Center for Sharing Public Health Services
Rethinking Boundaries for Better Health

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Cross-sector Innovation Initiative

Environmental Scan Full Report

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Prepared by:
Center for Sharing Public Health Services
Public Health National Center for Innovations

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Executive Summary

Healthcare spending in the U.S., as a percentage of gross domestic product and on a per capita basis, far exceeds that of other developed nations. Yet, life expectancy at birth in the U.S. in 2016 ranked 25th among the 35 member countries of the Organization for Economic Co-operation and Development. In 2015, life expectancy at birth in the U.S. declined for the first time in more than 20 years, driven largely by increases in mortality among middle-aged adults.

With the recognition that only a small percentage of a population's health can be attributed to medical care, interest in cross-sector collaboration to effectively address the social and structural determinants of health has increased in recent years. The Center for Sharing Public Health Services and the Public Health National Center for Innovations are co-leading the Cross-Sector Innovation Initiative (CSII), funded by the Robert Wood Johnson Foundation (RWJF). The aim of the CSII is to identify and support public health, healthcare and social services organizations striving to build stronger, sustainable connections to better meet the goals and needs of the people they serve and ultimately improve health equity.

This report presents key findings from an environmental scan conducted as part of the CSII, including a continuum of collaboration, roles within collaborations and factors that may facilitate or impede collaboration. Information on the impacts associated with cross-sector collaboration and future areas of research also are presented.

Continuum of Collaboration

Collaboration exists along a continuum, with each collaboration engaging in different activities and for different durations of time. A commonly utilized framework was developed in 2002 by Arthur Himmelman (Figure ES-1).

Figure ES-1. ***Himmelman's Continuum***

Networking	Coordinating	Cooperating	Collaborating
Exchanging information for mutual benefit.	Exchanging information and altering activities for mutual benefit and to achieve a common purpose.	Exchanging information, altering activities, and sharing resources for mutual benefit and to achieve a common purpose.	Exchanging information, altering activities, sharing resources, and enhancing the capacity of another for mutual benefit and to achieve a common purpose.

Source: Himmelman, A. T. (2002). Collaboration for a Change: Definitions, Decision-Making Models, Roles, and Collaboration Process Guide.[1]

Roles in Cross-Sector Collaboration

Since no cross-sector collaborations are the same, the roles within them vary. A few key roles emerged in the environmental scan, however, and include convener, data manager and funder.

> **Convener:** Those in the convener role provide continued momentum for an effort and facilitate needed activities, such as coordinating partner efforts, assisting in the creation of a shared vision and goals and developing measurement practices. Public health professionals are good candidates for this role due to expertise in convening and engaging diverse stakeholders.

Data manager: Because data has been acknowledged as an important component of carrying out, monitoring and evaluating collaboration efforts, having one organization manage and analyze data contributes to collaboration success.

Funder: The ability of partners to contribute as a funding source or secure funding for an effort contributes to collaboration sustainability.

Community/Environmental Factors

Several factors in the national or local community environments, external to the participating sectors/organizations, influence the development of cross-sector collaborations.

National environment: Interest in cross-sector collaboration at the national level, which is evident through legislation and federal and national initiatives, has led to increased use of cross-sector collaborations over time. Of particular influence have been the community health needs assessment requirement for nonprofit hospitals and other components of the Patient Protection and Affordable Care Act, U.S. Department of Health and Human Services initiatives such as Accountable Health Communities Model, and interest and investment from national organizations like the National Academy of Medicine (formerly the Institute of Medicine), RWJF, Public Health Accreditation Board, American Hospital Association, National Association of County and City Health Officials, Association of State and Territorial Health Officials, American Public Human Services Association, and others. Although the percentage of local health departments engaging in formal partnerships has declined in recent years, most continue to be engaged with partner organizations in some level of collaboration along the continuum.

State, Regional and Local Community/Environment: Local- and state-level policies also have influenced the development of cross-sector collaboration. Examples of successful initiatives are found in states that have had gubernatorial executive orders or legislation encouraging collaboration. Community-specific needs, such as those that arise out of crises like the opioid epidemic, or were identified through community health or needs assessments, also have encouraged cross-sector collaboration.

Organization Factors

Organization-specific factors, such as capacity, capabilities, and historical and cultural norms impact the desire or ability of leaders and staff in organizations to participate in cross-sector collaboration.

Capacity/Resources: For organizations considering cross-sector collaboration, some have suggested it might be beneficial to assess internal resources that could be allocated to a collaboration. A commonly cited concern for organizations engaging in cross-sector collaboration is available capacity and resources, such as staffing or funding. A lack of resources has been cited as particularly challenging for the public health and social services sectors. For example, one potential challenge for social service organizations wanting to engage in cross-sector collaboration is capacity to provide additional services to new clients as a result of a collaboration initiative. The level of resources required may vary by collaboration, however.

Capabilities: Organizations bring specific capabilities to a collaboration, and one success element for collaborations may be complementary capabilities across partners. Maximizing partner strengths also might maintain involvement and interest in a collaboration.

Sector Silos: Public health, healthcare and social services have historically operated as separate entities, and collaborations may have difficulty overcoming sector separation, competing priorities and siloed funding streams. Engaging in cross-sector collaboration requires organizations to move past entrenched norms. Managing competing priorities for different organizations also has been acknowledged as a challenge to maintaining cross-sector collaboration, as has navigating siloed funding streams to finance collaboration efforts. Having similar organizational missions or values at the outset may mitigate issues associated with competing organizational priorities.

Collaboration Factors

Factors specific to the collaboration, such as levels of trust, leadership and communication, impact the effectiveness and sustainability of a cross-sector collaboration.

Trust: Trust between partners, both at the organization and individual level, is a cornerstone to cross-sector collaboration. It is built slowly but can be lost quickly. Trust can be built through components of the collaboration, including transparent communication and "quick wins." For sectors and organizations that previously have not worked together, collaboration will need to start small, to allow time to build trust, before being scaled up. Trust from established relationships also acts as a predisposing factor for engaging in future collaboration.

Broad Participation: Broad participation — including partners from multiple sectors who represent and reflect the composition of the community (e.g., demographically) — help secure community-wide buy-in for cross-sector collaborations. Key to securing broad participation is involving community members and advocates in planning.

Shared Vision and Goals: Establishing a shared vision and goals among partners creates a foundation for collaboration, by defining priorities that can sustain interest in an effort. Defining a shared vision and goals early in the planning process is important to collaboration success. The shared vision of the collaboration might differ from each individual partner vision and goals and finding compatibility in organization-level priorities increases the likelihood of success.

Effective Communication: Successful cross-sector collaboration relies on effective communication, both for communicating within the collaboration and to external audiences. Regular communication between partners builds trust and could be accomplished via face-to-face interactions and ongoing meetings; these are particularly important in the early stages of a collaboration. Developing a common language between partners, who often work using sector-specific language, also can enable work to be completed more efficiently. Transparency and open communication to those outside of the collaboration builds legitimacy by articulating benefits accrued through collaboration.

Leadership: Leadership is critical within a collaboration, both to bring legitimacy to a collaboration and to ensure that it moves forward. Studies have indicated that high-level leaders participating in a collaboration can lend it legitimacy and authority within a community; without their involvement, a collaboration might have a more difficult path to accomplishing its goals.

Collaboration Governance: Good governance to guide efforts, including establishing clear roles and responsibilities for members, decision-making processes, data-sharing arrangements and collaboration authority, is necessary for successful collaboration. Having clear roles and responsibilities for partners creates efficient workflows and avoids mistrust from unequal distribution of responsibilities. Data-sharing arrangements — although notably difficult to establish — allow for measurement of collaboration progress and assessment of areas for improvement, in addition to being needed for some programmatic elements of collaborations. Processes for making decisions, including resource allocation, also are critical to transparency, and models that distribute decision-making establish a sense of ownership for all participants.

Funding: Procuring funding, such as grant funding, helps initiate a collaboration, but a lack of planning for sustainable funding mechanisms might hinder continued collaboration. Blending together a diverse group of funding streams has been identified as a successful strategy to sustain collaboration efforts, as has remaining flexible as funding streams are added or removed. Funding supports the infrastructure of the collaboration (e.g., staffing) and programmatic elements, and initial funding can offset costs associated with initiating a collaboration (e.g., establishing a data infrastructure). Planning for continued funding sources beyond grant funding continues to be an area of concern.

Monitoring and Evaluation: Ongoing monitoring and evaluation create feedback loops through which collaborations improve and demonstrate value. Monitoring progress becomes particularly important as collaborations evolve and must adapt to external forces. Program evaluation also enables organizations to demonstrate value and progress gained through partnership.

Impacts

Multiple benefits for organizations participating in collaborations (organization impacts) have been identified, and research is emerging that demonstrates improvements to population health (community/environmental impacts).

Organization Impacts: Organizations that have participated in cross-sector collaboration have gained efficiencies and have developed new skills, capacity and stronger relationships with partner organizations. As organizations gain experience with, and a history of, collaboration, stronger partnerships are formed that might encourage additional collaboration, or larger-scale collaborations, in the future.

Community/Environmental Impacts: Population-level health improvements, such as lower mortality rates, improvements in disease management and immunization rates, resulting from cross-sector collaboration also have been reported. Cross-sector collaboration has been reported to increase enrollment in social programs, such as the Supplemental Nutrition Assistance Program (SNAP). Measuring population-level improvements has been acknowledged as an area of difficulty, given inconsistency in how collaborations evaluate their impact and the infancy of many collaborations. Furthermore, documenting population health improvements takes time and improvements may not be demonstrable during the early stages of a collaboration.

Future Research

While the literature on cross-sector collaborations continues to grow, areas for future research have been identified. These include identifying success factors that contribute to cross-sector collaboration, relationships between facilitating factors and barriers, outcomes associated with cross-sector collaborations, sustainable funding mechanisms to support partnership, and others.

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Introduction

Interest in cross-sector collaboration to address the social and structural determinants of population health has increased in recent years. This is due in part to the growing understanding that one sector acting alone is unlikely to fully address the root causes of poor health outcomes, health inequalities or high spending on healthcare in the United States.

- Healthcare spending in the U.S., as a percentage of gross domestic product (GDP) and on a per capita basis, far exceeds spending in other developed nations.[2]
- While the U.S. spends more on healthcare than most developed nations, health outcomes are worse in the U.S. than in peer countries.[3] Specifically, the U.S. has lower life expectancy, higher rates of obesity and higher infant mortality.
- In 2015, driven largely by increases in mortality among middle-aged adults, life expectancy at birth in the U.S. declined for the first time in more than 20 years and declined again in 2016.[4,5]
- In addition to worse health outcomes, health disparities persist for certain portions of the U.S. population. In the 2017 National Healthcare Quality and Disparities Report, the Agency for Healthcare Research and Quality (AHRQ) highlighted persistent health disparities for populations based on race, ethnicity and income.[6]
- There is a growing recognition that only a small percentage of health outcomes are attributable to healthcare, indicating that solutions to achieve better health outcomes need to address factors beyond the healthcare delivery system.[7] These factors, or the "social determinants of health," include transportation, socioeconomic status, housing and others.
- "To effectively design, implement, and sustain a comprehensive approach to promoting the overall health of given communities and populations, better communications and collaboration among health delivery organizations, the public health sector, and other key community stakeholders is imperative."[8]

The Center for Sharing Public Health Services and the Public Health National Center for Innovations are co-leading the Cross-Sector Innovation Initiative (CSII), funded by the Robert Wood Johnson Foundation (RWJF). The aim of the CSII is to identify and support public health, healthcare and social services organizations striving to build stronger, sustainable connections to better meet the goals and needs of the people they serve and ultimately improve health equity. This report presents key findings from an environmental scan, which was conducted to inform the implementation of the CSII and was comprised of a literature review, key informant interviews and secondary data analysis. The environmental scan provides information on facilitators and barriers impacting collaboration between public health, healthcare and social services; continuums of collaboration; roles within collaborations; outcomes associated with cross-sector collaboration; and areas for future research.

Methods

Literature Review

There is a considerable body of work encompassing cross-sector collaboration and collaboration among governmental public health departments, healthcare and social service entities. The following methods were utilized to examine a subset of the literature for key themes related to cross-sector collaboration.

Peer-reviewed literature published between 1995 and 2019 was identified by searching PubMed (U.S. National Library of Medicine) using the search term "public health" and the following terms for

arrangements: “cross-sector”, “multisector”, “intersectoral”, “collaborate/e/ed/ing/ion” or “align/ment”.

Peer-reviewed literature that was identified by using these criteria was included in this review if it assessed experiences of actual cross-sector collaborations (as opposed to proposing theoretical frameworks), focused on more than one collaboration experience (i.e., not a single case study), involved governmental public health and at least one other sector (i.e., healthcare or social services), and specified key facilitating or impeding factors to collaboration (*Figure 1,* page 4). Citations from several review articles also were included.

In addition to peer-reviewed literature, a targeted internet search was conducted to identify gray literature and non-traditional media (e.g., blogs, webinars, podcasts). It involved web searches of the following 17 organizations, which were identified by the CSII team, to locate documents and media discussing cross-sector collaboration:

- All In: Data for Community Health
- American Hospital Association (AHA)
- American Public Human Services Association
- Association of State and Territorial Health Officials (ASTHO)
- Bridging for Health: Improving Community Health Through Innovations in Financing
- BUILD Health Challenge
- Center for Healthcare Strategies (CHCS)
- Data Across Sectors for Health (DASH)
- Health Impact Project
- Health Resources in Action (HRiA)
- National Association of Community Health Centers (NACHC)
- National Association of County and City Health Officials (NACCHO)
- National Council for Behavioral Health
- Public Health Foundation (PHF)
- ReThink Health
- Robert Wood Johnson Foundation (RWJF)
- Systems for Action

Gray literature was included if it assessed experiences of actual cross-sector collaborations, focused on more than one collaboration experience (i.e., not a single case study), involved at least two of the three sectors (i.e., public health, healthcare, social services), specified key facilitating or impeding factors to collaboration and was published between 2009 and 2019 (Figure 1, page 9).

A systematic approach was used to extract and catalog the following information from selected documents, so data could be reviewed, summarized and synthesized:

- Document title
- Author(s) and affiliation(s)
- Journal or organization
- Publication date
- Publication type
- Brief description (excerpt from abstract)
- Sectors/entities

- Specific roles identified for each sector/entity
- Facilitating factors identified
- Impeding factors/barriers identified
- Impact(s)
- Lessons learned
- Areas identified as gaps for further research

Figure 1. ***Literature Review Methodology***

Type	Inclusion Criteria	Documents
Peer-Reviewed Literature	• Publication year: 1995-2019 • Involved cross-sector collaboration between public health and at least one other sector (i.e., healthcare or social services) • Discussed actual cross-sector experience (i.e., not theoretical frameworks) • Focused on more than one collaboration experience (i.e., not a single case study) • Specified key facilitating or impeding factors to collaboration	n=20
Gray Literature	• Publication year: 2009-2019 • Involved cross-sector collaboration between at least two of the three sectors (i.e., public health, healthcare, social services) • Discussed actual cross-sector experience • Not a case study • Specified key facilitating or impeding factors to collaboration	n=37

Key Information Interviews

Key informant interviews were conducted among subject matter experts and leaders in governmental public health departments, healthcare and social services entities as well as in supporting national organizations that were identified through established professional networks and as part of the literature review and data analysis. Individuals from 44 organizations representing public health, healthcare and social services were solicited to participate as key informants; of those, 21 agreed.

Those interviewed were asked a series of 21 to 25 questions based on the sector to which they belonged (i.e., public health, healthcare, social services, national organization). Interviews were audio-recorded, then transcribed to textual documents using a third-party professional transcription service. Text transcriptions were uploaded to, and analyzed using, NVivo 12.[9]

Secondary Data Analysis

Data from three sources were analyzed to assess public health collaboration with healthcare and social services organizations: (1) NACCHO *2016 National Profile of Local Health Departments* survey; (2) NACCHO *2018 Forces of Change* survey; and (3) data submitted to the Public Health Accreditation Board (PHAB) by approximately 250 accredited health departments regarding community health assessments (CHAs) and community health improvement plans (CHIPs).

Key Findings

The following key findings from the literature review, key informant interviews and secondary data analysis highlight the continuum along which collaborations reside, roles within collaborations, factors that contribute to or impede collaborations, information on the impact of collaborations and areas for

future research. Findings from the literature review, key informant interviews and secondary data analysis were grouped together by theme; findings from the literature review have a number citation, indicating a corresponding reference in Appendix A, page A-1, while findings from the key informant interviews are flagged with an asterisk. Findings from the secondary data analysis are specified in the text.

Continuum of Collaboration

Collaboration exists along a continuum, and each collaboration differs along that continuum. A commonly cited framework was developed in 2002 by Arthur Himmelman.[10,11,12,13]

Himmelman's model of collaboration has four levels: networking, coordinating, cooperating and collaborating.[14] The components of Himmelman's model were described in a 2010 study produced for AHRQ (Figure 2).

Figure 2. ***Himmelman's Model of Collaboration***

Component	Networking	Coordinating	Cooperating	Collaborating
Definition	Exchanging information for mutual benefit.	Exchanging information and altering activities for mutual benefit and to achieve a common purpose.	Exchanging information, altering activities, and sharing resources for mutual benefit and to achieve a common purpose.	Exchanging information, altering activities, sharing resources, and enhancing the capacity of another for mutual benefit and to achieve a common purpose.
Relationship	Informal	Formal	Formal	Formal
Characteristics	Minimal time commitments, limited levels of trust, and no necessity to share turf; information exchange is the primary focus	Moderate time commitments, moderate levels of trust, and no necessity to share turf; making access to services or resources more user-friendly is the primary focus	Substantial time commitments, high levels of trust, and significant access to each other's turf; sharing of resources to achieve a common purpose is the primary focus	Extensive time commitments, very high levels of trust, and extensive areas of common turf; enhancing each other's capacity to achieve a common purpose is the primary focus
Resources	No mutual sharing of resources necessary	No or minimal mutual sharing of resources necessary	Moderate to extensive mutual sharing of resources and some sharing of risks, responsibilities, and rewards	Full sharing of resources, and full sharing of risks, responsibilities, and rewards

Source: Agency for Healthcare Research and Quality.[15]

Himmelman emphasized that: "each of the four strategies can be appropriate for particular circumstances depending on the degree to which the three most common barriers to working together – time, trust, and turf – can be overcome." [16]

A continuum utilized by the Partnership for Healthy Outcomes also focuses on four levels of partnership activities that share similarities to Himmelman's model:

- **Communicating**: Sharing information with each other about clients;
- **Coordinating**: Aligning services toward better client outcomes;
- **Collaborating**: Sharing staff or space or resources; and
- **Integrating**: Becoming a collective entity with integrated programs, planning and funding.[17]

The Institute of Medicine (IOM), now the National Academy of Medicine, via a committee of experts, also created "degrees of integration" to define the different types of partnerships between primary care and public health:

- **Mutual awareness**: Primary care and public health are informed about each other and each other's activities;
- **Cooperation**: Denotes some sharing of resources, such as space, data or personnel;
- **Collaboration**: Involves joint planning and execution, with both sectors working together at multiple points to carry out a combined effort; and
- **Partnership**: Implies integration on a programmatic level, with the two sectors working so closely together that, from the individual's perspective, there is no separation.[18]

In addition to the four degrees of integration, the IOM placed isolation prior to mutual awareness, and merger following partnership. The IOM noted that, "while it stresses the need to move away from isolation, where the sectors work in separate silos, the committee does not advocate for complete merger."

Each of the models described above focus on four levels of collaboration, with information-sharing representing the basic level of engagement. Higher levels of collaboration entail increasing resource intensity and joint planning between the partnering sectors.

Collaboration Roles

Since no two cross-sector collaborations are the same, the function of the collaboration and roles within it vary. A few common roles emerged, however, and include convener, funder and data manager. While themes emerged that suggest certain sectors are better suited for some roles, a given organization, regardless of sector, may be able to play multiple roles, depending on the inherent capabilities and capacity that exist within it.

Convener

The literature calls for one organization to act as a "convener" for cross-sector collaborations. Similar roles include "lead agency," "backbone" organization, "facilitator" or "anchor" organization. Those in the convener role provide continued momentum for an effort and facilitate needed activities, such as coordinating partner efforts, assisting in the creation of a mission and strategy, securing funding and developing measurement practices, among others.[19,20,21,22,23,24,25]

- In a summary of focus groups comprised of health departments and nonprofit hospitals conducted by NACCHO, a potential role for public health departments to play is the role of "neutral convener." [26] Multiple studies also determined that public health departments were good candidates for the role of convener due to facilitation and coordination skills among public health professionals.[27,28,29,*]

- While multiple studies cite public health as the "lead agency" in collaboration efforts, other studies also have documented that healthcare and social services organizations have played this role.[30,31,32,33,34]
- Several community based organizations also have assumed the role of convener in partnerships.*

Data Manager

Availability of and access to data have been acknowledged as important to carrying out, monitoring and evaluating collaboration efforts, and public health often has been cited as a good fit for the role of data manager.

- According to interviews with leading public health officials engaging in health equity initiatives, officials indicated that public health assists other sectors with providing and analyzing data.[35]
- Findings from a summary of the U.S. Centers for Disease Control and Prevention (CDC) 6|18 Initiative — which involves collaboration between state Medicaid programs, healthcare payers, providers and public health departments — indicated that public health departments may be well equipped to engage in data analysis.[36]
- In a multistate study of public health and primary care practice-based research networks, interviewees indicated that the data analysis skills brought to a partnership by public health were particularly useful.[37]
- According to a study of the implementation of Health in All Policies (HiAP), researchers found that public health should take the lead on "evaluating the effectiveness of intersectoral work."[38]

Funder

Given that funding sustainability emerged as a concern for many engaging in cross-sector collaboration, a partner's ability to contribute as a funding source — or to secure funding sources for an effort — contributes to sustainability.

- The healthcare sector, including hospitals, may have resources (e.g., funding) to contribute to collaborations. For example, nonprofit hospitals may provide funding through community benefit programs, which are required to maintain tax exempt status.[39] Funding is not the only thing that hospitals can contribute to an effort, however, as some hospitals have directly engaged in the programmatic components of collaborations.[40]
- Some social service partners also provide financial support to collaboration efforts, such as community development financial institutions.[41]
- Public health departments also can assist other sectors in securing external funding for collaborations.[42]

Facilitating and Impeding Factors

Factors identified during the environmental scan that facilitated or impeded the development of cross-sector collaborations were organized into one of three categories: community/environmental factors, organization factors and collaboration factors (Figure 3, page 13).

Figure 3. ***Category Definitions***

Category	Definition	Factors in Category
Community/Environmental Factors	External factors that reside outside of the collaboration and its participating organizations.	• National Environment • State, Regional and Local Community/Environment
Organization Factors	Factors that are intra-organizational and exist within the unique partner organizations.	• Capacity/Resources • Capabilities • Sector Silos
Collaboration Factors	Factors that are specific to the collaboration (inter-organizational), such as interpersonal dynamics and structures within the collaboration.	• Trust • Broad Participation • Shared Vision and Goals • Effective Communication • Leadership • Collaboration Governance • Funding • Monitoring and Evaluation

Source: Categories adapted from Martin-Misener, et al. 2012.[43]

Community/Environmental Factors

The current environment may influence whether organizations decide to partner together across sectors. This includes policy decisions and discussions at the national and local level and community-specific needs.

National Environment

Interest in cross-sector collaboration at the national level, which is evident through legislation and federal and national initiatives, has led to increased use of cross-sector collaborations over time.

The U.S. Department of Health and Human Services (HHS) has several initiatives encouraging cross-sector collaboration, such as:

- Healthy People 2020, which indicated that one method to address social determinants of health is aligning interest among multiple sectors, such as housing, transportation and healthcare;[44]
- Public Health 3.0, which has stated that "cross-sector collaboration is inherent to the PH3.0 vision;"[45]
- The CDC 6|18 Initiative, which targets six health conditions through collaborations across partners that include health departments, state Medicaid agencies, healthcare providers and others;[46,*]
- The "Interim Healthcare Coalition Checklist for Pandemic Planning" tool, which was developed by the Assistant Secretary for Preparedness and Response (ASPR) to assist healthcare coalitions — comprised of government agencies, healthcare providers and others — to "work together to plan for and respond to disasters;"[47] and

- The Centers for Medicare and Medicaid Services (CMS) State Innovation Models (SIM) grant, which was described by one health department as an impetus to engaging in cross-sector collaborations.[*]

Multiple national organizations also have encouraged and supported the use of cross-sector collaborations.

- The Institute of Medicine (IOM), now the National Academy of Medicine, called for a new strategy for public health in a 2002 report, *The Future of the Public's Health in the 21st Century*, which discussed the need for governmental public health agencies to partner with those in other sectors that impact health (e.g., healthcare delivery, academia, communities, etc.).[48,*]
- RWJF has encouraged the development of cross-sector collaborations through the "Building a Culture of Health" initiative.[49] Support from RWJF has included funding for numerous initiatives across the U.S. One RWJF focus area is "Health Systems," which supports programs that "enable and promote connections across health care, social service and public health systems to meet the needs of individuals and communities."[50,*]
- CHCS created the report *Promoting Better Health Beyond Health Care* which explores the ways in which states are collaborating across agencies to improve population health and provides lessons on how cross-sector partnerships can improve health outcomes.[*]
- PHAB, established as a national entity to implement and oversee governmental public health accreditation, has multiple requirements related to cross-sector collaboration. For example, Standard 1.1 requires health departments to conduct community health assessments and improvement plans in collaboration with other organizations and sectors beyond the health department.[51,52] Standard 4.1 requires health departments to "engage with the public health system and the community in identifying and addressing health problems through collaborative processes."[53]
- Multiple national associations also have expressed support for and provided resources targeting capacity building for cross-sector collaboration, including the AHA, NACCHO, ASTHO and APHSA.[54,55,56,57,*]
- New national organizations have been created to support cross-sector collaboration, such as ReThink Health. One strategy to achieve the ReThink Health mission of transforming regional health systems is to encourage "diverse stakeholders to work together across traditional boundaries."[58,*]

Multiple components of the Patient Protection and Affordable Care Act (ACA) further encourage or allow for the development of cross-sector collaborations.

- The ACA requires tax-exempt hospitals to conduct community health needs assessments (CHNA) and develop implementation strategies every three years, and in doing so they must "take into account input from persons who represent the broad interests of the community served by the hospital facility, including those with special knowledge of or expertise in public health."[59] This requirement creates opportunities for hospitals to collaborate with public health.[60,61,62]
    - The requirement for conducting CHNAs was intended to increase population health activities among nonprofit hospitals. During interviews, key informants indicated that requirements for nonprofit hospitals to engage in community health has facilitated more collaborations.[*]

    - More collaborations may not lead to increases in spending, however, as a recent study found that nonprofit hospital spending on community benefits outside of patient care has remained largely unchanged following the implementation of the ACA.[63]
- The ACA also created the Center for Medicare & Medicaid Innovation (CMMI), which supports innovative initiatives within the Centers for Medicare & Medicaid Services (CMS). One initiative, the Accountable Health Communities Model, creates a new payment model for cross-sector collaborations attempting to bridge social and medical needs of Medicare and Medicaid beneficiaries.[64,65,*]
- Shifting from fee-for-service payment models within healthcare to value-based payment models also is thought to encourage cross-sector collaboration, including models like accountable care organizations (ACO) established by the ACA.[66,67]

Analysis of national health department data revealed that health departments are reporting high levels of collaboration with a variety of other sectors, although formal collaborations among local health departments have decreased in recent years.

- An analysis of Community Health Assessment/Community Health Improvement Plan (CHA/CHIP) data submitted to PHAB by accredited health departments revealed the involvement of organizations representing various sectors. Almost all the CHA/CHIP processes included engagement of hospitals or other healthcare organizations. Approximately 80 percent of the collaborations indicated involvement by educational organizations. Businesses were included in more than 70 percent of the processes and law enforcement in a little under half.[68]
- According to analysis of the 2018 NACCHO *Forces of Change* survey data, approximately 81.5 percent of local health departments conducted activities to address certain determinants of population health and, among those, more than half reported that they were leading partnerships involving healthcare organizations (54.9 percent) and certain social services organizations (52.4 percent).
- According to analysis of the 2016 NACCHO *Profile of Local Health Departments* survey data, approximately 69.7 percent of local health departments reported being in formal partnerships with at least one healthcare partner and 55.9 percent with at least one social services partner.
- Separate findings from the 2016 NACCHO *Profile* survey indicated that, although the percentage of local health departments engaging in formal partnerships declined between 2008 and 2016, most continued to be engaged with partner organizations in some level of collaboration.[69] The study did not explain why collaborations decreased over the time period, but the decrease may have been due to local constraints, such as tight budgets, or changes from formal to informal collaborations.

State, Regional, and Local Community/Environment

State policies and regional and local community needs also have influenced the development of cross-sector collaborations.

State and local policies were cited by many as drivers for cross-sector collaboration.

- A study of state-level multi-sector approaches found that catalysts for cross-sector action included "executive action, legislation or shared political will."[70] Examples included executive orders from Vermont and California which required implementation

of Health in All Policies (HiAP) models. The same study also highlighted the importance of ensuring that community needs are addressed within collaboration approaches.

- One key informant stated, "We've seen legislative or perhaps local or state policies that have helped actually facilitate cross-sector collaboration."*
- One study found that "mature" cross-sector partnerships were more commonly found in states that had "favorable environments." Favorable environments included states that had expanded Medicaid or participated in healthcare delivery system reform via CMMI initiatives.[71] The same study also found that cross-sector initiatives were less common in regions with competitive markets (e.g., multiple health systems within a region).
- One key informant noted that Medicaid expansion has led to attempts to better coordinate delivery of healthcare and social services and address social determinants of health.*

A distinct crisis also might act as a catalyst for cross-sector collaboration.

- A study of state-level multi-sector approaches found that one catalyst for cross-sector action was "a crisis of significant proportion," such as the opioid epidemic.[72]
- A study focused on primary care and public health practice-based research networks found that opportunities to engage in cross-sector partnerships "was also seen to be borne of health-related crises, such as disease outbreaks."[73]
- An excerpt from Public Health 3.0: "At times, crises serve as opportunities to catalyze partnerships and stimulate collaborative efforts by producing a collective goal to resolve a pressing community challenge; that collective goal can inspire and drive collective action."[74]

Community-specific needs and constraints also might impact the development of cross-sector collaborations.

- A study for AHRQ examining linkages between clinical practices and community organizations found that a key facilitator for successful linkages included "an understanding of community needs and how to meet those needs."[75]
- According to a comparative study of cross-sector collaboration in four counties across the U.S., efforts were a direct response to previous community needs assessments that had identified community-specific heath issues.[76]
- Hospitals with higher rates of uncompensated care spend less on community and population health initiatives, suggesting that resource availability to contribute to population health may be limited for hospitals in certain areas.[77]
- Efforts from community advocacy organizations have been a precursor and catalyst for changing attitudes toward cross-sector collaboration at the local level.*
- Entities located in frontier counties with limited resources tend to rely on collaborations to meet basic needs.*
- One study of "mature" cross-sector partnerships found that cross-sector initiatives were less common in regions with competitive markets (e.g., multiple health systems within a region).[78] Some key informants also indicated that economic competition between local entities can dampen collaboration efforts.*

Organization Factors

Organization-specific factors, such as organizational capacity, capabilities and entrenched norms, may dictate whether an organization begins and stays engaged in cross-sector collaborations.

Capacity/Resources

Commonly cited concerns for organizations engaging in cross-sector collaboration are available capacity and resources, such as staffing or funding; this may be particularly acute for social services and public health. In some cases, however, a lack of capacity also might lead an organization to engage in cross-sector collaboration.

- A scoping review of public health and primary care collaborations found that "resource limitations were the most commonly identified organizational barrier to collaboration."[79] While capacity was a commonly cited concern, resource intensity varies by collaboration and activities carried out through the collaboration.
- In a study examining factors increasing and impeding data sharing between public health and the transportation sector to improve health, survey participants cited "organizational and resource barriers (human and financial)" as the most common barriers to data sharing between sectors."[80]
- One potential challenge for social service organizations wanting to engage in cross-sector collaboration is capacity to provide additional services to new clients they might receive as a result of a collaboration initiative.[81]
- One key informant stated that having the "…staffing and appropriate resources to be able to devote to cross-sector collaboration is important."*
- Technological capacity also was cited by key informants as a potential barrier to collaborations.*
- For organizations considering cross-sector collaboration, some have suggested it may be beneficial to assess whether there are internal resources that could be allocated to a collaboration prior to entering efforts.[82]
- In a comparative study of four counties across the U.S. (located in California, Georgia, Illinois and Vermont) that explored factors contributing to cross-sector collaboration, interviewees indicated that an increasing "scarcity mentality" due to an overall lack of resources discouraged some organizations from participating in collaboration.[83] The same study also documented situations in which tight budgets created the opposite effect. Namely, that "economic adversity and tight budgets contributed to the need to collaborate."
- In a study of the implementation of HiAP strategies in the U.S., researchers indicated that "intersectoral collaboration can be resource intensive, particularly in terms of staff time and expertise, which is a challenge in an era of decreasing public resources across government agencies."[84]
- Hospitals are often a source of funding and resources for collaborations.*
- Several key informants also discussed grant funding:
    - Granting agencies offer capacity-building support to awardees to help facilitate cross-sector collaboration.*
    - Grant funding can galvanize these efforts, even though the grant money tends to be short-lived.*
    - One key informant stated, "…at the outset, having some dedicated funding to build a partnership is very important."*

Capabilities

Organizations bring specific capabilities to a collaboration, and complementary capabilities across partners increase the likelihood of collaboration success.

- Specific skillsets common in some sectors or organizations have been touted as beneficial for collaborations. For example, facilitation skills in the public health sector allow it to act as a neutral convener to coordinate collaboration activities.[85] The ability to collect and analyze data also might help collaborations to succeed.[86]
- Complementary skillsets in partner organizations encourage success, by enabling two organizations to collectively provide a service that could not be provided by two organizations working in isolation.[87] Furthermore, according to leaders participating in the Bridging for Health initiative, "a collaborative should be equipped with complementary knowledge, experience, skills and diversity to contribute to the mutual strategies, and desired outcomes."[88]
- According to the Bridging for Health initiative advisory panel, maximizing the strengths of an organization also might maintain an organization's involvement and interest in a collaboration.[89]
- A study conducted for AHRQ examining linkages between clinical practices and community organizations indicated that, "within organizational characteristics, leadership support, specific knowledge and skills, and organizational mission or policies were all described as strong facilitators."[90]

Sector Silos

Because public health, healthcare and social services have historically operated as separate entities, collaborations might have difficulty overcoming sector separation, competing priorities and siloed funding streams.

- In a blog post discussing cross-sector collaboration between healthcare and social services, the authors highlighted that "health care entities and human service providers historically…have different approaches and operate within different systems."[91]
- A study of the implementation of HiAP in the U.S. found that, "HiAP implementation faces a number of challenges at the local, state, and national levels, including public health's limited connectivity to other sectors, organizational and technical barriers (e.g., information systems, planning horizons, funding mechanisms), and intersectoral differences in values and cultures."[92]
- Through the National Collaborative for Integration of Health and Human Services, APHSA indicated that, "in existing and transforming human-serving care systems that share the same goals – the health and well-being of individuals, families, and communities – there is a lack of communication and collaboration of service delivery and payment design, which exemplifies the deep disconnection between core elements and functions of our care delivery network."[93]
- In a study of collaboration efforts between public health and healthcare entities via the 6|18 Initiative conducted by the CDC, researchers cited concerns that other priorities, such as state-level health priorities or differing priorities of individual partner organizations, can impede collaboration.[94]
- In a study discussing the facilitating factors and barriers preventing data sharing between public health and the transportation sector, the authors indicated that cross-sector collaboration is impacted by organizational-level priorities.[95]

- In a scoping literature review of public health and primary care collaborations, researchers found that "collaborations were enhanced if partners shared similar philosophies of care" but could also be deterred if there were "competing agendas" among partners.[96] A study of linkages between clinical practices and community organizations also indicated that "organizational mission or policies were…described as strong facilitators."[97]
- To get past sector silos, a study of state-level multi-sector approaches suggested that a key for success is a commitment to understanding the culture and language of partners from other sectors in order to work together.[98,*]
- Siloed funding streams may impede collaboration as well, given that "delivery and financing systems for public health and social services are highly fragmented, reflecting a patchwork of federal, state, local and private funding streams with distinct target populations, eligibility criteria, service providers and implementation requirements."[99]
- The categorical nature of many of the funding streams that public sector organizations operate under, both in public health and social services, tends to keep organizations working in individual lanes and focused on what they need to do to maintain their particular funding mechanism.[*]

Collaboration Factors

Factors specific to the collaboration, such as trust, participation, having a shared vision and goals, communication, leadership, funding, governance and monitoring can impact the success of a collaboration.

Trust

Trust between partners acts as a cornerstone to cross-sector collaboration. It is built slowly but can be lost quickly.[100] It can be built through the collaboration process, such as through quick wins. For sectors and organizations that previously have not worked together, collaboration will need to start small, to allow time to build trust. Trust from established relationships can act as a predisposing factor for engaging in future collaboration.

- In a study examining 12 highly developed cross-sector collaborations between hospitals and public health, researchers found that the successful partnerships often were rooted in "a history of trust-based relationships."[101]
- A study conducted for AHRQ examining linkages between clinical practices and community organizations found that a "history of collaboration between partner organizations" acted as a predisposing factor for a collaboration, as well as an enabling factor.[102]
- According to a survey of 71 local health departments (LHD) that had conducted a community health assessment and community health improvement plan (CHA/CHIP) with a healthcare partner, LHDs indicated that a history of working with their healthcare partner was one of the top factors facilitating the CHA/CHIP collaboration.[103]
- In a comparative study of four counties across the U.S. (located in California, Georgia, Illinois and Vermont) that explored factors contributing to cross-sector collaboration, prior relationships were listed as a facilitating factor and were thought to foster continued collaboration.[104]
- In a summary of findings from a subset of BUILD Health Challenge grantees, a key component of collaboration involved establishing relationships with partners and that

"collaborating on smaller, less formal projects in the past strengthened their BUILD relationships."[105]

- According to a national survey of more than 200 individuals participating in cross-sector collaborations conducted by the Partnership for Healthy Outcomes — an effort focused on bridging community-based social services and healthcare — respondents reported the importance of building trust in relationships.[106] One way to build trust was through "quick wins," which provide incentives for continued participation and trust in the collaboration.
- In interviews with leading public health officials engaging in health equity initiatives, establishing trust was acknowledged as necessary in order to create a shared vision with partners in other sectors.[107,*]
- The highest level of trust is necessary for establishing data use and sharing agreements.[*]
- Trusting relationships can either facilitate or completely undermine the ability to successfully establish a collaboration.[*]
- One key informant stated, "The number one thing that I think is really important to track within a collaboration is trust."[*]

Broad Participation

Broad participation — including partners from multiple sectors who represent and reflect the composition of the community — helps secure community buy-in for cross-sector collaborations.

- In interviews with leaders participating in the Bridging for Health initiative, interviewees said that, "big community players bring valuable experience and power, but having buy in and participation across sectors is seen as equally important…A successful collaborative includes representation from each community sector, organization or stakeholder impacted by the prospective decisions of the governance body."[108] The Bridging for Health advisory panel also indicated that "community coalitions need to take significant steps to ensure they truly represent the community" and that, "engaging those community members from the beginning is essential."[109]
- Key informants indicated the importance of participation for those with "lived experience," which can come from community organizations, social service agencies, and the public.[*]
- A study by AHRQ examining linkages between clinical practices and community organizations found that key facilitators for successful linkages included involving "community advocates in program planning."[110]
- Findings from interviews with leading public health officials engaging in health equity initiatives found that working with members of the community in developing a shared vision was particularly important.[111]
- Organizations that see population-wide health improvement as essential to their mission are major drivers of collaborations in their communities.[*]
- Collaboration should happen across an entire community, with the functions that are required to support ongoing collaboration distributed across many actors in the community. It also is important to have a process and system around which those distributed functions can be successfully coordinated.[*]

Shared Vision and Goals

Establishing a shared vision and goals for a collaboration defines priorities that can sustain partner interest in an effort. A vision can guide the overall priority of the initiative, while shared goals can provide an avenue for reaching the vision. Establishing a shared vision and goals should occur early in the planning process. Conflicts between organization-level priorities and the vision and goals of collaborations may arise.

- According to a committee convened by the IOM to assess partnerships between primary care and public health, one of the core principles created from successful partnership efforts is the importance of "a common goal of improving population health."[112]
- In interviews with leaders of four sites participating in the Bridging for Health initiative, interviewees indicated that, "bringing multisector partners to the table is a first step, but site leaders say a successful collaboration requires partners to go further by sharing a common vision and goals."[113]
- An analysis of past cross-sector collaborations and partnerships conducted by RWJF and the RAND Corporation identified the "essential ingredients" for collaborations and found that "among these ingredients are having a clear vision and mission."[114]
- A study of state-level multi-sector approaches found that one key for success is clear and aligned priorities and that "defining a common purpose with clearly aligned priorities links stakeholders and creates a mutual understanding of the benefits of success."[115]
- Establishing a vision is particularly critical for cross-sector collaborations in early phases, in order to establish buy-in.[116,*]
- Notes from a meeting on cross-sector partnership models hosted by ASTHO, the CDC and the Department of Housing and Urban Development found that the "development of shared goals…early in the planning process can help create a collaborative, effective partnership structure."[117]
- A scoping review of public health and primary care collaborations found that having a common goal helped to maintain desire to participate in collaboration efforts.[118,*]
- While creating a shared vision and goals is important, in practice it may be difficult to achieve, particularly when it comes to balancing different partner priorities.[119,120] Focusing on partner commonalities may alleviate tensions around differing priorities.[121]
    - Organizations may have similar vision/mission statements, but ultimately it is the organizational values and interpretation of the vision/mission, that ultimately impacts activities.[*]
    - For-profit hospitals or clinics may have similar mission or vision statements, but different motivations due to their business model.[*]
    - For-profit hospitals or clinics that are run by corporations often have corporate mission or vision statements that do not focus on communities.[*]
- One key informant stated that, "It is really important to have two things that are shared. First of all, our shared values which underlie vision and goals. And then I would say it is really important to have a shared vision for community health."[*]

Effective Communication

Successful cross-sector collaboration relies on effective communication, both for communicating within the collaboration and for communicating to external audiences.

- In a study of the implementation of HiAP, researchers found that "communication serves as the foundation for collaborative efforts."[122]

- In a summary of findings from a subset of BUILD Health Challenge grantees, a key component of collaboration involved utilizing communication to build trust within the effort. [123,*] Grantees also indicated that communication in early collaboration efforts should include face-to-face interactions and ongoing meetings to discuss collaboration work.
- Interviews of leaders participating in the Bridging for Health initiative also indicated that common language could help build trust.[124,*]
- A particularly important component of communicating across partners is gaining a better understanding of each partner's current processes and culture, including "their respective service delivery, payment and management obligations, processes and problems."[125]
- A study of public health department leaders engaging in health equity initiatives found that "lack of a common language can be a stumbling block to forming cross-sector partnerships."[126]
    - Language and terminology tend to be very agency and sector-specific.*
    - The same term can mean different things in different sectors, and different terms are used in different sectors for the same item. Both circumstances can be barriers to successful collaboration.*
- Some cross-sector partners may only communicate in a limited way, based on program or grant requirements versus having truly operationalized relationships.*
- A blog post highlighting lessons learned from four partnerships between healthcare and social service organization leaders indicated that "communicating key patient and programmatic information on a regular basis are essential for successful partnerships."[127] Furthermore, the same post highlighted how "communicating more broadly with key stakeholders about the partnership's progress is also important for gaining and maintaining external support."
- In a study of health impact assessments (HIA), a key success factor was to "deliver compelling messages to the right audiences at the right times," highlighting the importance of communicating results of partner efforts externally in order to build legitimacy.[128]
- Having thoughtful planning about how organizations are going to communicate issues, processes and decisions to other stakeholders in the process is critical.*

Leadership

Leadership is critical within collaborations, both to bring legitimacy to a collaboration and to ensure that it moves forward.

- According to a committee established by the IOM to assess partnership efforts between primary care and public health, a core component of successful integration efforts included, "strong leadership that works to bridge disciplines, programs, and jurisdictions."[129] Strong leadership also can help bring together diverse groups of partners in creative ways.[130]
- Leadership was one of the strongest drivers of partnerships, according to a comparative study of four U.S. counties in California, Georgia, Illinois and Vermont that explored factors contributing to cross-sector collaboration.[131] Findings from the study were collected via website and report reviews and key informant interviews.

- A summary of focus groups conducted with leadership of local health departments and hospitals found that "hospital executives, in particular, bring a level of prestige to assessment and improvement initiatives."[132]
- A study assessing the "maturity" of partnerships found that provider organizations involved in partnerships often were not high-level leaders, which may hamper the ability to accomplish the goals of the partnership.[133] A separate study drawing together lessons learned from cross-sector collaborations and partnerships found that, "recruitment of leadership from across sectors remains a challenge in most community collaborations."[134]
- Enthusiasm and buy-in from leadership at the highest levels is important, and leadership has to start at the highest levels, with the people that control strategy and purse strings being genuinely passionate.*
- Leadership also impacts whether organizations continue engaging in cross-sector collaborations, and a leader that decides a collaboration is no longer productive may terminate participation in a collaboration.[135,*]

Collaboration Governance

Good governance to guide efforts, including establishing roles and responsibilities for members, decision-making processes, data-sharing arrangements and collaboration authority, is necessary for successful collaboration.

- A study of five multi-sector teams engaging in population health efforts across the U.S. indicated that one of two priorities for collaboration efforts should be establishing a governance structure. In particular, the structure should "assure that responsibilities among each of the participating groups are equitably distributed to avoid mistrust."[136]
    - The same study also found that healthcare and social service organizations should prioritize development of a process that will dictate who collects, stores and analyzes data. While the importance of data-sharing agreements has been well-documented, they can be difficult to establish due to different partner technology infrastructures and privacy protections.[137,138,139,*]
- A scoping review of public health and primary care collaborations highlighted "the importance of all partners having clear roles and responsibilities to enable effective teamwork" and that having decision-making strategies in place can help create ownership for all partners.[140] Other studies also have indicated the importance of governance structures to clearly delineate roles and responsibilities.[141]
    - A formalized structure specifically defined by charter, or by-laws, or other documentation tends to work better.*
- According to a study of collaborations between hospitals and public health departments, "it is prudent for the principal partners to create a mechanism for…making budgetary and resource allocation decisions within boundaries established by the principal partners."[142]
- A study of the implementation of HiAP practices found that "governing structures can serve to coordinate work toward common goals and facilitate decision making."[143]
- Governing structures that have greater authority, particularly over decision-making around resources and how those are used around health improvement, tend to be more impactful.*
- Accountability should be an aspect of the governance structure.*

- Governing structures should be inclusive, which means all relevant sectors are represented.*
- A shared or co-leadership structure should include shared accountability and responsibility.*
- A local board of health with representation from each sector on the board can be a very powerful force in bringing together effective cross-sector collaboration.*
- Governance needs to be transparent to the community and participating organizations. It should be made clear how members are selected, how decisions are made, and what authorities are granted.*

Funding

Procuring funding (e.g., grants) can help initiate a collaboration, but planning for and securing sustainable funding mechanisms is necessary for partners to continue the collaboration. Sustainable funding mechanisms may include blending together a diverse group of funding streams. Funding can support both the infrastructure (e.g., staff, data sharing, evaluation) of the collaboration and programmatic elements (e.g., services or interventions provided). The level of funding required to support a partnership varies by type of collaboration and level of engagement.

- Initial funding from a project, or "seed funding…can support the upfront costs of relationship-building critical to ensuring effective partnership."[144] Demonstrating expected impacts associated with collaboration efforts and investing in social determinants of health may be key to securing initial support from some organizations, such as hospitals and health systems.[145]
- According to a literature review of collaborations between clinical practices and community organizations, "sustainability of…linkages appears to be strongly tied to the original funding source."[146] In particular, the study highlights three cases where an intervention had ended after primary funding had ended. Key informants also indicated that grant funding is helpful as seed money to launch or pilot a collaboration but is not a mechanism for sustainable financing.*
- Studies cited two types of funding needed for collaboration: (a) funding that supports infrastructure activities, including data sharing and analysis, evaluation efforts and staff time to coordinate partner efforts; and (b) funding that supports direct programming, including specific services or interventions.[147,148,149]
- One key success factor highlighted by a study of state-level multi-sector approaches to promote health was the importance of sustainable funding mechanisms to support coordination across sectors, including funding for staffing.[150] Results from the ASTHO 2016 Profile Survey also found that "funding and personnel can help sustain an initiative."[151]
- Funding for data sharing and technological infrastructure can be a challenge for many organizations that do not already have money in their budgets for such things.*
- Restricted funds not specifically allocated for collaboration make it difficult for some agencies to devote any resources to creating or sustaining collaborations.*
- Not all collaborations require additional resources, and some may rely on in-kind resources from participating partners.[152,153,154,*]
- Multiple studies cited the need to blend together funding from an evolving group of funding streams, including sources such as federal and local grant funding, insurance

(Medicare, Medicaid, commercial) reimbursement and hospital community benefit spending.[155,156,157,158,159.*]

- According to a national survey of more than 200 partnerships conducted by ReThink Health, "long-term financial planning is the chief challenge for nearly all partnerships."[160] The survey found that most partnerships rely on time-limited funding (e.g., grants) and were less likely to have begun utilizing other financing mechanisms such as dues/membership fees, gain-sharing agreements or health trusts.
- A study of the "maturity" of partnerships found that few partnerships had engaged in financial planning to fully fund their partnerships.[161] Some partnerships had begun to test other models for funding, however, such as by beginning "to create wellness trusts, experiment with social impact bonds, or reinvest savings after successful efforts to reduce health care costs or streamline social services."
- Other sources also have cited concerns related to sustainable funding as a barrier for continuing collaborations.[162,163,164]
- One issue is the "wrong pockets problem," where an organization may be concerned with investing dollars into a collaboration that may not produce a return on that investment directly back to the organization.*
- There are collaboration arrangements where the sole contribution from healthcare is monetary.* While this type of arrangement ensures that there is a funding source to address population health, it may create issues around partner commitment and decision-making authority if not all partners are equally doing the work. *
- Some key informants indicated that the overall funding of health needs to be reconsidered and that sending the majority of funding to the healthcare sector is the wrong model.*

Monitoring and Evaluation

Ongoing monitoring and evaluation create feedback loops through which collaborations improve and demonstrate value.

- According to a survey of more than 200 partnerships conducted by the Partnership for Healthy Outcomes — an effort focused on bridging community-based social services and healthcare — partnerships reported the importance of sharing data across partners in order to continue program improvement. Respondents also indicated that using data to demonstrate health improvements will become increasingly important as the healthcare sector shifts toward value-based payment models.[165]
- According to results from the 2016 ASTHO Profile Survey, more than 70 percent of state health agencies that were engaged in formal partnerships reported that they had specified a process to track and monitor progress of the partnership.[166]
- Monitoring progress also allows collaborations to assess the need for bringing on additional sectors or partner organizations, "without the need to start from scratch in developing a new initiative."[167]
- According to a summary of three partnerships between healthcare organizations and community-based organizations, a key component of success was the ability to "[manage] through partnership evolution," since partnerships are likely to change as they progress.[168]
- Monitoring progress helps cross-sector collaborations evolve, which is important given that while "external factors affect the success of collaborations, the research on

community coalitions suggests that the collaboration's response to those factors is more important to the development of the collaboration."[169]

- One key success factor highlighted by a study of state-level multi-sector approaches to promote health was the use of data to "(1) identify unmet needs; (2) make the case about the health impact of policy decisions; (3) target investment opportunities to promote health; and (4) guide and measure the success of implemented strategies."[170] One example highlighted a public health surveillance system, which utilized emergency department (ED) data to inform local groups (e.g., health departments, law enforcement) of increased drug-related ED visits.
- Data collection and program evaluation help demonstrate "return on investment."[171] The same study, focused on multi-sector teams from five communities across the U.S., indicated that "large healthcare organizations routinely get requests to help pay for social service initiatives, without being offered a clear explanation of potential returns on investment or the evidence that a particular intervention will be successful."
- Having mechanisms in place to monitor and evaluate the progress of cross-sector collaborations over time should include proximal measures. Being able to show incremental progress with implementation is critical for keeping collaborations together because they are not going to have an immediate impact on health status.*
    - Process measures provide a sense of progress and a basis for making any mid-course corrections.*
- Evaluation efforts may be hampered by a lack of funding.*

Impacts

Studies indicate that cross-sector collaborations lead to benefits for participating organizations (organization impacts) and research is emerging that demonstrates improvements to population health (community/environmental impacts).

Organization Impacts

Organizations that participate in cross-sector collaboration may expand their capacity, capabilities, and network and gain efficiencies in their work.

- According to insights from a national survey of more than 200 individuals participating in cross-sector collaborations conducted by the Partnership for Healthy Outcomes, "nearly all organizations acknowledged expanding skills and capacities through partnership, particularly in network-building, improving programs, and generating new funding." [172] Furthermore, most (65 percent) reported "cost savings" associated with their partnerships.
- Key informants indicated that organizations could not have undertaken certain activities without their cross-sector collaborations.*
- According to five case studies of collaborations between clinical practices and community organizations, researchers found that for linkages where the original intervention did not continue, partnership and relationships between organizations continued.[173] This may indicate a willingness to participate in future collaborations, particularly as those involved in the case studies indicated value associated with the linkages.
- In addition to strengthening relationships, results from a convening led by ASTHO, CDC and HUD indicated that partnerships also might lead organizations to adapt internal

policies in a way that encourages partnership and reduces "competing or duplicating efforts."[174]

- One key informant stated, "I do think that the immediate benefit is – if we look at more near-term impacts – that collaborations make it possible for individual organizations that are doing the work of service delivery or program implementations to do that work more effectively and efficiently."*
- Organizations are receiving more positive feedback from the community and community-based organizations.*

Community/Environmental Impacts

Population-level health improvements — such as lower mortality rates, improvements in disease management and immunization rates — resulting from cross-sector collaboration have been reported, as have increases in enrollment in various social programs. Population health impacts may be difficult to measure, however, particularly early in an effort.

- A scoping review of public health and primary care collaborations highlighted studies indicating improvements in chronic disease management, immunization rates, disease control, and maternal and child health outcomes due to collaboration.[175]
- Communities with "comprehensive system capital" (i.e., "broad scope of population health activities supported through densely connected networks of contributing organizations") had lower mortality rates for potentially preventable conditions.[176]
- Evidence from a study of HIAs, which engage multiple stakeholders, often from different sectors, found that HIAs can "contribute to more equitable access to health-promoting resources and protection from environmental risks," which may lead to better health outcomes in the future.[177]
- One study found lower hospital readmission rates in counties with broader informal networks between Area Agencies on Aging (AAA) and healthcare providers.[178]
- With increased capacity, organizations are able to show that they are serving more people and reaching a broader audience in their Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Supplemental Nutrition Assistance Program (SNAP), and the CDC's National Diabetes Prevention Program (DPP), in addition to greater Medicaid coverage for pregnant women.*
- Collaborations have had success enacting policies that promote better health, such as tobacco control policies.*
- Anecdotal evidence from case studies of five linkages shows that the linkages increased access to preventive health services, but no direct link to improved patient health outcomes was identified.[179]
- Measuring impact is challenging because efforts are not going to have an immediate impact on health status.*

Tools and Resources

Key informants cited several tools, guides, and resources they used for developing their cross-sector collaborations and made suggestions for what additional resources would be useful to have.

- For a better understanding of the holistic view of health that incorporates the social determinants, informants cited the Wellbeing in the Nation framework (WIN)[180] and the Institute of Medicine (IOM) Measures of Social and Behavioral Determinants of Health.[181,182]

- Several data-sharing resources were cited, specifically the Actionable Intelligence for Social Policy (AISP) initiative on the development and use of integrated data systems,[183] the Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE) for collecting data on the social determinants of health,[184] Data Across Sectors for Health (DASH)[185] and All In: Data for Community Health for using shared data systems,[186] and the learning series from the BUILD Health Challenge on data sharing.[187]
- For developing cross-sector collaborations, informants cited the ReThink Health Pulse Check Report on Multi-Sector Partnerships,[188] the CDC 6|18 resources and tools for collaboration,[189] and the NACCHO Mobilizing for Action through Planning and Partnerships (MAPP) for community-based strategic planning.[190]
- One community-based organization developed a tool for data sharing called, "Collaboration and Cross-Sector Data Sharing to Create Healthier Communities."*[191]
- Tools or resources informants suggested would be helpful to have available were templates or examples of forms for creating action plans, effective bylaws, or memorandums of understanding (MOU). Also, guidance on the different types and most effective structures of collaborations were mentioned.

Future Research

While the literature on cross-sector collaborations continues to grow, additional areas for future research have been identified, including understanding the keys to success in collaboration, the relationship between facilitators and barriers, what structures work best in collaborations, sustainable funding mechanisms, and the effectiveness of cross-sector collaborations.

- A scoping review of public health and primary care collaborations indicated that understanding how different facilitators and barriers (e.g., environmental, organization) impact each other is needed.[192]
- Because funding and resources — particularly time-limited funding — were identified as a potential barrier for continuing partnerships, understanding what sustainable funding mechanisms are available is an important area to continue to research.[193,194] Sustainable funding mechanisms may support resources needed to maintain relationships between partners (e.g., funding for partner time, evaluation efforts).
    - Key informants cited that it will be important to better understand the time and resources needed to meet the logistical needs required of cross-sector collaborations.*
    - Examples and guidance on how to build sustainable financing sources for cross-sector collaboration over time also is needed.*
- Understanding the economic impact (e.g., cost effectiveness) of collaborations is an important area of future study, as is understanding how to articulate the economic impact of collaboration to external partners.[195,196,197]
- In an assessment of collaborations between clinical practices and community organizations, the study identified "evaluating the effectiveness of linkages" as a critical area for future research.[198] Specifically, studies noted that understanding the actual population health outcomes attributed to cross-sector collaboration is difficult and an emerging area of study.[199,200]
- Additional research questions for future study raised by key informants included:
    - Are community needs truly addressed more effectively via cross-sector collaborations?
    - Do cross-sector collaborations result in better health outcomes for the community?*
    - Are there areas/issues that are more/less amenable to collaboration?*

- What are the key ingredients to success? What are common challenges? What strategies contribute to keeping partners together?*
- What are the prerequisites to building a successful collaboration?*
- How should an organization go about identifying and approaching partners?*
- What governance structures work best, in which situations?* What about third-party organizations as catalysts/facilitators/managers of cross-sector collaborations?*
- Are process measures a burden, or evidence, of success?*

Conclusion

Each cross-sector collaboration differs in focus, partners and level of collaboration. Some in the field have developed continuums to conceptualize different levels of collaboration, which range from information sharing to resource sharing and joint planning. Roles within collaborations likewise vary, but having one or more partners responsible for managing data, funding and partner efforts improve the sustainability of collaborations.

National initiatives, legislation and interest have led to an increase in cross-sector collaborations, and successful collaborations have been found in state and local areas with legislation or gubernatorial executive orders requiring collaboration and areas that have experienced crises or engaged in needs assessments.

At the organization level, capacity and the historic separation of sectors can impede organizations from engaging in cross-sector collaboration. Finding commonalities in organizational priorities and complementary capabilities between partners, however, increase the likelihood of success in cross-sector collaborations. Collaborations with high levels of partner trust and high-level leadership involvement are more likely to be successful, as are collaborations that have multiple flexible funding streams and monitor progress.

Cross-sector collaborations benefit participating organizations and may ultimately lead to improvements in population health. Early data indicate cross-sector collaborations improve aspects of population health, although improvements are difficult to measure, and there may be a time lag before all improvements attributed to collaboration can be detected. Additional research is needed as collaborations mature.

Appendix: Endnotes

Findings from the CSII Environmental Scan are flagged with an asterisk (*) throughout this report.

[1] Himmelman, A. T. (2002). *Collaboration for a Change: Definitions, Decision-making models, Roles, and Collaboration Process Guide*. Minneapolis, MN: Himmelman Consulting. Retrieved from https://depts.washington.edu/ccph/pdf_files/4achange.pdf

[2] The Organisation for Economic Co-operation and Development. (2018). *Spending on Health: Latest Trends.* Retrieved from http://www.oecd.org/health/health-systems/Health-Spending-Latest-Trends-Brief.pdf

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Organizational Contacts

Gianfranco Pezzino, MD, MPH
Director, CSPHS
Phone: 785-233-5443
E-mail: *gpezzino@khi.org*
Website: *www.phsharing.org*

Jessica Solomon Fisher, MCP
Chief Innovations Officer, PHNCI
Phone: 703-778-4549 ext. 116
E-mail: *jfisher@phnci.org*
Website: *www.phnci.org*