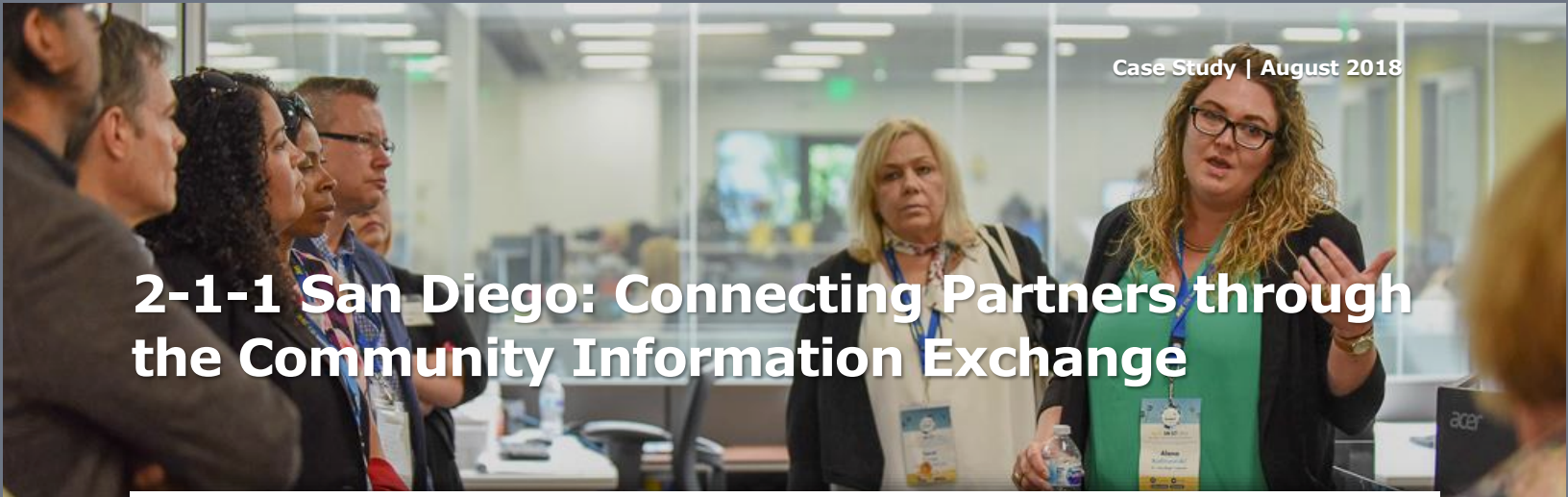


2-1-1 San Diego: Connecting Partners through the Community Information Exchange

Connecting patients to needed social services can be challenging for health care providers, who are generally focused on clinical care. Additionally, they are often neither aware of the full range of community services nor have the capacity to refer and follow up with patients. Recognizing that social factors significantly impact health outcomes and spending, 2-1-1 San Diego developed the Community Information Exchange (CIE), a cloud-based platform that enables participating providers to better understand a client's interactions with health and community services. The CIE includes a social risk assessment tool, provides alerts, and facilitates connections across multiple agencies and providers. The rich client information collected through the CIE is also used to monitor community trends and address local challenges. 2-1-1 San Diego is actively engaging community partners to participate in the CIE in the hopes of improving care coordination and health outcomes for at-risk patients throughout San Diego.

Background

2-1-1 San Diego, launched in 1997 by the United Way, is a free, confidential information and referral helpline

Program At-A-Glance: Community Information Exchange (CIE) is an interactive data platform developed by San Diego 2-1-1 designed to allow multiple health and social service providers see a patient's interaction across systems, agencies, and community services.

Partners: San Diego 2-1-1 and 34 social service and health care providers, including federally qualified health care centers, and government agencies.

Goals: Improve care coordination for vulnerable patients through an online platform.

Partnership Model: Coordinated service.

Scope of Services: Referral support; secure, cloud-based platform; shared measures for social determinants of health; capacity for organizations to accept and return referrals.

Funding: Grants.

Impact: Among clients enrolled in the CIE, reduced number of emergency medical services trips and increased stable housing rates.

Advancing Community-Based Organization and Health Care Partnerships to Address Social Determinants of Health

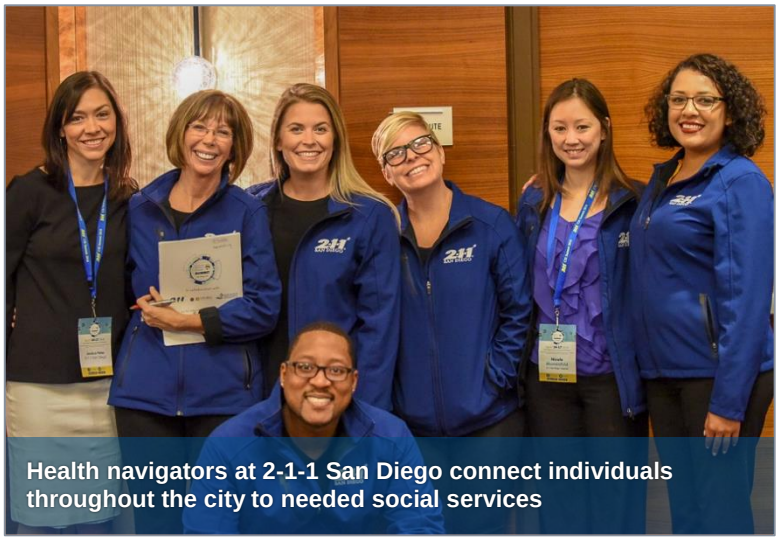
Health care and community-based organizations (CBOs) across the country are increasingly working together to better address the root causes of poor health among low-income and vulnerable populations. To assist these efforts, there is a need to identify the financial, operational, and strategic considerations necessary to make these partnerships a win-win for all parties: consumers, the communities being served, health care providers, and CBOs. Through support from Kaiser Permanente Community Health, the Center for Health Care Strategies and Nonprofit Finance Fund collaborated to identify new strategies for advancing effective health care-CBO partnerships, building on work done under the *Partnership for Healthy Outcomes* project funded by the Robert Wood Johnson Foundation. This case study is part of a series highlighting diverse partnerships between CBOs and health care organizations.

Made possible through support from Kaiser Permanente Community Health.

and website that connects people across the county to essential health and human services 24 hours a day, seven days a week. Recognizing that social factors contribute significantly to health outcomes and spending, 2-1-1 San Diego has evolved into a forward-thinking and sophisticated nonprofit organization that provides phone and web-based referrals, one-on-one care coordination services via a team of health navigators, community based organizations (CBOs), and health system partners that helps at-risk patients access needed health and social supports and manage complex health conditions. Between August 2017 and April 2018, 2-1-1 San Diego answered more than 206,000 calls and made more than 223,000 referrals to 1,200 community service providers.[1]

To support its work, 2-1-1 San Diego has developed a cloud-based platform known as the Community Information Exchange (CIE). The CIE is a secure, interactive database that allows multiple providers to access a patient record, track the patient's interaction with health and social service systems, and facilitate care coordination across multiple agencies, including health and community service providers. 2-1-1 San Diego has taken a health systems change approach — the CIE is designed to help health care organizations better understand the social needs facing their patients, track their ongoing use of community resources, and ultimately improve care coordination for patients and improve health outcomes.

The aspirational goal of 2-1-1 San Diego is to enlist as many partner organizations as possible in the CIE to support both health care and social service providers to make valuable connections for their patients to needed community-based services and benefit programs. The idea is that the broader the CIE network, the greater number of effective linkages users can make for patients in need. The CIE creates a historical patient record so that patients do not have to re-tell their stories to multiple agencies and risk being re-traumatized by revisiting distressing experiences.[2] This also makes for increased efficiency for patients and the numerous health care and social service providers with whom 2-1-1 San Diego collaborates, including Rady Children's Hospital (RCH); Scripps Mercy Hospital; Sharp Grossmont Hospital (SGH); San Diego Fire-Rescue and Emergency Medical Services (EMS); and the University of California San Diego (UCSD) Health System, along with a number of health plans.



Health navigators at 2-1-1 San Diego connect individuals throughout the city to needed social services

2-1-1 San Diego is a natural host for the CIE because of its extensive relationships with organizations that it supports in the areas of housing, senior services, transportation, early childhood development, post-incarceration, physical activity and nutrition, family caregiving, among many others, as well as health care systems. Data collected through the CIE is also expected to inform the development of services that meet both individual and community needs. The following case study explores the CIE and its potential to bridge social services and health care providers to deliver patient-centered assistance to San Diego's most vulnerable individuals.

CIE Development

The CIE was created in 2011 by the City of San Diego EMS medical director, the clinical director of a homeless shelter, and the CEO of 2-1-1 San Diego. They were awarded the Alliance Health Foundation's first $1M Innovation Grant for a proposal to develop an online platform to connect the siloed databases of housing providers and other community-based organizations, with the goal to better coordinate the complex health and psychosocial needs of the city's most vulnerable individuals. A group of community stakeholders secured 501c3 status for the fledgling CIE and piloted the tool with a cohort of housing providers (and subsequently senior services providers). At the same time, the San Diego region received a Beacon Community grant from the Office of the National Coordinator for Health Information Technology to improve clinical data sharing through the development of a regional Health Information Exchange (HIE). Several community providers, including San Diego Fire-Rescue and Rural/Metro Ambulance, the city's ambulance provider, described the critical influence of social factors on patient utilization and outcomes, and championed the complementary role the CIE could play with the San Diego HIE. Paramedics understood that frequent 9-1-1 callers rarely had pressing medical needs; instead, unstable housing, food insecurity, lack of access to transportation, and legal issues confounded their ability to receive medical care. These patients needed individual health navigation, and social services matched to their often precarious circumstances.

The CIE complements a regional Health Information Exchange by tracking patient connections with health care and community social service providers and painting a more complete picture of patient circumstances. Health and social service providers may otherwise not know, for example, that their patients have had multiple emergency department visits, lacked a medical home, or faced unstable housing and food insecurity.

While the CIE's first use case was focused on an extremely vulnerable homeless population, the broader vision of the CIE was to create a mechanism for health care providers to better understand the full picture of health and social service utilization for all patients. In 2016, the CIE merged with 2-1-1 San Diego in order to leverage 2-1-1 San Diego's numerous community connections and larger footprint. In 2017, the CIE transitioned to the Salesforce information technology platform, which significantly expanded the capacity for bi-directional referrals, shared understanding of patient social risk using the Risk Rating Scale (RRS), and integration of data from multiple community sources.

The CIE complements the HIE by tracking patient connections with health care and community social service providers and painting a more complete picture of patient circumstances. Health and social service providers may otherwise not know, for example, that their patients have had multiple recent emergency department (ED) visits, lacked a medical home, or faced unstable housing and food insecurity. Further, a housing provider can now use information such as the number of ED visits to prioritize case management services for those with high-risk and improper health care use. Providers are better able to connect the dots and work with clients to develop longer-term solutions, resulting in reductions in unnecessary health care utilization. In addition, patients do not have to share their medical and/or social history repeatedly with every provider they encounter due to the CIE's longitudinal and comprehensive recordkeeping.

Clients have the option to enroll in the CIE when they receive services from 2-1-1 San Diego or a CIE network partner. The CIE is fully compliant with the Health Insurance Portability and Accountability Act (HIPAA) and California Law, and every participating organization follows a standardized secure communication protocol on accessing client information. The CIE client profile includes information about demographics, social needs, care team members, benefit program enrollment status, referrals to community agencies, and can provide alerts

when patients connect with emergency services. Any partnering provider can contribute updates to the client profile.

The CIE connects all existing data systems, including: (1) Homeless Management Information System (HMIS), which provides HUD-compliant data on housing services; (2) local food banks and meal programs; (3) health care services documented in electronic health records (EHR), EMS, community clinics, and health plans; and (4) limited criminal justice data, including booking notifications.

The CIE participants, or the "Participant Network," currently consists of cross-sector agencies, including 34 social service organizations, health care providers, and government agencies. The CIE offers three tiers of service and support to these partners, with the goal of moving all network providers to the highest tier level, which allows them to accept and return referrals, bi-directionally share information, and participate in community care planning *(See Exhibit 1).*

Early evaluation results of the CIE have been promising. Among clients with a history of frequent EMS transports to EDs who were enrolled in the CIE, there was a 26 percent reduction in calls to EMS. In addition, CIE clients who were connected to housing were more likely to remain housed compared to those who were not enrolled.

While the majority of health care partners use 2-1-1 San Diego to connect high-risk patients to needed community and social supports through the *Referral* and *Connected Tier 1* and *2* levels, CIE's goal is to engage partners at the full *Tier 3 Integrated Partner* level.

Exhibit 1. CIE Participant Network: Service and Support Tiers

Tier 1: Referral Partners - Agency listed in searchable CIE database, login access to update community profile and add services, rely on 2-1-1 San Diego to facilitate referral and follow-up process, and can request referral and activity reports.

Tier 2: Connected Partners - Share basic client information, accept referrals from 2-1-1 San Diego call staff, and direct referrals to other network partners.

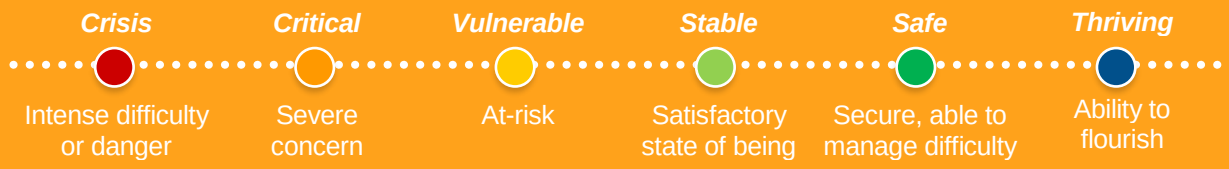
Tier 3: Integrated Partners - Consent clients into CIE, access client profiles and can update from a multi-agency network, ability to accept or return referrals and provide feedback and outcomes, and participate in community care planning.

Health Care Partnerships: Workflow

Much like a traditional HIE, where health care providers can access and share relevant patient clinical information to support care delivery, the CIE offers health care partners and community resource providers a rich set of data points to better understand clients' interactions with health and social service systems. The CIE can help health care partners understand the full range of patient needs and make appropriate and efficient referrals in response. The CIE includes an RRS that assesses a client's vulnerability on 14 social domains and allows for an understanding of client progress. 2-1-1 San Diego developed the RRS to better understand and measure the complexity of social influences. The RRS also provides a framework for health navigators to use to help clients to be as independent and healthy as possible.

2-1-1 San Diego health navigators administer the standardized RRS by phone to assess housing stability; nutrition and food security; activities of daily living; transportation; employment; social and community connection; and financial wellness. Clients' needs are ranked on a continuum that ranges from crisis through thriving *(see Exhibit 2)*, with the goal of moving clients toward thriving.

Exhibit 2. Social Determinant of Health Risk Rating Continuum



When a client connects with providers within the CIE system (e.g., ED, EMS, shelters, food bank) an alert is triggered, and every providing organization for that individual is notified. If another service is needed as a result of the initial event, a referral can be made on behalf of the client.

2-1-1 San Diego leverages the CIE to support multiple health care partners with care coordination, making linkages to needed community supports and providing assistance with benefits enrollment. The following examples demonstrate meaningful health care organization collaborations with 2-1-1 San Diego, and the ways in which the CIE supports this work.

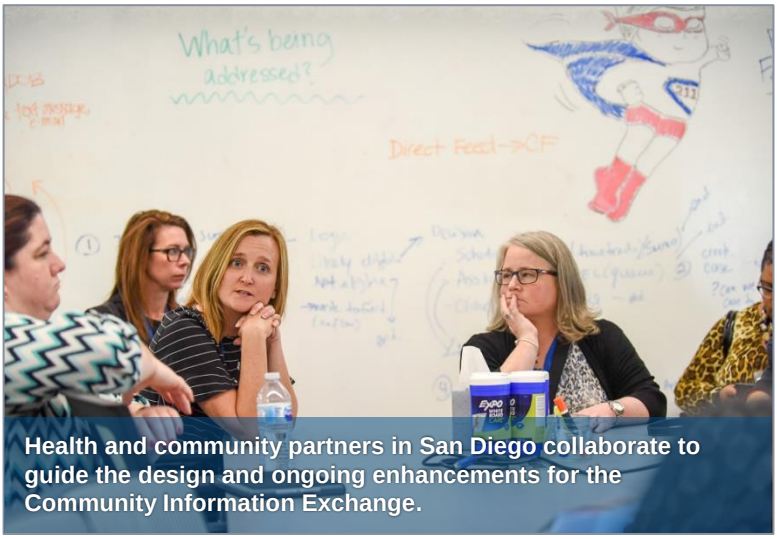
Sharp Grossmont Hospital

The Care Transitions Intervention (CTI) Program (based on the Eric Coleman model) is a partnership between Sharp Grossmont Hospital (SGH), 2-1-1 San Diego, Feeding America San Diego, Grossmont Hospital Foundation, and Sharp Healthcare. At SGH, CTI connects high-risk patients to 2-1-1 San Diego health navigators to receive critical services such as access to a medical home, housing, fresh food and nutrition, transportation, and social support for transitions back to the home. Connections to these supports are made using the CIE platform. 2-1-1 San Diego health navigators address both short- and long-term care needs and social determinants of health (SDOH), allowing SGH to leverage community partnerships to improve health outcomes and reduce readmissions. Health navigators document services in the CIE, which are sent to hospitals as monthly reports that include patients' service utilizations as well as their vulnerability using the CIE risk rating scale via pre-post testing.

The program has demonstrated success at reducing patient readmissions. Patients referred to 2-1-1 San Diego experienced a 9.6 percent readmission rate compared to a 30 percent rate in a comparison group. Furthermore, SGH estimates that the CTI program provides a return on investment (ROI) of roughly $17,562 per inpatient admission and $1,387 per ED admission, with higher ROIs for uninsured populations.

Rady Children's Hospital

Rady Children's Hospital (RCH) has partnered with 2-1-1 San Diego on three different pilot programs. This partnership uses sub-contracts to include their 2-1-1 health navigation program, with the goal of connecting vulnerable children and families to needed community resources. The first program, Community Approach to Severe Asthma (CASA), is a partnership of the RCH Center for Healthier Communities, Care Redesign Department, and the Severe Asthma Clinic. CASA utilizes a community health worker model with the goal of improving management and outcomes for at-risk children with severe childhood asthma. The second program, Health Stars, is a literacy program for low-income families with small children that brings volunteer RCH clinicians into the community to share health topics with families living in affordable and homeless housing



Health and community partners in San Diego collaborate to guide the design and ongoing enhancements for the Community Information Exchange.

facilities. The third program, 2-1-1 For Healthy Kids, is a collaborative including RCH, Community Health Improvement Partners' Childhood Obesity Initiative, American Council on Exercise, UCSD, and San Diego Health & Human Services Agency to test a unique multi-session, phone-based health coaching program for low income families with overweight children. Families that participate in any of the three programs are referred via secure fax to 2-1-1 health navigators, who proactively reach out to them, rather than relying on families to contact 2-1-1 San Diego. Health navigators assess health, social, economic, and behavioral health needs using the CIE risk assessment tool. They then work with families to identify goals and create a care plan. 2-1-1 San Diego tracks progress of patients' improvements in all areas across the SDOHs, including number of referrals made, number of families attempted and successfully contacted by 2-1-1 San Diego, number of services provided to and accessed by contacted families, and percentage of families with a decrease in vulnerability based on the RRS. Ongoing data reports are shared electronically with individual programs' staff.

University of California, San Diego Medical Center

The University of California, San Diego Medical Center (UCSD) Telephonic Nursing Department relies on 2-1-1 San Diego to link high utilizers of emergency services to needed social supports and application assistance (e.g., Medi-Cal, SNAP, and SSI) in order to facilitate successful discharge. Patients are contacted via an automated telephone call upon discharge and an assessment of need is performed using a questionnaire. If patients indicate an acute crisis, a trained UCSD telephonic nurse will call them back within 30 minutes to assess their needs, benefit status, and whether a referral to 2-1-1 San Diego is necessary. When a patient in crisis lacks basic life skills or has behavioral health issues, the telephonic social worker stabilizes the patient's acute needs and coaches the patient on how to connect with 2-1-1 San Diego to receive additional community supports. 2-1-1 San Diego also assists UCSD by providing direct assistance with benefits enrollment, as they have direct access to San Diego County's benefits administration and can provide real-time eligibility and enrollment information.

CIE Governance Structure

The CIE is governed by an Advisory Board, made up of senior officials from health care and provider organizations, CBOs, health plan partners, and the local HIE. The Advisory Board provides direction and guidance for the CIE by establishing a forum for collaborative discussion of key strategic and operational initiatives. Additionally, the CIE hosts a monthly Network Partner meeting, which includes staff from organizations participating in the CIE or planning to join. Network members share experiences and best practices, provide updates, develop new governance policies, make functionality considerations such as partner inclusion criteria, handle referral management, and collaborate on new opportunities for use cases.

Information and Data Sharing

Given the nature of 2-1-1 San Diego's multiple collaborations, the security of data sharing is paramount to program success. Clients consent to participate in the CIE and authorize information sharing across participating provider and community-based partners. Thereafter, providers (e.g., hospital discharge planners) can perform a search to identify where a client previously accessed services. Participating partners are able to see clients' histories, including SDOH, and use this information to determine eligibility for additional services. The full client record is not simply a collection of referrals, but rather a timeline of medical and social needs since enrollment. No single entity owns the client record. While there is a sense of collective responsibility with all related agencies working toward the goal of improved patient outcomes, no one entity offers all the services to a client.

Concerns around data privacy have created some obstacles to participation in the CIE at the *Tier 3 Integrated Partner* level. Some providers and community partners may only view client connections to resources in the CIE (*Tier 1 Referral Partner*), but do not provide updates, make changes to the record, or refer within the network.

Financing and Sustainability

The development of the CIE has been supported by grants and is currently free to all users; however, 2-1-1 San Diego is in the planning process to determine a financing structure that will ensure its sustainability, including exploring a subscription model. Within 2-1-1 San Diego's current navigation programs, partners pay a monthly cost for a fixed number of 2-1-1 patient referral services, with an added cost for additional individuals referred. This payment structure may be applied to the CIE as well. Technology and license costs have been covered through contracts with local health care plans via a fee-for-service model, which is based on a maximum number of patients served and a negotiated monthly rate. 2-1-1 San Diego intends to develop additional relationships with foundations interested in improving population health, as well as health plans looking to connect their members with referral services to improve health outcomes and lower costs. Health plans have been a source of ongoing support to 2-1-1 San Diego. Since its inception, 2-1-1 San Diego has had contracts with local health care partners to support patient navigation, which has allowed 2-1-1 San Diego to grow and to expand its data exchange capacity.

Monitoring and Evaluating

While each participating health system has unique priorities, there are similarities between how each entity measures success. Shifts in vulnerability, as measured through the RRS, offer an indicator of program success as clients move from high to low vulnerability in various social domains. While a patient may not achieve the category "thriving," any reduction in vulnerability is considered an improvement. At UCSD, social workers, often in consultation with 2-1-1 health navigators, assess patients' needs on the RRS; those who are moving towards thriving are graduated from the program. Similarly, at Sharp Grossmont, patients are released from the Care Transition Intervention once certain health outcomes and milestones are achieved during the post-discharge period.

Given the nature of 2-1-1 San Diego's multiple collaborations, the security of data sharing is paramount to program success. Clients consent to participate in the CIE and authorize information sharing across participating provider and community-based partners.

Another measure used to determine program success is decreases in utilization of EMS, indicating greater patient stability and reduced ED utilization. Hospital readmission rates are a key indicator of progress from the

health system and health plan perspectives. Reducing unnecessary readmissions is an important cost-saving mechanism for health systems. Reduction in jail recidivism is also an indicator of overall improvement.

Finally, for health navigation and health care partnerships, self-reported patient self-efficacy, ability to manage health, and patient satisfaction (obtained by health navigators when a patient reaches the goals of the care plan) are compelling indicators of the client's own feeling of success and confidence in managing their path forward. When patients feel confident to manage their medical and social needs, including housing and food, they are more likely to adhere to treatment and medication protocols, diet plans specific to medical needs (like a low-salt cardiac diet to prevent congestive heart failure), lifestyle modifications like smoking cessation, and other clinician recommendations.

Lessons Learned

CIE's many partners have shared a variety of valuable lessons during the development of the CIE.

1. **Leveraging Existing Relationships:** 2-1-1 San Diego has a long history of community engagement; operating robust referral programs for individuals, health care partners, and CBOs; deep commitment to help people efficiently access appropriate services; and providing vital data and trend information to inform community planning. Leveraging these relationships has helped to expand the number of network partners, which increases the number of effective linkages that can be made for clients.
2. **Early Champions:** Early champions of the CIE, at the health system, CBO, EMS, and community level have helped to elevate the importance of tracking SDOH and investing in the CIE as a shared community resource. Champions have recognized the importance of investing in population health and value-based initiatives and have been able articulate the importance of investing in systems that will support a whole person approach to care delivery. Since its inception, champions at the health care provider, philanthropic, and community level have helped to secure funding to develop the CIE, test its value through various pilots, and refine the data platform to be an efficient and effective tool for all participating providers. Early community champions, including 2-1-1 San Diego, were keenly aware of the immense impact that social factors have on patient health utilization and outcomes, as well as the importance of making appropriate community connections.
3. **Business Case:** Demonstrating a compelling business case to community partners has been critical to ensure buy-in and support for the CIE. Positive evaluation results from the initial cohort of users in the housing community helped to demonstrate that the effectiveness of the CIE in reducing EMS visits and homelessness. To gain further buy-in, 2-1-1 San Diego needs to demonstrate the efficacy of the CIE in reducing readmissions and unnecessary health care utilization and improving health outcomes, particularly for high-need, high-cost patients. Additionally, while health care organizations recognize that the CIE is fully HIPAA compliant, there remains some uncertainty about the data privacy standards at partner organizations — particularly social service providers. 2-1-1 San Diego is currently developing value propositions of the CIE for each network partner and for each sector in order to demonstrate the returns to each of access to shared information within the CIE, and continues to make the case to all network partners that privacy features are in place to protect clients' information.
4. **Provider Buy-in:** Making the case to provider organizations and clinicians to both identify SDOH and make necessary referrals was cited as crucial but challenging. Through individual meetings and in-group settings, 2-1-1 San Diego has presented on the vision, shared utility, and early promising results of the CIE platform. However, screening is often seen as "one more thing" to accomplish, particularly in more urgent care settings, causing it to be neglected. 2-1-1 San Diego continues to make the case that the CIE can be a

facilitator of ongoing work to address upstream social issues to improve patient health and prevent unnecessary readmissions.

Future Plans

Going forward, 2-1-1 San Diego will continue to engage health care partners, CBOs, and county benefit systems to participate in the CIE. The CIE is working to link to San Diego County's income and benefit programs, which will enable health care and community service providers to ascertain a patient's eligibility and enrollment status, and make connections as necessary. While the CIE is currently free to Network Partners, 2-1-1 San Diego will continue to explore funding mechanisms to ensure sustainability.

Advancing Community-Based Organization and Health Care Partnerships to Address Social Determinants of Health

This case study is part of *Advancing Community-Based Organization and Health Care Partnerships to Address Social Determinants of Health,* a project of the Center for Health Care Strategies and Nonprofit Finance Fund, made possible through support from Kaiser Permanente Community Health. Additional resources include:

- **Additional case studies** featuring a partnership in Colorado that is improving access to nutritious food for vulnerable populations, and a collaborative effort in Portland, Oregon that is seeking to improve care transitions from emergency and inpatient hospital settings for uninsured and low-income individuals.
- **Technical assistance resources** that can be used to establish a common language and framework among partnering organizations, articulate the value of collaborative relationships, and determine total costs for cross-sector partnerships.

For more information, visit **www.chcs.org/cbo-collaborate** or **www.nff.org**.

CHCS Center for Health Care Strategies, Inc.

Nonprofit Finance Fund

Author: Anna Spencer, MPH and Sana Hashim, MPH, CPH, CHES, Center for Health Care Strategies

Acknowledgements: Thank you to the following individuals for their time and input in contributing to this case study: 2-1-1 San Diego: Camey Christenson and Karis Grounds; Rady Children's Hospital: Phyllis Hartigan; Scripps Mercy Hospital: Karen McCabe; Sharp HealthCare: Merlynda Delira and Jillian Barber; University of California San Diego Health: Ji (Gina) Cha and James Dunford.

Endnotes

[1] 2-1-1 San Diego. Data and Reports. Available at: http://211sandiego.org/partners/data-reports/.

[2] C. Menschner and A. Maul. *Key Ingredients for Successful Trauma-Informed Care Implementation*, April 2016. Hamilton, New Jersey: Center for Health Care Strategies. Available at: http://www.chcs.org/media/ATC_whitepaper_040616.pdf.