Data Across Sectors For Health Initiative: Promoting A Culture Of Health Through Cross-Sector Data Networks

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Setting the Stage for the Data Across Sectors for Health Evaluation

Findings from around the world have demonstrated that factors outside the health sector significantly influence health outcomes. Studies published by the World Health Organization (WHO) attributed only half of the worldwide reduction in child mortality from 1990 to 2010 to health sector investments. Investments in other sectors, such as education, women's rights, water and sanitation, and economic development, were responsible for the other half. The social sector investments served to enhance those in the health sectors (Kuruvilla et al. 2014). Another study estimated that medical care addressed only 10 to 20 percent of modifiable factors in health, with socioeconomic factors addressing 40 percent, health behaviors addressing 30 percent, and the physical environment addressing 10 percent (Hood et al. 2016).

The correlation between socioeconomic factors and health is not a new concept or finding—cash transfer programs to families seeking well-paying jobs to motivate healthier behaviors are a well-known example of socioeconomic interventions that aim to improve health (WHO 2013). A review of studies from around the world found that integrating the delivery of medical and social services is 10 times more effective than providing health services alone (WHO 2018).

These socioeconomic factors are broadly referred to as social determinants of health (SDOH), which include the conditions into which we are born, grow, work, live, and age. SDOH are particularly important when discussing pathways to achieve health equity. Addressing SDOH requires identifying the root causes of health outcomes, designing and implementing health improvement initiatives to address these root causes, and evaluating their success. Developing an evidence base related to SDOH requires reviewing, collecting, and analyzing data across sectors (WHO 2013).

The data required for assessing cross-sector interventions and outcomes, however, have traditionally been separated within their respective social sectors. That is, these data rely on different data systems, formats, and specifications. Various factors hinder sharing and harnessing data across social sectors; these factors include data security concerns, incompatible data infrastructure, and fears of unanticipated and unconstructive use of data. These data-sharing limitations have restricted researchers' ability to generate information to support cross-sector planning and decision making.

To promote cross-sector data sharing, the Robert Wood Johnson Foundation launched the Data Across Sectors for Health (DASH) initiative in 2014. The initiative includes cross-sector collaboratives across 34 states that have come together to participate in a peer learning network and share data to improve the health and well-being of their communities. With the initiative entering its third phase in 2020, this report documents findings from DASH's 2018–2020 evaluation to share knowledge and spur innovation to promote further cross-sector data sharing in service of health equity.

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We are also grateful for the insight of *All In* participating community collaboratives and their partners, particularly those in the 21 case study communities, which provided in-depth information about the evolution, successes, and challenges of the initiative.

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EXECUTIVE SUMMARY

About DASH

Sharing data across social sectors is vital to identifying the diverse drivers of health, including education, income, race, and other social and structural constructs that perpetuate health inequities. Data Across Sectors for Health (DASH), an initiative of the Robert Wood Johnson Foundation (RWJF), supports data sharing across health care, public health, and other social sectors. Specifically, the initiative provides resources and support to collaboratives of community organizations to enhance data sharing across sectors through *All In: Data for Community Health*, an online platform with curated tools, virtual workshops, and other forums to promote learning and peer interaction.

In the initiative's second phase from February 2017 to February 2020, a network of 193 community collaboratives connected through *All In*'s online network whose national program office is funded by DASH. In general, organizations within community collaboratives participating in *All In* were nonprofit or local agencies distributed across 34 states that covered 21 social sectors. Organizations had a strong equity focus, serving people experiencing poverty and communities of color, and focused on local health and human services needs. These participating collaboratives attended the *All In* National Meeting, took part in webinars and discussion boards, maintained a profile on the *All In* network, and reached out to peers.

Changes in cross-sector data sharing among collaboratives participating in *All In*

To assess the contributions of DASH's strategy on cross-sector data sharing, an evaluation using data from October 2018 to February 2020 examined the *All In* community collaborative's progress.[1] In addition to learning about the 193 collaboratives participating in *All In*, the evaluation examined in depth implementation and outcomes in 21 case study communities. The evaluation drew its information from the following sources:

- DASH program documents published October 2018 to November 2019
- Network survey of representatives from 131 responding community collaboratives participating in *All In* (72 responding to the first round in summer 2019, 109 responding to the second round in winter 2020, and 50 responding to both rounds of the survey)
- Key informant interviews with three DASH administrative staff in November 2018 and December 2019, seven *All In* partner staff in February 2018, eight collaborative representatives from the first phase of DASH in March to April 2019, 18 of 21 case study communities participating in *All In* during DASH's second phase in June and July 2019; and 4 mentors, 10 mentees, 9 Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted (CIC-START) awardees, and 13 nonparticipating organizations in November 2019.

[1] This document represents the final report for the second phase of DASH. A preliminary evaluation report addressed the question, "How could *All In*, alone, or in conjunction with other programs or sources of community support, better support cross-sector data sharing?" (O'Neil et al. 2019). In addition, a complementary issue brief sought to answer, "How can *All In* contribute to and enhance broader efforts to expand cross-system community alignment?" (O'Neil et al. 2020). An evaluation of the first iteration of DASH also supported a process evaluation (Virginia Tech 2015).

The evaluation assessed collaboratives along three dimensions: (1) readiness of information and technology systems to share data among organizations in different sectors, (2) organizational and technological capacity to use and process data from other sectors, and (3) use of cross-sector data. Measures in these three dimensions came from emerging frameworks for sharing data among social sector organizations (Basker and Spinks 2016; Center for Data Science and Public Policy 2016). The number of collaboratives included in each analysis varied because respondents could skip questions.

Readiness to share cross-sector data. To become fully ready to share cross-sector data among organizations, collaboratives generally moved through five stages: planning to share data across the organization, building the data-sharing infrastructure, launching a pilot, scaling across the organizations from the pilot, and innovating continuously as data sharing is underway (Data Across Sectors for Health National Program Office 2019d). Among a subgroup of 24 collaboratives participating in *All In* and responding to relevant questions in both rounds of the survey, 7 increased their level of readiness to share data, with those in an earlier stage of readiness making the biggest strides. In particular, interviewed collaboratives stated that resources provided through *All In* facilitated a strong understanding of the value or potential impact of sharing data, thereby motivating them to reach and stay at the highest levels of data sharing. But some nonparticipating organizations in another subset of the collaborative communities also advanced in their readiness to share data, suggesting that forces other than *All In* can influence progress.

Organizational and technological capacity to support cross-sector data sharing. The evaluation scored collaboratives' capacity to process and use data along 12 data maturity domains, including 5 organizational domains, such as leadership buy-in for data sharing, and 7 technological ones, such as the ability to securely store data from other organizations. The average data maturity score across 30 collaboratives participating in *All In* and responding to relevant questions in both rounds of the survey increased from 33.4 to 35.0 (out of a possible 48 points). The mean self-rated organizational capacity score rose from 14.9 to 15.7 (out of a possible 20 points). Self-rated technological capacity rose from a mean of 18.5 to 19.3 (out of a possible 28 points). Furthermore, comparing *All In* participating collaboratives with nonparticipating organizations in the 21 case study communities showed that nonparticipating organizations reduced in their overall score from 35.2 to 33.5 during the same period. Common barriers to sharing data cited by nonparticipating organizations included needing sample data use agreements and software-focused trainings and tutorials—these resources are available through *All In* to participating communities.

Use of cross-sector data. As collaboratives progressed, they could expand their data use across four levels—from simply using data to provide knowledge about the landscape to conducting deeper analyses to inform broader organizational strategy. Out of the 21 case study communities, 7 collaboratives responded to both rounds of the network survey and answered relevant questions on their ability to use cross-sector data. Of these, 2 increased their level of cross-sector data use over the 10-month period, 4 decreased, and the other stayed at the same level. The variation had little to do with *All In* and more to do with competing and shifting priorities within individual organizations within the same collaborative. For example, one lead organization in a collaborative received funding to study its community landscape, and this seemed to edge out its motivation or capacity to use cross-sector data for other purposes. Interestingly, the three collaboratives reporting the highest levels of cross-sector data use during the second round of the survey were also more highly engaged with *All In*.

Factors influencing community collaboratives' data-sharing progress

During DASH's second phase, collaboratives participating in *All In* collectively progressed, to a small degree, in their ability and capacity to share data with other sector organizations in their community over this evaluation. But progress among individual collaboratives has not been uniform, though there is some evidence of a correlation between high levels of *All In* engagement and progress in data sharing in the 10 months between rounds of the network survey. Several factors beyond the tools and peer interactions offered through *All In* seem to influence a collaborative's ability to advance; the most common influencing factor was the availability of funding to equip data systems and dedicate staff time to cross-sector data sharing. In fact, communities receiving mini-grants through DASH or participating in its mentor program demonstrated the highest levels of engagement in the program and progress in data maturity. Furthermore, observations of *All In* participating and nonparticipating organizations in the same community showed that well-resourced nonparticipating organizations made similar or better progress than collaboratives participating in *All In*. Collaboratives receiving direct support maintained their data maturity, and nonparticipating organizations and unfunded collaboratives participating in *All In* declined in their progress.

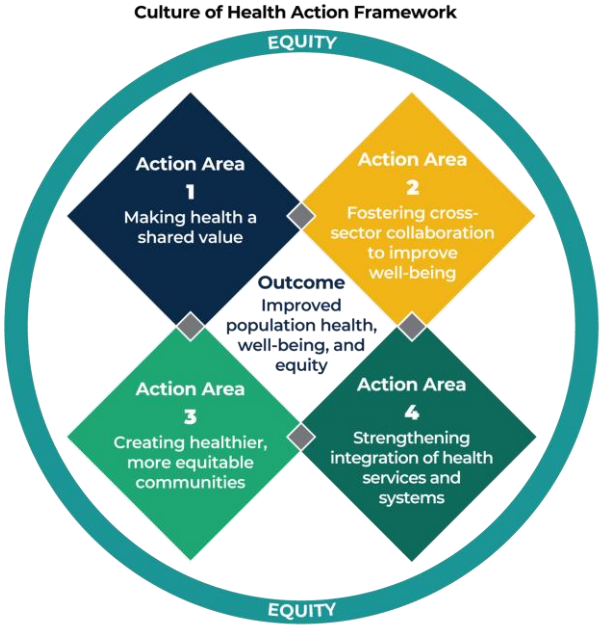
Looking ahead to leveraging cross-sector data sharing to improve health and health equity

To date, fewer than a handful of collaboratives that participate in *All In* have reached the point at which they have used cross-sector data to tackle social determinants of health in their communities. One community developed a community information exchange that led to lowering rates of emergency department visits, and another analyzed combined health and legal data to follow up on one child's case of asthma and ended up improving housing conditions for 700 families. By the next phase of the DASH strategy, participating community collaboratives will have had more time to progress in cross-sector data sharing and use these data to realize potential health and health equity outcomes.

I. FOSTERING CROSS-SECTOR COLLABORATION TO IMPROVE WELL-BEING THROUGH DATA

Community information systems and multisector data are vital to identify the diverse drivers of health, including education, income, race, and other social and structural constructs, that perpetuate health inequities. Among the various health system stakeholders, communities are in a particularly advantageous position to launch nonclinical interventions to address these social determinants of health (SDOH; O'Neil and Stagner 2019).

DASH aligns most closely with Action Area 2 in the RWJF Culture of Health Action Framework, but the initiative can support all action areas



Source: Plough 2020.

Recognizing the opportunities that communities have to leverage data for health, the Robert Wood Johnson Foundation (RWJF) supports several initiatives to strengthen community-level information systems and use multisector data to improve health outcomes. One such initiative is Data Across Sectors for Health (DASH). Supporting DASH is part of RWJF's ongoing effort to build a Culture of Health, addressing in particular the action area "fostering cross-sector collaboration to improve well-being." All RWJF action areas, however, can leverage cross-sector data to understand and address SDOH as a means for supporting their aims.

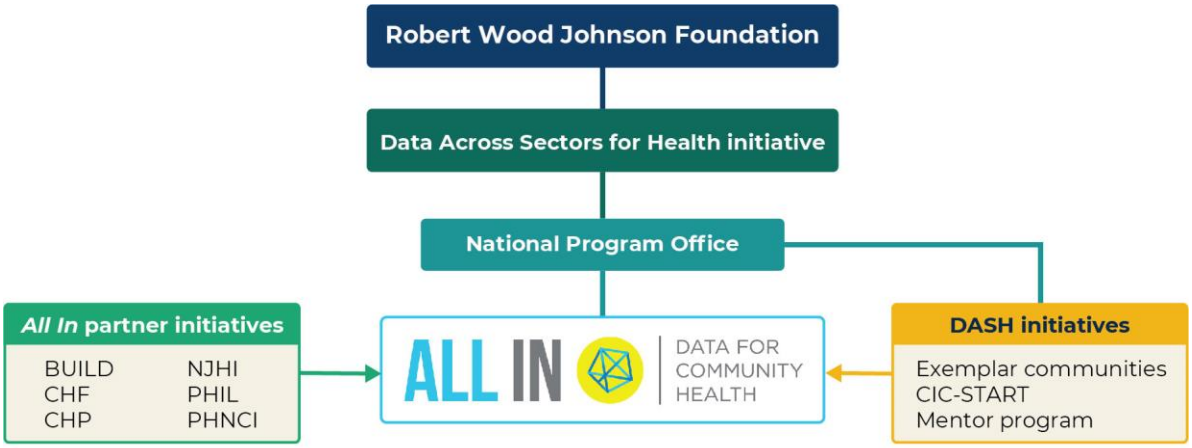
A. Initiation and evolution of DASH

The initial phase of DASH, referred to as DASH 1.0, began in 2015 and focused on building cross-sector data-sharing capacity by providing intensive technical assistance (TA) to 10 exemplar community collaboratives. A range of organizations, including health care organizations, health departments, and academic institutions, comprised these collaboratives. Before the DASH grant, most of the DASH 1.0 grantees already had working relationships with their partner organizations, and some had established data infrastructure or experimented with data sharing. Thus, the purpose of each $200,000 grant provided by RWJF over an 18-month period from 2016 to 2017 was to assist DASH 1.0 communities make further strides in cross-sector data sharing. To administer the grant and provide TA, RWJF established and funded a DASH National Program Office (NPO). In addition, RWJF identified and documented lessons learned from these community collaboratives to help scale best practices.

DASH 1.0: A high-touch approach to generate large strides in cross-sector data sharing among a few communities. Tailored to each specific community need, the TA to DASH 1.0 grantees included regular check-in calls with the NPO and NPO-facilitated conversations with subject matter experts and other communities. Community collaboratives shared methods and insights they learned, as well as newsletters, with other grantees. DASH hosted an annual in-person National Meeting that provided additional opportunities for learning and interacting with other grantees and developed an initial framework for the *All In* peer learning community.

DASH 2.0: Broad-based approach to facilitate progress in cross-sector data sharing in many communities. Given the positive feedback received from DASH 1.0 grantees and the foundational learning provided by the effort, RWJF sought to expand the reach of DASH by transferring lessons of the 10 exemplar communities to additional collaboratives. This led to developing and implementing DASH 2.0 in February 2017, which sought to (1) grow the *All In* peer learning network coordinated by the DASH NPO through engagement with organizations in non-RWJF partner initiatives, provision of mini-grants to select community collaboratives through the Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted (CIC-START) and mentor program, and peer-networking (word-of-mouth); (2) expand the evidence base for how to achieve cross-sector data sharing to forward health and health equity, and (3) strategically engage national partners to build a national movement. Accordingly, the initiative shifted from focusing on one-on-one intensive TA for a few communities to promoting wider dissemination, sharing, and learning with a broad network of communities (Exhibit I.1).

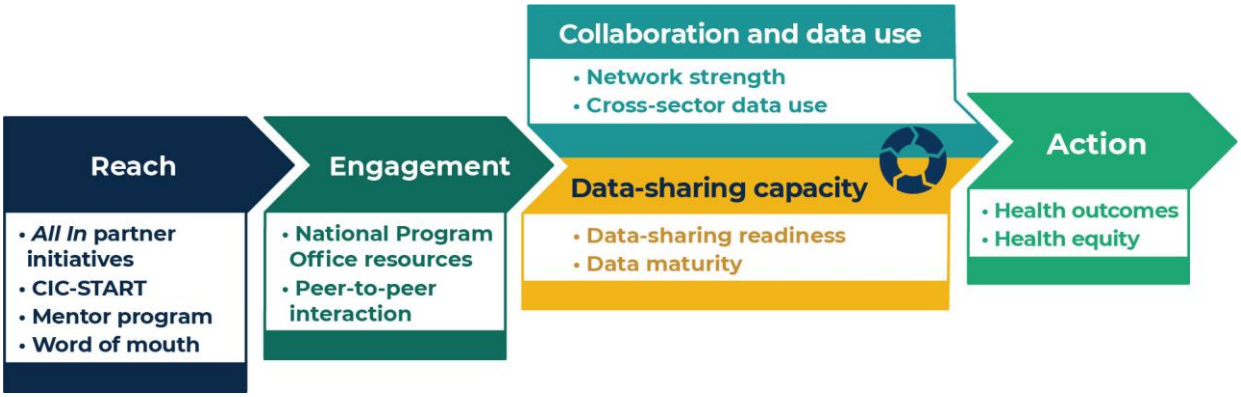
Exhibit I.1. Structure of DASH 2.0



BUILD = BUILD Health Challenge; CHF = Colorado Health Foundation; CHP = AcademyHealth Community Health Peer Learning Program; CIC-START = Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted; DASH = Data Across Sectors for Health; NJHI = New Jersey Health Initiatives; PHIL = Population Health Innovation Lab; PHNCI = Public Health National Center for Innovation.

Within this context, the initiatives' theory of change shows a progression from reaching community collaboratives to these community collaboratives using the knowledge and support facilitated by *All In* to act on information learned through cross-sector data sharing for health promotion and equity (Exhibit I.2) Thus, DASH 2.0 sought to reach and engage community collaboratives through its *All In* network. Participating in *All In* helps collaboratives progress in their readiness to share data and data maturity. Cross-sector data sharing serves to expand and strengthen collaborative networks, as a strong network also increases cross-sector data-sharing capacity. Finally, data sharing and collaboration across sectors enables communities to act to better address SDOH and promote health and health equity.

Exhibit I.2. DASH theory of change



CIC-START = Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted; DASH = Data Across Sectors for Health.

DASH 1.0 and 2.0 facilitated knowledge sharing across sectors

The DASH 1.0 evaluation found that participation in the initiative increased community collaboratives' focus on sharing data (Virginia Tech 2015). The evaluation also identified common barriers and challenges to data sharing, including lack of data harmonization between systems, the burden of developing data use agreements, lack of specific sets of SDOH data, and limited staff time and expertise to engage in data sharing activities. The creation of the *All In* peer learning network represented a key positive component of the initiative.

As DASH 2.0 launched, a preliminary evaluation of the initiative provided more information about the specific strategies that facilitated sharing and learning to promote cross-sector sharing (O'Neil et al. 2019). Having a central hub for communication and resources through *All In*, annual conferences, and having a formal mentor–mentee relationship through the mentor program seemed to deliver the most value to communities participating in *All In*. Some participants, however, did not take full advantage of the centralized resources on the *All In* network because they had difficulties navigating it efficiently. Since then, *All In* has updated its platform.

B. Evaluation to understand progress and outcomes from cross-sector data sharing for community collaboratives participating in *All In*

As DASH's approach to promoting cross-sector data sharing evolved, RWJF also supported an evaluation component to examine the quality of the community collaboratives' experiences and progress in sharing data. A preliminary formative evaluation report detailed whether the initiative succeeded in expanding its reach to more community collaboratives and, if so, what tradeoffs might have resulted in terms of the depth or quality of the community collaboratives' experiences (O'Neil et al. 2019). This report follows up and, to the extent possible, documents DASH's role in promoting cross-sector data in these communities and their ability to achieve health outcomes. A complementary issue brief released at the same time as this report provides additional insight into the relationship between adhering to RWJF core components of alignment and cross-sector data sharing capacity (O'Neil et al. 2020).

Key questions guiding the DASH evaluation

- To what extent does participating in *All In* contribute to more and enhanced cross-sector data sharing in communities?
- Has DASH enabled communities to increase their capacity to use multisector data to strengthen community health, public health, and social services systems, and improve health? How has the *All In* network accelerated the process of change and progress in communities?

Note: A preliminary evaluation report addressed the question, "How could *All In*, alone, or in conjunction with other programs or sources of community support, better support cross-sector data sharing?" In addition, a complementary issue brief sought to answer, "How can *All In* contribute to and enhance broader efforts to expand cross-system community alignment?"

C. Methods for DASH's evaluation

Given the multilayered and dynamic nature of DASH, the evaluation relied on a mixed-methods approach. The specific methods used in the evaluation included a landscape review, key informant interviews and analysis, and network study and analysis. In total, DASH 2.0 supported 193 community collaboratives participating in *All In*. Of these, 21 were case study communities, with 18 participating in key informant interviews and all 21 participating in the network survey. Of the 18 participating in key informant interviews, 13 were randomly selected and participated in both the key informant interviews and network survey. In addition, 5 communities that were purposefully selected participated in the key informant interviews, and an additional 3 purposefully sampled communities responded to the network survey (for a total of 8 purposefully sampled communities).

The specific community collaboratives and individuals represented through each data collection and analysis approach varied. Therefore, the number of community collaboratives contributing to specific findings in the report depends on the method used to collect and analyze the data (Exhibit I.3). Appendix A includes additional detail and exhibits of evaluation methods.

Exhibit I.3. Data sources, by report section

	II.A. Characteristics of *All In* community collaboratives	II.B. Engagement in *All In*	III.A. Data-sharing readiness	III.B. Data maturity	III.C. Cross-sector data use	III.D. Network strength (collaboration)	III.E. Health and health equity
Network survey (5/2019 to 2/2020)	✓	✓	✓	✓	✓	✓	
Qualitative interviews (11/2018 to 11/2019)	✓	✓	✓	✓	✓		✓
All In documentation (10/2018 to 11/2019)	✓	✓		✓			
Administrative data[a] (8/2019 to 2/2020)	✓	✓					

Note: Exhibit A.13 contains detailed data sources by report section.

[a] Data Across Sectors for Health National Program Office information 2019a, 2019b, and 2019c.

Case study communities: Data collection and analysis

Additional data collection and analyses took place for a subset of 21 case study communities. These case study communities provided in-depth information about various models for exchanging information between organizations and across sectors, key steps to develop and maintain a productive cross-sector data community collaborative, and the contributions of the DASH strategy to this process. The evaluation team randomly selected 13 of these communities and purposefully selected another 8 because of nonresponse from the random selection. Lead organizations from these case study communities provided a list of cross-sector data-sharing partners; the lead organizations and partners participated in key informant interviews and answered additional questions on the network survey. Nonparticipating organizations, identified as secondary partners of lead organizations from the case study communities, also participated in key information interviews and network surveys and served as a comparison group of organizations interested in sharing data but not participating in *All In*.

1. Landscape review

A landscape review of program documentation provided descriptive information for 193 community collaboratives; these groups joined *All In* from January 2016 to November 2019 (Exhibit I.4). Descriptive information included community contexts, goals for sharing data, and partnerships. Exhibits A.1 to A.3 in Appendix A present the documents reviewed and classifications guiding the abstraction of information.

Exhibit I.4. Mode of entry into the *All In* network

Collaborative type	Number of collaboratives
DASH 1.0	10
CIC-START[a]	35
DASH mentor[b]	4
DASH mentee[c]	29
CIC-START and DASH mentee	3
CIC-START and DASH mentor[d]	1
All In partner initiatives[e]	104
Other and unfunded programs	7
Total community collaboratives	**193**

Source: Mathematica's analysis of *All In* documentation for 193 lead organizations, October 2018 to November 2019.

[a] Includes awardees from CIC-START 1, 2, 3, and 4. Excludes three awardees that received CIC-START and mentee grants. Excludes two awardees that received CIC-START and mentor grants.

[b] Excludes two awardees that received mentor and CIC-START grants.

[c] Excludes three awardees that received mentee and CIC-START grants.

[d] Excludes one awardee that received a DASH 1.0 grant.

[e] Includes awardees from BUILD, CHF, CHP, NJHI, PHIL, and PHNCI. Excludes two awardees that received CIC-START and mentee grants. Excludes one awardee that received CIC-START and mentor grants. Excludes five awardees that also received CIC-START grants. Excludes one awardee that also received a mentee grant. Excludes one awardee that also received a mentor grant.

BUILD = BUILD Health Challenge; CHF = Colorado Health Foundation; CHP = AcademyHealth Community Health Peer Learning Program; CIC-START = Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted; DASH = Data Across Sectors for Health; NJHI = New Jersey Health Initiatives; PHIL = Population Health Innovation Lab; PHNCI = Public Health National Center for Innovation.

2. Key informant interviews and analysis

Key informants offered first-hand information about the DASH strategy and implementation and progress with *All In* (Exhibit I.5). The 94 people interviewed offered various perspectives about the evolution, structure, resources of the DASH initiative; different levels of engagement by community collaboratives; and facilitators and barriers to using *All In*, sharing cross-sector data, and achieving outcomes. Exhibit A.4 in Appendix A illustrates the process for selecting interviewees, Exhibit A.5 shows the interview topics by key informant type, and Exhibits A.6 presents the categories for qualitative coding and analysis.

Exhibit I.5. Key informants

Interview type	Purpose	Number of interviews
DASH NPO staff[a]	Illuminate the evolving strategy of DASH	3
All In partner initiative staff	Shed light on grantees' selection criteria and participating grantees' characteristics	7
DASH 1.0	Better understand early experiences during the first phase of DASH	8
Case study community participants[b]	Learn about different perspectives and experiences with DASH and data sharing	40
DASH mentors	Learn about facilitators of and barriers to progress in the second phase of DASH	4
DASH mentees	Learn about facilitators of and barriers to progress in the second phase of DASH	10
CIC-START awardees	Learn about facilitators of and barriers to progress in the second phase of DASH	9
Nonparticipating organizations[c]	Provide background information on the uses of cross-sector data in the absence of DASH support	13
Total interviews		**94**

[a] Three DASH staff sat for interviews in November 2018 and again in December 2019.

[b] This includes 40 interviews representing 18 community collaboratives.

[c] This includes 13 interviews representing 6 community collaboratives. Nonparticipating organizations are defined as secondary partners of the case study communities selected during the formative evaluation. These individuals do not participate in the *All In* network.

CIC-START = Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted; DASH = Data Across Sectors for Health; NPO = National Program Office.

3. Network survey

Community collaboratives participating in *All In* received a 15-minute online network survey in summer 2019 (Round 1) and winter 2020 (Round 2). The survey asked lead organizations and their partners about collaborative and organizational characteristics, level of data-sharing readiness and maturity, accomplishments, and ability to sustain efforts. The number of organizations included in each round varied based on the date they joined the *All In* network and their available contact information (Exhibit I.6). Round 1 of the network survey included a sample of 277 organizations with a 63 percent response rate, and Round 2 included 285 organizations with a 59 percent response rate. The response rate for organizations responding to both rounds was 42 percent. When examined by type of organization (for example, lead organizations that served as the hub of the collaborative and partners of these lead organizations), the response rate ranged from 45 to 78 percent, making the response rate very low for certain subgroups of organizations and limiting meaningful statistical comparisons.

Exhibit I.6. Network survey sample and respondents

Collaboratives as of: Fielding period:	Round 1 (R1) November 2018 5/21/19 to 8/2/19		Round 2 (R2) November 2019 1/6/20 to 2/28/20		R1 and R2 November 2019 See R1 & R2		R1 or R2 See R1 & R2 See R1 & R2	
	Sampled	Responded	Sampled	Responded	Sampled[a]	Responded	Sampled	Responded
Case study lead organizations	26[e]	18	22[f]	13	22	12	26[e]	19
Non-case study lead organizations	94	54	147	96	79	38	162	112
Total lead organizations[b]	120	72	169	109	101	50	188	131
Case study primary partners[c]	71	45	57	34	57	31	71	48
Case study secondary partners (nonparticipating organizations)[d]	86	29	59	13	59	11	86	31
Total partners	157	74	116	47	116	42	157	79
Total cases	277	146	285	156	217	92	345	210
Overall response rate	**63%[g]**		**59%[h]**		**42%**		**61%**	

Source: Mathematica's analysis of network survey data. The survey was fielded May 21 to August 2, 2019 (R1) and January 6 to February 28,2020 (R2).

[a] Numbers are typically the lesser value of the R1 or R2 sample. In some cases, numbers might not align exactly because of refusals, ineligibility, or incomplete contact information.

[b] Samples omitted organizations with incomplete or unknown contact information (R1 [n = 5] and R2 [n = 24]).

[c] An organization that the lead organization lists as a partner. Applies to case study organizations only.

[d] An organization that the primary degree partner lists as a partner. Applies to case study organizations only. For analysis purposes, these secondary partners are also referred to as nonparticipating organizations.

[e] Original sample of 25 communities plus 1 replacement community based on refusal.

[f] Four communities removed from the R2 sample based on ineligibility or refusal to participate in R1 survey. In total, 18 of the 22 case study communities participated in in-depth interviews; others were omitted because of incomplete or unknown contact information.

[g] Response rate is calculated by dividing the number of respondents (n = 146) by the number sampled (N = 277) minus those with ineligible status (refusal to participate, duplicate contact, screened out, inability to participate because of privacy laws, or no longer works at the organization) (n = 47, data not shown).

[h] Response rate is calculating by dividing the number of respondents (n = 156) by the number sampled (N = 285) minus those with ineligible status (refused to participate, duplicate contact, screened out, inability to participate because of privacy laws, or no longer works at the organization) (n = 22, data not shown).

The survey included four main sections: organization characteristics, data-sharing readiness, community partnerships, and *All In* participation. Exhibit A.7 in Appendix A provides the survey sections and the number of responses per section, Exhibits A.8 and A.9 present additional details on the response rate and the survey field process, and Exhibit A.10 presents key network statistic metrics.

4. Analysis

The evaluation sought to determine the contribution of the DASH strategy to data-sharing progress and capacity through three types of assessments: (1) a longitudinal study of community collaboratives in which lead organizations responded to both rounds of the network survey (50 lead organizations), (2) a comparison study of participants (lead organizations) and nonparticipating organizations in 21 case study communities that responded to either round of the network survey, and (3) a qualitative outcomes study across all collaboratives. The longitudinal study assessed changes in data-sharing readiness and maturity of collaboratives participating in *All In* over 10 months (May 2019 to February 2020) and the characteristics possibly associated with these changes, including level of engagement in *All In*. The comparison study examined whether changes in data-sharing readiness and data maturity were similar or different between *All In* participants and nonparticipating organizations across case study communities. A descriptive outcomes study explored the changes in cross-sector data use; network strength, using number of ties between partners and intensity of interaction within a collaborative as proxies; and the community's health, through qualitative information provided by case study communities.

For most analyses, the evaluation could not conduct statistical comparisons because of the small sample size—significance testing would not provide meaningful information. When feasible, the evaluation used qualitative analysis to provide additional insight into key quantitative findings.

Definition for data-sharing readiness, data maturity, cross-sector data use, and network strength using network survey responses

Five levels of data sharing readiness (Data Across Sectors for Health National Program Office 2019d)

Network survey respondents rated their data sharing readiness on a 5-point scale, with scores corresponding to the following elements:

1. **Planning:** data not yet being shared across sectors, but the collaborative is actively engaged in planning
2. **Building:** in the process of designing and developing the platforms, databases, templates, or software for sharing data
3. **Launching:** in the beta testing or pilot implementation phase of sharing data
4. **Scaling:** bringing data-sharing work to scale as envisioned during planning
5. **Innovating:** fully operational data sharing as envisioned; refining and expanding system to include new data sources and provide new services, such as advanced analytics and reporting functionalities

Data maturity along organizational and technological readiness (Center for Data Science and Public Policy 2016)

Network survey respondents rated their current data-sharing practices related to organizational readiness (five questions) and technological readiness (seven questions) on a 4-point scale.

- **Organizational readiness domains**: staff buy-in, collector buy-in, leadership buy-in, resources, and use policy
- **Technological readiness domains**: accessibility, storage, integration, frequency, granularity, privacy, and documentation

Four levels of cross-sector data use (Adapted from Coburn and Turner 2011)

Network survey respondents within case study communities rated the level of data use resulting from a cross-sector data sharing partnership on a 4-point scale, with scores corresponding to the following elements:

1. **Knowledge:** use partner's data to understand the larger landscape of the community served
2. **Individual:** use partner's data to inform which services to provide to an individual
3. **Partnerships:** use partner's data to proactively connect with community-based services to meet the needs of populations served
4. **Strategy:** use partner's data to plan and strategize larger organizational direction and improvement

Network strength (Marsden and Campbell 1984)

Network survey respondents within case study communities reported the strength of their networks through two measures:

- **Number of partners:** how many organizations with which the respondent works closely toward sharing data
- **Hours in communication per partner:** amount of time the respondent spends communicating with each partner organization, approximating the intensity of the relationship

II. FACTORS UNDERLYING DATA-SHARING PROGRESS AND OUTCOMES: COMMUNITY COLLABORATIVE CHARACTERISTICS AND ENGAGEMENT

Each of the 193 community collaboratives participating in *All In* has unique characteristics that influence its progress and outcomes. For example, collaboratives entering through CIC-START and the mentor program that require grant applications might have more motivation than those entering passively through partner initiatives. A collaborative's geographic location and service area will influence the level of restriction placed on sharing information between entities. Organizational type and sector could dictate the level of resources available to support data sharing and staff's expertise with data; many health care organizations have strong existing data infrastructure to support billing and reporting. The populations served, primary cross-sector data use, and number of could also affect the data type and frequency of sharing needed. Beyond collaboratives' characteristics, their behavior (that is, the level of engagement in *All In* through use of its resources and interactions with peers) could determine the pace at which collaboratives gain the necessary knowledge to progress along the cross-sector data-sharing and use spectrum. This chapter describes these characteristics to provide context to collaborative progress and outcomes discussed in the next chapter.

Defining community collaboratives for inclusion in the DASH evaluation

In November 2019, 193 community collaboratives were part of the *All In* network, which defined participation and eligibility for the evaluation. Community collaboratives met one of the following inclusion criteria:

- Included on the Community Projects page, indicating all projects (past and present) that received grants from RWJF partner initiatives
- Profile on the *All In* network*
- Receipt of CIC-START funding
- Participation in the DASH mentor program

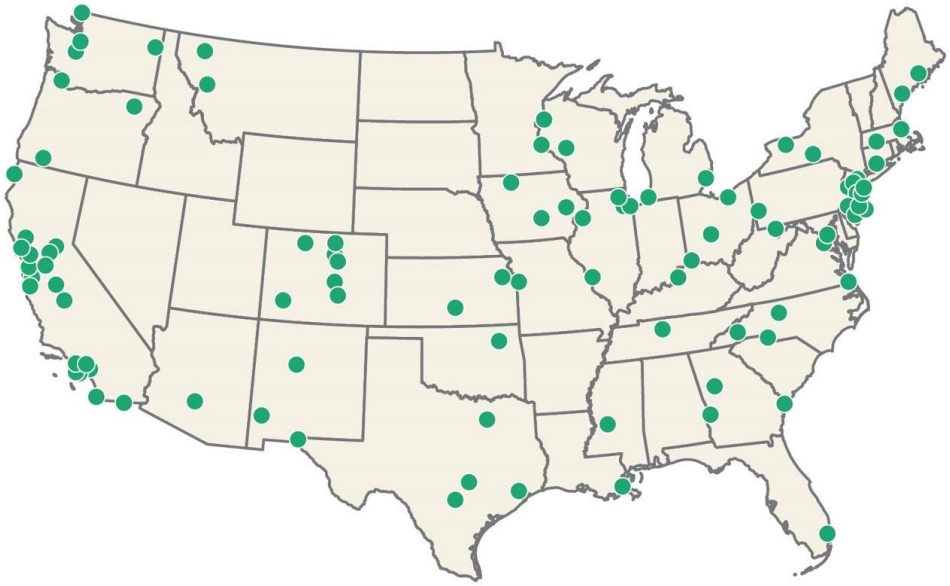
* Not all partnerships with profiles are necessarily reflected on the Community Projects page.

A. Characteristics of *All In* community collaboratives

All In participating community collaboratives had a wide range of characteristics. Though most are composed of similar types of organizations, they span geographies, social sectors, and stages of data sharing. Geographically, collaboratives spread across 34 states (Exhibit II.1). In general, characteristics of the community collaboratives were largely a function of the grant criteria that *All In* partner initiatives, such as BUILD Health Challenge, New Jersey Health Initiatives, Population Health Innovation Lab, and Public Health National Center for Innovation, use to select their grantees, as most community collaboratives came into the network through these other initiatives (Exhibit II.2).

Of the 131 lead organizations of community collaboratives responding to either rounds of the network survey, about 80 percent classified themselves as community-based, nongovernmental, and nonprofit (Exhibit II.3). They spanned 21 social sectors, with about half considering themselves social service or public health entities (54 and 51 percent, respectively) (Exhibit II.4). Most community collaboratives focus on serving communities experiencing poverty (68 percent), all populations specifically within their service area (59 percent), and children (56 percent) (Exhibit II.5). About three-quarters of community collaboratives use data at the population level, meaning data is used to improve the health or well-being of the overall community, as opposed to at the individual level where data is used to help individuals navigate various service organizations or healthcare settings to receive the care they need (Exhibit II.6). Community collaboratives reported having one to nine partners across collaboratives; though most (68 percent) had no more than two partners (Exhibit II.7).[2]

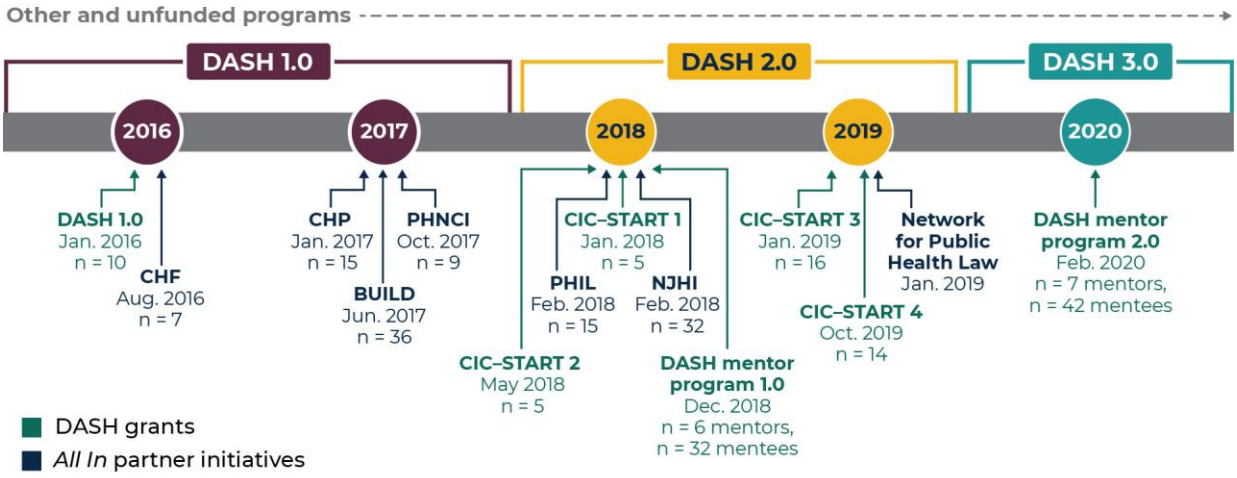
Exhibit II.1. Location of community collaboratives participating in *All In*



Source: Mathematica's analysis of *All In* documentation for 193 lead organizations, October 2018 to November 2019.

[2] These calculations are based on 62 lead organizations reporting their partners during either round of the network survey (fielded May 21 to August 2, 2019, and January 6 to February 28, 2020). There were no strong patterns between organizational characteristics and network size, so these results were not weighted for nonresponses.

Exhibit II.2. Collaboratives' entry into *All In*



These community collaboratives entered *All In* through three main avenues:
(1) DASH grants; (2) *All In* partner initiatives; and (3) word of mouth (other and unfunded programs).

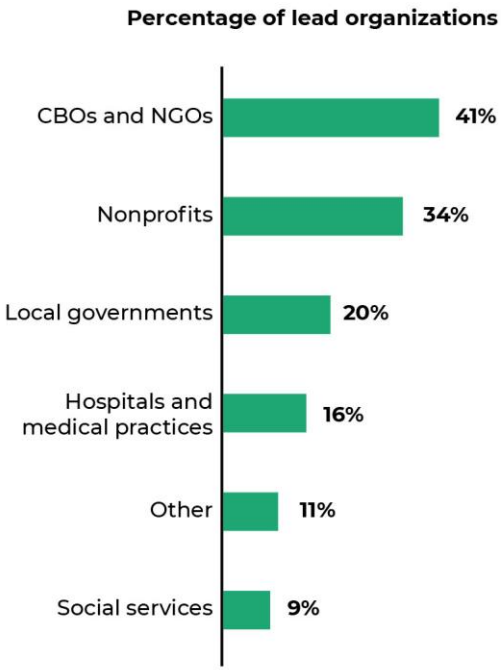
- DASH grantees (82 collaboratives) received DASH-specific funding either through DASH 1.0, CIC-START, or the DASH mentor program.
- *All In* partner initiatives (104 collaboratives) are associated with and funded through other national and state-based programs that support data sharing. Recipients of these other grants were provided funding and TA to support community cross-sector partnerships, community innovations, and cross-sector alignment for health and health equity. Exhibit A.12 in Appendix A contains additional information and number of grantees under each partner initiative.
- Other and unfunded programs (7 collaboratives) are those entering *All In* without any affiliation to DASH-specific grant-making or through a partner initiative. They might have heard about *All In* from other grant opportunities, organizations that engage with *All In*, or publicly available resources and joined.

Source: Data Across Sectors for Health National Program Office 2019c.

Notes: Number of grantees can fall into multiple categories (for example, DASH 1.0 and CIC-START); therefore, the total number of grantees adds to more than 193. Data on unfunded partnerships, and grantees that leave *All In* over time, is unknown. The CHF and CHP programs are no longer active *All In* partner initiatives, though organizations under this program might still participate in *All In*.

BUILD = BUILD Health Challenge; CHF = Colorado Health Foundation; CHP = AcademyHealth Community Health Peer Learning Program; CIC-START = Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted; DASH = Data Across Sectors for Health; NJHI = New Jersey Health Initiatives; PHIL = Population Health Innovation Lab; PHNCI = Public Health National Center for Innovation; RWJF = Robert Wood Johnson Foundation; TA = technical assistance.

Exhibit II.3. Organizational type

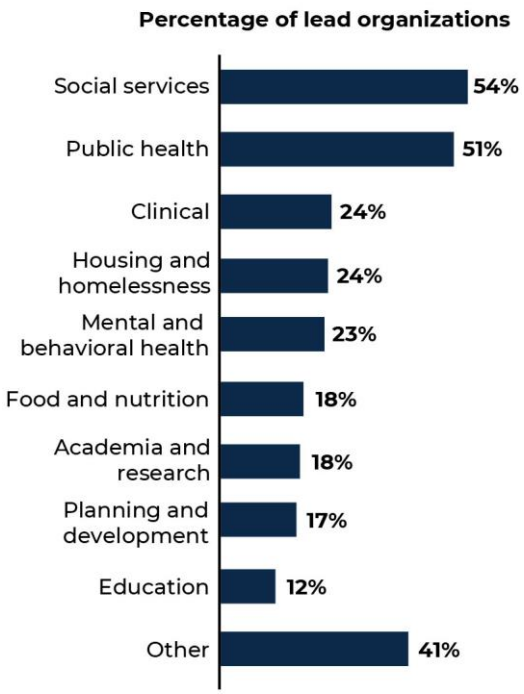


Source: Mathematica's analysis of the most recent network survey data for 131 lead organizations responding to either round of the network survey and representing 131 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

Note: Data will total more than 100 percent because respondents could select all that applied.

CBO = community-based organization; NGO = nongovernmental organization.

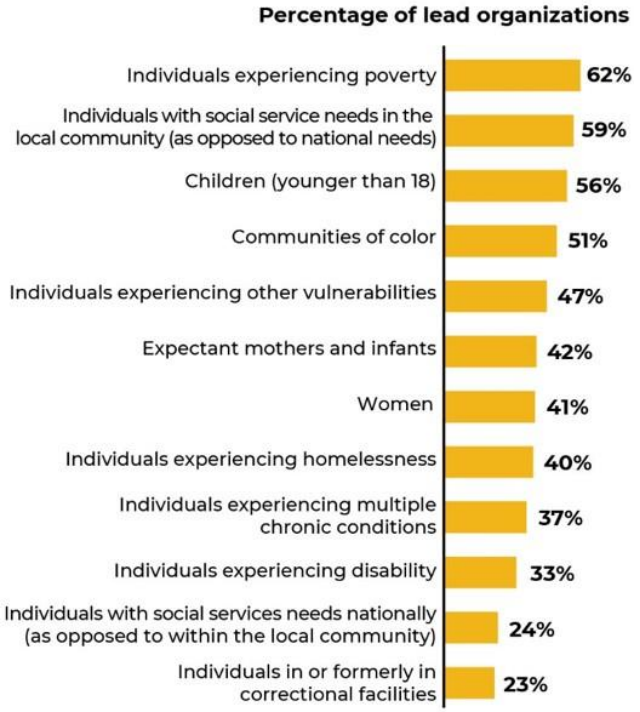
Exhibit II.4. Organizational sector



Source: Mathematica's analysis of the most recent network survey data for 131 lead organizations responding to either round of the network survey and representing 131 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

Note: Data will total more than 100 percent because respondents could select all that applied.

Exhibit II.5. Populations served

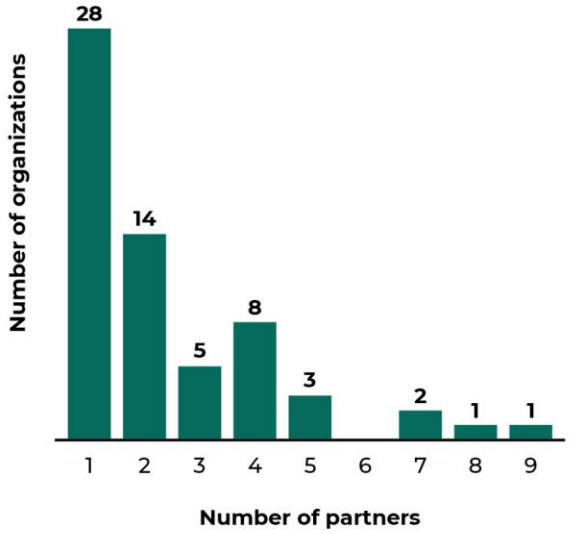


Source: Mathematica's analysis of the most recent network survey data for 131 lead organizations reporting partners during either round of the network survey and representing 131 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

Exhibit II.6. Cross-sector data use

Source: Mathematica's analysis of the most recent network survey data for 131 lead organizations responding to either round of the network survey and representing 131 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

Exhibit II.7. Distribution of the number of peer partners reported by each community collaborative



Source: Mathematica's analysis of the most recent network survey data for 62 lead organizations reporting partners during either round of the network survey and representing 62 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

Case study communities: Characteristics of organizations that did not participate in *All In*

To understand potential contributions of the DASH strategy to collaboratives' progress in and ability to conduct cross-sector data sharing, the evaluation examined nonparticipating organizations in case study communities that had interest in data sharing but did not directly partner with *All In* participating organizations. These nonparticipating organizations were partners of partners of the lead organization participating in *All In*—connections two times removed from lead organization (secondary partners).

Because underlying characteristics could influence some observed differences in outcomes, the evaluation also reviewed similarities and differences between characteristics of participating lead organizations and those of nonparticipating organizations; the evaluation limited this comparison to organizations within 7 of the 21 case study communities, in which both lead and nonparticipating organizations responded to the network survey. Overall, nonparticipating organizations did not differ significantly from *All In* lead organizations in organization type; they were predominantly community-based or nongovernmental organizations and nonprofits. A larger proportion of nonparticipating organizations reported working in the clinical sector, working directly with hospitals and medical providers, and a smaller proportion reported working in the public health sector and social services sectors. Like lead organizations, nonparticipating organizations also focus on serving communities experiencing poverty and the child population. Nonparticipating organizations, however, are less bound to specific locations of service and reported that they focus on communities within a geographic boundary less frequently than lead organizations did. This difference in level of geographical focus might be attributable to limited ability to obtain or availability of community-level data for nonparticipating organizations. Indeed, a few nonparticipating organizations reported that they only accessed publicly available data sets such as U.S. Census or Internal Revenue Service data, which often do not have accurate data for smaller community geographic areas.

B. Engaging in *All In*

Along with collaboratives' organizational characteristics, engaging and participating in *All In* could help explain progress made in cross-sector data sharing. If the program has intended effects, greater engagement theoretically would lead to greater progress in sharing data.

The *All In* network promoted participation at two key levels: NPO engagement and peer engagement. NPO engagement included participating in activities facilitated for the entire community of collaborative organizations participating in *All In*; these activities occurred through the *All In* website, virtual attendance at webinars hosted by the NPO, and in-person attendance at annual *All In* meetings (Exhibit II.8). NPO engagement differed by grantee type, with DASH (CIC-START and mentor program) grantees engaging with the NPO through kick off meetings and monitoring phone calls; non-DASH grantees

engaged with the NPO through their partner initiative or submission of abstracts to the National Meeting (data not shown). Peer engagement included the interactions between organizations in community collaboratives about their approaches to data sharing. These connections occurred organically or through NPO-facilitated networks in person at the National Meetings; virtually by telephone, email, and online forums; and through newsletter articles providing insight into peer activities. Exhibit A.11 in Appendix A includes additional details on the topics and types of information shared during these activities.

Exhibit II.8. Community collaborative engagement with NPO and peers

Sources: *All In* National Meeting counts from Data Across Sectors for Health National Program Office 2019b; all other NPO engagement data from DASH NPO data, February 10, 2020. Peer-to-peer engagement data comes from Mathematica's analysis of network survey data of 131 lead organizations that responded to either round of the survey, fielded May 21 to August 2, 2019, and January 6 to February 28, 2020. Respondents to both survey rounds are coded as their *most recent* survey response. Respondents answered the question, "In which of the following ways have you received advice from *All In* participants?" Respondents could select multiple categories, therefore adding to more than 131.

[a] Includes two webinars hosted by *All In* partner initiatives for which attendance is not available.

[b] Number of listens is based on SoundCloud data.

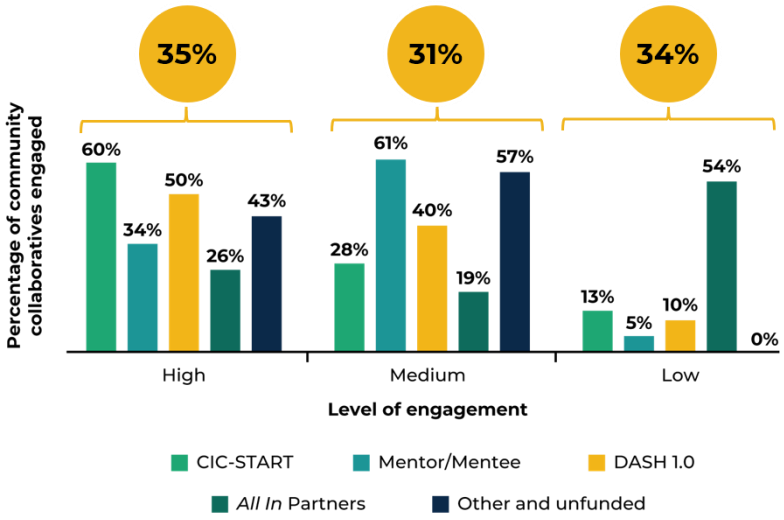
CIC-START = Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted; DASH = Data Across Sectors for Health; NPO = National Program Office.

NPO engagement. In a landscape review of the 193 community collaboratives participating in DASH as of November 2019, the collaboratives were about evenly split between high, medium, and low (or no engagement) with *All In*.[3] Awardees from recent DASH outreach presented higher engagement than those entering *All In* through partner initiatives; 88 percent of CIC-START awardees were either highly or moderately engaged and 95 percent of DASH mentors and mentees either highly or moderately engaged

[3] High engagement is defined as having attended at least one *All In* National Meeting and at least one member of the collaborative having a profile in the *All In* network; medium engagement is defined as having attended an *All In* National Meeting or at least one member of the collaborative having a profile on the *All In* network (but not both); and low or no engagement is defined as no members of the collaborative having a profile on the *All In* network.

(Exhibit II.9). Not surprisingly, 75 percent of community collaboratives that received more than one grant were highly or moderately engaged (data not shown).[4]

Exhibit II.9. Level of engagement, by partnership type



Source: Mathematica's analysis of *All In* documentation for 193 lead organizations, October 2018 to November 2019.

Notes: Disengaged community collaboratives often leave their profiles on *All In*. As a result, some community collaboratives categorized as having medium engagement might actually have low or no engagement. Data, however, did not allow for further levels of disaggregation or better alternate definition for National Program Office engagement.

High engagement is defined as community collaboratives that attended at least one *All In* National Meeting and have at least one member of the collaborative with a profile on the *All In* network.

Medium engagement is defined as community collaboratives that have attended an *All In* National Meeting or have at least one member of the collaborative with a profile on the *All In* network (but not both).

Low (or no engagement) is defined as community collaboratives that do not have any members of the collaborative with a profile on the *All In* network.

CIC-START = Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted; DASH = Data Across Sectors for Health.

Peer-to-peer engagement. Collaboratives considered the connections with other collaboratives facilitated by *All In* as a key value of participation. The launch of the DASH mentor program in December 2018 strengthened the value of interactions with peers even further; collaboratives shifted from seeking assistance from the DASH NPO and DASH 1.0 collaboratives to seeking advice from DASH mentors. By February 2020, 62 lead organizations of the 131 participating in *All In* that answered the network survey (either Round 1 or 2) reported connecting with peers in other collaboratives on data-sharing topics. The number of peers contacted ranged from one to nine. Organizations with more peer connections also reported higher engagement in NPO activities, such as contributing ideas for newsletters, attending the in-person National Meeting, and seeking follow-up phone calls and emails after the National Meeting, than those organizations with fewer connections.

[4] Subgroup comparisons exclude unfunded community collaboratives (that is., not entering through DASH cohort or *All In* partner initiative) because of small numbers (n = 7).

DASH mentor program and CIC-START: Increasing engagement

DASH 2.0 broadened the program's reach as it focused on the *All In* online learning community as the core mechanism for supporting cross-sector data sharing. But through its DASH mentor program and CIC-START, DASH 2.0 also retained a hint of the intensive and individualized TA to collaboratives previously provided under DASH 1.0. The DASH mentor program formally paired communities at the beginning stages of data sharing (mentees) with those at the advanced end of the spectrum (mentors); mentors and mentees received $5,000 to defray costs of participating in the program. Similarly, CIC-START offered mini-grants (up to $25,000) to communities at various stages of data-sharing readiness. Though smaller than that provided under DASH 1.0, the nominal funding enabled grantees to allot staff time to focus on cross-sector data sharing tasks, seek tailored TA suited to their data-sharing stage, and engage in many of the general TA opportunities provided. In fact, many said that when this funding ended, they would likely be able to only maintain an *All In* account and read the newsletters.

Not surprisingly, organizations applying for and participating in a formal mentor–mentee relationship and those receiving nominal funding engaged more intensely than other community collaboratives in *All In*. These community collaboratives were more likely to attend the National Meeting, create an individual or project profile on the online platform, attend *All In* webinars, and listen to *All In* podcasts. Though already highly engaged, mentees requested *more* opportunities to engage with *All In*, such as having additional venues for interacting with and learning from other mentees in their cohort. Similarly, mentors expressed a desire to return as mentors in the next round.

III. PROGRESS IN DATA SHARING AND OUTCOMES

Effectively disseminating and using data from other organizations requires strong data systems, organizational commitment, and technological expertise. To understand an organization's stage in developing and maintaining its data system, the evaluation asked community collaborative members to assess their organization's data-sharing readiness along five stages. Similarly, to assess organizations' level of commitment and technological expertise for data sharing, the evaluation asked them a series of questions regarding data maturity to develop an overall score.

Collaboratives assessed their cross-sector data use along a four-level continuum, with each level requiring increasingly sophisticated use of the information. In conjunction, collaboratives assessed their network strength as both an outcome of and facilitator to cross-sector data use. This is because network strength could increase collaboratives' ability to come together to share and use data and because sharing data could serve to strengthen interactions and collaboration between collaborative partners. The evaluation estimated the strength of networks through how many interconnections or ties partners had to one another within a network—that is, how many partners within the collaborative that any given organization has within that collaborative. The intensity of these interactions, as represented by the number of hours, also provides a barometer for a network's strength.

This chapter discusses the community collaborative findings along these measures of progress and outcomes. When possible, analyses of qualitative and quantitative information provided insight into the relative contribution of the DASH strategy to observed outcomes by comparing differences in progress and outcomes between *All In* participants and nonparticipating organizations in the same community.

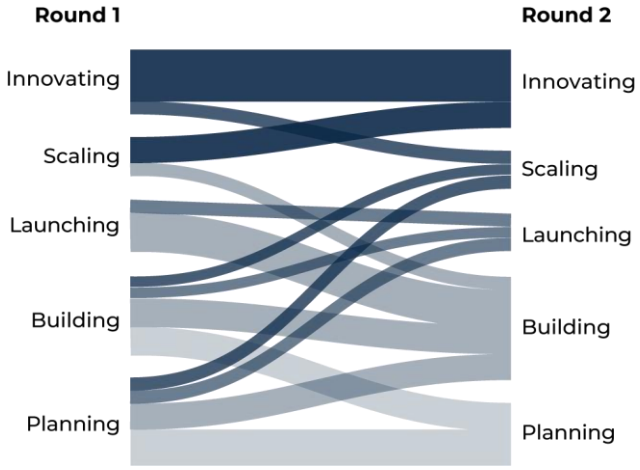
A. Data-sharing readiness

To assess change in level of readiness to share data, the evaluation included analyses of changes over time among 24 lead organizations participating in *All In* that responded to relevant questions on both rounds of the network surveys. Comparison with nonparticipating organizations in the 21 case study communities that responded to the network survey also allowed for examining the potential contribution of the DASH strategy to observed change.

Readiness stage. The ultimate goal is for all organizations to share cross-sector data and therefore reside in the scaling or innovating levels of data-sharing readiness. Remaining at the same level or moving to a lower level, however, does not necessarily denote stagnation or regression, as it can be related to expanding the scope of the organizations' data-sharing systems or incorporating best data-sharing practices.

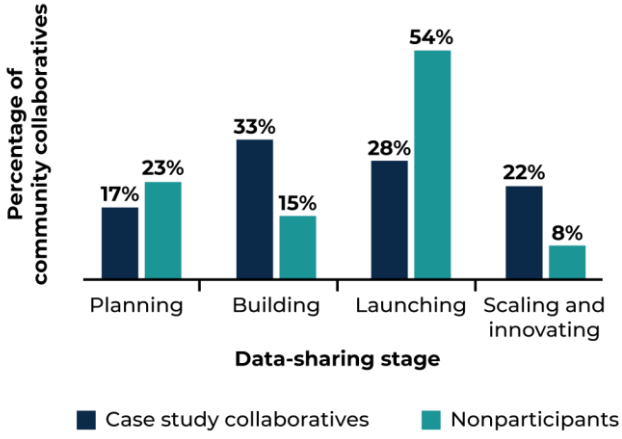
Of 24 collaborative lead organizations participating in *All In*, 7 moved from a lower to higher level of data-sharing readiness, 10 did not change in their level, and 7 moved to a lower level (Exhibit III.1).

Exhibit III.1. Change in data-sharing readiness



Source: Mathematica's analysis of network survey data for 24 lead organizations reporting data-sharing readiness during both rounds of the survey and representing 24 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

Exhibit III.2. Data-sharing level of readiness among case study communities and nonparticipating organizations



Source: Mathematica's qualitative analysis of case study interviews (n = 18) in November 2018 and nonparticipating organizations interviews (n = 13) in November 2019.

Note: Data-sharing stage based on qualitative analysis on a scale of planning (planning), beginning (building), intermediate (launching), and advanced (scaling and innovating).

The seven that moved to higher levels were most often in the earlier stages of data sharing—that is, planning for cross-sector data sharing and building infrastructure. Four of these collaboratives advanced one level, but two collaboratives advanced two levels (one from planning to launching and the other from building to scaling) and one advanced three levels (from planning to scaling). The collaborative that advanced three levels participated in the initial DASH 1.0 and stated that participation had opened doors to other grant opportunities that helped it advance in cross-sector data sharing even further. This community collaborative has funding through 2023 from other sources to support its data-sharing efforts.

Among those that did not change their stage, three remained in the planning stage, another two remained in the building stage, and one remained in the launching stage. Four at the highest innovating stage remained in that stage. Of those that moved to a lower level of readiness, six collaboratives moved back one stage in data-sharing readiness, most commonly dropping from launching to building or building to planning stages. These collaboratives commonly reported challenges with staff turnover, finding staff with availability, or being able to hire new staff to take on cross-sector data-sharing responsibilities.

Understanding the contribution of DASH. According to the network survey, community collaboratives participating in *All In* within the 21 case study communities changed in their median stage of data-sharing readiness from launching to building. In contrast, nonparticipating organizations within the case study communities had the same median stage (launching) between the two rounds of the network survey. Qualitative data of 13 nonparticipating organizations and 18 of 21 case study communities reveal that nonparticipating organizations were more likely to be in the intermediate data-sharing stage compared with case study

communities (Exhibit III.2). But fewer nonparticipating organizations reached scaling and innovating stages compared with their *All In* counterparts (8 percent of 13 nonparticipating organizations versus 22 percent of 18 *All In* participants, respectively).

Several reasons that have little to do with DASH contribution might account for the *All In* participants remaining at the same or moving to a lower data-sharing readiness level. For example, collaboratives could need longer than the 10 months between rounds of the survey to incorporate best practices before sharing data. Organizations that reported being a lower level after 10 months could have decided to expand the scope of their data-sharing systems, returning to an earlier data-readiness stage to prepare for the expanded scope. For example, a community collaborative successfully developed an integrated data dashboard to track population-level indicators. But a change in organizational priorities required that the collaborative shift its focus to community-level indicators. Though the collaborative attained advanced data-sharing status with its population-level data system, it is now in the planning stages for collecting and sharing community-level data.

In addition, interviews with *All In* participants and nonparticipating organizations suggest further benefits of *All In* than survey data reveal. Among participants, *All In* facilitates a strong and consistent understanding of the value or potential impact of sharing data across the organization. This understanding motivated some participating collaboratives to reach the highest levels of data sharing. For example, nearly all case study community collaboratives stated that although they had limited staff capacity to enter, analyze, and share data, staff willingly did so because it helped them better track their impact, target areas for quality improvement, and allow for course correction as needed. In contrast, nonparticipating organization staff recounted that they did these tasks because they were required to rather than because they saw any value in sharing data. Resources available through *All In*, such as connecting with other communities, attending National Meetings and webinars, and engaging with the online forum might also have inspired case study communities to persist in cross-sector data sharing.

"[*All In*] without a doubt helped me formulate a vision and where I felt we needed to go. I love to learn from different people and then consolidate all those different learnings to create something new, and [it] could not have been done without *All In*."

—DASH 2.0 participant

"Because we work with people every single day, I can tell you it's housing, it's transportation, and it's food.…I don't need your external record to tell me that...I don't need another electronic health record telling me that you know something is needed in my community"

—Nonparticipating organization

CIC-START program grantees seemed most likely to benefit from participation in *All In* because those grantees were generally less advanced in their data-sharing level and had a greater need for the resources available through the network. In particular, several of the CIC-START grantees interviewed exchanged contact information with other organizations at the National Meetings so they could learn what other groups are doing in data sharing. Two of the CIC-START grantees also reported spending 1 to 3 hours per week reading *All In* posts, sharing resources, and participating in discussion boards to better understand how to get at shared data. This may be, in part, because of their mini-grants that enabled them the time and resources to engage with *All In*. Overall, mentor program participants reported not being actively involved in the *All In* network; for the most part, they browsed through the forum and read the newsletters but did not actively engage as they sought out expertise from their mentor rather than other

participants. Similarly, grantees from *All In* partner initiatives leveraged the networks from their grant partner rather than peers in the *All In* network.

B. Data maturity

Similar to the assessment of readiness to share data, the evaluation examined changes in data maturity scores among 30 lead organizations participating in *All In* that responded to relevant question on both surveys. The study also compared participant and nonparticipating organizations' changes in data maturity across the 21 case study communities.

Progress. Overall, 30 community collaboratives with lead organizations participating in *All In* and responding to both network surveys slightly increased their average data maturity score from 33.4 to 35.0 (of 48 possible points). When examined by organizational and technological data maturity scores separately, the mean total score increased from 14.9 to 15.7 and 18.5 to 19.3, respectively (Exhibit III.3). These community collaboratives continued to rate themselves as more advanced along organizational maturity metrics than technological maturity metrics over time.

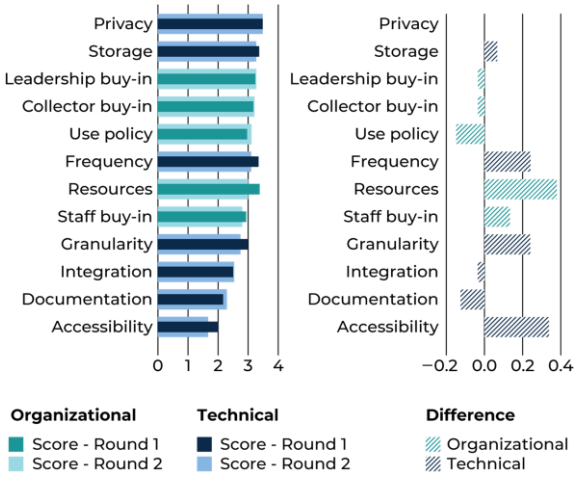
- **Organizational metrics.** During the first round of the survey, leadership buy-in was the highest-scoring organizational metric (Exhibit III.4). During the second round, resources rose to the top. Qualitative information suggests that leadership likely converted their commitment to data sharing into concrete support for their collaboratives. For example, a collaborative developed, in its own words, "…a very, very strong commitment from all around the table to continuing to [provide resources to this project], even when folks are functioning on rather shoestring resources." Qualitative data also indicates that a strong guiding voice is successful in facilitating the development of a data infrastructure—suggesting a potential interrelationship between organizational and technological metrics.
- **Technological metrics.** Collaboratives rated themselves highest for storage and privacy in

Exhibit III.3. Change in data maturity

	Round 1 Average score	Round 2 Average score	Maximum possible score
Organizational	14.9	15.7	20
Technological	18.5	19.3	28
Total	**33.4**	**35.0**	**48**

Source: Mathematica's analysis of network survey data for 30 lead organizations reporting data maturity scores during both rounds of the survey and representing 30 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

Exhibit III.4. Average score and change in score for each metric of data maturity for lead organizations



Organizations reported their current data-sharing practices related to data and technology readiness (7 questions) and organizational readiness (5 questions) through multiple choice questions, with responses ranked in order of increasing sophistication from 1 to 4.

Source: Mathematica's analysis of network survey data for 30 lead organizations reporting data maturity during both rounds of the survey and representing 30 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

both rounds of the survey. Between the surveys, collaboratives saw themselves as progressing in frequency, granularity, and accessibility, which means that collaboratives felt they improved in the timeliness, specificity, and shareability of their data. Qualitatively, collaboratives reported that technology resources provided through *All In*, such as webinars focused on open data platforms, have helped communities develop shared data hubs and establish governance committees to ensure data privacy.

Self-assessed gains in data maturity were not correlated with any particular sector, population served, or level of *All In* engagement. Interestingly, a community collaborative with one of the highest increases in total technological maturity (8.2 of 28.0 points) could be considered a super-user of the *All In* network—it was one of the first community collaboratives to create an *All In* project profile, post on the network, frequently engage with *All In* resources, and present at the National Meeting. It is unclear, however, whether this collaborative's motivation or the *All In* resources most contributed to the large gains in its data maturity.

Understanding the contribution of the DASH strategy. In the 10 months between surveys, the responding 21 case study communities participating in *All In* maintained their organizational data maturity while nonparticipating organizations in the same communities reduced in score. Both *All In* participants and nonparticipating organizations decreased in their technological maturity score during the same time period (Exhibit III.5).

Exhibit III.5. Change in mean data maturity in case study communities

	All In participants		Nonparticipating organizations	
	Round 1 Average score	Round 2 Average score	Round 1 Average score	Round 2 Average score
Organizational	15.5	15.4	16.2	14.8
Technology	20.3	19.6	19.0	18.7
Total	35.8	34.9	35.2	33.5

Source: Mathematica's analysis of network survey data for 15 *All In* lead organizations and 24 nonparticipating organizations; this represents 21 community collaboratives that responded to either round of the network survey. Missing data were filled by community, organization type, and survey round. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

The lack of progress in both organizational and technological data maturity for nonparticipating organizations could reflect differences in motivation and access to tools provided by *All In*. Common barriers to sharing data cited by nonparticipating organizations included needing sample data use agreements and software-focused trainings and tutorials, resources that are available through *All In* to participating communities. Interviewed case study collaboratives stated that the expertise and experience provided by *All In* enabled the network to proactively address and head off such potential challenges. *All In* provided webinars and sample agreements for data sharing and use across organizations. To address technological challenges, *All In* engaged with communities and collaborated with other initiatives such as *County Health Rankings & Roadmaps* to discuss how to leverage technology to measure capacity, use open data platforms, and link and deidentify state-level data sets.

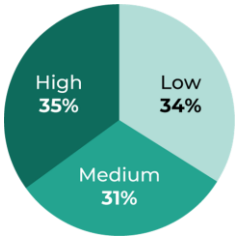
"We felt very much welcomed and encouraged and felt supported by a lot of other peers and co-presenters and other colleagues that we've just met really at Denver and had a lot of productive conversations. And I think really brought a lot of the energy back to the team and really, you know, told ourselves that, 'Yes we can do this.'"

—CIC-START awardee

Correlation between level of *All In* engagement and cross-sector data sharing

Community collaboratives with higher levels of engagement in *All In* were at higher levels of data-sharing readiness in both rounds of the network survey. For example, 7 of 10 collaboratives in the innovating data-sharing stage had high engagement. Medium levels of engagement were most common in the earlier stages of planning and building. Similarly, highly engaged collaboratives had higher data maturity scores. Organizations with fewer peer connections tended to have lower data maturity scores and be in earlier stages of data sharing. For example, 17 of 21 lead organizations responding to these questions on either survey with at least one partner reported they either planned to build or had built their data sharing systems.

NPO engagement across lead organizations



Source: Mathematica's analysis of *All In* documentation for 193 lead organizations, October 2018 to November 2019.

Notes: Disengaged community collaboratives often leave their profile on *All In*. As a result, some community collaboratives that are categorized as having medium engagement may actually have low or no engagement. However, data did not allow for further levels of disaggregation or better alternate definition for National Program Office (NPO) engagement.

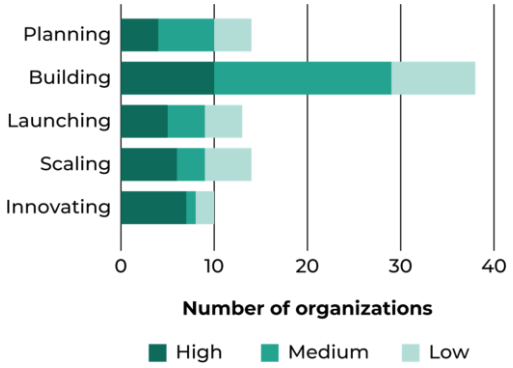
High engagement is defined as community collaboratives that attended at least one *All In* National Meeting and have at least one member of the collaborative with a profile on the *All In* network.

Medium engagement is defined as community collaboratives that have attended an *All In* National Meeting or have at least one member of the collaborative with a profile on the *All In* network (but not both).

Low or no engagement is defined as community collaboratives with a profile on the *All In* network.

NPO = National Program Office.

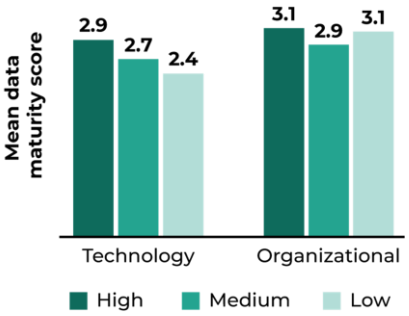
Data-sharing stage by NPO engagement



Source: Mathematica's analysis of most recent network survey data for 89 lead organizations reporting data-sharing readiness during either round of the network survey and representing 89 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

NPO = National Program Office.

Data maturity by NPO engagement



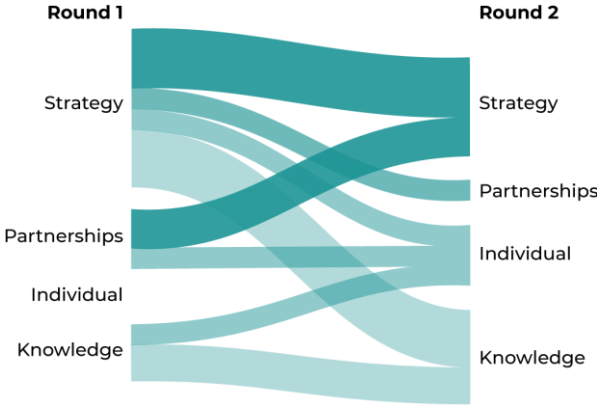
Source: Mathematica's analysis of most recent network survey data for 97 lead organizations reporting data maturity during either round of the network survey and representing 97 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

NPO = National Program Office.

C. Cross-sector data use

In all, 7 of 21 case study community collaboratives responded to relevant questions about how their organizations used partners' cross-sector data during both rounds of the survey. Only one nonparticipating organization in the case study communities responded to relevant questions, limiting the ability to compare changes in cross-sector data use between *All In* participating collaboratives and nonparticipating organizations.

Exhibit III.6. Change in cross-sector data use, *All In* participants



Source: Mathematica's analysis of network survey data for 7 community collaboratives (14 partnerships) reporting cross-sector data use for their partnerships during both rounds of the survey; these organizations represent 7 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

Among responding community collaboratives, four contracted in their level of cross-sector data use, two expanded, and one consistently used data at the same level (Exhibit III.6). Three of the four community collaboratives that contracted in data use reported at the highest level of cross-sector data use—to inform strategic direction—in the first round of the network survey and then reported a lower level of data use 10 months later in the second round.

"There is a Public Health Department, Housing Department, and research center that are all different arms of the city. So, we all have different priorities [that dictate our needs and uses for cross-sector data]."

—DASH 2.0 participant

Community collaboratives noted differing priorities across partners as the key barrier to using data across sectors. Changes in priorities within partners also caused some collaboratives to limit how they used their data. For example, one collaborative noted that receiving a new grant caused it to focus its data use solely on understanding the landscape of the community served.

The two community collaboratives that increased their cross-sector data use benefited from a focus on shared priorities within and across partners. One of these collaboratives cited having a full-time community coordinator whose sole focus was to coordinate the work as a key to its success in building, maintaining, and growing cross-sector data use.

D. Network strength (collaboration)

The evaluation estimated the strength of a collaborative network by the number of ties between partner organizations in the collaborative and the intensity of interaction between partners, as measured by the average number of hours per organization spent communicating with one another annually. Across 8 of 21 case study communities responding to relevant questions in both rounds of the network survey, the strength of the network waned slightly. In the first round, partners in a collaborative were connected and interacted with about five other partners in the collaborative (Exhibit III.7). In the second round of the network survey, this dropped to an average of four partners. The strength of networks reported by nonparticipating organizations also dropped, from an average of about eight to seven partners from one round of the network survey to the next.

Exhibit III.7. Network strength

	All In participants		Nonparticipating organizations	
	Round 1	Round 2	Round 1	Round 2
Mean number of partners interacting	4.8	4.0	7.9	7.3
Mean number of hours per year spent communicating with each partner	23	21	48	42

Source: Mathematica's analysis of network survey data for 15 *All In* lead organizations and 30 nonparticipating organizations; this represents 20 community collaboratives that responded to either round of the network survey. Missing data were filled by community, organization type, and survey round. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

For *All In* participants, the intensity of the interactions between partners, as measured by average number of hours spent in communication, remained the same, and the intensity of nonparticipating organizations' interactions decreased slightly. Organizations that strengthened their networks, either increasing their number of partners or increasing their number of hours spent in communication, tended to have higher data maturity scores.

E. Health and health equity

The overarching goal of cross-sector data sharing is to enable communities to better tackle SDOH and achieve health equity. But given the brief duration of the DASH initiative, few communities have had sufficient time to observe health outcomes to which their data sharing might have contributed. Among the 18 of 21 case study communities that participated in qualitative interviews, 3 reported being able to identify health and social service needs based on their data sharing. Others mainly reported achievements in terms of progress in building partnerships and engaging the community. The outcomes for the 3 case study communities follow.

- **Unexpected findings from analysis of Medicaid and housing data point to a need to address health of public housing residents.** Data sharing revealed that residents of public housing represent 11 percent of the Medicaid population within the county, and those residents are more likely to seek acute care than people who aren't residents of public housing in the Medicaid population. This finding was unanticipated among the county health department, city housing authority, and state housing authority because residents typically have stable, affordable housing. Using this information, the community collaborative is engaging in conversations to gain further insight into underlying factors driving these results, and it will potentially use other social sector data to help determine whether other SDOH might also play a role.

- **Community information exchange brings together transport data from emergency medical services to better tailor interventions to people experiencing homelessness in need.** The community collaborative partnered with the local Accountable Community for Health to integrate data from various sectors, such as data on incarceration and homelessness, creating a community information exchange. The data revealed that clients with a history of frequent emergency medical services transport to emergency departments disproportionately were people experiencing homelessness. These data insights prompted the development of interventions that sought to engage people experiencing homelessness who are transported on a recurring basis. The partnership then saw a 26 percent reduction in emergency medical services calls. Future efforts include developing longitudinal records for people experiencing homelessness and starting SDOH assessments.
- **Using health and legal data to improve housing conditions.** A community collaborative in Ohio developed a partnership to share health and legal data. Using the combined data, follow-up on a child revealed that his asthma condition was exacerbated by poor air quality in his apartment complex, which was owned by a single absentee landlord. The community collaborative then helped to form a tenants' association and prompted complex-wide repairs; this effort benefited nearly 700 families in 19 buildings.

IV. IMPLICATIONS FOR REALIZING DASH'S PROMISE

Community collaboratives participating in *All In* made some progress in data maturity, demonstrating slightly increased organizational commitment and staff expertise in the short time frame of the evaluation. But less progress in their readiness to share and use data across sectors indicates collaboratives' difficulties in building data systems to facilitate cross-sector data sharing and use as well as in aligning priorities across partners to maintain strong networks. Interviews with *All In* participants and correlation between higher *All In* engagement and cross-sector data sharing capacity suggest the *All In* network as a potentially valuable resource (because it provides guidance on navigating data and legal challenges through webinars and podcasts and shares information through discussion board conversations and networking opportunities) to overcome some of these challenges—although funding uniformly remained the most commonly cited barrier.

A. DASH implications for cross-sector data sharing and outcomes

As the next iteration of DASH (3.0) continues, it is possible that effects of the DASH strategy on cross-sector data sharing, health, and health equity might become even more apparent, especially as collaboratives have more time to mature in their cross-sector data-sharing capacity. DASH's potential positive effects are apparent through several promising developments:

Growing cadre of participating communities committed to prioritizing and engaging in cross-sector data sharing. DASH 2.0 initially leveraged existing partnerships with other initiatives to establish its network of community collaboratives.[5] Although these partner grant initiatives all had some objectives linked to data and SDOH, the level of emphasis on sharing data differed. As time passed, collaboratives joined DASH 2.0 because of their strong interest in cross-sector data sharing rather than because it was part of another partner initiative's activity. The strong focus on cross-sector sharing was especially true for those entering through CIC-START and the DASH mentor program, as these organizations sought guidance and grant monies for cross-sector data sharing in particular. By November 2019, 42 percent of the community collaboratives were from DASH CIC-START or the DASH mentor program compared with 21 percent in November 2018.

> **"We need to have a soundboard–someone we can bounce ideas off of, understand what they did to be successful, glean from their work, ask about things they already did, and not recreate the wheel. That's where our mentor came in."**
>
> ***—DASH mentee***

Expanding the DASH mentorship program. Of the various TA and tools provided through the *All In* network, the mentorship program seemed the most positive. Having a trusted resource to discuss the data-sharing process and answer any questions was most useful for mentees in the initial stages of sharing data. Even after the program ended, some mentees said they stayed in regular contact with their mentors. In particular, mentors helped their mentees understand the underlying principles required for data sharing,

[5] Initial partner initiatives include the BUILD Health Challenge, Colorado Health Foundation, AcademyHealth Community Health Peer Learning Program, New Jersey Health Initiatives, Population Health Innovation Lab, and Public Health National Center for Innovation. Exhibit A.12 in Appendix A provides more information about these partner initiatives.

develop templates for data-sharing agreements with their partners, and implement approaches to track goals and performance.

Large untapped pool of potential communities. With the current reach into 34 states, the pool of potential participants to engage with *All In* remains large. Even in the same communities, only 4 of 13 nonparticipating organizations interviewed knew about *All In* at the time of interview. Furthermore, these nonparticipating organizations expressed interest in learning more about *All In* and the potential tools, trainings, and peers it offers.

B. Considerations and study limitations

Results from the evaluation point to the initiative's contribution to cross-sector data sharing in some participating communities, but the evaluation cannot confirm any positive (or negative) outcomes to participation. The quantitative study sought to evaluate the average impact of *All In* across all participating communities. The study team did not design the evaluation to conduct subgroup analyses because sample sizes of particular types of communities were relatively small. Therefore, it would also be difficult to determine differential effects that participation might have had on communities based on their characteristics, such as initial readiness to share data and data maturity. The descriptive statistics and qualitative findings, however, provide insight on differential effects. In addition, it is not possible to assess the unique benefits of *All In* compared with other initiatives to promote cross-sector data sharing.

Because the field of data sharing between social organizations is still emergent, measures used to assess cross-sector data sharing have had limited time to demonstrate their validity and might not accurately capture the true contribution of DASH. To mitigate issues around the strength of study metrics, the evaluation did not rely on any one measure and, instead, used a multi-faceted approach of several measures and metrics for data readiness, maturity, and outcomes. Furthermore, more time might be necessary to observe sustained changes in cross-sector data-sharing capacity and use; experts believe it can take up to five years to develop, implement, and reap the rewards of becoming a data-mature and data-driven organization (Basker and Spinks 2016); therefore, it is possible that the evaluation did not capture the full longitudinal potential of *All In*.

Interviews with advanced nonparticipating organizations revealed that highly resourced communities progressed without *All In* involvement and that participation in other similar collaboratives helped. Of the 13 nonparticipating organizations interviewed in the case study communities, 5 participated in similar data-sharing initiatives, including the National Center for Medical-Legal Partnerships (which provides trainings related to measurement and evaluation), the National Human Services Data Consortium (which disseminates national best practices), and an Accountable Community for Health (which provides a discussion forum on various data-sharing topics). These 5 nonparticipating organizations were more advanced than other nonparticipating organizations in their stage of data-sharing readiness, belonging to the launching, scaling, and innovating stages.

Conversely, response bias could account for nonparticipant communities' seeming ability to advance without participation in *All In*: of the 27 people from nonparticipating organizations contacted for interviews, 13 responded (48 percent response rate). Given the potential of response bias, it is unwise to make any strong inference about nonparticipating organizations and their progress toward data sharing compared with communities participating in *All In*. For example, based on their responses to the network

survey, the 13 interviewed were disproportionally more advanced in their data-sharing readiness than those that did not respond to requests for interviews.

Declines in data-sharing readiness and reduced data maturity between the first and second rounds of the network survey also do not warrant a conclusion that *All In* cannot help sustain cross-sector data-sharing capacity after an initial ramp up. Again, those that responded to both rounds might differ significantly from those that responded to one or neither survey. For example, only 20 percent of lead organizations that identified as nonprofits responded to both rounds of the survey, but all other organizational types, such as local governments and hospitals or medical practices, had a response rate closer to 40 percent. Therefore, it is possible that *All In* enabled certain types of organizations to maintain or even advance in their cross-sector data-sharing capacity, but because of either response bias or small sample sizes, the evaluation could not identify such organizations.

C. Concluding remarks

SDOH are an accepted driver of health and health outcomes, and addressing them is considered the primary approach to achieving health equity. Yet the evidence available on how SDOH affect health outcomes is only emerging—though such evidence is sorely needed to appropriately focus interventions to maximize impacts on health and health equity. Cross-sector data sharing between health and non-health social sectors can play a large role in generating evidence about how SDOH and health are interrelated and the complex pathways through which they interact. In addition, it is not unreasonable to surmise that these interactions might vary by community—highlighting the importance of cross-sector data sharing at community as well as state and national levels. Thus, continuing to support and learn from initiatives such as DASH that develop and provide core knowledge and tools to facilitate data sharing could accelerate communities' progress in achieving health equity.

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Appendix A.

Supplemental exhibits

Exhibit A.1. Documentation reviewed

- Names and locations of community collaboratives
- Applications for Data Across Sectors for Health (DASH) 1.0 awardees, Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted (CIC-START) awardees, and DASH mentor and mentee awardees
- Reports submitted by DASH 1.0 and CIC-START awardees
- *All In* webinar attendance records
- Results of the community readiness assessment
- Statistics on *All In* participation
- Information on the Robert Wood Johnson Foundation (RWJF) website pertaining to the DASH program
- DASH website
- 2017, 2018, and 2019 *All In* National Meeting materials
- *All In* online community project profiles
- DASH accomplishments report (October 1, 2019)
- DASH insights (September 17, 2019)
- DASH site visit to RWJF: updates and examples of success (August 29, 2019)

Exhibit A.2. Abstraction categories

Abstraction categories	Description of the abstraction category
Grantee overview	Background of community collaborative
Health objective	Anticipated health outcome of community collaborative
City	City or cities of community collaborative
State	State of community collaborative
County	County of community collaborative
Geographic region	Region of community collaborative
Number of years participating in DASH	Length of participation in DASH or *All In* network
All In network cohort	How the community collaborative was funded and joined *All In*
Types of engagement in *All In* network activities (webinars, other events)	Whether an individual participating in *All In* has engaged with *All In* network activities (webinars, meetings, or online community)
Anticipated products (if applicable)	Whether the community collaborative intends to develop a product as an outcome of being involved with *All In*
Data types	The types of data the community collaborative uses
Level of cross-sector data use (use case)	The level of cross-sector data use the community collaborative aims to have
Project focus	The health issue of focus for the community collaborative

Abstraction categories	Description of the abstraction category
Sectors	The sector that the community collaborative focuses on (business, legal, public health, transportation, and so on)
Site type practice	The site classification of the lead organization
Target populations	The targeted population of the lead organization
Collaborative information	Description of collaborative
Name of community	The community collaborative's name
Name of lead organization	The lead organization's name
Names of partners or collaborators	Names of any partners or collaborators

Exhibit A.3. Community collaborative typology developed through landscape review

Illustrative characteristic	Possible classifications
Geographic region[a]	Northeast, Midwest, West, and South
Number of years participating in DASH or the *All In* network	1 to 2 years; 3 to 4 years
All In network cohort (proxy for community readiness for data sharing)[a]	Phase 1 community (high readiness); supported by CHP (high readiness); former or completed grantee with one of the national partners (BUILD, NJHI, PHNCI, PHIL, and CHF) (intermediate or low readiness)[b]
Types of engagement in *All In* network activities	Attendance at *All In* National Meeting; project profile on *All In* network; members with individual profiles on *All In* network; member attendance at webinars; application to DASH mentor grant or CIC-START grant
Level of cross-sector data use (use case)[a]	Individual (Whole-Person Systems of Care); population-based (Total Population or Community-Wide Health and Well-Being)[c]

[a] Characteristics considered for sampling of community collaboratives for case study.

[b] CIC-START awardees have various degrees of readiness. They received a designation of high readiness if they participated in DASH 1.0 or CHP. Otherwise, they received a designation of intermediate or low readiness.

[c] Categories based on the DASH framework for shared data use cases developed by the DASH NPO.

BUILD = Build Health Challenge; CHF = Colorado Health Foundation; CHP = Community Health Peer Learning Program; CIC-START = Community Impact Contracts—Strategic, Timely, Actionable, Replicable, Targeted; DASH = Data Across Sectors for Health; NJHI = New Jersey Health Initiative; NPO = National Program Office; PHIL = Public Health Innovation Lab; PHNCI = Public Health National Center for Innovations.

Exhibit A.4. Process for developing samples

Key informant type	Sample selection
DASH NPO staff	• Purposefully selected 3 DASH NPO staff familiar with the initiative
All In partner staff	• Purposefully selected 1 staff member from each of the 7 original *All In* partners
DASH 1.0	• Purposefully selected 8 of the 10 DASH 1.0 communities (remaining 2 communities included in case study)
Case study communities	• Phase 1 (obtained contacts for 14 communities) – Randomly selected 25 communities based on diversity in geographic region, *All In* cohort, and level of cross-sector data use – Worked with NPO to develop a contact list of *All In* respondents and lead organizations – Contacted the 25 case study communities to ask for their community partners (first degree partners) – Contacted first degree partners to ask for other data-sharing partners (second degree partners) • Phase 2 (obtained contacts for 8 communities) – Added a purposeful sample of 10 communities to reach 25 communities in the case study – Contacted 10 additional communities based on their level of involvement with *All In* (hosted a podcast, recently active on the network, hosted a webinar, and so on) • Phase 3 (removed 1 community) – Combined samples from Phases 1 and 2 for 22 communities for the case study (14 from the random sample and 8 from the purposeful sample) – Contacted case study communities for interviews, and 1 community refused to participate
DASH mentors	• Purposefully selected 4 of the 6 mentors because the other 2 mentors were interviewed during the formative evaluation
DASH mentees	• Randomly selected 10 of the 32 communities participating as mentees, ensuring that each mentor was represented
CIC-START awardees	• Randomly selected 10 of the 40 awardees across CIC-START Rounds 1, 2, and 3, ensuring that each cohort was represented • Excluded CIC-START 4 awardees because the grant began in October 2019 and would not have finished a 6-month grant by the time of interviews • Replaced 1 awardee given staffing changes
Nonparticipating organizations	• Used list of 30 organizations that completed the Round 1 survey • Removed 3 organizations that were contacted during the formative evaluation • Selected the remaining organizations (n = 27), representing 9 case study communities that responded as secondary partners to the Round 1 survey

CIC-START = Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted; DASH = Data Across Sectors for Health; NPO = National Program Office; RWJF = Robert Wood Johnson Foundation.

Exhibit A.5. Topics of interviews, by key informant type

Key informant type	Topics	Number of communities	Number of key informants per community	Total interviews
DASH NPO and partner staff	• DASH 2.0 design • Characteristics of DASH community partnerships • Communities' experience with DASH and facilitators and challenges • DASH learning and translation	n.a.	10	10
DASH 1.0	• Community partnership background and characteristics • Progress with alignment components and cross-sector data sharing • Experience with DASH 1.0 and facilitators and challenges • Experience with DASH 2.0 • DASH accomplishments and sustainability	8	1	8
Case study community participants	• Community partnership background and characteristics • Progress with THHCS components and cross-sector data sharing • Experience with *All In* or DASH and facilitators and challenges • *All In* or DASH accomplishments and sustainability	18[a]	1—3[b]	40
DASH mentors	• Experience with *All In* or DASH and facilitators and challenges • *All In* or DASH accomplishments and sustainability	4	1	4
DASH mentees	• Experience with *All In* or DASH and facilitators and challenges • *All In* or DASH accomplishments and sustainability	10	1	10
CIC-START awardees	• Experience with *All In* or DASH and facilitators and challenges • *All In* or DASH accomplishments and sustainability	9	1	9
Nonparticipating organizations	• Experiences with cross-sector data sharing • Data-sharing needs • Knowledge of *All In* or DASH and barriers to participation	13	1	13
Total		**62**	**--**	**94**

[a] Includes two DASH 1.0 communities.

[b] Attempted three interviews per collaborative. Because of staff limitations, limited involvement with *All In*, or inability to reach the appropriate person, evaluator was able to obtain only 1 or 2 interviews with a few communities.

DASH = Data Sharing Across Sectors for Health; n.a. = not applicable; NAC = National Advisory Council; NPO = National Program Office; RWJF = Robert Wood Johnson Foundation; THHCS = Transforming Health and Health Care Systems.

Exhibit A.6. Categories for qualitative coding

Code	Subcode	Description
Characteristics of community partnerships	Health issue	Specific health issue the partnership is working on, or what they were working on when they joined DASH or *All In*; geographic scope of work
	Partnership background /readiness	How partnership was established (years of existence and motivation for formatting); progress with cross-sector data sharing before joining *All In*; differences in capacity among partnerships participating in *All In*
	Joined DASH/*All In*	How a partnership joined DASH or *All In*; whether a partnership received previous grant support from DASH or RWJF; criteria RWJF or NPOs use to recruit partnerships to participate
	DASH background	Differences and similarities between DASH 1.0 and 2.0; how and when partner organizations (BUILD, NJHI, and so on) joined the *All In* network; ultimate goal of DASH/*All In*
Progress with RWJF alignment components (purpose, data, financing, and governance)	Structure/ governance	Structure of community partnership; role of lead organization versus other participating organizations; sectors represented
	Shared priorities	Description of the partnership's main priorities; whether all the organizations in the partnership agree on these priorities (which health and social needs to address in the community); extent to which partnership has an equity focus
	Funding	Whether partnership has received any funding; where funding came from and timeline; and whether the partnership plans to seek additional funding in future
	Data system	Any actions the partnership has taken to create a shared data system or shared metrics; whether DASH or *All In* played a role in the partnership's ability to take any of those actions
Experiences with cross-sector data sharing and data sharing needs	Data sharing experience	Organization's experience sharing cross-sector data; how cross-sector data has benefited (or could benefit) its work; organizations the partnership has shared (or would like to share) data with; purpose for data sharing; data sharing frequency
	Data sharing facilitators	Factors that helped the organization be able to share data
	Data sharing barriers	Challenges to sharing cross-sector data; factors preventing partnership from sharing data; challenges to developing a cross-sector data-sharing platform
	Data sharing needs	Major data-sharing needs; desired data; what the partnership would do with data if it could access data; organizations that currently have these data
	Partnership data system	Cross-sector data-sharing platform currently in place; challenges with data-sharing platform; type of platform that would be most helpful
	Data sharing TA recommendations	Types of technical assistance or support that would be useful in overcoming data-sharing challenges
	Data sharing outcomes	Any health outcomes or outcomes affecting social determinants of health

Code	Subcode	Description
DASH/ *All In* experiences and facilitators/ challenges	DASH awareness	Awareness of DASH or *All In*; whether the partnership thinks the work is beneficial; whether the work is relevant to the organization; whether the partnership is part of any similar initiatives; types of resources or supports that would be most useful
	DASH activities	Activities that partnerships have participated in through DASH or *All In* (for example, attending *All In* National Meeting, attending or presenting on webinars, posting in the online forum, reading the newsletter); amount of time spent on DASH activities and whether they are integrated into the respondent's regular work
	Helpful	Ways in which respondent explicitly says participation in DASH or *All In* was helpful or affected the functioning and structure of the partnership; what the respondent found to be most helpful about participating in *All In*: • Ways in which DASH or *All In* has helped the partnership address any challenges related to cross-sector data sharing • Ways in which DASH 1.0 communities used their funding award
	Other initiatives	Whether the partnership has connected with any other initiatives working on the same or a related issue through the *All In* network; whether these connections affected the partnership's work
	Challenges/ recommendations	Any challenges with cross-sector data sharing that have affected the partnership's progress; recommendations for how to improve DASH or *All In*; whether nonparticipating organizations have heard of the partnership in their area, and reasons they have not joined the partnership
DASH accomplishments and sustainability	Accomplishments	Main accomplishments and any role that DASH played in those accomplishments; how cross-sector data have been used in the community so far; any actions the community has taken as a result of data-sharing efforts
	Sustainability	Whether the partnership anticipates any challenges in sustaining cross-sector data sharing over time; if they have a current funding source, whether they can continue their efforts when that funding source ends
	Translation to state and local agency efforts	Whether the partnership's work could serve as an example for state and local agencies; how these agencies could use the experience to inform their work

BUILD = BUILD Health Challenge; DASH = Data Across Sectors for Health; NJHI = New Jersey Health Initiatives; NPO = National Program Office; RWJF = Robert Wood Johnson Foundation.

Exhibit A.7. Network survey sections

Type	Survey questions			
	Organization characteristics	Data sharing and readiness	Community partnerships	*All In* partnerships
Lead organizations (case study)	✓	✓	✓	✓
Lead organizations (non-case study)	✓	✓		✓
Partner organizations (case study)	✓	✓	✓	
Total number of respondents in Round 1 (R1) and Round 2 (R2)	**R1: 146 R2: 156**	**R1: 146 R2: 156**	**R1: 92 R2: 60**	**R1: 72 R2: 109**
Total number of community collaboratives represented in R1 and R2	**R1: 72 R2: 109**	**R1: 72 R2: 109**	**R1: 18 R2: 13**	**R1: 72 R2: 109**

Source: Mathematica's analysis of network survey data covering the R1 period of May 21 to August 2, 2019, and the R2 period of January 6 to February 28, 2020.

Exhibit A.8. Network survey respondents, Rounds 1 and 2

Type[a]	Complete	Incomplete	n.a.	Error	Total[b]	Response rate
Round 1						
0	54	8	26	1	89	61%
1	18	2	3	0	23	78%
2	74	18	26	0	118	63%
Total	**146**	**28**	**55**	**1**	**230**	**63%**
Round 2						
0	96	13	29	0	138	70%
1	13	0	7	0	20	65%
2	47	10	48	0	105	45%
Total	**156**	**23**	**84**	**0**	**263**	**59%**

Source: Mathematica's analysis of network survey data covering the R1 period of May 21 to August 2, 2019, and the R2 period of January 6 to February 28, 2020.

[a] 0 = 100 lead organizations not selected for case study; 1 = lead organizations selected for case study; 2 = partners of lead organizations and their partners.

[b] Total removes refusals, ineligibility, or incomplete contact information; total numbers will not match those in Exhibit I.4.

n.a. = not applicable.

Exhibit A.9. Network study fielding

Round 1 (R1)		Round 2 (R2)	
Date	Steps	Date	Steps
5/21/2019	Advance letter with $5 pre-pay incentive	1/6/2020	Advance letter with $5 pre-pay incentive
5/23/2019	Email 1	1/8/2020	Email 1
5/28/2019	Advance letter with $5 pre-pay incentive to 8 cases (replacement communities)	1/15/2020	Postcard 1
5/31/2019	Postcard 1	1/22/2020	Email 2
6/5/2019	Email 2	1/28/2020	Nonresponder letter
6/18/2019	Nonresponder letter	2/4/2020	Email 3
6/25/2019	Email 3	2/6/2020	Phone call follow-ups
7/8/2019	Email 4	2/17/2020	Postcard 2

Round 1 (R1)		Round 2 (R2)	
Date	**Steps**	**Date**	**Steps**
7/12/2019	Phone call follow-ups	2/18/2020	Email 4
7/18/2019	Postcard 2	2/26/2020	Final email
7/22/2019	Nonresponder email 5	2/28/2020	End fielding period[b]
7/29/2019	Final email 6		
7/31/2019	End fielding period[a]		

[a] At the end of the R1 fielding period, we received 146 survey responses (63 percent response rate).

[b] At the end of the R2 fielding period, we received 156 survey responses (59 percent response rate).

Exhibit A.10. Key network statistics metrics

Level	Metric	Description
Network	Network size	Number of organizations (nodes) in network
	Density	Number of partnerships (edges) that have formed compared with the number of partnerships that could possibly form, given the organizations in the network
	Homophily	Measure of tendency for organizations to partner with other organizations in the network
	Average clustering coefficient	Measure of tendency of organizations to cluster together
	Median degree	Median number of partnerships (edges) per organization (node)
	Sectors represented	The sectors of the organizations in the network
	Level of data sharing	Average data-sharing score across data and technology readiness and organizational readiness metrics
Organization	Degree of centrality	Number of partnerships
	Betweenness	Number of times the organization is part of a connection between two other organizations in the network
	Closeness	Average shortest distance between the organization and other organizations in the network

Exhibit A.11. Topics for community collaborative engagement, by NPO activity

2017 National Meeting: April 19 to 21, 2017

Plenary sessions

- Equity in the Age of Data
- Measuring Our Progress
- Other (Big!) Parts of the Movement
- Dolphin Tanks Reports & Key Insights
- Identifying and Capturing the Value in Multi-Sector Collaborations
- Beyond the Grant: Planning for Sustainability
- What's Next: Walking the Data-Driven Walk on Future Planning, Practice, and Policy
- We are *All In*!

Quick hits

- Environmental Scan
- Monitoring Capacity for Multi-Sector Data Sharing and Collaboration
- Intro to *All In* Tools and Resources

Breakout sessions

- Community Presentations
- Technical Assistance (TA) Session

- Introductions to *All In* Tools and Resources
- Jumping in the Deep End

2018 National Meeting: September 11 to 12, 2018

Plenary sessions

- Building a Movement Together for Equity
- Engaging Payers in Addressing Social Determinants of Health
- Who Needs Health Equity? The Urgency to Build Public Will to Advance Our Work
- Moving Upstream: Challenges, Opportunities, and Moral Imperatives to Improve Health and Health Care
- Overcoming Policy Paralysis: Perspectives from the Field

Next steps for our communities, *All In*, and deep-dive workshops

- Data Sharing and the Law: Deep Dive on Consent
- More Than Numbers: How to Use Data to Advance Health Equity
- Asset-Based Community Development: Strategies and Tools for Engaging Your Community
- Sustainably Financing Community Health: Where to Look, When to Pursue, and How to Access Different Sources of Capital
- Strategies to Help You Advance Health, Wellbeing, and Equity in Communities

2019 National Meeting: October 15 to 17, 2019

Plenary sessions

- Strategies for the Win-Win in Accessing Data: Stories from the Field
- The Safety Net-Work: An Anti-Racist Imperative for the Data-driven World

Deep-dive workshops

- Beyond Rhetoric of Community Empowerment: From Developing Programs to Shifting Power
- Network Leadership in Miniature: A Condensed Version of our Training Academy Workshop
- Mapping and Leveraging Your Civic Data Ecosystem
- Engaging State Leadership to Support Community-based Multi-sector Data Sharing
- Making Equity Personal Through Effective Engagement
- Shipwrecked No More! Evidence-based Practices for Creating and Sustaining High-Performing Collaborations & Teams
- Moving the Needle: Complex Problem, Collaborative Outcomes, and Demonstrated Contributions

Shallow-dive sessions

- Sharing Data and Sharing Power: Keys to a Successful Collaboration
- Building the Bridge between Clinic and Community: Using Results-based Accountability to Help Improve Birth Outcomes
- Strategies for Sustainability: Transforming Health and Well-being Through Regional Stewardship
- The Nexus between Energy Efficiency, Housing, and Health in Low-income Households
- Making the Business Case for Medical-Legal Partnerships
- Data Visualization, Geo-mapping, Hotspotting, Oh My! Data Sharing with 75 Partners… It Can Be Done!
- Evaluation Matchmaking
- Alignment for Collective Impact through Data Sharing towards a More Equitable Future
- Cooperative Solutions to the Resource Directory Problem
- Data Sharing Partnerships between Managed Care and Public Housing Authorities to Improve Residents' Health
- Integrating Data to Truly Understand Community Needs
- Breaking the Mold in Organizational Development for Maximum Impact
- Local Trust Builders Create Care Connections and Community Supports
- Sharing Substance Use Disorder Data to Increase Care Coordination

Breakout sessions

- How Mothers, Women, and Families are Leading the Charge toward Improved Infant and Child Health
- Insights from Two Approaches to Connect Clients to Benefits Enrollment: Leveraging Community Health Workers and Health Information Exchange
- Transforming Neighborhoods: Advancing Health Equity through Community Voice
- Care Across the Lifespan: Supporting Healthy Aging
- Exploring the Balance between Protecting Privacy and Sharing Data: Leading Practices from Two Communities
- Integrating and Analyzing County and State-level Data to Impact Policy to Reduce Overdose Deaths
- Cross-sector Collaboration and Innovative Data Sharing in Minneapolis
- Deepening Partnerships with Community-based Organizations: Connecting Social and Clinical Data to Best Meet Community Needs
- Screening for Social Determinants: What's in a Tool?
- Data and Tools for Addressing Food Insecurity
- Using Open Source to Engage Community and Drive Health
- Using Data to Combat Opioids and Disease
- Creating a System of Care: The Movement toward Community Information Exchanges
- Coordinating Housing and Other Services through Data Sharing
- Engaging Community, Promoting Health, and Resilience in Believeland
- Health Departments as Conveners: Data Sharing for Impact
- Using Data Sharing Platforms to Address Homelessness and Poverty
- Data Governance Framework to Support Public Health, Healthcare, and Other Sector Partnerships

Roundtable discussions

- Interplay between Data Sharing and Funding at The Wellness Center
- Improving Access in Your Community through Transportation Partnerships
- To Have a BAA, or Not, That is the Question
- Transformational Change through Community-based Data Sharing
- Using Data to Drive Action from the County Health Rankings & Roadmaps
- Climate Change and Finding Hard-to-Find Data
- Multi-disciplinary Approach to Addressing Maternal Morbidity
- Making Data Available to Address Equity
- A Roadmap to Create a CIE
- The Nuts and Bolts of Increasing Data Capacity to Address Equity
- Authentically Listening to Community Voice to Understand Health
- Using Neighborhood Health Rankings to Identify Geographic Patterns and Develop Neighborhood-based Interventions
- Building a HIE to Address Not Just Care Coordination and Delivery, but Equity
- Utilizing the Data Integration Toolkit to Support Non-Education Data Integration into ECIDS
- Facilitating the Exchange of Mental Health Screening Assessment Data between Primary and Mental Healthcare Providers
- Understanding Patient Perceptions of Social Needs Screenings
- Operationalizing Health in All Policies for Childhood Lead Poisoning Prevention
- Colorado's Efforts to Operationalize Its Health IT Roadmap
- Aligning Healthcare, Public Health, and Social Services to Improve Equity and Outcomes
- Pay For Success' as a Tool to Promote Cross-Sector Partnerships

Webinars : July 13, 2017, to August 1, 2019

- Social Determinants of Health and Multi-Sector Data: Making the Juice Worth the Squeeze: 4/27/2017
- Social Impact Bonds as a Sustainable Funding Pathway: 7/4/2017
- Leveraging User-Centered Technology to Improve Health: 07/13/2017
- Developing Data Systems for Care Coordination Using Patient-Centered Approaches: 08/30/1017
- Master Person Indexes: A Tool for Population Health Management: 09/06/2017
- Using Big Data and Analytics to Improve Public Health: 11/09/2017
- Big Cities, Big Data, Big Lessons! Leveraging Multi-Sector Data in Public Health to Address Social Determinants of Health: 12/13/2017
- Improving Precision in Public Health through Innovative Data Sharing Approaches: 1/10/2018
- Food for Health: Improving Community Health by Addressing Food Insecurity: 2/28/2018
- Using EHR data for Community Health – Part 1: 3/13/2018

- Innovative Strategies for Engaging Residents in Community Health Improvement Planning: 4/17/2018
- Using EHR data for Community Health – Part 2: 5/8/2018
- Going *All In* to Improve Health through Multi-sector Collaboration and Systematic Data Sharing (co-hosted with County Health Rankings & Roadmaps): 5/15/2018
- Employing HIEs to Address Social Determinants of Health: 6/14/2018
- Effectively Stewarding Multi-Sector Partners for Health System Transformation: 6/19/2018
- Empowering Cross-Sector Data Sharing to Improve Health and Public Safety: 7/26/2018
- Research and Application: Measuring Social Needs and Outcomes: 8/22/2018
- Data Sharing Across Sectors: Challenges and Opportunities: 8/30/2018
- How HIEs are Using Multi-Sector Data Sharing to Address Social Determinants: 10/8/2018
- Data Across Sectors for Health: 12/21/2018
- Sustainably Financing Community Health – Parts 1 and 2: 12/21/2018
- Leveraging Technology to Measure Capacity for Using Multi-Sector Data to Improve Community Health: 2/6/2019
- Open Data Platforms for Community Health: 4/12/2019
- Advancing Geographic Equity Using Spatial Analysis: 5/23/2019
- Addressing Transportation to Improve Community Health: 6/12/2019
- Linking and De-identifying State-level Data Sets to Tackle the Opioid Epidemic: 8/1/2019

Podcasts: July 2, 2018, to August 1, 2019

- Designing a Family-Centered Care Plan for Children with Special Needs in Austin, TX: 7/2/2018
- A Shared Definition for Measuring Health Equity in Ontario, CA: 7/4/2018
- Integrating Data to Ensure “All Children Thrive” in Cincinnati, OH: 7/5/2018
- Connecting Hospitals and Food Pantries in Dallas, TX: 7/30/2018
- Public Health Innovation: What Is It and How Can It Be Achieved?: 8/20/2018
- An Equitable Approach to Community Heath Planning in Garrett County, MD: 9/17/2018
- Capturing the Community Voices Behind the Data in Denver, CO: 10/9/2018
- Partnering with Residents to Improve Asthma through Housing in Greensboro, NC: 10/29/2018
- How Can Neighborhood-Level Data Improve Health and Equity?: 11/25/2018
- Coordinating Health and Social Services in San Diego, CA: 12/12/2018
- Advancing Health Equity in Data Collection, Analysis, and Reporting: 1/8/2019
- Adding New Partners, Sectors, and Data to a Care Coordination System in Humboldt County, CA: 1/29/2019
- Empowering Communities to Discover and Use their Assets to Create Change: 2/20/2019
- Analyzing Health and Human Services Data to Maximize the Impact of Public Funds in Chicago, IL: 3/13/2019
- Bringing Multi-Sector Partners Together to Tackle Obesity in Hunterdon County, NJ: 4/1/2019
- Coordinating Care for Individuals Experiencing Homelessness in Chicago, IL: 4/23/2019
- BUILDing a Movement: Going Upstream to Address Health Disparities: 5/20/2019
- Using Privacy-Preserving Technology to Create a Continuum of Support for Families in Tulsa, OK: 7/5/2019
- Collaborating to Improve Care for Medicaid and Uninsured Populations in Staten Island, NY: 8/1/2019

Source: Mathematica’s analysis of *All In* documentation, October 2018 to November 2019.

BAA = Business Associate Agreement; CIE = community information exchange; ECIDS = Early Childhood Integrated Data Systems; EHR = electronic health record; HIE = health information exchange; NPO = National Program Office.

Exhibit A.12. *All In* partner initiatives

Partner initiative (total N = 114)	Description
AcademyHealth Community Health Peer Learning Program (n = 15)	• Aimed to build community capacity to address population health through electronic data sharing across sectors • Ran June 2015 to July 2017 and funded 15 community collaboratives; participated in *All In* since 2015; 5 of these community collaboratives were designated as subject matter expert community collaboratives and provided TA to the others • Included health care organizations with fairly advanced data capacity partnering with at least one other sector • No longer an active *All In* partner; only cohorts up to 2017 included in *All In*
BUILD Health Challenge (n = 36)	• Aims to address SDOH, health disparities, and health equity by funding collaborative approaches to addressing community health • Began in 2015 and has awarded 36 grants through two funding cycles; has participated in *All In* since 2016 • Automatically includes participants in *All In* • Co-locates national meeting with the *All In* National Meeting • Funds partnerships that must include a community-based organization, local public health agency, and hospital
Colorado Health Foundation (n = 7)	• Aims to improve community health beyond the clinical setting by linking resources between health care providers and communities • Some attended the first *All In* meeting in 2017 • No longer an active *All In* partner; only cohorts up until 2017 included in *All In*
New Jersey Health Initiatives (n = 32)	• Aims to promote health equity by funding diverse cross-sector partnerships • Began in 2015 and has awarded 32 grants through 3 funding cycles; has participated in *All In* since 2017 • Encourages community collaboratives to participate in *All In* and all counted as participants • Paid for community collaboratives to attend the first year of the *All In* National Meeting
Population Health Innovation Lab (n = 15)	• Aims to catalyze and accelerate innovative approaches that advance health outcomes and well-being • Includes community collaboratives of the California Accountable Communities for Health Initiative • Began in 2015 and has awarded 15 grants through 1 funding cycle; has participated in *All In* since 2017 • Includes community partners such as hospitals, health departments, schools, local businesses, and local residents • Held a webinar to introduce its grantees to the *All In* network and paid for some grantees to attend the *All In* National Meeting in 2018
Public Health National Center for Innovation (n = 9)	• Aims to identify, implement, and spread innovations in public health practice • Funds public health departments to implement innovative initiatives, especially related to health equity • Began in 2017 and has awarded 9 grants through one funding cycle; has participated in *All In* since 2017 • Did not include a data component in first cycle of funding, but plans to include cross-sector data sharing in future grant cycles • Offered scholarships for grantees to attend the National Meeting

Source: Mathematica's analysis of *All In* documentation, October 2018 to November 2019.
Note: The total number of partner community collaboratives in *All In* was 114 for the outcomes evaluation. Numbers will not match Exhibit I.2 because some community collaboratives received grants from multiple funding partners.

SDOH = social determinants of health; TA = technical assistance.

Exhibit A.13. Detailed data sources, by report section

	II.A. Characteristics of *All In* community collaboratives	II.B. Engagement in *All In*	III.A. Data-sharing readiness	III.B. Data maturity	III.C. Cross-sector data use	III.D. Network strength (collaboration)	III.E. Health and health equity
Network survey (May 2019 to February 2020)							
General							
• 131 lead organizations (responded to *either* round)	✓	✓					
• 7 community collaboratives (7 *All In* participants and 26 nonparticipating organizations) (responded to *either* round)	✓						
Reported partners							
• 62 lead organizations (responded to *either* round)	✓	✓					
Reported data-sharing readiness							
• 24 lead organizations (responded to *both* rounds)			✓				
• 89 lead organizations (responded to *either* round)				✓			
Reported data maturity scores							
• 30 lead organizations (responded to *both* rounds)				✓			
• 97 lead organizations (responded to *either* round)				✓			
• 21 community collaboratives (15 *All In* participants and 24 nonparticipating organizations) (responded to *either* round)				✓			
Reported cross-sector data use							
• 7 community collaboratives (7 *All In* participants and 10 nonparticipating organizations) (responded to *both* rounds)					✓		
Reported network strength							
• 20 community collaboratives (15 *All In* participants and 30 nonparticipating organizations) (responded to *both* rounds)						✓	
Qualitative interviews (November 2018 to November 2019)							
• 8 DASH 1.0 lead organizations			✓	✓			✓
• 18 DASH 2.0 community collaboratives (40 interviews)	✓	✓	✓	✓	✓		✓
• 23 DASH 3.0 lead organizations (includes mentors, mentees, and CIC-START awardees)		✓	✓	✓			
• 13 nonparticipating organizations	✓		✓	✓	✓		
***All In* documentation (October 2018 to November 2019)**							
• 193 lead organizations	✓	✓		✓			
Administrative data[a] (August 2019 to February 2020)							
• Counts vary by engagement type	✓	✓					

[a] Data Across Sectors for Health National Program Office information 2019a, 2019b, and 2019c.

CIC-START = Community Impact Contracts – Strategic, Timely, Actionable, Replicable, Targeted; DASH = Data Across Sectors for Health.

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