Testing of New Payment and Service Delivery Models Alignment Track." The Alignment Track is designed to encourage community partnerships to ensure services align and respond to the needs of Medicare and Medicaid beneficiaries. The AHCM grantees submit quarterly reports to CMS[23]. The AHCM pilots have a CMS-sponsored chat room to foster communication, ask questions, support each other, and share best practices. In addition, they have an annual meeting in Baltimore. The two Colorado AHCMs differ in how they conduct their programs. Information about the two Colorado AHCMs are listed below:

1. Denver Regional Council of Governments (DRCOG): This Alignment Track participant operates in the Denver, CO area and serves Arapahoe, Jefferson and Adams counties.

   The DRCOG AHCM program opted to use CMS' HRNS system assessment on the CMS web portal. DRCOG has a network of community providers. Assessments are conducted by navigators

[22] CMS CMMI AHCM. https://innovation.cms.gov/initiatives/ahcm
[23] https://www.rmhpcommunity.org/ahcm/accountable-health-communities-model

at community provider offices either in person or over the phone. During the encounter the Navigator logs on to the CMS Portal and enters the patient data and conducts the assessment. The 10- item HRSN assessment covers five core domains: 1) housing instability; 2) food insecurity; 3) transportation problems; 4) utility help needs; and 5) interpersonal safety.

The portal scores the assessment. The assessment consists of 14 questions. If people live in the community and have one to five social needs or they have visited an ED more than two times in a 12-month period, they are offered navigation services. Together the navigator and the client produce an action plan, which prioritizes the needs, such as what needs to address, first, second, and so on until all needs are addressed. The Navigator works with the client to select the community resource services. (Choices may be altered based upon the availability of services.) The navigator handles engaging the community service(s).

The community provider sends an EHR text message to DRCOG to inform them a patient is receiving navigator services. The navigator follows up with the patient by phone every two weeks to check that the person is remains connected with the needed resources and learns how the person is faring. The navigator sends the follow up information to DRCOG via secure email. DRCOG maintains referral and follow up data on spreadsheets, but is in the process of moving to TerraFrame. TerraFrame is a tool for community providers to use to communicate with each other.

Once the transition to TerraFrame is complete, referrals will be coded. The TerraFrame system has capacity management capabilities. That is, a case manager or navigator will be able to determine the status of a services beneficiaries are referred to. That is the navigator will know if the social service can begin immediately of it there will be a wait. A community-based export file will be exported and dropped at the service provider site. Each service provider will open the file in their system. (Many community service providers do not have EHRs.) Analytics will include tracking, such as a time stamp of when the navigator sent the referral requesting service and when the organization providing the service received the referral request. They will be able to compile clinical and community data and provide this information if requested.

2. Rocky Mountain Health Plan (RMHP): Rocky Mountain Health Plan is a health plan and is also a Colorado Regional Accountable Entity (RAE). This AHCM program is located on Colorado's Western Slope, which includes many rural communities. It serves 20 counties, including Archuleta, Dolores, La Plata, Montezuma, San Juan, Delta, Gunnison, Hinsdale, Montrose, Ouray, San Miguel, Jackson, Moffat, Rio Blanco, Routt, Eagle, Garfield, Grand, Pitkin, Summit and Mesa.

   There are currently 20 practices involved in the RMHP AHCM program. This number is growing. New practices are being added regularly. They are mostly primary care practices and include physician practices, hospitals, and behavioral health clinics. The participating clinics include, but are not limited to, Federally Qualified Health Centers (FQHC) Community Health Centers.

   Most of the SDoH screenings are performed at health care practice sites. In addition to practice sites, a patient can be called after visiting an ED. In these cases, the SDoH screening is performed over the phone. The CMS' Health-Related Social Needs (HRSN) SDoH screening tool[24] is used. It has 11 screening categories. The HRSN screenings are administered by either the staff

[24] https://innovation.cms.gov/Files/worksheets/ahcm-screeningtool.pdf

or self-reported by patients directly using an iPad at the time of the visit. All patients, not only Medicare and Medicaid beneficiaries, receive HRSN screenings. Once the data is entered, either by the staff or by patients themselves, the file is sent to the Community Resource Network (CRN). The CRN is the social health information exchange (S-HIE) operated by the Quality Health Network Health Information Exchange. The CRN is currently exclusive to the AHCM. The expanded CRN is being architected.

VisionLink is the data and technology vendor CRN uses that developed the source code to support communication and coordination of the HRSN SDoH between providers.[25] 2-1-1 is the resource directory.

The data strategy allows multiple ways for clinical sites to collect and submit Health Related Social Needs (HRSN) survey data and to receive a community referral summary (CRS). The CRN/Vision Link data warehouse merges data from clinical sites into one database that pushes data to RMHP for community navigation and reporting to CMS. Community service providers receive automated referrals through the CRN. Member-level service records are sent through an automated portal and are updated quarterly. The data process is currently be supported by a 2-1-1 community resource database and claims data from Truven. The contract with 2-1-1 is in the process of being cancelled due to a need to support multi-factorial analysis for social service eligibility and selection. CRN connects agencies and allows for referrals to happen. Referrals can be agency-to-agency or practice-to-agency or RAE-to-agency.

Eligibility criteria for Care Coordinator/Patient Navigator services for the AHCM by RAE 1 are that the patient:

- Is an eligible Medicare or Medicaid beneficiary;
- Meets utilization and social needs requirements. Utilization criteria are two or more visits to an ED in a one-year period and the patient reports one or more social needs. (The patient typically is the source of reporting the number of ED visits and social needs.);
- Requests care coordination assistance. Patients decide whether they want to engage the RAE's care coordination services. (Patients who decline care coordination services receive printed social service agency information, which enables them to contact and self-engage the services they need.); and
- Is referred by a practice. A clinical practice can refer a patient to the RAE and request care coordination assistance for a patient who does not meet the care coordination criteria above, but for whom, assistance with engaging community support services is needed.

The care coordination process begins when a request for care coordination services is received by the RAE. A Secure Shell (SSH) File Transfer Protocol (SFTP) message from CRN populates the RMPH CommunityCare care coordination application. Once the patient information is received from CRN and is available in CommunityCare it is assigned to a care coordinator who visits or calls the patient, discusses priorities, and arranges for the patient to connect with needed social services agencies. The care coordinator uses the CAMPAIGN application in CommunityCare to track services and develop care plans.

[25] https://www.rmhpcommunity.org/sites/default/files/resource/SOP%20Data%20Reporting-vf.pdf

Users: Users are many and varied. They consist of service Coordinators at social service agencies, care coordinators in primary care practices, case managers at the Department of Human Services, hospital discharge planners, social workers, care coordinators at the RMHP RAE, staff at community-based organizations, the Department of Corrections and others.

Process to join: Each participating agency signs a data use agreement. Once they sign their data use agreement they receive access to the portal via user name and password.

CRN Portal: The CRN portal is roles-based. That is, the user's role determine which applications and views are permitted.

Closed-loop referral process. There is a task module. There is a closed loop referral process. The CRN has access to the patient's eligibility and social services use history. They have a resource directory. They can access Temporary Assistance for Needy Families (TANF) and can determine if the patient has maxed out their assistance. They can tell where the patient has been referred and whether or not the patient followed up and received the social services they were referred to. The RAE 1 has 70 Memorandums of Understanding (MOU) in place with various social service agencies.

Office of Behavioral Health

The Colorado Office of Behavioral Health operates two inpatient state mental health institutes; provides crisis support with walk in, phone, computer chat, and text communications; purchases services to prevent and treat mental health and substance abuse disorders (SUD) through contractual agreements with behavioral health providers; regulates the public behavioral health system and provides training, technical assistance, evaluation, data analysis and prevention services; and offers administrative support to behavioral health providers.

The Office of Behavioral Health has two main areas:

1. Medical behavioral and mental health care: Medically-oriented behavioral health and SUD treatment are provided at either of the two mental health institutes or in communities. The behavioral health care in communities includes community-based treatment as a hospital inpatient or an outpatient visit to an ED. There are also various outpatient behavioral health and substance abuse programs.
2. Judicial system: The Judicial system includes court ordered programs and testing, such as laboratory tests for drug or alcohol.

The OBH is in the process of standardizing outcomes for the behavioral health system and integrating historical substance use and mental health data collection across the state. They are launching the new Colorado COMPASS system in October 2019. COMPASS will replace the outgoing Colorado Client Assessment Record (CCAR) and the Drug and Alcohol Coordinated Care System (DACODS). The goals of COMPASS are to simplify data collection while meeting state and federal reporting requirements while improving patient outcomes.

The OBH desires greater connectivity and interoperability with both state, federal, local, and community services. They consider the 42 CFR part 2 restrictions on SUD to be an issue that restricts data sharing without patient consent. Currently, CORHIO is working on consent management. The patient must approve the information exchange. From the perspective of having the information available to state

agencies, OBH could not participate in Colorado State Identification Module (SIDMOD) because of 42CFR. The OBH also is interested in connectivity with the Colorado Department of Regulatory Agencies (DORA), which oversees the Prescription Drug Monitoring Program (PDMP). The PDMP is a tool for responding to the opioid crisis. The PDMP tool is for providers and dispensers to use to help reduce prescription drug misuse, abuse, dependency and diversion.

5.2 Recommendations by Stakeholder Based on Scan Interviews

Community-based Orgs

- Further define work processes.
- Prioritize data needs/gaps.
- Align data collection with state standards (where available)
- When adopting new technology for data capture and communication, consult state health IT leadership (or published guidance) for direction on common platforms, community, regional and state health and wellness goals and potential funding sources.
- Explore more formal partnerships with CBOs offering the same or similar services to leverage for optimizing technology and resources investments.

Clinicians

- Engage in cross-organizational collaboration and help prioritize technology, data sharing, population health and care coordination needs/goals across the care continuum.
- When selecting new health IT, evaluate based on state recognized standards (when available) and national data sharing standards adoption (e.g., Commonwell, Carequality).

Technologists

- Adopt common technical standards to support common definitions, products and services using national frameworks and services (e.g., Commonwell, Carequality).
- Embrace open APIs and encourage app development across communities to enable data access to myriad end users based on role.
- Connect to state agency data through MuleSoft.
- Enlist end users (e.g., practice staff, CBOs, patients) in development planning when appropriate to design workflows to facilitate data sharing/care coordination.
- Create, publish and educate end users with use cases regarding products and services.
- Make analytics available to physicians and other end users in the workflow.

Government

- Create rules/framework to expedite sensitive and social data sharing to enable coordination where it happens in the community.
- Provide funding for technology adoption and transformation services across Community-based Organizations, LTC and HBC.
- Fund standards development and interoperability work—specifically to support S-HIE. It requires constant research, development and engagement.
- Consider requirements for technology vendors receiving state funding to adopt national data sharing frameworks (e.g., Carequality).
- Develop guidance around the growing Community Health Worker workforce and how they can be integrated into health setting and community-based organizations to provider reimbursed services through Medicaid and/or Regional Accountable Entity contracts.

ACOs & MCOs

- Analyze gaps in care, populations and potential pilots that could, for example, blend funding for mental health, substance use disorders, and health in select counties.
- Partnering with Medicaid and the RAEs to support whole person care with coordinated health IT.

Payers

- Commit to value-based care and provider adequate support for physicians, including greater reimbursement for preventive services and adjusting workflows to address SDH in the practice setting.
- Affirm commitment to value-based care through reimbursement for CHWs, and incentives for achieving pop health metrics around "populations of focus" that reach beyond chronic diseases.
- Invest in technology infrastructure and supports to take pressure off PCPs and specialists and spur adoption of care coordination systems for LTC, HBC and Community-based Orgs.
- Commit to/continue to share data to support whole person care regardless of churn risk.

Foundations

- Consider funding technology infrastructure projects to facilitate data sharing across communities.
- Explore opportunities to support learning labs that will focus on planning, research, development and testing of data standards, data sharing

Patients/Family

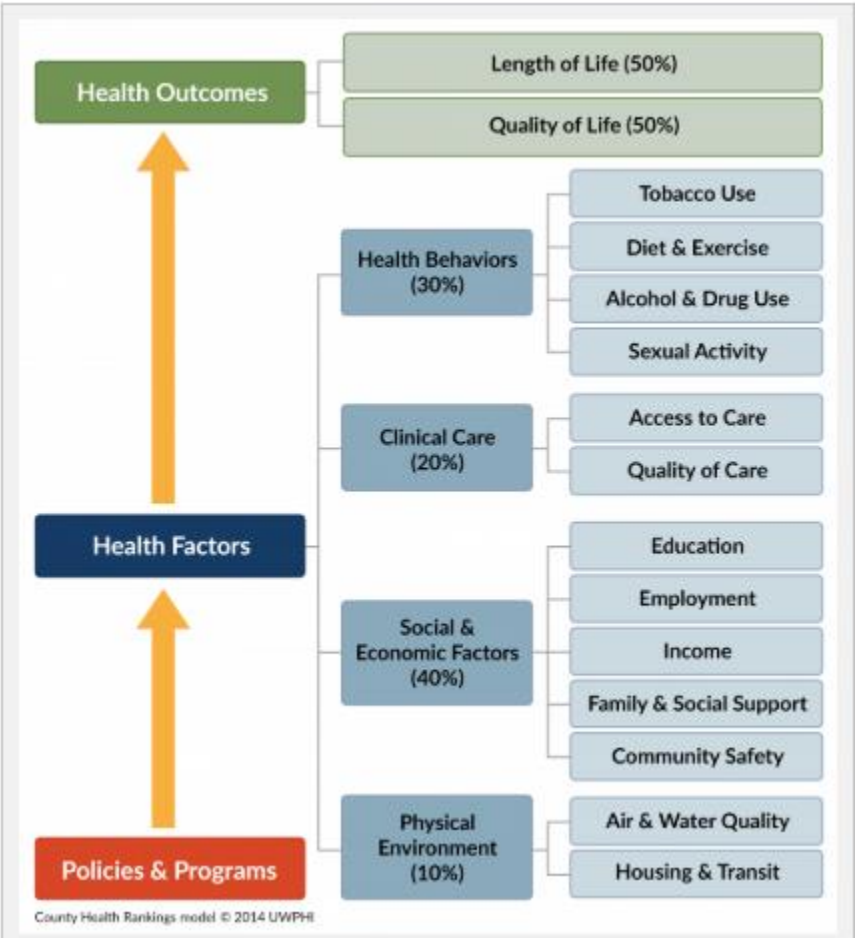
- Ensure Patients/Family at the center of care team
- Align with Consumer Engagement Workgroup Efforts

Universities

- Support whole person care by contributing research and clinical expertise to state and community data sharing initiatives.
- Participate in state efforts to create data standards.
- Leverage COLAB's data linking hub and research.

6.0 Status of Social Determinants of Health in Colorado

In our interviews there was universal acknowledgment of the importance of SDoH. The diagram below illustrates how clinical care represents only 20 percent of overall health factors. Therefore, to be successful in improving health outcomes the social factors, which represent 80 percent of health factors, need to be addressed to achieve coordinated care to improve life span and the quality of life.



Source: County Health Rankings: http://www.countyhealthrankings.org/

As part of our Care Coordination environmental scan, we asked some stakeholders to comment on collection of SDoH. We found that some EHRs have templates built into the software for data collection and storage of SDoH assessment data. However, depending on the EHR vendor, the assessment questions can be highly variable. That is, not all of the questions found in CMS' HRSN or NACHC's PRAPARE tools are included in every EHRs' templates. In addition, the questions may differ between software vendors.

Below is list of Federally Qualified Health Centers/Community Health Clinics in Colorado which have a SDoH assessment tool.

	Colorado Health Clinics	Service Area	EHR[26]	PRAPARE EHR	AHC Electronic Screener
1	AxisHealth System La Plata Integrated Health Care (5 clinics)	La Plata County	Integrity (Vitera)		✓
2	Clinica Family Health (10 clinics)	Adams, Boulder and Broomfield Counties	NextGen	✓	
3	Clinica Tepeyac (1 clinic)	Denver County	eClinicalWorks	✓	
4	Colorado Coalition for the Homeless Health Care (I center)	Denver Metropolitan Area	NextGen	✓	
5	Denver Health's Community Health Services (10 clinics)	Denver County	In process of converting to EPIC	✓	
6	Dove Creek Community Health Clinic (1 clinic)	Dolores, Montezuma, and San Miquel Counties	Practice Partner		
7	High Plains Community Health Center (1 clinic)	Prowers, Baca, Cheyenne, Kiowa, and Kit Carson Counties	SuccessEHS		
8	Metro Community Provider Network (12 clinics)	Arapahoe, Adams, Douglas, Jefferson, and Park Counties	GE Centricity	✓	
9	Marillac Clinic	Mesa County	NA		
10	Mountain Family Health Clinics	Garfield, Boulder, Clear Creek, Eagle, Pitkin and Rio Blanco	NA		✓
11	Northwest Colorado Health	Moffat and Routt Counties	NA		✓
12	Peak Vista Community Health Clinics (8 clinics)	Adams, Arapahoe, Douglas, Elbert, El Paso, Kit Carson, Lincoln Park, and Teller Counties	NextGen	✓	
13	Pueblo Community Health Center	Huerfano and Pueblo Counties	NextGen	✓	
14	River Valley Family Health Center	Delta and Montrose Counties	NA		✓
15	Salud Family Health Clinics (8 clinics)	Adams, Boulder, Larimer, Logan, Morgan, and Weld Counties	eClinicalWorks	✓	
16	Sheridan Health Services (1 clinic)	Arapahoe and Denver Counties	SuccessEHS		
17	Summit County Care Clinic	Summit and nearby Counties	NA		✓

[26] Source CORHIO

	Colorado Health Clinics	Service Area	EHR[26]	PRAPARE EHR	AHC Electronic Screener
18	Sunrise Community Health	Larimer and Weld	GE Centricity	✓	
19	Umcompahgre Medical Center	Montrose and San Miguel	NA		✓
20	Valley-Wide Health System (27 clinics)	Alamosa, Bent, Cheyenne, Conejos, Costilla, Crowley, Delta, Fremont, Garfield, Kit Carson, Mess, Mineral, Otero, and Rio Grande Counties	NextGen	✓	

Current State of Social Service Integration in Colorado

During our interviews, we received comments on the perceived current state of integration of social services as it pertains to coordinating care to achieve whole person care.

Comments on Social Services Integration	Interview Source
There is no existing methodology to measure social care coordination. The ability to determine if improved outcomes were attained is needed.	QHN
In care coordination we can refer patients for social services, but not having an automated method of knowing if the patient followed through requires inefficient, manual follow up.	Clinica
Communities are starting to solve the SDoH social services integration with the medical providers with a variety of different approaches. There are redundant systems, such as Longmont. This could lead to silos and more fragmentation as each community approaches collaboration in different ways.	Boulder Housing & Human Services
BH is still a gap. It is hard to get ADT out of the Mental Health Center of Denver. This seems to be due to because of how they interpret data sharing rules.	COHRIO
Care coordination is currently fragmented. Some care coordination is performed by the payers for utilization purposes, provider care coordination is done to connect with services.	Community Behavioral Health of Colorado, Department of Human Services
• We need better data sharing with social service agencies. • Hospitals are new to SDoH.	Garfield County
• What is not working is getting non-medical services to respond to SDoH needs. There are many disconnects as we work to get people the services they need. • Information exchange is a barrier. We are struggling with getting the proper information in place.	Colorado Access (RAEs 3 & 5)
Boulder Connect does not have a way to link disparate entities across the continuum of care.	Boulder County Connect
Good care coordination requires access to resources. But, if there are deficiencies in resources to respond appropriately and meet needs it does not	San Juan Basin Public Health

Comments on Social Services Integration	Interview Source
work. Because of deficits in the top three social areas (i.e., BH, housing, and transportation one cannot have successful care coordination	
• There are many community resources that want to be part of care coordination, but the health information technology is not combined. • There are three counties, Boulder, Jefferson, and Denver that want to create technology that includes social resource care coordination, but they are not talking to each other and are not strategic.	Denver Health and Hospital Authority
Generally, socials service agencies do not have access to EHRs. Long term care agencies now have electronic systems, but they are essentially billing systems that have assessment databases. They can complete an assessment, but it is not in a format that can easily be shared	Long Term Services and Supports [Testing Experience and Functional Tools (TEFT)]
• Support services are not supporting whole person care. With behavioral health and primary care nothing exists to stitch the entire patient experience together. • Outside of the hospital, data is not following the person. • Ideally the HIEs would focus solely on being the source of data, but we end up needing to go around them for a broader set of data. We must build interfaces that we would not have to build if we could get the data we need from the HIEs. • "PRAPARE data collection creates bottlenecks for our clinics. The medical assistants find that asking the questions is emotionally draining. They typically only ask some versus all of the PRAPARE questions." • "The PRAPARE questions are typically 'yes' or 'no.' There needs to be more detail. For example, if someone has food insecurity we need to know who answered the questions and match them to our gap population, so a clinic can take action."	CCMCN
Using Longmont as an example, senior services may know that a senior citizen is at risk for falls, but they do not have a method of communicating to the fire department, so the fire department could be responding to needs for lift assistance. Each organization has one specific view of a person, but not the whole person.	UC Denver

Observations and lessons learned from our interviews:

In our interviews with Colorado stakeholders and in our literature review we found the following barriers to collecting SDoH data and entering in an EHR:

- A value-add of getting both SDoH data and medical health data, is that aggregation of both data helps to determine how specific interventions may improve health outcomes.
- Screening for both SDoH and Behavioral Health provides a more "Whole Person Care" view of a person's health.[27]
- State-wide consent and data use agreements facilitate SDoH efforts. Colorado may want to consider a guidance document that creates a consistent policy on HIPAA and privacy and security issues.
- Some social service agencies need funds to update their technical infrastructure to enable them to collect SDoH data and to connect to HIEs.
- It is important for workflow purposes that users are able to access SDoH assessments in their EHRs to avoid having to access a separate system. Also, single sign-on, so that they do not have to sign-in to a separate system was requested.
- In addition to entering SDoH data in EHRs, referring individuals to appropriate community-based services and having the outcome reported back to the health care provider, was requested.

The stakeholders unanimously agreed that capturing SDoH is a critical component of whole person care. They also echoed national research that states in some cases, SDoH can be as important to health as medical data, especially for the Medicaid population.

Some EHR vendors' SDoH assessment questions and responses lack consistency with other vendor SDoH assessments. Standardization of responses collected would be ideal for aggregation purposes.

Barriers to Screening Patients for SDoH

In our Colorado stakeholder interviews, we uncovered some barriers to screening patients for SDoH. About 72 percent of barriers were related to staffing and workflow. The most common reported barriers were:

- Not enough time;
- Staff not comfortable asking highly personal and potentially embarrassing SDoH questions;
- EHR only has a small number of SDoH questions;
- Inability to do something about social needs, "why ask, when we cannot do anything to assist;"
- Lack of management support;
- Lack of SDoH data collection and tracking or incentives to collect the SDoH data;
- Data collection ownership and accountability is diffuse. The expectation to conduct, collect and record SDoH responses are not assigned to any particular role or person; and
- Not included in training of new staff.

[27] Whole Person Care (WPC) is the coordination of health, behavioral health, and social services in a patient-centered manner. https://blueshieldcafoundation.org/sites/default/files/.../1115%20waiver.WPC_.PD

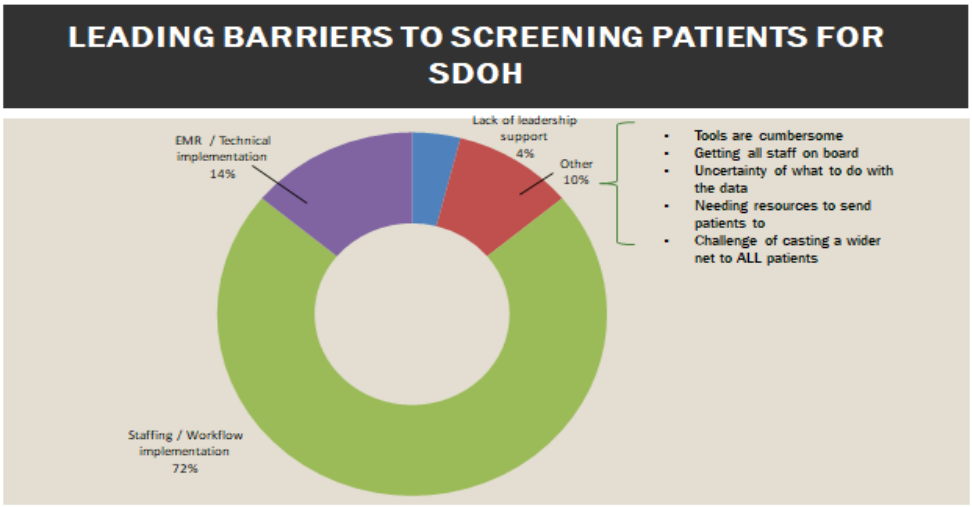


Chart of leading barriers to screening patients for SDoH. Source: CMS PRAPARE report.

6.1 Examples of How Other States Support Whole Person Care

We were asked to evaluate how other states are responding to care coordination. The literature search provided information on some states care coordination activities. See table below:

State	Activity
California	In California incentives for enrollment are not enough. In fact, they are considering monitoring metrics to include measures such as all newly enrolled members who visit his/her assigned primary care provider (PCP) at least once during the year. Implementing section 2703 State Plan Amendment (SPA) of the Affordable Care Act, would provide a funding stream, matched at a 90/10 Federal rate for eight calendar quarters, for providers to render a novel set of care coordination and case management services to individuals with chronic conditions and serious and persistent mental illness in designated geographies.
New York	In determining how to implement health homes New York has concluded that care coordination is most effective at the patient/provider level, rather than at the plan level. The Social Service Site Location Data project aims to support efficient interagency coordination, collaboration, and decision-making by making information accessible. The project advances the City's commitment toward making it easier to discover what social services exist and where they are delivered, as outlined in One New York: The Plan for a Strong and Just City (One NYC), NYC's long-term strategic plan. The project also supports the City's commitment to transparency by publishing information on contracted City investments through Open Data, the City's public data portal.
Illinois	Medicaid funds for housing to create an incentive pool available to health plans (or counties) for housing and utilization outcomes. The funding could create the necessary "bridge" to permanent housing funded through other sources. This would address major barriers to creating a robust "hospital to housing" pipeline, giving local providers resources to get vulnerable individuals into a stable environment quickly. With housing, consider that some individuals need to avoid hospitalization are "habilitative services," such as support learning to manage

State	Activity
	their money to pay their rent on time and maintain their housing. Also, landlords want assurance that they have a contact who will intervene if they have an issue with the tenant.
Massachusetts	Massachusetts has used community health workers (CHW) in a waiver for individuals who are eligible for both Medicare and Medicaid (known as "dual eligibles") and in a waiver to help children in Medicaid with asthma.
Minnesota	Minnesota is using funding from their State Innovation Model (SIM) grant to create a toolkit to help employers integrate CHWs into their care teams.
New Mexico	New Mexico has a population health risk-based approach to using CHWs. High health care utilizers, which comprise 15 percent of the population, generate 50 percent of total health care costs. For these patients, CHWs provide support in navigating the health care system and getting access to the right kind of health care and connecting patients with social services, helping manage their chronic conditions, and addressing health literacy issues. After six months, these patients had fewer visits to the emergency room, fewer inpatient admissions, and used fewer prescriptions. As a result, the program saved $4 for every $1 spent.
Arizona	Health coaches associated with the hospital system, Banner Health, connected elderly patients to appropriate social services using a software application, which enabled providers to visualize the results of interactions with social services and to obtain information about the quality of services using a back-end "Yelp-like" tool.

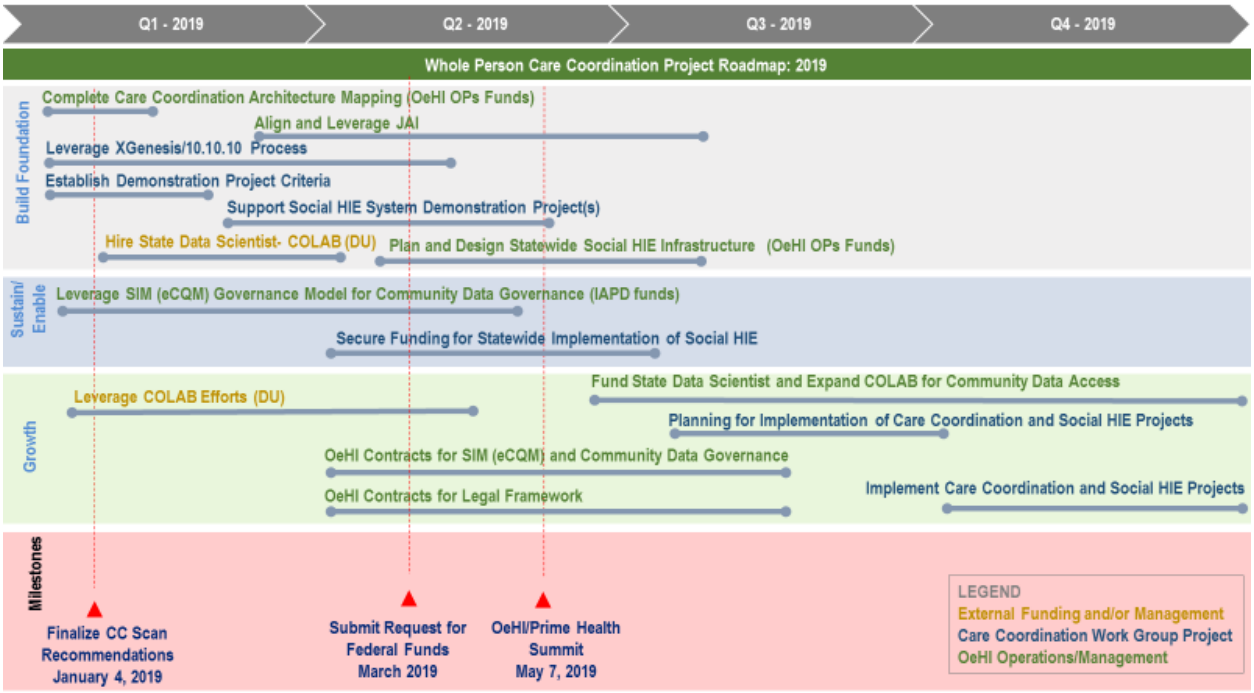
7.0 Whole Person Care Action Plan for Colorado

7.1 Projects Timeline

The following timeline represents the sequencing of projects occurring across the state ecosystem related to improving technology, infrastructure and policies to support whole person care. Some projects will be funded and facilitated by OeHI, and some will be managed by external entities as reflected by the colored text.

Project Selection and Funding Approach

In 2019, the Care Coordination Workgroup will focus on projects in **blue.** These projects represent key areas of opportunity: data governance, technical infrastructure, and innovation. The Workgroup will select S-HIE demonstration projects using formal selection criteria and explore multi-sourced, cross-organizational funding (i.e., public health, private sector etc.) to support them as well as initiate planning and implementation efforts. Additionally, the Workgroup will continue to identify, plan and implement projects viewed as foundational to advancing broad care coordination capabilities (e.g., closed loop referrals). OeHI will primarily seek federal funding for these types of projects where newer projects (e.g., S-HIE), while critical, may be challenged by federal funding requirements. The goal of the Workgroup is to advance projects deploying scalable technology with appropriate change management supports and sustainable financing.



7.1.1. Relationship to Other Roadmap Workgroups – Advancing HIE Workgroup Example

The Care Coordination Workgroup also intends to work collaboratively with other Roadmap workgroups to align work efforts and share subject matter expertise. Two potential workstreams from the Advancing HIE Workgroup with a tie to the Care Coordination Workgroup are included in Figure 4 (below).

Figure 4: *Advancing HIE Workgroup Project Workstream Extract*

1. Broaden & Deepen Data Connections	2. Expand Event Notifications	3. EHR Workflow Integration	4. Expanded Medication Services	5. Data Standardization
Data Access between QHN and CORHIO	Additional Notifications and Triggers	Single Sign On	PDMP	Terminology Services
Patient Access		CIIS Access	Medication History	
Directed Exchange - Query Access				

Care Coordination WG could focus "technical infrastructure" bucket to support this work. Initial scope is to build out Patient Centered Data Home functionality between CORHIO and QHN. Could be place for CC WG to work on inclusion and standardization around social data.

Care Coordination WG could support by bringing workflow, population and public health SME to guide notification and trigger priorities.

8.0 Potential Sources of Funding for Colorado S-HIE

Working alongside the Care Coordination Workgroup, OeHI will seek to fund S-HIE through the following funding channels for future sustainability:

- Waiver (1115) funds for defined reimbursement
- State legislation and state plan amendments (SPA) for broader Medicaid reimbursement
- Funding through other health system transformation efforts (Hospital Transformation)
- Reimbursement through managed care contracts / Regional Accountable Entities
- Other non-state funding mechanisms

APPENDIX

Role of Regional Accountable Entities in Care Coordination

The Regional Accountable Entities (RAE) are responsible for connecting Medicaid members to care, RAEs are required to ensure that care coordination is accessible to members at the point of care whenever possible, including during transitions in care. Hospitals may have opportunities to align with these efforts as they plan initiatives within the care coordination and care transitions for vulnerable populations priority area:

- Ensure that care coordinators in the RAE's network reach out and connect with other service providers and communicate information appropriately, consistently and without delay. • Ensure that all care coordination, including interventions provided by network providers and subcontractors, meet the needs of the member.
- Designate staff persons to serve as single point of contact with the different systems and settings.
- Provide specific guidance to care coordinators about each setting, regarding how to identify members in the system/setting; how to provide care coordination services in the system/setting; and how to communicate with contact people in the system/setting to plan transitions, coordinate services, and address issues and member concerns.
- Participate in special workgroups created by the Department or other state agencies to improve services and coordination of activities for the populations served by multiple systems.
- For members with intellectual and developmental disabilities who require services for conditions other than a mental health or substance use disorder, assist the member in locating appropriate services. • For members with substance use disorders who require services not covered by Medicaid, coordinate care with the state's Managed Service Organizations.
- Establish arrangements with the Colorado Crisis Services vendors for the coordination of follow-up care for Medicaid members who accessed crisis services.
- Assist care coordinators within the network with bridging multiple delivery systems and state agencies.
- Ensure that Care coordination tools, processes, and methods are available to and used by network providers
- Possess and maintain an electronic care coordination tool
- Assist any member who contacts the RAE, including members not in the region who need assistance with contacting his/her PCMP and/or RAE
- Collaborate with the Healthy Communities contractors in the region for onboarding members to Medicaid and the Accountable Care Collaborative. Healthy Communities will have contracted responsibilities to onboard children and their parents through outreach, navigation support of Medicaid benefits, and education on preventive services. Hospital Transformation Program Community and Health Neighborhood Engagement Guidebook Page 24 of 31 The Colorado Healthcare Affordability and Sustainability Enterprise (CHASE) is a government owned business within the Department of Health Care Policy and Financing. www.colorado.gov/hcpf
    - Refer child members and their families to Healthy Communities for assistance with finding Community resources and navigating child and family services.
    - Onboard to Medicaid and the Accountable Care Collaborative all other members who are not being contacted by Healthy Communities.

Literature Review

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	Literature Review Source and Summary
1.	**White Paper: Social Health Information Exchange: Connecting Health Care with Services that Address the Social Determinants of Health."** State of Colorado. August 2018 Key points: • Health care (clinical care) is estimated to account for about 10 to 27 percent of health outcomes, Socio-economic factors account for about 60 to 85 percent of health outcomes. • Many organizations, which are concerned about addressing the social determinants of health (SDOH) have expressed a need for a connected system of referral and follow through. These organizations, want to communicate, collaborate, and coordinate with one another and with their clients/patients. • The Colorado eHealth Commission's *Colorado Health IT Roadmap* suggests that such a system should be a priority to have effective care coordination and better health and wellness outcomes for Coloradans. The white paper offers the following strategies and tactics to achieve the *Roadmap's* care coordination goals by: ○ Support Care Coordination in Communities Statewide, ○ Promote and Enable Consumer Engagement, Empowerment, and Health Literacy, ○ Develop and implement tools to educate, engage, and empower consumers in their health and well-being, ○ Integrate Behavioral, Physical, Claims, Social, and Other Health Data, and ○ Uniquely Identify a Person Across Systems. Develop and implement a comprehensive approach – that includes both health and social services information – that will be used across Colorado. • In the absence of a coordinated infrastructure, organizations are building parallel referral systems without interoperability, interconnectivity, or data governance standards. For example, Children's Hospital Colorado serves patients from every county in the state. Its referral service will overlap, with each of the Regional Accountable Entities (RAE), but has no easy mechanism to coordinate these referrals with the RAEs. • The white paper outlines a phased approach to achieving the goals listed above. Phase 1 steps are: ○ Ensure that all health care and community service providers are screening for SDoHs from a menu of validated screening questions and/or tools, ○ Create a comprehensive statewide resource directory for community-based SDoH services, and ○ Ensure that providers and the public have pathways to the resource directory and the information in it. • Phase 2 steps are: ○ Create the capacity to manage individual patient/client data to track social health needs and service utilization to meet those needs, ○ Create a community-based service referral system with a feedback loop, ○ Create the capacity for information exchange and interoperability among health care and community-based systems that serve the individual, and • Benefits of creating a connected social health information exchange are: ○ Better individual care coordination, ○ Population-level planning and evaluation, and

	Literature Review Source and Summary
	○ Reduced burden on community-based service organizations.
2	**The Future of Electronic Health Records.** Stanford University. September 2018. http://med.stanford.edu/content/dam/sm/ehr/documents/SM-EHR-White-Papers_v12.pdf Key points: • The authors contend the EHR is the best place to store SDoH information. • Electronic Health Records (EHR) of the future will incorporate artificial intelligence (AI) technology to synthesize medical literature, the patient's history, and relevant histories of other patients whose records would be available in anonymized, aggregated form. It would also include individual patient's characteristics—lifestyle, medication history, genetic makeup—and bring all the relevant medical knowledge to recommend the best treatment options. Knowledge would also flow not only to public health officials interested in the population at large. *More than two thirds of physicians indicated that interoperability was the # 1 issue to fix, which requires a radically different health IT infrastructure — one that promotes data sharing and is open to developers. Open APIs are recommended.* • When physicians were surveyed the top area of interest among respondents was "interoperability"— the need to make patient data available easily and readily to professionals from all parts of the health care system for the benefit of the patient. More than two thirds of physicians indicated that interoperability was the # 1 issue to fix, which requires a radically different health IT infrastructure — one that promotes data sharing and is open to developers. • Steps to achieve future goals are: ○ Revise HIPAA to reduce restrictions in data sharing. The authors were overwhelmingly of the opinion that the risk of not sharing data outweighs the risks to privacy. ○ Embrace open APIs and nurture a community of developers to enable an app-based ecosystem that puts the patient in control and to keep medical data flowing freely. Apple's recent upgrade to its Health app allows users to download information from participating health care providers onto their iPhones. Those APIs would be extended, using industry-accepted security protocols, to encompass information that patients, physicians, and care teams could repurpose in ways that are meaningful and useful. It would also go a long way to solving the interoperability problem, provided those protocols are openly and easily available, as is required in the 21st Century Cures Act. ○ Clarify definitions of interoperability — in collaboration with other stakeholder groups—and adopt common technical standards to support them. ○ Develop and market an ecosystem of third-party apps that put patients in control of their own health data;
3	Cantor MN, Thorpe L. **Integrating Data on Social Determinants of Health into Electronic Health Records**. Health Affairs. Apr;37(4):585-590. doi: 10.1377/hlthaff.2017.1252. Key points:

	Literature Review Source and Summary
	• At a broad level, social determinants can be divided into two categories: individual-level determinants, such as education level, employment status, or housing situation; and community-level determinants, which measure environmental, neighborhood, or socioeconomic characteristics (such as air pollution levels, housing quality, and the unemployment rate) that affect a broad population. • Initiatives such as the Medicaid and CHIP Payment and Access Commission's Delivery System Reform Incentive Payment Program, which aims to redesign state Medicaid programs, are providing financial incentives to bring social determinants to the attention of a much broader group of health care providers. • EHR vendors have begun to develop new tools for capturing and addressing the determinants and using them for population health management. Examples include as Cerner's HealtheIntent and Epic's Healthy Planet. • Data on individual-level determinants are currently collected using a variety of instruments, including the Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE), the Accountable Health Communities Screening (AHCS) tool, and a myriad of locally designed tools from a variety of organizations. *Currently, the sets of diagnosis codes used to represent the results of screening for the determinants are developed case by case, so some institutions may use different codes or different levels of specificity for the same problems. Current codes are imprecise.* • For example, the ICD-10 Z59.0 code (problems related to housing and economic circumstances) contains several diagnoses related to social determinants of health, such as Z59.4 (lack of adequate food and safe drinking water). To permit more precise documentation and appropriate tailored referrals, this code should most likely be divided into two different codes, one for food insecurity and the other for lack of safe water. • CPT codes are also imprecise, with codes 96150–1 (health and behavior assessment) and 96152–55 (health and behavior intervention) being the codes that come closest to addressing social determinants. While the existence of a CPT code alone does not guarantee adequate reimbursement to incentivize its use in a clinical encounter, it does establish a starting point for policies that would do so.
4	Billioux A, Conway, PH, Alley DE. **Addressing Population Health: Integrators in the Accountable Health Communities Model**. JAMA. 318(19):1865–1866: November 2017. Key points: • Research has uncovered trends that show life expectancy differs by more than four years depending on where people live. (In areas plagued with clusters of high opioid use life expectance differs by 20 years.) • Interventions that increase available community resources can successfully address and change life expectancy. • A community integrator, which is defined as a trusted organization that can represent community needs and engage service providers (such as health care services, public health

	Literature Review Source and Summary
	and social services) can further improve quality and reduce costs. The CMS Accountable Health Communities (AHC) model is designed to test this approach. *Community health improvement requires a collective impact approach that aligns efforts across a variety of clinical and community organizations to achieve a common goal. Data is leveraged to facilitate aligned action.* • In the AHC model CMS did not specify the type of organization that would fill the integrator role, rather CMS specified the functions. First, these organizations must convene and provide leadership to the AHC community coalitions including assessing and indexing community resources and capabilities as well as developing and being accountable for shared goals. • The integrators engage individual Medicare and Medicaid beneficiaries by screening for health-related social needs at participating clinical delivery sites and providing referrals to organizations that provide resources to help address unmet needs. Individuals at high-risk for poor outcomes, demonstrated by visiting an ED two or more times in 12 months, will be provided with navigation services aimed at tailoring referrals and engaging recommended community services.

5	Tobey R, Maxwell J, Cantor J. California's 1115 Waiver: **An Opportunity to Move from Coverage to Whole-Person Care**. JSI Research & Training Institute, Inc; January 2015.
	
	Key points:
	• Whole-person care can be defined as 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.
	• The whole-person care framework outlines how targeting populations, sharing data, coordinating services across sectors, patient-centered care, collaborative leadership, and flexible financing are all essential elements for state and county leaders to consider in order to meet the Triple Aim.
	• There are three key levers that state policymakers should engage to use the 1115 waiver to advance whole-person care:
	  ○ Access to effectively coordinated care;
	  ○ Financial flexibility; and
	  ○ Incorporating a focus on social determinants of health.
	• In **California** incentives for enrollment are not enough. In fact, they are considering monitoring metrics to include measures such as all newly enrolled members who visit his/her assigned primary care provider (PCP) at least once during the year.
	• If **California** were to implement a section 2703 State Plan Amendment (SPA) of the Affordable Care Act, it would provide a funding stream, matched at a 90/10 Federal rate for eight calendar quarters, for providers to render a novel set of care coordination and case management services to individuals with chronic conditions and serious and persistent mental illness in designated geographies.

	Literature Review Source and Summary
	• Other states, such as **New York**, in determining how to implement health homes have concluded that care coordination is most effective at the patient/provider level, rather than at the plan level. • *"*If all payers are investing in population-health endeavors, no individual payer is left at a competitive disadvantage." *The risk sharing size requirements could be met by an innovative approach of creating a "virtual" Medicaid accountable care organization.* • Global capitation with per member per month (PMPM) is recommended with the caveat that acknowledges accepting and being able to successfully perform under increased financial risk arrangements, such as partial or global capitation, requires new levels of sophistication, organization and/or network size, data sharing. However, health centers, where almost two-thirds of all Medicaid (Medi-Cal) outpatient primary care services are rendered, mostly operate as non-risk-bearing entities. Also, many health centers do not employ the gamut of population health management tools, patient engagement strategies, and analytics that a capitated entity would need to be successful under a risk-based contract for an assigned population. Furthermore, most health centers do not operate as part of larger networks that might be able to spread risk across a large managed population. Size is a basic tenet for successful risk bearing. Absent sufficient size, risk bearing is a challenge. • The risk sharing size requirements could be met by an innovative approach of creating a "virtual Medicaid accountable care organization. That is, involve providers in three key starting places: 1) existing networks of health centers; 2) public hospitals with relationships with primary care; and 3) behavioral health providers to build upon, or groups of primary care providers/health centers interested in coming together to have the necessary size to form a "whole-person care" network. Waiver resources could support tools and training for population management, data analytics resources, forging new relationships and data exchange between providers and hospitals, and growing contracting capabilities for health centers interested in forming new risk-bearing networks. This can be done without requiring the governance structure or formal parameters of a Medicare-like ACO, partial or global capitation contracts with shared risk tied to outcomes are a potentially straightforward way to move toward whole-person care within "virtual Medicaid accountable care organizations." *Given the population health focus, look for non-traditional (matchable), city, county, and state dollars that could make neighborhoods safer, and more conducive to outdoor recreation and physical activity to promote health and wellbeing such as funds for environment planning, parks and recreation, neighborhood safety, school nutrition, urban renewal, school-based health education, etc.* • **Illinois** is using Medicaid funds for housing to create an incentive pool available to health plans (or counties) for housing and utilization outcomes. The funding could create the necessary "bridge" to permanent housing funded through other sources. This would address

	Literature Review Source and Summary
	major barriers to creating a robust "hospital to housing" pipeline, giving local providers resources to get vulnerable individuals into a stable environment quickly. With housing, consider that some individuals need to avoid hospitalization are "habilitative services," such as support learning to manage their money to pay their rent on time and maintain their housing. Also, landlords want assurance that they have a contact who will intervene if they have an issue with the tenant.
6	Albritton, E. **How States Can Fund Community Health Workers through Medicaid to Improve People's Health, Decrease Costs, and Reduce Disparities.** Families USA, Washington, D.C.; July 2016. Available from: https://familiesusa.org/product/how-states-can-fund-community-health-workers-through-medicaid Key points: • Community health workers (CHWs) are members of their communities who, because of their relationships, can effectively provide education, referrals, and support to improve the health of individuals and their communities. CHWs are increasingly involved with care coordination and addressing the social determinants of health. CHWs can help people overcome barriers to health coverage and care by connecting them to a range of health care and social services to address SDoH issues. • CHWs have a strong record of helping to improve people's health. Their role as a bridge between their community and the health care system helps connect people with primary care providers so they can get the care they need when they need it. Through health education and community outreach, CHWs encourage people to use important preventive services, such as mammograms, cervical cancer screenings, and immunizations. Getting the appropriate preventive care can lead to early detection of serious illnesses and keep people healthy. • Funding for CHWs can be unpredictable, often time-limited, and generally insufficient to support the full breadth of services and supports that CHWs can provide. Historically, most CHW programs are run by community health centers and community-based organizations, which fund the programs either out of their own operating budgets or through specific grants. These kinds of funding sources are: *Medicaid reimbursement can be used to sustainably fund CHW services.* • In 2013, CMS changed a rule about who could be reimbursed through Medicaid for delivering preventive services. Previously, preventive services had to be provided by a physician or other licensed practitioner. Now, other non-licensed practitioners, such as CHWs, can provide and get reimbursed for preventive services, if services are recommended by a physician or other licensed practitioners. The services vary but can include preventive health counseling. • To take advantage of this change in reimbursement, states must submit a state plan amendment (SPA) to CMS that describes what education, training, or credentialing the state would require of CHWs, though at this time CMS has not put forth any specific requirements. The SPA must also define which preventive services CHWs will provide and how they will be reimbursed. State actions are: ○ **Massachusetts** has used CHWs in a waiver for individuals who are eligible for both Medicare and Medicaid (known as "dual eligibles") and in a waiver to help children in Medicaid with asthma.

	Literature Review Source and Summary
	○ **Minnesota** is using funding from their State Innovation Model (SIM) grant to create a toolkit to help employers integrate CHWs into their care teams. ○ **New Mexico** has a population health risk-based approach to using CHWs. High health care utilizers, which comprise 15 percent of the population, generate 50 percent of total health care costs. For these patients, CHWs provide support in navigating the health care system and getting access to the right kind of health care and connecting patients with social services, helping manage their chronic conditions, and addressing health literacy issues. After six months, these patients had fewer visits to the emergency room, fewer inpatient admissions, and used fewer prescriptions. As a result, the program saved $4 for every $1 spent. • States can also use their contracts with managed care organizations (MCOs) to promote the uptake of CHWs in their Medicaid programs. Given that more than 70 percent of Medicaid beneficiaries nationwide are covered under managed care, this option may be an attractive one for many states.
7	De Yoana, M. Colorado Fire Department Reduces 911 Calls By Helping Frequent Callers. Colorado Public Radio; December 2018. Available from: http://www.kunc.org/post/colorado-fire-department-reduces-911-calls-helping-frequent-callers#stream/0 Key points: • In **Colorado,** the Greely Fire Department created a special non-emergency response unit, called Squad 1, in response to analysis which revealed that that most of the 911 calls were social service request calls. • Squad 1 is a non-emergency response team that consists of a social worker navigator, a crisis intervention expert, and a paramedic. • The use of Squad 1 has decreased the volume of 911 call and has decreased unnecessary ED visits, improving care for the community and reducing costs.
8	Scherpbie, H. Smith, C. Community vitals: The importance of social determinants in population health. Phillips Wellcentive. Alpharetta, GA. 2017 Key points: • Community vitals as social determinants of health and patient behavior are increasingly recognized as playing significant roles, but much of today's focus is still on spending associated with "sick care," the diagnosis and treatment of conditions or disease, versus that of prevention, patient engagement and intervention based on risk assessment and care management. • Large disparities in health can be found among pockets of populations that live short distances from each other. *"The most important five-digit number I need to predict your health status and wellbeing is your ZIP code, bar none. It's not your cholesterol level or your blood pressure number or your age. The No. 1 health predictor is your ZIP code."* David Nash, MD, MBA

	Literature Review Source and Summary
	• Approximately 20 percent of Medicare patients with complex chronic care needs account for some 80 percent of costs, Nash notes, "If we can find and better manage these 20 percent of patients, we have a fighting chance of reducing healthcare costs." • Identifying at-risk populations based on social determinants of health and then tailoring healthcare delivery to them is one cornerstone of population health management, aimed at reducing costs via care coordination and care management and preventive care. • Start population health efforts by using a registry. Next obtain SDoH data and integrate it with patient data. By combining socioeconomic factors with medical and pharmacy claims, labs and health risk assessments using predictive modeling, healthcare organizations can acquire more expansive views of consumers at risk for avoidable healthcare costs. Layer on top of this analysis motivational engagement prediction, stress severity projection and geo-spatial mapping systems. • Stress levels can be predicted. For example, increased rates of crime in a neighborhood, a house downsize, bankruptcy, or even a woman's last name change (signaling marriage/pregnancy or divorce) are all likely indicators of increased stress severity. Stress can spur a myriad of health consequences, including high blood pressure, circulatory complications, accelerated aging, cardiovascular disease and immune defense damage, among other factors. *Social impact bonds (SIBs), also known as pay-for-success models are results-based financing arrangements, are multi-stakeholder performance-based contracts that are used to increase spending on social determinants while enforcing accountability and outcomes. Key stakeholders, such as a service provider, investor, payer (i.e., usually government), intermediary facilitator, and independent evaluator.* Example: • **Arizona, Phoenix:** Health coaches associated with the hospital system, Banner Health, connected elderly patients to appropriate social services using a software application, which enabled providers to visualize the results of interactions with social services and to obtain information about the quality of services using a back-end "Yelp-like" tool.
	Web Links: **Social Impact Bonds Database** https://sibdatabase.socialfinance.org.uk/ and Brookings Institute. Available from: https://www.brookings.edu/wp-content/uploads/2017/11/impact-bonds-for-health_slides_20171212.pdf Examples of US SIBs: • **South Carolina**: Nurse Family Partnership is an evidenced based community health program focused on vulnerable mothers pregnant with their first child, which spans from pregnancy through age 2. • **California, Santa Clara County**: The "Partners in Wellness" project serves adults with severe mental illness who are frequent ED utilizers by providing care coordination, supportive social services, and behavioral health intervention.

	Literature Review Source and Summary
	• **Connecticut**: Office of Early Childhood Maternal, Infant, and Early Childhood Home Visiting Outcomes Rate Card Pilot is designed to promote full-term birth and family employment. • **Michigan, Arbor Circle:** The "Strong Beginnings" pay for success program aims to decrease premature births by expanding health care home visiting services for pregnant women and follows their child through age two.
10	Office of the Governor. **The State of Health: Colorado's Commitment to Become the Healthiest State. State of Colorado**; May 2013 Available from: https://www.cohealthinfo.com/wp-content/uploads/2014/08/The-State-of-Health-Final-April-2013.pdf Key points: • The goal for Colorado is to become the healthiest state in the nation. This is to be accomplished by supporting Coloradans in their efforts to stay healthy or become healthier. Health delivery networks will be comprehensive, person-centered, high-quality, and affordable. They will integrate physical, behavioral, oral, and environmental health with community-based long-term services and supports, and back individual health with health information technology. • Health of Coloradans will be improved by streamlining systems and ensuring care is delivered with a "whole person" and "whole community" approach. Colorado will work to integrate physical health with behavioral health, oral health, public and environmental health, and programs providing community-based long-term services and supports. Colorado will collaborate with individuals, families, and caregivers to inform policies that support integration and patient-centered care. • Starting in 2008, Colorado engaged stakeholders to develop the Accountable Care Collaborative (ACC), a payment and delivery system reform initiative that builds on the strengths of local, regional, and statewide partners to build an integrated, outcome-focused, person-and family-centered system of care. A goal is to have 70 percent of Medicaid clients connected to a medical home by 2016. • Although Co[lo]rado ranks 10th among states in healthy livi[ng], it ranks 28th in prevention and treatment, and 40th in healthcare access. • More than 936,000 Coloradans live in an area that lacks a sufficient number of primary care providers, and 58 of 64 Colorado counties have formal designations as Primary Care Health Professional Shortage Areas. • Colorado has its own version of the Triple Aim. It has four components: 1. Promoting prevention and wellness; 2. Expanding coverage, access, and capacity; 3. Improving health system integration and quality; and 4. Enhancing value and strengthening sustainability. • Colorado's health insurance exchange — Connect for Health Colorado — was the first in the nation to have bipartisan legislative support. • A comprehensive rebuild of the Colorado Benefits Management System (CBMS) — the state computer system to access and determine eligibility for Medicaid, Food Assistance, and other public assistance programs is occurring.

	Literature Review Source and Summary
	• Colorado's "Winnable Battles" campaign summarizes the state's priorities regarding integration of public health, wellness, and prevention into their healthcare delivery system. Reducing diabetes is one of the designated Winnable Battles. • Partnerships are a focus. Colorado plans to capitalize on partnerships with private payers, providers of behavioral health services, the All Payer Claims Database, patient advocates, and others to develop appropriate metrics to measure the effectiveness of behavioral health services across providers and payers and to assess whether these services are leading to better health. • Tooth decay is the leading chronic disease among Colorado's children and is five times more prevalent than asthma. In the 2006-2007 school year, 45 percent of kindergarten children in Colorado had tooth decay. The "Cavity Free at Three" program increases the number of Medicaid dental providers. • The Colorado Health Care Affordability Act created the Hospital Provider Fee. Colorado's Provider Fee is one of only a few matching programs of its kind nationwide that fully funds expanded Medicaid coverage and improvements in Medicaid provider payments. • Community health workers, patient navigators, and promotores ("promoters" in Spanish) provide leadership, education, support, and resources to empower individuals to actively engage in their health. One study based in Colorado demonstrated a $2.28 return for every $1.00 invested. • In conjunction with payment reform efforts, models of delivering healthcare are changing to focus on patient-centered, team-based care that supports care coordination and a better patient experience. • The Colorado Health Service Corps is a partnership between state and federal governments, Colorado's foundation community, and healthcare providers that recruits health professionals to underserved areas. • The Colorado Telehealth Network (CTN), sponsored by the Colorado Hospital Association and the Colorado Behavioral Healthcare Council, is rapidly expanding its statewide network of broadband and wireless technology to health facilities statewide. It includes behavior health. • In August 2012, Colorado was selected as one of seven sites nationwide for the Comprehensive Primary Care Initiative (CPC Initiative), a federal pilot project leveraging care coordination payments to transform care delivery.
11	Heath. S. **How Non-Clinical Staff Enable Patient Engagement, Care Coordination. Patient Engagement HIT**; August 2018. Available from: https://patientengagementhit.com/features/how-non-clinical-staff-enable-patient-engagement-care-coordination Key points: • About half of all health care workers are non-clinical staff. This included community health workers (CHW), patient navigators, health coaches who interact with patients, but do not dispense medical advice or perform procedure. • The definition of a patient navigator, also referred to as a patient advocate, is one whose primary responsibility is to provide personalized guidance to patients as they move through the health care system. There currently are no formal certification requirements.

<table>
<tr><th></th><th>Literature Review
Source and Summary</th></tr>
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Health coaches focus on patient behavior change. This is done by working with the patient to set goals and encourage the development of sustainable healthy behaviors. Health coaches are credentialed members of the health care industry.
Community health workers focus primarily on addressing the SDoH that can prevent patients from achieving success with clinical and wellness interventions. They connect patients with resources that support food security, housing, education and other socioeconomic issues.

</td></tr>
<tr><td>12</td><td>
Stanek, M, Takach M. The Essential Role of States in Financing, Regulating, and Creating Accountable Care Organizations. National Conference of State Legislators; 2014

Key points:

By 2014, when this article was written, 17 states had implemented accountable care organization (ACO) strategies, which vary by type such as: 1) financing ACO models; 2) setting ACO standards that certify ACOs; and 3) fostering the creation of community-based organizations or redefining managed care organization contracts that are aligned with ACO principals.

<table>
<tr><th>State Accountable Care Strategies</th><th>Financing ACOs</th><th>Certify ACOs</th><th>Community-Based Organizations</th></tr>
<tr><td>California</td><td>✓</td><td></td><td></td></tr>
<tr><td>Iowa – Building off a commercial (Wellmark BCBS) ACO strategy</td><td>✓</td><td></td><td></td></tr>
<tr><td>Maine</td><td>✓</td><td></td><td></td></tr>
<tr><td>Minnesota – Integrated Health Partnership and a State Innovation Model (SIM)</td><td>✓</td><td></td><td></td></tr>
<tr><td>New Jersey</td><td>✓</td><td></td><td></td></tr>
<tr><td>Vermont</td><td>✓</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Massachusetts – the state’s Health Policy Commission certifies ACOs.</td><td></td><td>✓</td><td></td></tr>
<tr><td>New York</td><td></td><td>✓</td><td></td></tr>
<tr><td>Texas – developed health care collaboratives. Texas law requires ACOs to have working capital and reserves to operate.</td><td></td><td>✓</td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Alabama</td><td></td><td></td><td>✓</td></tr>
<tr><td>Colorado</td><td></td><td></td><td>✓</td></tr>
<tr><td>Illinois</td><td></td><td></td><td>✓</td></tr>
<tr><td>Louisiana</td><td></td><td></td><td>✓</td></tr>
<tr><td>North Carolina</td><td></td><td></td><td>✓</td></tr>
<tr><td>Oregon</td><td></td><td></td><td>✓</td></tr>
<tr><td>Utah</td><td></td><td></td><td>✓</td></tr>
</table>

Accountable care is defined as “organizations or structures that assume responsibility for a defined population of patients across a continuum of care through payments linked to value

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</table>

	Literature Review Source and Summary
	and performance measurements that demonstrate that savings are achieved in conjunction with improvements in care." • At first, ACOs tended to be single-payer, such as the Medicare Shared Savings Program. As ACOs spread and mature, there is a tendency to multi-payer ACO initiatives. *The difference between ACOs from managed care plans of yesteryear is the simultaneous focus on meeting cost and quality metrics, the greater sophistication of data analytics to meet those metrics and the emphasis on developing Medicaid services at the local level.* ***Colorado*** *and* ***Oregon*** *are the best examples of this approach.* • States using ACOs have been active in medical home infrastructure through Medicaid programs. States such as Maine, Minnesota, North Carolina, Oregon, and Vermont have robust medical home initiatives. Vermont has a Medicaid Shared Savings Program that builds on its statewide medical home initiative and leverages the state's health information technology infrastructure. • Attribution models are needed to define patient populations to ensure accountability for attainment of cost and quality. Claims data or patient enrollments are often used to attribute patients to ACOs. In **Illinois** Medicaid enrollees are locked into their attributed provider choice for 12 months and can only change entities during the open enrollment period. In **Colorado** and **Alabama** requires enrollment based on geographic location. • State ACOs are employing payments aimed at transitioning away from fee-for-service often safety net providers a pathway toward risk-based payment. • Accountable care strategies are tied closely to performance measurement, as they increasingly link payment to performance on defined quality metrics. State efforts to pay for value are linking reimbursements to performance indicators that draw from a range of data sources, including structural, process, and outcomes measures, as well as patient experience measures drawn from surveys of patient perspectives on their care. Quality data is often additionally used to target improvements. **Massachusetts** has a Statewide Quality Measure Set to assess quality and performance of providers. *Taking on risk, coordinating and managing care, and building and sustaining relationships between disparate providers may require technical capacity that entities, many of them safety net providers, do not have. Therefore, some states are providing supports for participant.* ***Colorado*** *has a Statewide Data Analytics Contractor.* • Results in this 2014 article are already showing promising results: ○ **California –** California Public Employees Retirement System (CalPERS) experience a reduction in the use of health care resources and slower increases in the unit cost of reimbursements after its implementation. Independent evaluations of the ACO found that it saved CalPERS $37 million in its first two years of operation (2010-2011). ○ **Colorado - According** to a quarterly report released at the end of 2013, Colorado's Accountable Care Collaborative has seen double-digit reductions in hospital admissions for beneficiaries with chronic obstructive pulmonary disease, hospital readmissions, and high-cost imaging services, as well as slower growth in emergency

	Literature Review Source and Summary
	room utilization. Overall, the initiative saw $44 million gross (and $6 million net) in cost avoidance in FY20–2-13. ○ **Oregon** - evaluation results released in November 2013 found that the beneficiaries enrolled in the state's Coordinated Care Organizations have seen reductions in ED utilization, reductions in hospitalizations for congestive heart failure and chronic obstructive pulmonary disease, and increases in primary care visits.
13	**Standardizing Resource Data APIs**. AIRS, Open Referral. Available from: https://digitalimpact.org/grants/standardizing-resource-data-apis/ Key points: • More than 1,000 organizations across the country provide people in need with the service of information and referral to health, human, and social services. Community by community, sector by sector — and through a range of channels such as call centers, resource directories, and web apps — these referral providers help tens of millions of people answer the question of where they can go for assistance. However, these channels have evolved within their own respective software systems, which tend to inhibit the ability for resource data to effectively flow through the many contexts in which people might try to find and use it. The current situation: ○ People in need still have difficulty discovering and accessing services that can help them live better lives, ○ Service providers still have a hard time connecting clients with other services that can address complex needs, ○ Researchers and decision-makers find it hard to gauge effectiveness of programs at serving community needs, and ○ Innovators are stymied by lack of access to data that could power helpful tools for any of the above. • In response, in collaboration with Code for America, Google.org, the Alliance of Information and Referral Systems and others — Open Referral developed *a data exchange format* to establish *interoperability* among diverse information systems. This makes it *possible* to unleash this data from its silos. • In Open Referral's pilot projects, lead stakeholders — consisting of government champions, referral providers, community anchor institutions, etc. — collaborate to establish open data infrastructure. • As various institutions adopt open standards and platforms, the anticipate the following outcomes: ○ More reliable information can be made available at a lower overall cost than in today's siloed status quo; ○ Innovative tools and applications can proliferate, and become easier to re-deploy and adapt; ○ People can more easily find services, and service providers can more readily meet complex needs; and ○ Researchers, policy-makers and funders can better understand community needs & resource gaps.

	Literature Review Source and Summary
14	Oonagh, J. NYC government publishing open data for municipally-contracted service providers. Open Referral; November 2018. Available from: https://openreferral.org/nyc-government-publishing-open-data-for-municipally-contracted-service-providers/ Key points: • **New York:** The Social Service Site Location Data project aims to support efficient interagency coordination, collaboration, and decision-making by making this information accessible. The project advances the City's commitment to making it easier to discover what social services exist and where they are delivered, as outlined in One New York: The Plan for a Strong and Just City (One NYC), NYC's long-term strategic plan. The project also supports the City's commitment to transparency by publishing information on contracted City investments through Open Data, the City's public data portal. • This project is being led by the Mayor's Office for Economic Opportunity (NYC Opportunity), which uses evidence and innovation to reduce poverty and increase equity. The Social Service Site Location Data project fits into the office's work to advance equity by showing how social services and City investments are distributed throughout New York City. • The Social Service Site Location Data project released the first public data set, compiled with contract data from key city agencies, in March 2018. This release included geocoded social service site delivery location data.

Excerpts from the Protocol for Responding to and Assessing Patients Assets, Risks and Experiences (PRAPARE) Report.

Occurring concurrently with the Care Coordination environment scan project was a CMS funded project called the Protocol for Responding to and Assessing Patients Assets, Risks and Experiences (PRAPARE), the project was funded by CMS in 2018 to support collaboration among state Medicaid agencies, health centers, providers, and other applicable entities to include Social Determinants of Health (SDoH) assessments in Electronic Health Records (EHRs) to improve health outcomes.

First released in 2016, PRAPARE is an open source SDoH tool created through the collaborative efforts of the National Association of Community Health Centers (NACHC), Kaiser Permanente, Oregon Primary Care Association (OPCA), Blue Shield of California Foundation, the Association of Asian Pacific Community Health Organizations (AAPCHO) and the Institute for Alternative Futures. Although voluntary among providers, PRAPARE is a dominant SDoH tool used across FQHCs, and is being implemented within Accountable Care Organizations, integrated care systems, and health plans.

The PRAPARE project represents CMS' efforts to socialize and drive the integration of SDoH-related data collection into EHRs by state Medicaid agencies through FQHC and thereby include it part of a combined clinical and social health record. These efforts represent CMS' policy, which acknowledges the impact of SDoH on health outcomes. The diagram below illustrates how clinical care represents only 20 percent of overall health factors. Therefore, to be successful in improving health outcomes the social factors, which represent 80% of health factors, need to be addressed to achieve coordinated care to improve life span and the quality of life.

Description: The Rankings are based on a model of population health that emphasizes the many factors that, if improved, can help make communities healthier places to live, learn, work and play. Source: http://www.countyhealthrankings.org/county-health-rankings-model.

The PRAPARE tool consists of a set of national core and optional measures questions, which are entered into the EHRs by health care providers who use them to manage patient care. Having SDoH as part of the EHR increases the efficiency of health care services. Additionally, medical and SDoH information can be fed to Health Information Exchanges (HIE), shared with the patient's providers, and potentially shared with community service organizations, to further promote whole-person care.

An important step in achieving coordinated whole person care is ensuring that SDoH is captured and is included in the clinical EHR. Although, the PRAPARE questions are open source, not all EHR vendors have built the questions into their product offerings. The National Association of Community Health Centers (NACHC) is working diligently to encourage EHR adoption by actively educating and requesting EHR vendors incorporate the PRAPARE questions into their products. Currently, Epic, eClinicalWorks, GE Centricity and NextGen have built SDoH PRAPARE templates.

The PRAPARE questions include core questions and optional questions. The Uniform Data System (UDS) SDoH domains were developed from extensive literature and research reviews, which found specific attributes that influenced health factors. The table (below) lists the core and optional domains.

Core		Optional
UDS SDH Domains:	**Non-UDS SDH Domains:**	**Non-UDS SDH Domains:**
1. Race	10. Education	1. Incarceration history
2. Ethnicity	11. Employment	2. Refugee status
3. Veteran Status	12. Material security	3. Safety
4. Migrant/Farmworker Status	13. Social integration	4. Domestic violence
5. English Proficiency	14. Stress	
6. Income	15. Transportation	
7. Insurance	16. Housing stability	
8. Neighborhood		
9. Housing status		

PRAPARE aligns with national initiatives prioritizing social determinants (e.g., Healthy People 2020); measures proposed under the next stage of Meaningful Use; clinical coding under ICD-10; and health centers' Uniform Data System (UDS).[28] Since PRAPARE is mapped to standardized reporting architecture the SDoH information can be sent to HIEs for data collection and analysis of met and unmet needs.

PRAPARE is mapped to standardized reporting architecture. Data can be sent to the HIEs for data capture, research and analysis.

PRAPARE Domain	UDS (HRSA reporting)	ICD-10	IOM	Meaningful Use	CMMI Accountable Healthcare Communities
Race/Ethnicity	X	N/A	X	X	N/A
Farmworker Status	X	N/A	N/A	N/A	N/A
Veteran Status	X	N/A	N/A	Explored, not adopted	N/A
Preferred Language	X	N/A	X	X	N/A
Income	X	X	X	N/A	N/A
Insurance Status	X	N/A	N/A	N/A	N/A
Housing Instability	X	X	N/A	N/A	X
Education	N/A	X	X	X	X (supplemental)
Employment	N/A	X	X	Explored, not adopted	X (supplemental)
Material Security (incls. food insecurity, utilities, financial strain)	N/A	X	X	X	X (and in supplemental)
Social Integration	N/A	X	X	X	X (supplemental)
Stress	N/A	X	X	X	N/A
Transportation	N/A	N/A	N/A	N/A	X

CMMI adopted PRAPARE transportation and housing qs

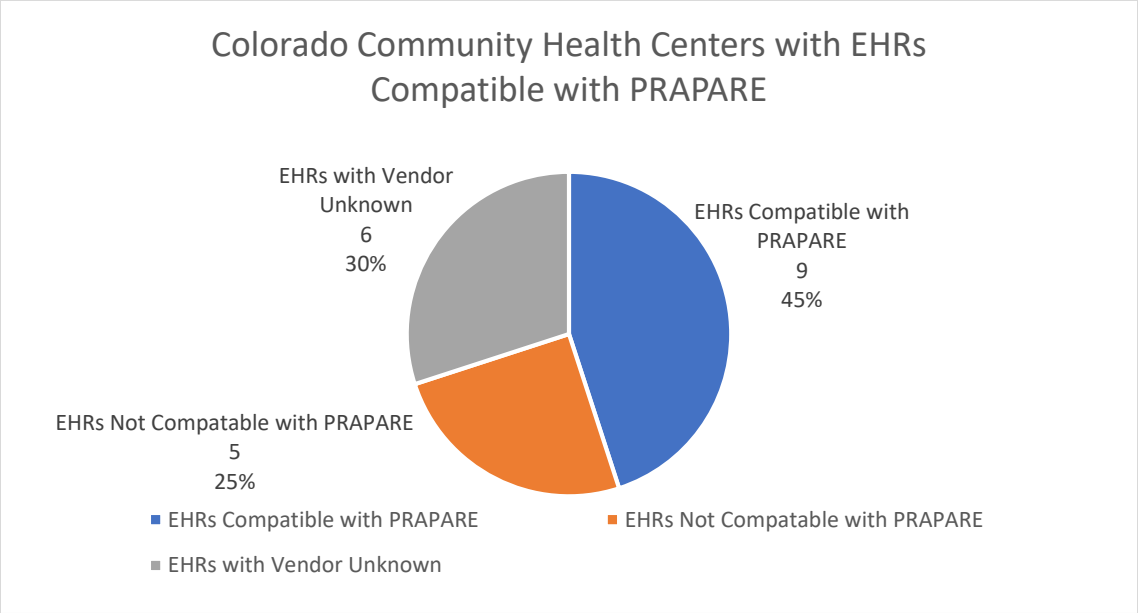
Also includes neighborhood and optional questions (incarceration history, refugee status, safety, domestic violence)

[28] February 20, 2018, HIE CoP, National Association of Community Health Center's (NACHC).

PRAPARE Usage and SDoH data collection in Colorado:

As part of the Care Coordination environmental scan we asked some stakeholders to comment on collection of SDoH and about knowledge of and use of PRAPARE. All stakeholders were aware of SDoH and most were knowledgeable of PRAPARE. We received information on EHR vendors used by Colorado's community health centers indicating that about 45% percent have EHRs whose vendors currently have PRAPARE templates available for use.

List of Federally Qualified Health Centers/Community Health Clinics in Colorado with EHR Vendor with Indication of use of a Vendor which incorporates PRAPARE.



Glossary

Acronym	Definition
AAA	Area Agency on Aging
ACC	Accountable Care Collaborative
ACO	Accountable Care Organization
ADT	Admission Transfer and Discharge
ACH	Accountable Health Communities
AHCM	Accountable Health Communities Model
AI	Artificial Intelligence
API	Application Programming Interface
APM	Alternative Payment Model
BCBS	Blue Cross Blue Shield
BH	Behavioral Health
BIDM	Colorado's Business Intelligence and Data Management
C&S	Conditions and Standards
CBMS	Colorado Benefits Management System
CBO	Community-Based Organization
CC	Care Coordination
CCAR	Colorado Client Assessment Record system
CCMCN	Colorado Community Managed Care Network
CDC	Centers for Disease Control and Prevention
CDPHE	Colorado Department of Public Health and Environment
CHASE	Colorado Healthcare Affordability and Sustainability Enterprise
CHIP	Children's Health Insurance Program
CHN	Community Health Networks
CHNE	Community Health Neighborhood Engagement
CHW	Community Health Worker
CMMI	Centers for Medicare and Medicaid Innovation
CMS	Centers for Medicare & Medicaid Services
CIVHC	Center for Improving Value in Healthcare
COLAB	Colorado Evaluation and Action Lab
COMPASS	The Colorado COMPASS project was formerly known as the behavioral health Data Integration Initiative (DII)
CORHIO	Colorado Regional Health Information Organization
COUP	Client Over Utilization Program
CPC	Comprehensive Primary Care
CRISPer	Community Resource Inventory Service for Patient e-Referral

Acronym	Definition
CRFR	Code of Federal Regulations
CRF 42	Code of Federal Regulations. 42 pertains to drug abuse patient records
CRI	Community Resource Inventory
CRN	Community Resource Network
DACODS	Drug and Alcohol Coordinated Data System
DDI	Design, Develop, Implement
DII	Data Integration Initiative (Office of Behavioral Health)
DPHE	Department of Health and Environment
DPP	Diabetes Prevention Programs
DSM	Direct Secure Messaging
DRCOG	Denver Regional Council of Governments
E&E	Eligibility & Enrollment
eCQM	Electronic Clinical Quality Measure
eCQMR	Electronic Clinical Quality Measures Repository
ED	Emergency Department
EHR	Electronic Health Record
ESB	Enterprise Service Bus
FERPA	Family Educational Rights & Privacy Act
FFP	Federal Financial Participation
FHIR	Fast Healthcare Interoperability Resources
FISMA	Federal Information Security Management Act
FQHC	Federally Qualified Health Center
HBC	Home-Based Care
HCBS	Home and Community Based Services
HCPF	Colorado's Department of Health Care Policy and Financing
HEDIS	Healthcare Effectiveness Data and Information Set
HHS	Department of Health and Human Services
HIE	Health Information Exchange
HIPAA	Health Insurance Portability and Accountability Act
HIT	Health Information Technology
HITECH	Health Information Technology for Economical and Clinical Health Act
HPD	Healthcare Provider Directory
HRSN	Health-Related Social Needs
IAPD	Implementation Advanced Planning Document
ICD	International Statistical Classification of Diseases and Related Health Problems
ICM	Integrated Care Model

Acronym	Definition
ID	Identifier
INTERACT	Interventions to Reduce Acute Care Transfers
KPI	Key Performance Indicator
LCSW	Licensed Clinical Social Worker
LINC Hub	Linked Information Network of Colorado Hub
LSW	Licensed Social Worker
LTC	Long Term Care
MCO	Managed Care Organization
MMIS	Medicaid Management Information System
MPD	Master Provider Directory
MOU	Memorandum of Understanding
MPI	Master Provider Index
NACHC	National Association of Community Health Centers
OBH	Office of Behavioral Health
OeHI	Office of eHealth Innovation
ONC	Office of the National Coordinator for Health IT
OIT	Colorado's Office of Information Technology
PACE	Program of All-Inclusive Care for the Elderly
PCA	Primary Care Associations
PCMH	Patient Centered Medical Home
PCP	Primary Care Provider
PCPM	Primary Care Payment Model
PDMP	Patient Drug Monitoring Program
PHM	Population Health Management
PRAPARE	Protocol to Respond to and Access Patient Assets, Risks, and Experiences
PROM	Patient Reported Outcome Measures
QHN	Quality Health Network
RAE	Regional Accountable Entity
RFP	Request for Proposal
SBIRT	Screening, Brief Intervention, Referral to Treatment
SCO	Senior Care Options
SDLC	Systems Development Life Cycle
SDoH	Social Determinants of Health
SIB	Social Impact Bonds
SIDMOD	State Identification Module
SIM	State Innovation Model

Acronym	Definition
SLR	State Level Registry
SMA	State Medicaid Agency
SNAP	Supplemental Nutritional Assistance
SOA	Service Oriented Architecture
SPA	State Plan Amendment
S-HIE	Social Health Information Exchange
SNOMED	Systematized Nomenclature of Medicine
SPA	State Plan Amendment
SSO	Single Sign On
SUD	Substance Use Disorder
TEFT	Testing Experience and Functional Tools
UDS	Uniform Data Set
WIC	Women Infants and Children program

Acknowledgments

This report was requested by the Care Coordination Workgroup and funded by OeHI. It was authored by HealthTech Solutions (HTS). Information in this report came from an environmental scan with a wide and diverse group of stakeholders. Given that 90 individuals, representing various organizations, participated and provided input, on occasion there were differing opinions. In these cases, the authors attempted to express the various viewpoints.

The authors thank the Care Coordination Workgroup, the OeHI department for their contributions, editing, and guidance. The authors thank the Urban Institute and HTS' Medicare EHR Team (MeT) for permission to include excerpts from the PRAPARE Report.