

Health Policy Assessment Issue Brief

So O'Neil, Emily Hoe, Eva Ward, and Ravi Goyal

Data Across Sectors for Health Initiative: Systems Alignment to Enhance Cross-Sector Data Sharing

Supported through the Robert Wood Johnson Foundation's (RWJF's) Transforming Health and Health Care Systems portfolio, the Data Across Sectors for Health (DASH) initiative helps align health care, public health, and social services systems through cross-sector data sharing in communities. RWJF defines systems alignment as a shared set of priorities as expressed by the people they serve (*purpose*); a shared data, metrics, and measurement system that enables coordination across sectors (*data*); sustainable financing and shared accountability (*financing*); and an infrastructure to foster leadership, ownership, and active participation among organizations and sectors (*governance*). This brief provides insight to RWJF, its grantees, and other practitioners about whether implementing these components of cross-sector alignment results in better cross-sector data sharing.

Recognizing that many factors across different sectors influence people's health, RWJF supports connections across health care, public health, and other social sectors as a key strategy to advance health and health equity. To this end, RWJF put forth four core components for cross-sector alignment: *purpose, data, financing, and governance*.

Four components for cross-sector alignment



Purpose. Share a mutual understanding and commitment to a vision and priority outcomes.



Data. Create a shared data (for example, administrative patient data or survey of providers) and measurement system (data storage and transmission) that enables sectors to effectively coordinate activities and measure shared progress.



Financing. Establish sustainable financing with appropriate incentives and shared accountability.



Governance. Organize around an infrastructure with leadership, appropriate roles, and defined relationships.

Source: Georgia Health Policy Center and Robert Wood Johnson Foundation n.d.

Promoting cross-sector alignment is a common thread throughout many of RWJF's initiatives, including DASH, which focuses on enabling cross-sector data sharing and helping develop the holistic knowledge required to promote health and health equity. This brief considers the activities of community collaboratives, which include diverse organizations working together, participating in the *All In: Data for Community Health* network—whose national program office is funded through DASH—to implement these components. It also discusses how putting these components into practice affects collaboratives' cross-sector data-sharing capacity, as measured by data-sharing readiness along five stages (planning, building, launching, scaling, or innovating) and data maturity along 12 domains (staff understanding and buy-in, data collector buy-in, leadership buy-in, resources, data use policy, accessibility, storage, integration, frequency, granularity, privacy, and documentation).¹ A landscape review of program documentation provided descriptive information on *All In* community

“Traditional health care entities, hospitals, and health systems...are essential partners. But it’s been interesting to see how some of the community partnerships that have [relied] more heavily on other stakeholders [such as public health and social services] as the leads can potentially make more significant progress.”

—All In partner

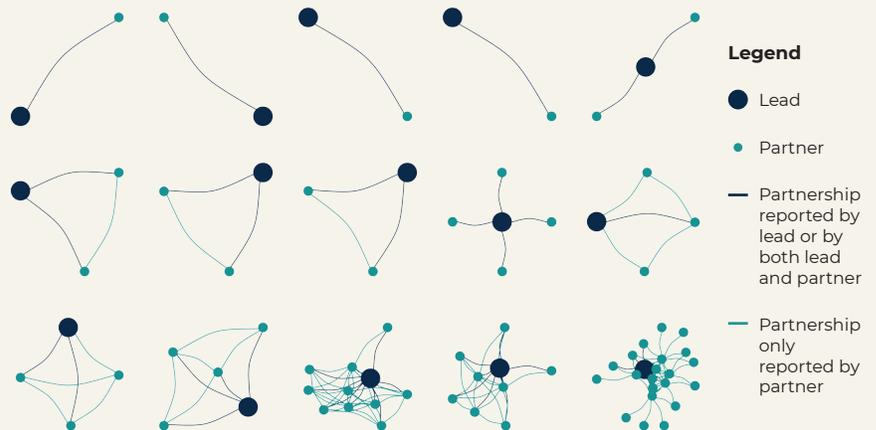
collaboratives participating in the network from January 2016 to November 2019. A network survey provided data about 15 community collaboratives' activities on the alignment components and their data-sharing readiness and data maturity. The network survey was fielded twice, from May to August 2019 and from January to February 2020. In all, 40 interviews (representing 18 *All In* community collaboratives) conducted in June and July 2019 provided qualitative information about facilitators of and challenges to putting the components of cross-sector alignment into practice as well as the progress of communities' cross-sector data sharing.

All In community collaboratives exhibit diverse characteristics and network structures

By November 2019, the DASH initiative, through its *All In* national learning collaborative, supported 193 community collaboratives across 34 states; 22 of these collaboratives served as case study collaboratives, with 15 answering relevant alignment questions in the network survey and 18 participating in interviews. Overall, community collaboratives varied in size, ranging from 2 to 22 organizations, and were led by nongovernmental organizations, community-based organizations, nonprofit organizations, local governments, and hospitals. All collaboratives reported serving multiple communities, and they most commonly focused on people experiencing poverty, children, people of color, and people with health and other social services needs in the local community.

Each collaborative included a lead organization, which often served as a coordinating hub for the collaborative and its partner organizations. Exhibit 1 presents the network diagrams for the 15 case study communities that participated in the network survey. These communities varied in the number of partners and partnership connections. Later, this brief discusses the extent to which the partnerships reported by lead organizations, shown in navy in the exhibit, implemented the components of alignment.

Exhibit 1. Partnership connections and number of partners varied in 15 case study communities



Source: Mathematica's analysis of network survey data for 15 lead organizations and their partners reporting partnerships during either round of network survey and representing 15 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

Notes: Network diagrams include partnerships reported by organizations responding to the network survey. Because of nonresponse by partner organizations, the diagrams do not include all partnerships that might exist and are not a complete representation.

Exhibit 2. Partnerships first engage in activities to develop a shared *purpose*, followed by activities to create shared *data*, establish *financing*, and develop a *governance* structure

Number of aligned components	<i>Purpose</i>	<i>Data</i>	<i>Financing</i>	<i>Governance</i>	Number of partnerships	Percentage of partnerships
4 components	●	●	●	●	19	27
3 components	●	●	●	○	14	27
	●	●	○	●	3	
	○	●	●	●	2	
	●	○	●	●	0	
2 components	●	●	○	○	4	11
	●	●	●	○	3	
	○	●	●	○	1	
	●	○	○	●	0	
	○	●	○	●	0	
	○	●	●	●	0	
1 component	●	○	○	○	13	25
	○	●	○	○	5	
	○	○	●	○	0	
	○	○	○	●	0	
0 components	○	○	○	○	7	10
TOTAL						100

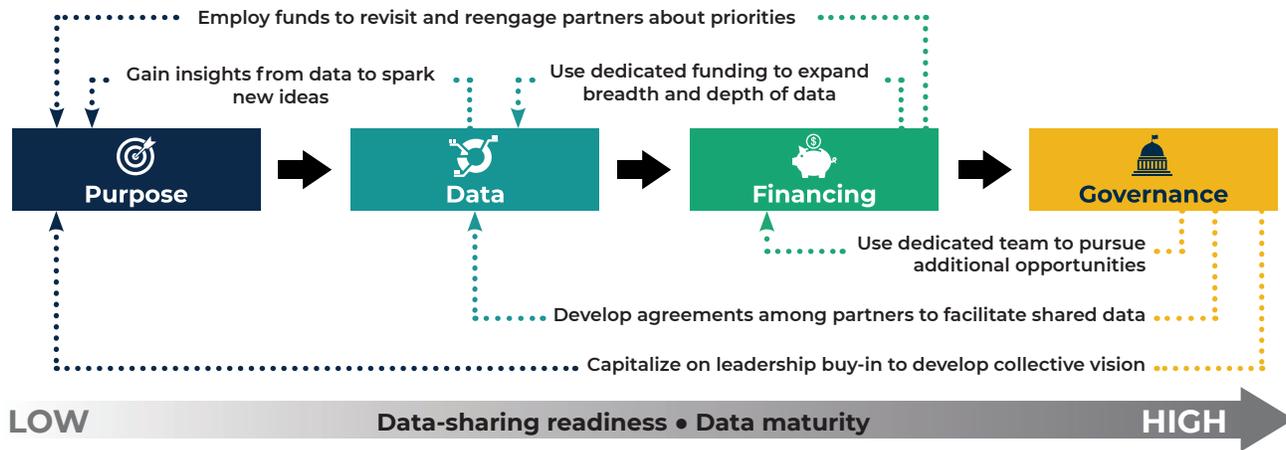
Source: Mathematica’s analysis of network survey data for 15 lead organizations reporting partnerships during either round of network survey and representing 15 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

All In community collaboratives implemented the components of cross-sector alignment in a progression

Partners in the case study communities most commonly developed a shared *purpose* and then created shared *data* (Exhibit 2). Establishing sustainable *financing* seemed to occur only with a shared *purpose* and shared *data* already in place. In addition, only partnerships implementing at least three components developed a *governance* structure, with three-quarters of these partnerships putting into practice all four components of alignment.

These data suggest that there might be a typical pathway for community collaboratives to implement the components of alignment (Exhibit 3). To begin, collaboratives decide on a shared *purpose* and then translate this *purpose* into a need for and way to create shared *data*. With a clear vision of priorities and process for sharing *data* in place, collaboratives then share funding (or leverage each other’s funding) and share accountability. Sustainable *financing* helps create buy-in and shared accountability among partners. It also facilitates a shared *governance* structure because a formalized relationship can help clearly establish roles, expected contributions, and tasks for each partner.

Exhibit 3. Implementing cross-sector alignment components among *All In* community collaboratives revealed a progression, feedback loops between components, and correlation with data-sharing capacity



Interrelated components cycle and reinforce alignment over time

Though survey data suggest progression in implementing alignment components occurs in a straightforward way, at least initially, qualitative interviews indicate the presence of potential feedback loops occurring between the components, as the dotted lines in Exhibit 3 show. Across several partnerships, putting into place one component changed how a partnership approached another component. For example, at the beginning of one collaborative, partners demonstrated a shared data system by exchanging reports and publicly available statistics. Over time, the partners developed a formal governance structure that enabled real-time data exchange. Developing shared governance effectively prompted partners to reconsider how they shared data and ultimately led to continual exchange of information between organizations.

In addition, several community collaboratives noted that as their ability to share data improved, their ability to obtain sustainable financing also increased. In particular, communities that implemented more components were generally more ready to share data and had higher levels of data maturity, according to measures of cross-sector data sharing.

"We've figured out the strategy that people love mini grants. If you give somebody a mini grant for \$500, there's a catalytic growth, and you'll get four times that amount out of that \$500 if you can invest it."

—Case study community

Measuring cross-sector data-sharing capacity

Data-sharing readiness

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

Data maturity

- **5 organizational readiness domains (20 pts):** staff understanding and buy-in, data collector buy-in, leadership buy-in, resources, and data use policy
- **7 technological readiness domains (28 pts):** accessibility, storage, integration, frequency, granularity, privacy, and documentation

Sources: Data Across Sectors for Health National Program Office 2019; Center for Data Science and Public Policy 2016.

Data-sharing readiness. Partnerships with sustainable *financing* and a formal *governance* structure had more advanced stages of data-sharing readiness (for example, they were at the launching, scaling, or innovating levels). These qualitative findings suggest a positive correlation between level of data sharing and implementation of other alignment components. But, because of the small sample size, data from the network survey could not validate this relationship, and it remains unclear whether increasing data-sharing readiness causes better alignment or vice versa.

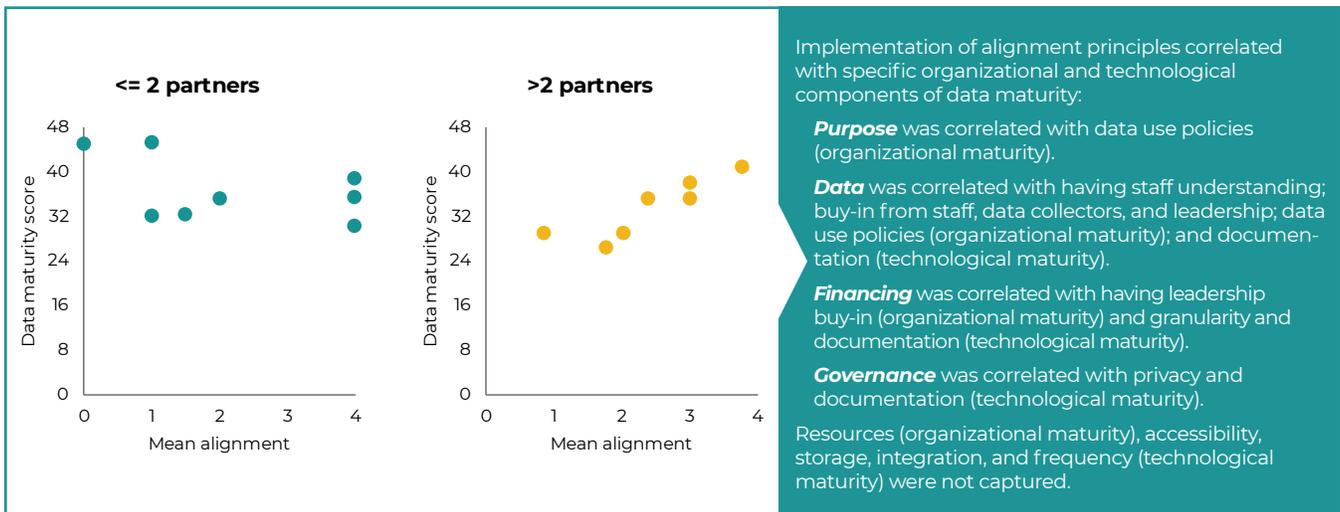
Data maturity. The relationships between aligning on one or more of the components and the level of data maturity depended on the number of partnerships within the collaborative.

"We've definitely identified a need for additional training and technical assistance, like how you set up a database, know if you are collecting the right data, standardize your data collection and reporting..."

—Case study community

For collaboratives with more than two partnerships, technological and organizational maturity tended to be associated with putting into practice more components. Collaboratives implementing all alignment components might have 7 of 12 data maturity domains (4 of 5 organizational and 3 of 7 technology domains).² For collaboratives with only two organizations or one partnership, the relationship was unclear (Exhibit 4).

Exhibit 4. Collaboratives with more than two partners had increased data maturity and implemented more components for cross sector alignment



Source: Mathematica's analysis of network survey data for 15 lead organizations reporting partnerships during either round of network survey and representing 15 community collaboratives. The survey was fielded May 21 to August 2, 2019, and January 6 to February 28, 2020.

Note: Data maturity includes five organizational readiness domains (staff understanding and buy-in, data collector buy-in, leadership buy-in, resources, and data use policy) and seven technological readiness domains (accessibility, storage, integration, frequency, granularity, privacy, and documentation; Center for Data Science and Public Policy 2016).

Considering the relationship between cross-sector alignment and collaboration

A network's strength provides a measure for the level of collaboration—though not necessarily alignment—between partnerships. This study measured a network's strength by the number of partners and frequency of communication. Using this definition for network strength, analyses do not indicate a straightforward relationship between implementing alignment components and a network's strength among the 15 case study communities.

- **Collaboratives with more partners were more likely to have partnerships with a shared purpose but not shared governance.** These results track with previous analyses indicating that achieving a shared purpose might be easier than developing a formal governance infrastructure.
- **Spending more time communicating with partners was helpful to developing a formal governance infrastructure.** Frequent interactions across partners helped put this component into practice.

Conclusion

The DASH evaluation suggests a positive relationship between sharing *data* and other components of cross-sector alignment. Furthermore, the relationship between implementing alignment components and cross-sector data-sharing metrics further suggests the presence of a virtuous cycle, or system, in which strengthening implementation of one component reinforces implementation of others. But the exact nature of the relationships in the system remains hypothetical—it is unclear whether implementing one alignment component always advances the application of another component.

Considering the nonlinear and potentially complex interactions between the four components for cross-sector alignment, a systems assessment could prove particularly helpful in uncovering the relationships of the components with each other. A multiyear longitudinal study of several communities could provide essential insight into the feedback loops between components. Importantly, a longer-term study could also help establish the association between these components of cross-sector alignment and health and health equity.

Methods

The data for these analyses came from two rounds of a network survey conducted May to August 2019 and January to February 2020. For this survey, a subset of organizations in 26 case study communities received questions related to implementing the components for cross-sector alignment, and lead organizations in 15 of these 26 communities responded to the questions in either survey for a 58-percent response rate. Eleven responded to questions about data-sharing readiness and all 15 lead organizations responded to questions about data maturity. Additional information, including a review of program documentation from January 2016 to November 2019 and 40 interviews (representing 18 *All In* community collaboratives) from June to July 2019 in these case study communities, augmented the network survey data.³

These data served to assess partnerships between a lead organization that acts as the hub of each collaborative and its partner organizations. (Incomplete data limited analyses of partner-to-partner relationships within a collaborative.) Overall, the analysis included 71 lead-partner partnerships between 86 organizations across 15 collaboratives. The study team assessed how each partnership implemented alignment components along five response options:



Shared goals: Our organizations agree on priorities that address health and social needs.



Priorities: Our organizations share priorities that reflect those expressed by the people we serve.



Data: Our organizations are working together to share data, metrics for assessing progress and outcomes, or a measurement system.



Financing: Our organizations share funding or leverage each other's funding and share accountability.



Governance: Our organizations have a formal structure and relationships for interacting with each other.

To align with the definition of *purpose* set forth by Georgia Health Policy Center and RWJF, the analysis combined responses to shared goals with priorities. If a partnership reported alignment on both of these questions, the study team coded the partnership as aligning on *purpose*. If the partnership reported alignment on only one of the two (either goals or priorities), they coded the partnership as not aligning on *purpose*.

Lead organizations represented their collaborative's data-sharing capacity along measures of data-sharing readiness and data maturity. Through the network survey, lead organizations rated their data-sharing readiness stage on a five-point scale, with scores corresponding to the following elements: (1) planning to share data across the organization, (2) building the data-sharing infrastructure, (3) launching a pilot, (4) scaling across the organizations from the pilot, and (5) innovating continuously as data sharing is underway. Lead organizations also rated their data maturity 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.

To assess the relationship between partnership-level alignment and collaborative-level characteristics, such as data-sharing readiness stage and data maturity, the study team aggregated alignment to the collaborative level. That is, for each collaborative, the study team calculated the percentage of partnerships aligned on each component and the average number of components implemented per partnerships and used them in such analyses. The team measured correlation using pairs of collaborative-level characteristics (such as percentage of partnerships aligned on shared *purpose* and the collaborative's data maturity score) and pairs of partnerships-level characteristics (such as the number of components one partnership implements and the number of hours those two partners spent in communication) to evaluate relationships between characteristics. Because of the small sample size, the study team conducted descriptive analyses rather than statistical comparisons and significance testing; they cross-referenced quantitative results with qualitative findings when feasible.

Qualitative data came from interviews with executive directors, project coordinators, associate professors, medical directors, and community health workers, among others. Interviews were recorded and transcribed. The team coded transcripts into themes that aligned with the evaluation questions, such as characteristics of community collaboratives; progress with core components of cross-sector alignment; experiences with cross-sector data sharing and data-sharing needs; *All In* experiences and associated facilitators and challenges; and accomplishments and sustainability.

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Disclaimers

The views and opinions expressed in this brief are those of the authors and do not reflect the views of the RWJF, Mathematica, or any others.

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Endnotes

- ¹ This document is the final brief resulting from the DASH evaluation of 2018 to 2020. 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). A final evaluation report answers the questions, "To what extent does participating in *All In* contribute to more and enhanced cross-sector data sharing in communities?" and "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?" (O'Neil et al. 2020). An evaluation of the first iteration of DASH also supported a process evaluation (Virginia Tech 2015).
- ² The organizational data maturity domain not captured was resource. Technological domains not captured were *accessibility, storage, integration, and frequency*.
- ³ The evaluation included one to three interviews across 18 community collaboratives for a total of 40 interviews.